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**BEFORE THE UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY**

COALITION FOR A SAFE  
ENVIRONMENT, ASSOCIATION OF  
IRRITATED RESIDENTS,  
CALIFORNIA COMMUNITIES  
AGAINST TOXICS, SOCIETY FOR  
POSITIVE ACTION, and WEST  
COUNTY TOXICS COALITION

Complainants,

vs.

CALIFORNIA AIR RESOURCES  
BOARD,

Respondent,

No.

**ADMINISTRATIVE COMPLAINT**

## **Introduction.**

This is a civil rights complaint filed by the Coalition for a Safe Environment, Association of Irrigated Residents, California Communities Against Toxics, Society for Positive Action, and West County Toxics Coalition (collectively “Coalition for a Safe Environment”). This complaint alleges that the California Air Resources Board’s Cap and Trade program violates Title VI of the Civil Rights Act by denying Californian of color living near Cap and Trade facilities the benefits of direct emissions reductions. Because Cap and Trade allows a facility to comply by buying allowances or offsets instead of reducing pollution directly, the Board denies affected communities greenhouse gas and co-pollutant reductions. Furthermore, the denial of benefits at Cap and Trade facilities results in a racially disparate impact based on the demographic composition of communities near Cap and Trade facilities compared to the unaffected population.

On June 8, 2012, Coalition for a Safe Environment filed a Title VI complaint against the California Air Resources Board (“Board”) because it adopted a racially discriminatory pollution trading program. *See Coalition for a Safe Environment v. California Air Resources Board*, No. 09R-12-R9, attached as Exhibit 1. Relying on, *inter alia*, the *Minding the Climate Gap* data analysis (attached as Exhibit 2), the complaint alleged that the Board’s adoption of the California Cap on Green House Gas Emissions and Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols (“Cap and Trade”) violated of Title VI and EPA’s implementing regulations.

EPA rejected the complaint, finding that the complaint was not ripe because “the allegations in the complaint are speculative in nature and anticipate future events that may not occur” and noted that the Board adopted the “Adaptive Management Plan.” *See* Letter from Rafael DeLeon to Brent Newell and Sofia Parino, dated July 12, 2012, attached as Exhibit 3. On August 6, 2012, Coalition for a Safe Environment asked EPA to reconsider its decision to reject the complaint. *See* Petition for Reconsideration, attached as Exhibit 4. On January 13, 2013, EPA rejected the request and encouraged “continued communication on this matter when CRPE acquires notice of any specific information potentially addressing OCR’s identified reasons for viewing the June 8, 2012, Complaint’s allegations as speculative and uncertain.” Letter from Rafael DeLeon to Brent Newell and Sofia Parino at 2, dated January 13, 2014, attached as Exhibit 5. EPA further stated that if “CRPE makes a good faith effort to file a complaint in a

timely manner, but fails to do so because they couldn't reasonably have been expected to know the discriminatory act has occurred, then OCR has the discretion to waive the requirement of 180-day timeliness for good cause shown." *Id.* (citing 40 C.F.R. § 7.120(b)(2)).

## **I. Complainants.**

Complainants are environmental justice community organizations who have engaged with CARB throughout the administrative process and implementation of Cap and Trade, and provided testimony before the Board on the adverse and disparate impacts of Cap and Trade. Complainants are the same groups which filed Complaint No. 09R-12-R9.

Coalition for a Safe Environment is a non-profit environmental justice community organization headquartered in Wilmington, California. The Coalition has members in Wilmington, San Pedro, Long Beach and Carson who live near Cap and Trade facilities.

Association of Irrigated Residents ("AIR") advocates for air quality and environmental health in the San Joaquin Valley. Members reside near polluting industries in Kern, Tulare, Kings, Fresno, and Stanislaus counties. A substantial number of Cap and Trade facilities are located in the San Joaquin Valley.

California Communities Against Toxics ("CCAT"), a project of the Agape Foundation, is a California non-profit dedicated to protecting environmental health and justice in California. CCAT advocates in the public interest for clean air, clean water, and protective toxic site cleanups, as well as food quality and food security for local communities. CCAT distributes educational material and holds regular community trainings where residents can learn about the impact of pollution on their health and well-being. CCAT appears before federal, state and local agencies to advocate for protective and just environmental policies.

Society for Positive Action is a non-profit grassroots community-based environmental justice organization founded in 1999 to achieve its mission of helping communities in the Los Angeles basin fight disproportionate impacts from local polluters. The Society is led by and serves low-income communities in Los Angeles who are significantly impacted by Cap and Trade.

West County Toxics Coalition is a California non-profit, multi-racial membership organization founded in 1986 to empower low and moderate-income residents to exercise greater control over environmental problems that impact their quality of life in Contra Costa County, particularly West Contra Costa County, in Northern California. The Chevron Refinery in West Contra Costa County is a Cap and Trade facility.

## **II. Background.**

Title VI of the Civil Rights Act of 1964 provides:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

42 U.S.C. § 2000d. EPA’s implementing regulations prohibit a recipient of EPA financial assistance from utilizing “criteria or methods of administering its program or activity which have the effect of subjecting individuals to discrimination because of their race, color, national origin, or sex.” 40. C.F.R. §§ 7.35(b). Since adoption of Cap and Trade, the Air Resources Board has continued to implement Cap and Trade. The first compliance period for the years 2013-2014 has passed, while the second for the years 2015-2016 remains open. On September 22, 2016, the Board held a hearing to consider extending Cap and Trade beyond 2020. Coalition for a Safe Environment submitted comments on that proposal.

## **III. Cap and Trade Violates Title VI of the Civil Rights Act.**

Complaint No. 09R-12-R9 and this complaint demonstrate all four elements required to establish a *prima facie* violation of Title VI under EPA’s implementing regulations: (1) the Board’s action has an adverse impact; (2) that is discriminatory on the basis of race, color or national origin; (3) caused by a recipient of federal financial assistance; (4) within the statute of limitations period. The information and allegations in No. 09R-12-R9, attached as Exhibit 1, are incorporated by reference.

### **a. Cap and Trade has an adverse and racially discriminatory impact.**



Cap and Trade causes an adverse impact by denying direct emissions reduction benefits to communities living near facilities subject to Cap and Trade. Benefits of direct emissions reductions include, but are not limited to, the health impacts of reductions in air toxics, fine particulate matter, and precursors to fine particulate matter and ozone. Because Cap and Trade allows a facility to comply by buying allowances or offsets, co-pollutant reductions in the affected communities do not occur.

Experts recently published an analysis of the publicly available data from the first compliance period (2013-2014). See Lara J. Cushing, *et al.*, A PRELIMINARY ENVIRONMENTAL EQUITY ASSESSMENT OF CALIFORNIA'S CAP AND TRADE PROGRAM (hereafter "Cushing Report"), attached as Exhibit 6. It is important to note that the Board refuses to make facility-specific compliance data publicly available, which limited the scope of the experts' trading analysis. *Id.* at 11; Email from Edie Chang to Brent Newell, dated August 19, 2015 ("Chang Email"), attached as Exhibit 7. The Cushing Report found that:

1. On average, neighborhoods with a facility within 2.5 miles have a 22 percent higher proportion of residents of color and 21 percent higher proportion of residents living in poverty than neighborhoods that are not within 2.5 miles of a facility.
2. These communities are home to a higher proportion of residents of color and people living in poverty than communities with no or few facilities nearby. Indeed, the higher the number of proximate facilities, the larger the share of low-income residents and communities of color.
3. The neighborhoods within 2.5 miles of the 66 largest greenhouse gas and PM10 emitters have a 16% higher proportion of residents of color and 11% higher proportion of residents living in poverty than neighborhoods that are not within 2.5 miles of such a facility.
4. The first compliance period reporting data (2013-2014) show that the cement, in-state electricity generation, oil & gas production or supplier, and hydrogen plant sectors have *increased* greenhouse gas emissions over the baseline period (2011-2012).
5. The amount of emissions "offset" credits exceed the reduction in allowable greenhouse gas emissions (the "cap") during the first compliance reporting period (2013-2014) and were mostly linked to projects outside of California.
6. The imported electricity sector decreased emissions while in-state electricity

increased, raising significant concerns about fictional “resource shuffling” reductions from out-of-state electricity.<sup>1</sup>

The report demonstrates three fundamental points: (1) Cap and Trade disparately and adversely affects communities of color; (2) Cap and Trade denies communities the benefits of on-site reductions; and (3) greenhouse gas reductions attributed to Cap and Trade occur primarily outside of California, including out-of-state offsets and resource shuffling. Complainants respectfully request EPA to consider this new data, data which the Board refuses to make public, and any additional data otherwise available to EPA during the investigation.

As set forth in Complaint No. 09R-12-R9, the adverse impacts are racially disparate based on an analysis of populations living within 6 miles of a Cap and Trade facility compared to a population living outside of that zone. This adverse impact is also racially disparate based on the Cushing Report referenced above (populations living within 2.5 miles).

In EPA’s 2012 decision to reject Complaint No. 09R-12-R9, EPA noted that the Board’s Adaptive Management Plan allowed the Board to monitor and provide protections from adverse impacts. The Board has neither finalized or implemented that Plan, which further supports the on-going violations of Title VI. Staff for the Board recently admitted that the Board has not finalized or implemented the Adaptive Management Plan. *See* Initial Statement of Reasons, Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market Based Compliance Mechanisms at 302, dated August 2, 2016, attached as Exhibit 9; *see also* Chang Email.

**b. This Complaint is Timely.**

Coalition for a Safe Environment timely filed Complaint No. 09R-12-R9, and now communicates specific information substantiating that complaint’s allegations as directed by EPA in its 2013 decision denying reconsideration. EPA should thus accept this complaint for investigation based on the timeliness of

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<sup>1</sup> Claimed reductions from imported electricity generation remain suspect given the Board’s creation of safe harbor exemptions from the resource shuffling prohibition, which allow greenhouse gas emissions to continue in fact as leakage. *See* Danny Cullenward, BULLETIN OF THE ATOMIC SCIENTISTS, 2014, Vol. 70(5) 35–44, attached as Exhibit 8.

Complaint No. 09R-12-R9. This complaint supplements No. 09R-12-R9 with the new data EPA deemed necessary for ripeness and is thus timely.

In addition, this new complaint is timely because complainants have filed it within 180 days of the specific information substantiating the allegations that Cap and Trade violates Title VI of the Civil Rights Act and EPA's implementing regulations. This new complaint is also timely under the on-going violation doctrine because (1) the Board has continued to implement Cap and Trade; and (2) the Board knows or should know the racially disparate effects of Cap and Trade, has discretion under Assembly Bill 32 to terminate Cap and Trade, has authority to adopt less discriminatory alternatives, and has declined to exercise that discretion.

**c. The Board is a Recipient of Federal Financial Assistance.**

The California Air Resources Board is an agency of the State of California. It has received and continues to receive federal financial assistance. The Board has received federal financial assistance each and every year since at least 2009.<sup>2</sup>

**IV. There are Less Discriminatory Alternatives.**

California Assembly Bill 32 did not mandate Cap and Trade, but rather gave the Board the authority to use market mechanisms like Cap and Trade or direct emissions reductions at sources of greenhouse gas emissions. *See* Health & Safety Code §§ 38652, 38570. The Legislature also specifically limited the implementation of Cap and Trade, only allowing implementation prior to December 31, 2020. Health & Safety Code § 38562(c). ARB has authority to implement less discriminatory direct reductions which provide for both greenhouse gas reductions and localized benefits from co-pollutant reductions. Health & Safety Code § 38652.

During 2016, the California Legislature affirmatively directed the Board to prioritize direct reductions when adopting rules and regulations to achieve the greenhouse gas emissions reduction targets in the companion bill, Senate Bill 32 (requiring 40% reduction below the statewide greenhouse gas emissions limit by 2030). Assembly Bill 197 requires that the Board shall “prioritize . . . emissions

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<sup>2</sup> *See* USASpending.gov, Air Resources Board Funding Recipient <https://www.usaspending.gov/transparency/Pages/RecipientProfile.aspx?DUNSNumber=195930276&FiscalYear=2015>.

reduction rules and regulations that result in direct emission reductions at large stationary sources of greenhouse gas emissions[.]” Stats. 2016, ch. 250, § 5, subdivision (a), p. 92 (codified as Health & Safety Code § 38562.5(a)).

## **V. Remedies.**

Coalition for a Safe Environment recognizes the potential for Alternative Dispute Resolution as a means to remedy the violations of Title VI alleged in Complaint No. 09R-12-R9 and this complaint. As such, Coalition for a Safe Environment requests early ADR to conserve EPA’s resources. Should that fail to yield a resolution, EPA should timely and thoroughly investigate this complaint, make a prompt finding that Cap and Trade violates Title VI, and require as a condition of continuing to provide federal financial assistance the following: (1) rescission of Cap and Trade; and (2) adoption of less discriminatory alternatives to meet the requirements of AB 32 and Title VI, such as direct emissions reductions. EPA should further sue to compel compliance with the law, to the extent that imposition of the foregoing remedies proves in any way to be ineffectual or if the Board refuses to comply with Title VI. Finally, EPA should provide Coalition for a Safe Environment with copies of all documents related to the investigation, including but not limited to all correspondence to or from the Board throughout the course of the investigation, deliberation, and disposition of this Complaint. EPA should also notify Coalition for a Safe Environment of, and meaningfully include the complainants in, any settlement negotiations or voluntary compliance negotiations with the Board.

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**Conclusion.**

For the foregoing reasons, the Board's Cap and Trade regulation violates Title VI of the Civil Rights Act and EPA's implementing regulations.

Respectfully submitted this 14th day of November, 2016.

CENTER ON RACE, POVERTY & THE ENVIRONMENT



Attorney for Complainants Coalition for a Safe Environment, *et al.*

## DECLARATION OF SERVICE

I, Brent Newell, declare that I am over the age of eighteen (18) and not a party to this action. My business address is 1999 Harrison Street, Suite 650, Oakland, CA 94612.

On November 14, 2016, I served the ADMINISTRATIVE COMPLAINT on the following persons by electronic mail and by placing it in a sealed, postage-paid envelope to be sent via Federal Express:

Lilian Dorka  
U.S. EPA Office of Civil Rights  
1200 Pennsylvania Avenue, N.W.  
Mail Code: 1201A  
Washington, DC 20460  
Dorka.lilian@epa.gov  
Title\_VI\_Complaints@epa.gov

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on November 14, 2016 in Oakland, California.

s/Brent Newell

Brent Newell

# Exhibit 1

1 Sofia L. Parino, CA SBN 221379  
Brent Newell, CA SBN 210312  
2 CENTER ON RACE, POVERTY & THE ENVIRONMENT  
47 Kearny Street, Suite 804  
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7 661/720-9140  
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8 Attorneys for Complainants

9  
10 **BEFORE THE**  
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

11  
12 Coalition for a Safe Environment,  
Association of Irrigated Residents,  
13 California Communities Against Toxics,  
Society for Positive Action, and West  
14 County Toxics Coalition.

15 Complainants,

16 v.

17  
18 California Air Resources Board,

19 Respondent.  
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**COMPLAINT UNDER TITLE VI OF  
THE CIVIL RIGHTS ACT OF 1964, 42  
U.S.C. § 2000d and 40 C.F.R. Part 7**

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1 **I. INTRODUCTION**

2 This is a civil rights Complaint by Coalition for a Safe Environment, Association of  
3 Irritated Residents, California Communities Against Toxics,, Society for Positive Action, and  
4 West County Toxics Coalition under Title VI of the Civil Rights Act of 1964 and 40 C.F.R.  
5 part 7, alleging discrimination in the approval of the California Cap on Green House Gas  
6 Emissions and Market-Based Compliance Mechanisms Regulation, Including Compliance  
7 Offset Protocols (“Cap and Trade”). This Complaint is against the California Air Resources  
8 Board (“CARB”), which is the California state agency responsible for the creation and  
9 implementation of measures to meet the requirements of The Global Warming Solutions Act,  
10 also known as AB 32, and who approved the Cap and Trade regulation.

11 This Complaint demonstrates all four elements required to establish a *prima facie*  
12 violation of Title VI under U.S. Environmental Protection Agency (“EPA”) implementing  
13 regulations: (1) CARB’s action has an adverse impact; (2) that is discriminatory on the basis  
14 of race, color or national origin; (3) caused by a recipient of federal financial assistance; (4)  
15 within the statute of limitations period. CARB’s discriminatory action took place on  
16 December 13, 2011 when the Office of Administrative Law approved CARB’s Cap and Trade  
17 regulation and filed it with the Secretary of State.<sup>1</sup> This action will result in a substantial  
18 adverse effect on African American, Latino, and Asian/Pacific Islander residents throughout  
19 California because the facilities regulated under Cap and Trade are primarily located in  
20 communities of color. Populations living within six miles of industrial facilities  
21 disproportionately bear the impacts of co-pollutant emissions, such as particulate matter and  
22 toxics.<sup>2</sup> Over two-thirds of California’s low-income African Americans and about 60% of  
23 low-income Latinos and Asian/Pacific Islanders live within 6 miles of a Cap and Trade

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26 <sup>1</sup>Gov. Code §§ 11340.5(b) and 11343.

27 <sup>2</sup>Manuel Pastor, et. al, *Minding the Climate Gap: What’s at Stake if California’s Climate Law*  
28 *Isn’t Done Right and Right Away*, U.S.C. Program for Environmental and Regional Equity  
(2010), 8 available at <http://dornsife.usc.edu/pere/documents/mindingthegap.pdf> (hereinafter,  
*Minding the Climate Gap*). Attached as Exhibit 1.

1 facility.<sup>3</sup> Under Cap and Trade, the residents of these communities will not receive the benefit  
2 of co-pollutant emission reductions, and could even see an increase in emissions, if facilities  
3 purchase allowances and offsets as Cap and Trade allows. Cap and Trade disparately and  
4 adversely affects communities of color, which violates Title VI.

## 5 **II. THE COMPLAINANTS**

6 Complainants are various environmental justice community organizations who have  
7 engaged with CARB throughout the administrative process and provided testimony before  
8 CARB on the adverse and disparate impacts of Cap and Trade.

9 Coalition for a Safe Environment (“CSE”) is a non-profit environmental justice  
10 community organization headquartered in Wilmington, CA. CSE has members in  
11 Wilmington, San Pedro, Long Beach and Carson who live near Cap and Trade facilities.

12 Association of Irrigated Residents (“AIR”) advocates for air quality and environmental  
13 health in the San Joaquin Valley. Members reside near polluting industries in Kern, Tulare,  
14 Kings, Fresno, and Stanislaus counties.

15 California Communities Against Toxics (“CCAT”), a project of the Agape  
16 Foundation, is a California non-profit dedicated to protecting environmental health and justice  
17 in California. CCAT advocates in the public interest for clean air, clean water, and protective  
18 toxic site cleanups, as well as food quality and food security for local communities. CCAT  
19 distributes educational material and holds regular community trainings where residents can  
20 learn about the impact of pollution on their health and well-being. CCAT appears before  
21 federal, state and locals agencies to advocate for protective and just environmental policies.  
22 Jane Williams, the executive director of CCAT, serves as the co-chair of the Environmental  
23 Justice Advisory Committee (“EJAC”).

24 Society for Positive Action (“SPA”) is a non-profit grassroots community-based  
25 environmental justice organization founded in 1999 to achieve its mission of helping  
26 communities in the Los Angeles basin fight disproportionate impacts from local polluters.

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28 <sup>3</sup>*Id.* at 9, Figure 2.

1 Society for Positive Action is led by and serves low-income communities in Los Angeles who  
2 would be significantly impacted by Cap and Trade.

3 West County Toxics Coalition (“WCTC”) is a California non-profit, multi-racial  
4 membership organization founded in 1986 to empower low and moderate-income residents to  
5 exercise greater control over environmental problems that impact their quality of life in  
6 Contra Costa County, particularly West Contra Costa County, in Northern California.

### 7 III. TIMELINESS OF COMPLAINT

8 A complaint must be filed within 180 days of the discriminatory act.<sup>4</sup> CARB approved  
9 the final Cap and Trade regulation on October 20, 2011 and filed it with the Office of  
10 Administrative Law (OAL) on October 27, 2011 for approval.<sup>5</sup> Cap and Trade did not  
11 become final until OAL approved the regulation and filed it with the Secretary of State on  
12 December 13, 2011.<sup>6</sup> This Complaint is thus timely filed.

### 13 IV. FINANCIAL ASSISTANCE

14 CARB must comply with EPA’s Title VI implementing regulations because the Board  
15 receives substantial federal financial assistance from the EPA through grants.<sup>7</sup> EPA gave  
16 CARB \$7,053,811 in grant awards in fiscal year 2011 and \$3,454,141 in grant awards to date  
17 in fiscal year 2012.<sup>8</sup>

### 18 V. STATEMENT OF FACTS

#### 19 A. The Global Warming Solutions Act, AB 32.

20 In 2006, the California Legislature enacted AB 32, the Global Warming Solutions Act.  
21 This landmark legislation requires the state to reduce greenhouse gas emissions to the  
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24 <sup>4</sup>40 C.F.R. § 7.120(b)(2).

25 <sup>5</sup>Resolution No. 11-32, CARB, Regular Board Meeting, October 20, 2011.

26 <sup>6</sup>See CARB website: <http://www.arb.ca.gov/regact/2010/capandtrade10/capandtrade10.htm>;  
see also Gov. Code § 11340.5(b).

27 <sup>7</sup>40 C.F.R. § 7.15.

28 <sup>8</sup>See USAspending.gov (last accessed 5/24/12). Attached as Exhibit 2; see also 40 C.F.R. § 7.15.

1 statewide limit of 1990 levels by 2020 and designates CARB as the lead state agency.<sup>9</sup> AB 32  
2 specifically recognizes that certain “regions of the state . . . have the most significant exposure  
3 to air pollutants, including but not limited to, communities with minority populations,  
4 communities with low-income populations or both.”<sup>10</sup> Recognizing this, AB 32 seeks to  
5 protect California’s vulnerable and over-exposed communities from carbon emissions and  
6 other pollutants that accompany carbon, known as co-pollutants.<sup>11</sup> To assist with the goal of  
7 protecting over-burdened communities, the legislature created the Environmental Justice  
8 Advisory Committee (“EJAC”).<sup>12</sup> EJAC members represent the communities in California  
9 most impacted by air pollution and represent a broad cross-section of California’s  
10 environmental justice movement. EJAC did not recommend Cap and Trade and urged CARB  
11 to consider localized impacts of its plan.<sup>13</sup>

12 **B. CARB’s Single-Minded March Toward Cap and Trade.**

13 Although AB 32 does not require or recommend a market system, CARB created and  
14 adopted Cap and Trade as the strategy to regulate greenhouse gas emissions from industrial  
15 sources, which account for approximately 20% of California’s total greenhouse gas emissions.  
16 Under Cap and Trade, an overall greenhouse gas emission limit is set (the cap) and facilities  
17 subject to the cap are able to trade permits (allowances) to emit greenhouse gases.<sup>14</sup> CARB  
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19 <sup>9</sup>Health & Safety Code § 38510; *see also* §§ 38501(f) - (h), 38505(n), and 38550.

20 <sup>10</sup>*Id.* at § 38501(h).

21 <sup>11</sup>*Id.* at §§ 38562(b)(4) (“ensure that activities undertaken pursuant to the regulations  
22 complement, and do not interfere with, efforts to achieve and maintain federal and state  
23 ambient air quality and to reduce toxic air contaminant emissions.”), 38562(b)(1)-(9) and  
38570(b)(1)-(3) (requires CARB to evaluate the potential for localized effects before  
implementing a market-based compliance mechanism).

24 <sup>12</sup>*Id.* at § 38591(a).

25 <sup>13</sup>*See Recommendations and Comments of the Environmental Justice Advisory Committee on*  
26 *the Implementation of the Global Warming Solutions Act of 2006 (AB32) on the Proposed*  
*Scoping Plan*, Letter to Chairman Nichols and Mr. Goldstone, Environmental Justice  
27 Advisory Committee (Dec. 2008) available at  
<http://www.arb.ca.gov/cc/ejac/proposedplan-ejaccommentsfinaldec10.pdf>.

28 <sup>14</sup>*See* Cal. Code Regs. tit. 17 § 95801 *et seq.*; Refineries, cement production facilities, oil and  
gas production facilities, glass manufacturing, and food processing plants that emit at least

1 plans to give away allowances for free to Cap and Trade facilities.<sup>15</sup> Cap and Trade facilities  
2 are also able to purchase additional allowances at an auction or from one another.<sup>16</sup> The  
3 system also allows Cap and Trade facilities to purchase offsets to meet their emission limits.  
4 An offset is the reduction of greenhouse gas from an activity or facility that is not regulated  
5 under Cap and Trade. For example, a refinery in Wilmington, California could buy offset  
6 credits from trees planted in Idaho instead of making actual reductions at the facility. Buying  
7 allowances and offsets deprives communities of co-pollutant emission reductions that come  
8 with reducing greenhouse gases on-site.

9 CARB first proposed Cap and Trade in the Scoping Plan.<sup>17</sup> During the process of  
10 preparing the Scoping Plan, EJAC advised against a cap and trade system for various efficacy  
11 and justice reasons.<sup>18</sup> During the public comment period, the Complainants, along with EJAC  
12 and others, commented on the Scoping Plan and asked CARB to reject Cap and Trade scheme  
13 because of the effect on low-income communities and communities of color.<sup>19</sup> Ignoring these  
14 comments, on December 12, 2008, CARB adopted the Scoping Plan, which included Cap and  
15 Trade as the State's main strategy.

16 The Complainants, along with others, brought an action against CARB alleging that  
17 the Scoping Plan violated AB 32 and the California Environmental Quality Act ("CEQA").<sup>20</sup>  
18 The Superior Court held that CARB violated CEQA when it (1) failed to meaningfully

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20 25,000 metric tons of carbon dioxide per year, electricity generation facilities, natural gas,  
21 propane and transportation fuel providers are covered under Cap and Trade regulation. *See Id.*  
22 at § 95811(a)-(b) (covered entities), § 95812(c)(1) (defining the "applicability threshold").  
23 The facilities that are covered under Cap and Trade will be hereafter referred to as "Cap and  
24 Trade facilities."

23 <sup>15</sup>*Id.* at Subarticle 8 §§95870 *et seq.*

24 <sup>16</sup>*Id.* at Subarticle 11 §§ 95870 *et seq.*

25 <sup>17</sup>AB32 required CARB to prepare a Scoping Plan to outline the actions it would take to  
26 achieve reductions in greenhouse gas emissions. Health & Safety Code § 38561.

26 <sup>18</sup>*See* Recommendations on DRAFT AB 32 Scoping Plan (October 1, 2008) available at  
27 [http://www.arb.ca.gov/cc/ejac/ejac\\_comments\\_final.pdf](http://www.arb.ca.gov/cc/ejac/ejac_comments_final.pdf).

27 <sup>19</sup>*See* EJAC Comment Letter, *supra* note 13; Public comments submitted to CARB can be  
28 found at <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>.

28 <sup>20</sup>AIR, *et al.* v. CARB, *et al.*, Case No. CPF-09-509562 (June 10, 2009).

1 consider alternatives to Cap and Trade when adopting the Scoping Plan; and (2) began  
2 implementing the Scoping Plan before it had responded to comments or finalized its  
3 approval.<sup>21</sup> The court ordered CARB to perform a new Alternatives Analysis and enjoined  
4 CARB from further work on Cap and Trade until the analysis had been completed.<sup>22</sup> CARB  
5 vehemently opposed the court's decision and convinced the Court of Appeal to stay the  
6 injunction, claiming that harm to the environment would be irreparable unless CARB could  
7 implement Cap and Trade starting on January 1, 2012.<sup>23</sup> Five days after receiving the stay,  
8 CARB Chairman Mary Nichols announced that CARB would defer implementation to  
9 January 1, 2013.<sup>24</sup> CARB then continued to develop Cap and Trade, while it simultaneously  
10 reviewed alternatives. On August 24, 2011, CARB presented a "revised" alternatives analysis  
11 to the public. Not surprisingly, the analysis of alternatives was insufficient and disingenuous  
12 because CARB never stopped its march towards Cap and Trade. Again, Complainants and  
13 others urged CARB not to adopt a plan that included Cap and Trade because of the  
14 inequalities in the program.<sup>25</sup> CARB ignored the public comments and voted to re-approve  
15 the same Scoping Plan, with Cap and Trade included.<sup>26</sup>

16 The Superior Court denied the Petition for Writ of Mandate with respect to the AB 32  
17 causes of action, which alleged that the Scoping Plan violated Health & Safety Code § 38561  
18 because the Plan did not recommend measures to meet AB 32's maximum technologically  
19 feasible and cost-effective standard, and failed to evaluate the total costs and benefits of the  
20 Plan on public health, including the effects of Cap and Trade on communities near Cap and  
21 Trade facilities. That appeal is pending in the California First District Court of Appeals.

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24 <sup>21</sup>*Id.*, Judgement (May 20, 2011).

25 <sup>22</sup>*Id.*

26 <sup>23</sup>CARB v. AIR, *et al.*, California Court of Appeal, 1<sup>st</sup> District, Case No. A132165.

27 <sup>24</sup>Margot Roosevelt, *California delays its carbon trading program until 2013*, LA Times  
(June 30, 2011), available at

28 <http://www.latimes.com/news/local/la-me-cap-trade-20110630,0,2108482.story>.

<sup>25</sup>Public comments, *supra* note 19.

<sup>26</sup>Resolution No. 11-27, CARB, Regular Board Meeting, August 24, 2011.

1 On December 16, 2010, CARB had a public hearing on its proposed Cap and Trade  
2 regulation. At this hearing, Complainants informed the Board that Cap and Trade would  
3 violate Title VI and urged the Board not to go forward with the regulation.<sup>27</sup> Despite the  
4 numerous comments on the burdens of Cap and Trade on communities of color, the Board  
5 voted to adopt the Cap and Trade program.<sup>28</sup> From the outset, CARB has promoted a Cap and  
6 Trade system and has refused to genuinely review, in good faith, alternatives or take seriously  
7 Complainants' Title VI claims of disparate and adverse impacts on communities of color in  
8 California.

## 9 VI. ARGUMENT

10 Title VI of the Civil Rights Act of 1964 provides:

11 No person in the United States shall, on the ground of race, color, or national origin,  
12 be excluded from participation in, be denied the benefits of, or be subjected to  
discrimination under any program or activity receiving federal financial assistance.<sup>29</sup>

13 CARB, a recipient of federal financial assistance from EPA, has violated Title VI by its  
14 decision to approve Cap and Trade.<sup>30</sup> EPA's implementing regulations prohibit recipients  
15 from making decisions which have the *effect* of subjecting individuals to discrimination  
16 because of their race, color or national origin.<sup>31</sup> CARB's duty to comply with Title VI is not  
17 limited to only those programs that are funded by EPA. "Program or activity" is defined as  
18 "all the operations of" a department, agency, special purpose district or other instrumentality  
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21 <sup>27</sup>See CARB December 16, 2010 Hearing Transcript, 319-320 (Comments of Brent Newell),  
22 322-324 (Comments of Caroline Farrell), *available at*  
23 <http://www.arb.ca.gov/board/mt/2010/mt121610.pdf>. Relevant part attached as Exhibit 3; *See*  
also CRPE Letter Re: Comments on Greenhouse Gas Cap and Trade Regulation, December

24 <sup>28</sup>Resolution No. 10-42, CARB Regular Board Meeting, December 16, 2010. The regulation  
25 was modified in July 2011 and September 2011. CARB approved the final version on  
26 October 26, 2011 (Resolution No. 11-32); *See* CRPE Letter Re: Comments on 15-Day  
Modifications to Greenhouse Gas Cap and Trade Regulation, August 11, 2011. Attached as  
Exhibit 5.

27 <sup>29</sup>Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d.

28 <sup>30</sup>EPA's regulations can be found at 40 C.F.R. Part 7.

<sup>31</sup>40 C.F.R. §§ 7.35(b) - (c).

1 of a State or of a local government.<sup>32</sup> CARB is a program or activity under the Act and thus,  
2 all its decisions must comply with the requirements of Title VI.

3 CARB's decision to approve Cap and Trade violates its statutory and regulatory duties  
4 under Title VI. CARB's action has the potential to exacerbate existing adverse environmental  
5 impacts in communities of color throughout California and creates a substantial adverse effect  
6 on these communities. The offsets and allowance trading in Cap and Trade denies  
7 communities sited around Cap and Trade facilities the benefit of co-pollutant emissions  
8 reductions and, in some instances, could cause an increase in emissions. As discussed in  
9 Section B, *infra*, the impact of Cap and Trade will fall disproportionately on communities of  
10 color located around these facilities in violation of Title VI.

11 **A. The Cap and Trade Regulation Will Have Significant Adverse Health Impacts.**

12 In determining adverse impacts for the *Angelita C.* Title VI complaint,<sup>33</sup> OCR  
13 considered exposure levels and stated that the nature and severity of the potential health  
14 effects, the frequency of occurrence, and the estimated numbers of persons potentially affected  
15 could also be factors in finding an adverse impact.<sup>34</sup> The *Investigative Report* looked to the  
16 Clean Water Act enforcement guidance to support the criteria that an exceedance of a

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18 <sup>32</sup>42 U.S.C. § 2000d-4a

19 <sup>33</sup>This preliminary finding, with its supportive investigative documents, represents the sole  
20 authority on the application of the Title VI methodologies provided in EPA's Draft Guidelines  
21 at this time. Accordingly, we adhere to *Angelita C.* to support our findings of adverse and  
22 disparate impact demonstrated in this Complaint. *See Preliminary Finding*, Title VI  
23 Complaint 16R-99-R9, U.S. EPA Office of Civil Rights, Apr. 22, 2011; *Investigative Report*  
24 *for Title VI Administrative Complaint File No. 16R-99-R9*, U.S. EPA Office of Civil Rights,  
25 Aug. 25, 2011 (hereinafter, *Investigative Report*); *see also Draft Title VI Guidance for EPA*  
26 *Assistance Recipients Administering Environmental Permitting Programs (Draft*  
27 *Administration Guidance) and Draft Revised Guidance for Investigating Title VI*  
28 *Administrative Complaints Challenging Permits (Draft Investigation Guidance)*, 65 Fed. Reg.  
39649, 39679-39680 (June 27, 2000). This draft guidance was the last document published by  
EPA through what EPA termed a "robust stakeholder involvement process." As it represents  
the last official Title VI policy guidance provided by EPA, even though EPA never responded  
to public comments, we follow its suggested methodology in this Complaint. *See, Policies*  
*and Guideline*, EPA Office of Civil Rights, <http://www.epa.gov/ocr/polguid.htm>.

<sup>34</sup>*Investigative Report* at 16-17 referring to *Draft Investigation Guidance*, *supra* note 33.



1 concentration threshold are generally recognized as adverse under Title VI.<sup>35</sup> EPA CWA  
2 enforcement guidance states:

3 An imminent harm or endangerment must only pose a *reasonable cause for*  
4 *concern for the public health* or welfare in order to constitute an “imminent  
5 and substantial endangerment” .... [T]he word “substantial” does not require  
6 quantification of the endangerment (e.g., proof that a certain number of persons  
7 will be exposed, that “excess deaths” will occur, or that a water supply will be  
8 contaminated to a specific degree). Instead, the decisional precedent  
9 demonstrates that an endangerment is substantial if there is reasonable cause  
10 for concern that someone or something may be exposed to a risk of harm by a  
11 release or a *threatened release* of a hazardous substance if remedial action is  
12 not taken, keeping in mind that protection of the public health, welfare and the  
13 environment is of primary importance. A number of factors (e.g., the quantities  
14 of hazardous substances involved, the nature and degree of their hazards, or the  
15 potential for human or environmental exposure) may be considered in  
16 determining whether there is reasonable cause for concern, but in any given  
17 case, one or two factors may be so predominant as to be determinative of the  
18 issue.<sup>36</sup>

11 The offsets and allowance trading allowed by Cap and Trade pose a reasonable cause for  
12 concern that 15,492,631 people, or 45.9% of the population of California residents, that live  
13 within a 6 mile radius of Cap and Trade facilities, may be exposed to a continued or increased  
14 level of harmful co-pollutant emissions.<sup>37</sup> As described below, co-pollutants emitted from  
15 Cap and Trade facilities cause significant health effects for the surrounding population. The  
16 exposure levels, nature and severity of the potential health effects, and the estimated number  
17 of people affected by Cap and Trade facilities’ co-pollutants demonstrates a significant  
18 adverse impact. In addition, EPA must consider the significant adverse impacts of Cap and  
19 Trade in the context of existing environmental injustice and social inequality. This  
20 cumulative adverse impact of Cap and Trade, in addition to other adverse effects born by  
21 communities living near Cap and Trade facilities, further demonstrates the significant adverse  
22 impact of Cap and Trade.

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26 <sup>35</sup>*Id.* at 26.

27 <sup>36</sup>*Id.* at 26-27 citing EPA, *Guidance on Use of Section 504, the Emergency Powers Provision*  
of the *Clean Water Act*, 1993 (internal citations omitted) (emphasis added).

28 <sup>37</sup>*Minding the Climate Gap* at 10, Table 1.

1           **1.       Co-pollutants cause severe health impacts to surrounding communities.**

2           Industrial sources account for roughly 20 percent of the total global warming pollution  
3 emitted in California.<sup>38</sup> Facilities such as power plants, cement plants, petroleum refineries  
4 and bio-fuel facilities also emit significant quantities of co-pollutants. The co-pollutants  
5 include, but are not limited to, criteria air pollutants<sup>39</sup> such as particulate matter (PM10 and  
6 PM2.5) and ground level ozone (smog) precursors, such as nitrogen oxides (NOx) and volatile  
7 organic compounds (VOC)<sup>40</sup>, and toxic air contaminants (or hazardous air pollutants).<sup>41</sup> The  
8 residents of the communities surrounding these facilities are the most severely impacted by  
9 the health effects of the co-pollutant emissions.

10           The criteria co-pollutants cause severe public health effects, such as asthma, cardio  
11 pulmonary illnesses, and premature death. Ozone pollution can lead to inflammation and  
12 irritation of the tissues lining the airways, which can cause spasms and contractions, reducing  
13 the amount of air that can be inhaled. Ozone in sufficient doses can also increase the  
14 permeability of lung cells, making them more susceptible to damage from environmental  
15 toxins and infection. Exposure to particulate matter (“PM”) aggravates a number of  
16 respiratory illnesses, decreases lung function and contributes to cardio pulmonary illnesses,  
17 such as heart attacks and strokes, and may even cause premature death in people with existing  
18 heart and lung disease. Both long term and short term PM exposure can have adverse health  
19 impacts. Particulate matter less than 2.5 microns in diameter (PM2.5) poses an increased risk  
20 because it can deposit deep within lungs and contains substances that are particularly harmful

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22           <sup>38</sup>Diane Bailey, *et al.*, *Improving Air Quality and Health by Reducing Global Warming*  
23 *Pollution in California*, June 2008, available at  
24 <http://www.nrdc.org/globalWarming/boosting/contents.asp>, 10.

25           <sup>39</sup>Criteria air pollutants are pollutants for which a health based National Ambient Air Quality  
Standard (NAAQS) has been set by the U.S. EPA.

26           <sup>40</sup>Many VOCs, such as benzene and methanol, are both VOCs and toxic compounds.

27           <sup>41</sup>Toxic air contaminants are pollutants identified by CARB which pose adverse health effects  
at extremely low levels. *See* Health and Safety Code § 39650 *et seq.* Hazardous air pollutants  
28 are listed in section 112(b) of the Federal Clean Air Act, 42 U.S.C. § 7412(b), and emission  
standards are set by U.S. EPA or by permitting authorities on a case-by-case basis.

1 to human health. Ozone and PM exposure are associated with increases in hospital  
2 admissions and emergency room visits, premature death, and increases school and work  
3 absenteeism. The elderly, children, adolescents, and adults who exercise or work outdoors are  
4 most susceptible to adverse impacts from exposure.<sup>42</sup>

5 California cities and counties consistently rank highest in exposure to short and long  
6 term PM2.5 exposure and ozone exposure.<sup>43</sup> The top five most polluted U.S. cities for long  
7 term and short term PM2.5 pollution are in California, almost exclusively in the San Joaquin  
8 Valley.<sup>44</sup> California also holds the top five spots for most polluted counties with regard to  
9 short term PM2.5 pollution, and seven of the top 10 counties for long term pollution.<sup>45</sup> The  
10 same holds true for ozone pollution: 9 of the top 10 cities are in California and the top 10  
11 counties are all in California.<sup>46</sup>

12 Exposure to these criteria co-pollutants exceed the NAAQS in many California air  
13 basins where Cap and Trade facilities are located.<sup>47</sup> The San Joaquin Valley and South Coast  
14 Air Basin failed to attain the 1-hour ozone standard and are extreme non-attainment areas for  
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18 <sup>42</sup>See EJAC comment letter, *supra* note 13, at 9 (reiterating that “Particulate Matter [] is a  
19 co-pollutant of every fossil-fuel combustion process. Particulate matter not only contributes  
20 to climate change, it also causes staggeringly high rates of illness and death in communities of  
21 color and low income communities around the state.”); *Facts about Particulate Matter  
22 Mortality: New Data Revealing Greater Dangers from PM2.5*, CARB (2008) available at  
23 [http://www.arb.ca.gov/research/health/pm-mort/pm-mort\\_fs.pdf](http://www.arb.ca.gov/research/health/pm-mort/pm-mort_fs.pdf) (stating that “ARB staff  
24 examined numerous studies from around the world and confirmed that even at very low levels  
25 of exposure, there exists a strong link between PM2.5 air pollution and many adverse health  
26 effects,” including “premature deaths, primarily from heart attacks, strokes, and other  
27 cardiovascular causes.”); American Lung Association, *State of the Air 2012* available at  
28 <http://www.stateoftheair.org/2012/assets/state-of-the-air2012.pdf>.

<sup>43</sup>See *State of the Air 2012* at 14-18.

<sup>44</sup>*Id.* at 14-15.

<sup>45</sup>*Id.* at 17-18.

<sup>46</sup>*Id.* at 14, 17.

<sup>47</sup>See *Currently Designated Nonattainment Areas for All Criteria Pollutants* available at  
<http://www.epa.gov/oaqps001/greenbk/ancl.html> (last accessed 6/5/12).

1 the 1997 8-hour ozone standard.<sup>48</sup> The Bay Area Air Quality Management District is in  
2 marginal nonattainment for the 1997 8-hour ozone standard.<sup>49</sup> The San Joaquin Valley, South  
3 Coast, and Bay Area Air Quality Management District are in non attainment for the short and  
4 long term 1997 and 2006 PM2.5 NAAQS, and the South Coast is in serious non-attainment  
5 for PM10.<sup>50</sup>

6 Toxic air contaminants and hazardous air pollutants are co-pollutants emitted by Cap  
7 and Trade facilities that also cause serious health effects. According to CARB, health effects  
8 from toxic air contaminants “may occur at extremely low levels and it is typically difficult to  
9 identify levels of exposure which do not produce adverse health effects.”<sup>51</sup> Hazardous air  
10 pollutants (or air toxics) are known or suspected of causing cancer, developmental effects, or  
11 birth defects. Examples of toxic co-pollutants emitted from Cap and Trade facilities include,  
12 but are not limited to ammonia, arsenic, benzene, formaldehyde, hexavalent chromium, and  
13 lead.

14 **2. Offsets and trading maintain or increase co-pollutant emissions in**  
15 **surrounding communities.**

16 Reducing greenhouse gas emissions on-site has the added benefit of reducing co-  
17 pollutant emissions. These direct reductions would have particularly important health impacts  
18 to communities that surround Cap and Trade facilities. As an example, the ExxonMobil  
19 refinery in Torrance, CA emits 352.2 tons of asthma and cancer causing particulate matter  
20 each year and nearly 800,000 people live within six miles.<sup>52</sup> Reducing the greenhouse gas  
21 emissions at the Torrance facility would reduce the PM emission as well. However, Cap and  
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23 <sup>48</sup>76 Fed. Reg. 82133 (Dec. 30, 2011) (1-hour failure to attain); 76 Fed. Reg 57846, 57847  
24 (September 16, 2011) (San Joaquin 8-hour); 76 Fed. Reg. 57872, 57873 (September 16, 2011)  
(South Coast 8-hour).

25 <sup>49</sup>*Supra* note 47.

26 <sup>50</sup>76 Fed. Reg. 69896 (Nov. 9, 2011) (San Joaquin Valley); 75 Fed. Reg. 71294, 71295  
(November 22, 2010) (South Coast); *supra* note 47.

27 <sup>51</sup>ARB Glossary of Air Pollution Terms, definition of Toxic Air Contaminant (TAC),  
available at <http://www.arb.ca.gov/html/gloss.htm#caaq>.

28 <sup>52</sup>*Minding the Climate Gap* at 1.

1 Trade allows polluting entities to either reduce their greenhouse gas emissions on-site or  
2 continue to pollute and buy allowances from another Cap and Trade facility or offsets from an  
3 unregulated entity.<sup>53</sup> While supposedly all of these options will decrease California’s overall  
4 greenhouse gas emissions, only one will decrease the co-pollutant emissions for the  
5 surrounding communities: reducing emissions at the source. Under Cap and Trade, if a  
6 facility chooses to buy allowances or offsets, they do not need to reduce their own emissions  
7 on-site. Therefore, the surrounding communities will not see any decrease in co-pollutants.  
8 Moreover, should a Cap and Trade facility expand its capacity or otherwise increase  
9 emissions, that facility may also buy allowances or offsets to comply with the cap. In this  
10 case, nearby communities would see an increase in co-pollutant emissions. Given the  
11 exceedances of the health based standards for criteria co-pollutants and the health effects of  
12 toxic co-pollutants described above, Cap and Trade inflicts a significant adverse impact.

13 **3. The Clean Air Act does not protect communities from co-pollutant**  
14 **emissions.**

15 Comments regarding the harms posed by co-pollutants have been brought before  
16 CARB throughout the creation and implementation of Cap and Trade. Often CARB has  
17 responded that AB32 is about greenhouse gas reductions and that the Clean Air Act protects  
18 communities from co-pollutants. This simply is not true. First, AB32 specifically directs  
19 CARB to “consider the potential for direct, indirect, and cumulative emission impacts from  
20 [market-based compliance mechanisms], including localized impacts in communities that are  
21 already adversely impacted by air pollution” and to “design any market-based compliance  
22 mechanism to prevent any increase in the emissions of toxic air contaminants or criteria air  
23 pollutants.”<sup>54</sup> Second, the Clean Air Act does not protect communities from co-pollutant  
24 impacts. CARB cannot rely on the Clean Air Act as a backstop to prevent increased co-  
25 pollutant impacts when new or modified major stationary sources (which are also Cap and  
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27 <sup>53</sup>Cal. Code Regs. tit. 17 §§ 95870 *et seq.*

28 <sup>54</sup>Health and Safety Code §§ 38570(b)(1)-(2).

1 Trade facilities) increase hazardous air pollutant or criteria pollutant emissions in a  
2 community. EPA has access to numerous permits throughout the San Joaquin, South Coast  
3 and Bay Area air basins that will demonstrate the Clean Air Act's inability to protect local  
4 communities from co-pollutant emissions.<sup>55</sup> Hazardous air pollutant regulations (Section 112)  
5 and New Source Review (as codified in Part D of Title I of the Clean Air Act) allow increases  
6 in emissions. Those sections do not require zero emissions but, rather, impose technology  
7 based emissions limits.<sup>56</sup> Section 112 allows any emissions beyond MACT. Moreover, under  
8 New Source Review, a major stationary source purchases offsets to mitigate the pollution not  
9 reduced by BACT (or LAER) under an almost identical scheme as Cap and Trade: the major  
10 source buys offsets from another source in the air basin and the local community gets stuck  
11 with the increase in criteria pollutant emissions.<sup>57</sup> The California Clean Air Act likewise does  
12 not require zero emissions of toxic or criteria pollutant emissions for new or modified  
13 stationary sources. Therefore, if a new source or expanding source increases pollution in a  
14 community, Cap and Trade allows it, and the Clean Air Act only requires emissions controlled  
15 to the extent technologically feasible. CARB had the opportunity to reduce greenhouse gases  
16 and harmful co-pollutant emissions for communities living near Cap and Trade facilities, but  
17 Cap and Trade does not capitalize on that opportunity to the detriment of those communities.

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19 <sup>55</sup>Two examples are the Avenal Power Center in the San Joaquin Valley and the Ultramar  
20 Wilmington Refinery in the South Coast. In Avenal, even after controls, the approved project  
21 will emit 12 tons per year of toxics. *See* Notice of Final Determination of Compliance,  
22 Project Number: C-1100751 - Avenal Power Center, LLC (08-AFC-01), 60 (December 17,  
23 2010), relevant portions attached as Exhibit 6. In Wilmington, the refinery will have  
24 significant air impacts and hazardous air pollution emissions but it will comply with existing  
25 air quality regulations. *See* Notice of Preparation of Draft Environmental Impact Report,  
26 Ultramar, Inc. Wilmington Refinery Proposed Cogeneration Project, 2-8, 2-27 (March 30,  
27 2012), *available at* <http://aqmd.gov/ceqa/nonaqmd.html>. Relevant portions attached as  
28 Exhibit 7.

26 <sup>56</sup>42 U.S.C. §§ 7412(d) (Maximum Achievable Control Technology (MACT)) and 7503(d)  
(Best Available Control Technology (BACT) or Lowest Achievable Emissions Rate (LAER)).

27 <sup>57</sup>*See, e.g.* San Joaquin Valley Air Pollution Control District Rule 2201, South Coast Air  
28 Quality Management District Regulation XIII; *see also* 42 U.S.C. §§ 7503(c) and 7511a;  
Avenal Permit, *supra* note 55, at 38-48 (offsets required for NO<sub>x</sub>, VOC, and PM<sub>10</sub>).

1           **4. Cap and Trade exacerbates the cumulative environmental and social**  
2           **inequality in communities living near Cap and Trade facilities.**

3           Cap and Trade does not exist in theoretical isolation, but rather adds additional impacts  
4 to communities already suffering existing environmental and social inequalities which  
5 cumulatively affect the health and well-being of people of color. This cumulative burden is  
6 thus further exacerbated by Cap and Trade's deprivation of potential co-pollutant reductions  
7 and localized increases in co-pollutants. Given the factors articulated in *Angelita C.* and the  
8 *Investigative Guidance*, cumulative impacts are relevant to whether Cap and Trade is a  
9 significant adverse impact.<sup>58</sup> These cumulative impacts include, but are not limited to,  
10 localized and regional toxic and conventional air pollution, exposure to additional toxins in  
11 food and water, and social inequalities that exacerbate public health outcomes, such as  
12 unequal access to healthy food (food deserts) and unequal access to health care that plague  
13 low-income communities of color such as those near Cap and Trade facilities. Such  
14 cumulative health and social vulnerabilities in the San Joaquin Valley and South Coast Air  
15 Basin have been exceptionally well documented in the scientific literature and further  
16 establish the significant adverse impact of Cap and Trade.<sup>59</sup>

17           **B. The Cap and Trade Regulation Disproportionately Impacts People of Color in**  
18           **California.**

19           The EPA *Draft Revised Guidance for Investigating Title VI Administrative Complaints*  
20 *Challenging Permits (Investigative Guidance)* provides five steps for determining disparate  
21 impact.<sup>60</sup> These steps include 1) identifying the affected population, 2) identifying the  
22 comparison population, 3) characterizing the demographics of the affected population, 4)

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24 <sup>58</sup>See *Draft Investigation Guidance*, 65 Fed. Reg. at 39678.

25 <sup>59</sup>See James L. Sadd, *et al.*, *Playing it Safe: Assessing Cumulative Impact and Social*  
26 *Vulnerability through an Environmental Justice Screening Method in the South Coast Air*  
27 *Basin, California*, *Int. J. Environ. Res. Public Health*, 8, 1441-1459 (2011); Jonathan London,  
*et al.*, *Land of Risk, Land of Opportunity: Cumulative Environmental Vulnerabilities in*  
28 *California's San Joaquin Valley*, UC Davis Center for Regional Change, 12 (Nov. 2011).

<sup>60</sup>*Draft Investigation Guidance*, 65 Fed. Reg. at 39681-39682.

1 conducting a disparate impact analysis, and 5) determining the significance of this disparity.  
2 EPA employed this procedure to support its preliminary finding of disparate impact for  
3 *Angelita C.*<sup>61</sup>

4 These five steps, as addressed below, demonstrate that people of color in California  
5 face a significant disparate impact from co-pollutant emissions from Cap and Trade facilities  
6 compared to the state’s non-Hispanic white population. Furthermore, the pattern of disparate  
7 impact holds across all major racial and ethnic subpopulations in California. While this  
8 disparity is greatest among the African-American population, it is also significant for the  
9 state’s Latino and Asian/Pacific Islander populations, as well as for recent immigrants. In  
10 implementing Cap and Trade, CARB will entrench these significant disparities in clear  
11 violation of Title VI.

12 **1. The affected population is residents of California living within six miles of**  
13 **a Cap and Trade facility.**

14 For the purposes of this Complaint, we contend that “affected population”<sup>62</sup> is  
15 residents of California living within 6 miles of a Cap and Trade facility known to emit large  
16 quantities of both carbon dioxide and co-pollutants. A total of 15,492,631 people, or 45.9% of  
17 the population of California, live within six miles of such a facility.<sup>63</sup> For the purpose of this  
18 Complaint, we use a six-mile radius as a threshold and indicator of those at greatest risk of  
19 co-pollutant exposure from Cap and Trade facilities. The California Energy Commission  
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21 <sup>61</sup>See *Preliminary Finding, supra* note 33; Jonathan Cohen & Arlene Rosenbaum, *Exposure*  
22 *Assessment and Disparity Analysis for Administrative Complaint 16R-99-R9*, 25-51, Apr. 21,  
23 2011 (Hereinafter, *Disparity Analysis*) (utilizing the following steps in its “approach to  
24 disparity analysis”: “identification of affected and comparison populations,” “comparison of  
25 demographic characteristics of affected versus comparison population,” “disparity assessment  
26 results”); *Investigative Report* (employing these steps to arrive at its finding of significant  
27 disparity).

26 <sup>62</sup>*Disparity Analysis* at 26 (explaining that “OCR defines the *affected population* as the  
27 population with a predicted exposure of interest from the environmental stressors at issue.”);  
28 *Draft Investigation Guidance* at 39681.

28 <sup>63</sup>Unless otherwise specified, data and statistics discussed in this section are drawn from  
*Minding the Climate Gap, supra* note 2.



1 similarly utilizes a six-mile distance to determine whether environmental justice communities  
2 are located nearby proposed power plants.<sup>64</sup>

3         The size of the affected population underscores both the importance of this issue and  
4 the significance of the disparate impact findings, discussed below. The fact that the affected  
5 population is composed of nearly half of the total population of California minimizes the  
6 chance that the disparities illustrated below are due to chance.

7         California hosts over 150 Cap and Trade facilities intensively emitting greenhouse  
8 gases, including petroleum refineries, cement plants, and power plants.<sup>65</sup> As they emit  
9 greenhouse gases, each of these facilities releases differing amounts of toxic and criteria  
10 co-pollutants, with significant adverse health effects discussed in Section IV.A, *supra*.  
11 Furthermore, many communities within the affected group are burdened by exposures from  
12 more than one polluting facility.

13         To account for aggregate exposures, *Minding the Climate Gap* assessed the relative  
14 burden of co-pollutant emissions born by the affected population. This assessment revealed  
15 that 6.9% of Californians (2,317,884 people) experience the highest level of co-pollutant  
16 emissions within the 6-mile reference area, 32.4% (10,940,640 people) of the population of  
17 California experience a middle range of emissions, and 6.6% (2,234,107 people) experience  
18 relatively low emissions compared to these previous two groups.

19         Though power plants are the most numerous among these facilities, they average a  
20 much lower level of co-pollutant emissions than petroleum refineries and cement plants.  
21 Cement plants are particularly dirty in terms of their co-pollutant emissions: only 13 plants  
22 account for 4,513 tons of PM10 emitted per year. In addition, 25 refineries spew a further  
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24 <sup>64</sup>*Id.* at 8.

25 <sup>65</sup>Data on greenhouse gas and co-pollutant emissions is drawn from the 2006 CARB  
26 Emissions Inventory and CARB's 2008 annual release under California's mandatory GHG  
27 Reporting Program. *Minding the Climate Gap* at 5. Demographic and socioeconomic data is  
28 taken from the 2000 U.S. Census, using the demographically and economically homogenous  
census block groups as the unit of analysis. *Id.* at 5, 7. EPA recommends the use of census  
blocks groups in conducting disparity assessments. *Draft Investigation Guidance* at 39681.

1 2,995 tons of PM10 while 108 power plants emit an additional 2,395 tons. Along with PM10,  
2 each of these facilities emit similar levels of the particularly potent PM2.5, as well as sulfuric  
3 acid, nitrous oxides, and toxic pollutants.<sup>66</sup> This heavy total load of pollutants, generating  
4 immediate and severe localized health impacts, is predominantly born by the affected  
5 population within a 6-mile radius of these facilities.

6 **2. The comparison population is the population of California residing**  
7 **outside of the six mile range of a Cap and Trade facility.**

8 EPA defines the comparison population for a disparity analysis as “the population  
9 selected for comparison with the affected population.”<sup>67</sup> The OCR uses the comparison  
10 population in Title VI investigations “to evaluate whether there is a significant difference  
11 between [comparison and affected populations] with respect to demographic characteristics or  
12 degree of impact.”<sup>68</sup> According to OCR’s disparate impact analysis in *Angelita C.*, the  
13 comparison population should represent a “group of people that could have been equally likely  
14 to be affected if the recipient’s actions had resulted in alternative location.”<sup>69</sup> If possible, the  
15 comparison population should not overlap with the affected population in order to create two  
16 “statistically independent” groups for disparity analysis.<sup>70</sup>

17 In this Complaint, we contend that the comparison population is the total population of  
18 California residing outside of the six mile zone of impact of the facilities subject to Cap and  
19 Trade. Exposure to co-pollutants diminishes substantially beyond the six mile range of a  
20 facility.<sup>71</sup> Though emissions dispersion patterns may extend exposures to some degree beyond  
21

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22 <sup>66</sup>See *Minding the Climate Gap* at 1. For CARB’s inventory of co-pollutant emissions from  
23 major stationary sources, including CO, PM10, PM2.5, NOx, and SOx, see *2008 Estimated*  
24 *Annual Average Emissions: Stationary Sources*, CARB,  
25 [http://www.arb.ca.gov/app/emsmv/emssumcat\\_query.php?F\\_YR=2008&F\\_DIV=-4&F\\_SEASON=A&SP=2009&F\\_AREA=CA#stationary](http://www.arb.ca.gov/app/emsmv/emssumcat_query.php?F_YR=2008&F_DIV=-4&F_SEASON=A&SP=2009&F_AREA=CA#stationary).

26 <sup>67</sup>*Disparity Analysis* at 29.

27 <sup>68</sup>*Id.*

28 <sup>69</sup>*Id.*

<sup>70</sup>*Id.*

<sup>71</sup>*Minding the Climate Gap* at 16.

1 this range, we follow *Minding the Climate Gap* and the California Energy Commission in  
2 assuming, for the purposes of this Complaint only, that co-pollutant exposures are  
3 comparatively negligible beyond this identified six mile zone of impact.<sup>72</sup>

4       The use of this particular comparison population provides our disparity analysis with  
5 two substantial strengths. First, as the comparison population does not overlap at all with the  
6 affected population, we are able to compare two “statistically independent” populations.  
7 Doing so bolsters and simplifies our statistical analysis as well as future analyses conducted to  
8 investigate this Complaint. Second, as explained above, we are able to employ a comparison  
9 population that closely matches the affected population in size, as the comparison population  
10 comprises 54.1% of the total population of California.<sup>73</sup> The similarity in, and large size of,  
11 the two populations minimize the possibility that identified disparities could be due to chance.

12       **3. The affected population is disproportionately people of color.**

13       The population of California residing within six miles of a Cap and Trade facility (the  
14 affected population) is composed of 62% people of color compared to only 38% non-Hispanic  
15 whites.<sup>74</sup> By contrast, the population residing outside of the six-mile zone of impact (the  
16 comparison population), without the heavy burden of co-pollutant exposures, is 46% people of  
17 color and 54% non-Hispanic white.<sup>75</sup>

18       The disproportionate presence of people of color within six-miles of a facility holds  
19 across all major racial and ethnic groups. African Americans are the most hyper-represented  
20 within the area of impact: their share of the population within six miles of a facility (8.6%) is  
21 almost twice their share outside of the six-mile range (4.6%). The Latino population also  
22 makes up 37.5% of the population within six miles of a facility versus only 28.1% outside of  
23 the range, while Asian/Pacific Islanders comprise 12.6% of the population within six miles of  
24 a facility compared to 9.7% outside of the range. Recent immigrants, differentiated by their  
25

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26 <sup>72</sup>*Id.* at 8.

27 <sup>73</sup>*Id.* at 10, table 1.

28 <sup>74</sup>*See* Table 1; Exhibit 1.

<sup>75</sup>*Id.*

1 national origin, are also overrepresented in the zone of co-pollutant impact. They make up  
 2 21.4% of the population within six miles of a facility but only 15.4% of the total comparison  
 3 population outside of the six-mile range.

4 Together these figures illustrate a consistent pattern in California whereby each of  
 5 these minority racial, ethnic, and immigrant groups live with substantially heavier exposures  
 6 to co-pollutants from Cap and Trade facilities than their white co-patriots.

7 Table 1: Average Characteristics by Distance from a Facility

8		< Half Mile	< 1 Mile	< 2.5 Miles	< 5 Miles	< 6 Miles	> 6 Miles
9	Total Population	93,362	575,014	4,368,581	12,844,279	15,492,631	18,226,753
10	% California Population	0.3%	1.7%	13.3%	38.8%	45.9%	54.1%
11							
12							
13	Non-Hispanic White	42.6%	41.2%	37.4%	37.5%	38.0%	54.0%
14	People of Color	57.4%	58.8%	62.6%	62.5%	62.0%	46.0%
15	African American	8.7%	8.2%	8.3%	8.5%	8.6%	4.6%
16	Latino	35.0%	38.1%	40.2%	38.6%	37.5%	28.1%
17	Asian/Pacific Islanders	10.2%	8.9%	10.6%	12.0%	12.6%	9.7%
18	1980s and 1990s Immigrants	19.1%	20.3%	20.9%	21.3%	21.4%	15.4%
19							

20  
 21 To further substantiate this disparate impact, we assess the relative emissions burdens  
 22 borne by the affected and comparison populations.<sup>76</sup> Data on relative exposures is critical  
 23 because proximity to a facility may not precisely correspond with a census block’s actual  
 24 co-pollutant exposures. As *Minding the Climate* explains, “some neighborhoods are within  
 25 range of several facilities, and not all facilities emit the same amount of pollution.”<sup>77</sup> The  
 26

27 <sup>76</sup>*Id.* at 11, table 2.

28 <sup>77</sup>*Id.* at 11.

1 authors produce the data displayed below by summing “up the tons of co-pollutant emissions  
 2 for each co-pollutant by neighborhood (block group) from all facilities within six miles” and  
 3 classifying them by three categories according to their level of emissions burden.<sup>78</sup>

4 The disparities assessed above become even more pronounced when comparing the  
 5 relative burden of co-pollutants borne by each group.<sup>79</sup> As *Minding the Climate Gap* reports,

6  
 7 African Americans are *drastically overrepresented* in the High Emissions  
 8 group of neighborhoods, making up about 16 percent of the population - more  
 9 than three times their share in either the Low Emissions group of  
 10 neighborhoods or neighborhoods outside the six mile range of any facility.<sup>80</sup>

11 Latinos, Asian/Pacific Islanders, and recent immigrant are also all overrepresented at every  
 12 level of emissions compared to their proportion of the comparison population.

13 Table 2: Average Characteristics of PM10 Emissions from Facilities Within 6 Miles

	High Emissions	Middle Range	Low Emissions	No Facilities Within 6 Miles
Total Population	2,317,884	10,940,640	2,234,107	18,226,753
% California Population	6.9%	32.4%	6.6%	54.1%
Non-Hispanic White	34.4%	37.7%	43.5%	54.0%
People of Color	65.6%	62.3%	56.5%	46.0%
African American	15.9%	7.8%	4.9%	4.6%
Latino	34.5%	38.8%	33.9%	28.1%
Asian/Pacific Islanders	11.7%	12.5%	14.3%	9.7%
1980s and 1990s Immigrants	18.7%	22.2%	20.2%	15.4%

24 As a group, people of color have their highest population representation in the most  
 25 severely impacted emissions range, making up 66% of the Californian population in high

26  
 27 <sup>78</sup>*Id.*

28 <sup>79</sup>*See* Table 2; Exhibit 1.

<sup>80</sup>*Id.* at 11 (emphasis added).

1 emissions areas. They are also over-represented at the middle emissions range (62%) and low  
2 emissions range (57%), as compared to their much lower proportion of the comparison  
3 population - the state population beyond six miles of a facility (46%).

4 By contrast, non-Hispanic whites are under-represented at every emissions level and  
5 over-represented in the comparison population beyond six miles of a facility. A telling mirror  
6 image to the pattern for African Americans in California, non-Hispanic whites have their  
7 lowest population representation at the high emission range (35%), with an increasing share of  
8 the middle and low emissions range and a dramatically greater share of the comparison  
9 population beyond six miles of a facility (54%).

10 In terms of health impacts, disparities are again more severe than these figures suggest.  
11 *Minding the Climate Gap* reports exposures from PM10 as its unit of analysis. However, Cap  
12 and Trade facilities that emit carbon dioxide also emit PM2.5 and ultrafine particular matter  
13 (resulting in more severe health impacts than from PM10 exposure alone), sulfur oxides,  
14 ozone forming nitrous oxides and volatile organic carbon, as well as a variety of toxic air  
15 pollutants.<sup>81</sup> Our allegations cover the disproportionate cumulative impacts of all of these  
16 exposures on people of color in California. Accordingly, it is crucial that investigative action  
17 by the EPA address disparate exposures and health impacts from all co-pollutants emitted by  
18 Cap and Trade facilities, not just PM10.

19 **4. Co-pollutant emissions from Cap and Trade facilities inflict a disparate**  
20 **impact on people of color.**

21 People of color bear a consistently higher load of co-pollutants emitted from facilities  
22 that generate large amounts of carbon dioxide. People of color make up 62% of the  
23

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24 <sup>81</sup>See Part VI.A, *supra*. The authors of *Minding the Climate Gap* employ PM10 as a proxy for  
25 these other co-pollutants. However, they also make clear that vulnerable populations “are  
26 disproportionately exposed to and impacted by many of the co-pollutants associated with  
27 GHG emissions, such as NOx, PM, and emissions of other contaminants that can have  
28 localized impacts,” such as air toxics. Shonkoff, et. al., *Minding the Climate Gap: Environmental Health and Equity Implications of Climate Change Mitigation Policies in California*, Environmental Justice, vol. 2, no. 4, 175 (2009).

1 population within the six-mile range of impact of a Cap and Trade facility. By contrast, they  
2 make up a much lower share (46%) of the population outside the six-mile range. When the  
3 actual burden of pollution borne by this population is assessed, the discrepancy becomes even  
4 starker: people of color make up 66% of the state population experiencing high emissions  
5 compared to 46% of the comparison population outside the six mile range and experiencing  
6 negligible localized co-pollutant emissions from these facilities.

7       Figures 7 and 8 in Exhibit 1 provide visual depictions of the disparate impact of  
8 co-pollutant exposures on people of color. According to *Minding the Climate Gap*, “[p]eople  
9 of color experience over 70% more particulate pollution from large GHG-emitting facilities  
10 within two and a half miles than non-Hispanic whites.”<sup>82</sup> Much of this burden is explained by  
11 the concentration of petroleum refineries in or near communities of color: “petroleum  
12 refineries account for the largest portion (93%) of the state-wide...difference between the  
13 emissions burden for people of color and non-Hispanic whites.”<sup>83</sup> Of the ten greenhouse  
14 gas-emitting facilities in California with the greatest health impacts, eight are petroleum  
15 refineries. Eight of the ten facilities “that were identified as the most disparate by  
16 race/ethnicity” also rank among the top fifteen facilities in terms of severity of health  
17 impacts.<sup>84</sup>

18       The following Table (Table 3) illustrates disparate burden borne by people of color as  
19 compared to non-Hispanic whites, using PM10 as the indicator.<sup>85</sup> By adjusting for the relative  
20 size of each population group within California, we see that each ethnic or racial minority  
21 group in the affected population experiences substantially greater exposures to PM10 than  
22

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23 <sup>82</sup>*Minding the Climate Gap* at 18, figure 7.

24 <sup>83</sup>*Id.* at figure 8.

25 <sup>84</sup>*Id.* at 22. For a visual depiction of the distribution of pollution-disparity across all major  
26 greenhouse gas-emitting facilities in California, see *id.* at 19, figure 9. Included in *Health  
Impact Assessment of a Cap-and-Trade Framework*, California Department of Public Health,  
70 (2010) (hereinafter, *Health Impact Assessment*).

27 <sup>85</sup> Complainants do not limit our disparate impact allegation to only PM10, and contend that  
28 all co-pollutants inflict a disparate impact. Unlike EPA or the authors of *Minding the Climate  
Gap*, Complainants lack the capacity to provide a statistical analysis for all co-pollutants.

1 non-Hispanic whites in the affected population. Even at closer distances to the facilities, “the  
2 relative emissions burden for all people of color combined is always above that for  
3 non-Hispanic whites.”<sup>86</sup>

4 Table 3: Population Weighted Average Annual PM10 Emissions (Tons) Burden by  
5 Race/Ethnicity within 6 Mile Zone of Impact

6 Non-Hispanic White	41.51
7 All People of Color	70.98
8 African American	115.03
9 Latino	66.37
10 Asian/Pacific Islander	63.57

11  
12 When comparing health effects of co-pollutants, actual disparate impacts on people of  
13 color are even more severe than can be captured by discrepancies in exposure alone, as a result  
14 of the particular vulnerabilities of this population. As the California Department of Public  
15 Health (CDPH) explained in its 2010 Health Impact Assessment of Cap and Trade,

16 [I]ow-income communities and communities of color in California are  
17 disproportionately impacted by environmental exposures and have a greater  
18 susceptibility to the negative health impacts of environmental risk because of  
existing health and socioeconomic vulnerabilities.<sup>87</sup>

19 Co-pollutant exposures from Cap and Trade facilities add to the tremendous  
20 cumulative exposures to a variety of environmental stressors borne predominantly by people  
21 of color.<sup>88</sup> As people of color tend to be more susceptible to health risks and have lower  
22 access to services to mitigate negative health outcomes, exposures to co-pollutants are

23  
24 <sup>86</sup>*Minding the Climate Gap* at 16.

25 <sup>87</sup>CDPH, *Health Impact Assessment* at 60.

26 <sup>88</sup>A study by researchers at UC Davis of conditions in California’s San Joaquin Valley  
27 confirmed that “environmental hazards tend to be clustered around populations with high and  
28 very high levels of social vulnerability.” The study also demonstrated that the percentage of  
non-white residents within the Valley study area increases with increasing levels of social  
vulnerability and cumulative environmental hazards. Jonathan London, *et. al.*, *Land of Risk,*  
*Land of Opportunity*, *supra* note 59.



1 “exacerbated by poverty, poor quality housing, and insufficient health care access in these  
2 communities.”<sup>89</sup> The resulting picture is one of stark discrepancies in both exposures and  
3 health outcomes.<sup>90</sup>

4       Moreover, as the CDPH identified, CARB’s Cap and Trade program stands to  
5 exacerbate these preexisting disparities. As CDPH identified, “the distribution of these  
6 impacts” from a cap-and-trade program in California “is uncertain; market-based systems are  
7 designed to reduce aggregate emissions, but can be ‘distribution neutral.’”<sup>91</sup> Because  
8 “individual firms comply with the statewide cap in a manner that best fits their needs,” the  
9 health and economic impacts on local communities “will vary.”<sup>92</sup> If emissions-intensive  
10 facilities purchase allowances and offsets, rather than reduction emissions on-site as Cap and  
11 Trade allows,<sup>93</sup> Cap and Trade will cause localized pollution “to increase in some  
12 communities.”<sup>94</sup> Such increases will deepen already severe disparate impacts of localized  
13 greenhouse-gas co-pollution that communities of color live under.

14       **5. The disparate impact from Cap and Trade is significant.**

15       The disparities detailed in Section VI.B.3 are unequivocally significant for people of  
16 color residing in California, as well as for all major racial and ethnic minority groups. To  
17 assess significance of disparate impact findings, we follow the methodology utilized by EPA’s  
18 *Investigative Report*.<sup>95</sup> The OCR investigation included an assessment of “whether members

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20 <sup>89</sup>CDPH, *Health Impact Assessment* at 61.

21 <sup>90</sup>CDPH illustrated these disparities in both exposure and health outcome, caused by  
22 underlying susceptibilities, poor access to resources, and deleterious land use patterns, for the  
23 communities of Wilmington-Harbor City-San Pedro, the City of Richmond, and the San  
24 Joaquin Valley. *See id.* at 59-91. Areas characterized by high levels of cumulative  
25 environmental vulnerabilities tend to be “characterized by high levels of cumulative health  
26 problems.” Jonathan London, *Land of Risk, Land of Opportunity*, *supra* note 59, at 18.

25 <sup>91</sup>CDPH, *Health Impact Assessment* at 90.

26 <sup>92</sup>*Id.* at 21.

26 <sup>93</sup>*California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms*,  
27 Cal. Code of Reg., Art. 5, sections 95800 *et. seq.*

27 <sup>94</sup>CDPH, *Health Impact Assessment* at 90.

28 <sup>95</sup>*See Investigative Report*, *supra* note 33.

1 of the protected population group comprise a substantially greater proportion of the affected  
2 population than of the non-affected population.”<sup>96</sup> In evaluating the significance of disparities  
3 according to this criteria, we calculate comparative disparity ratios for people of color and  
4 racial and ethnic subpopulations between the affected and comparison populations. In doing  
5 so, we find consistently greater proportions of people of color in the affected population than  
6 in the non-affected comparison population. By contrast, we find that the non-Hispanic white  
7 population comprises a significantly greater proportion of the non-affected population than of  
8 the population exposed to co-pollutants.

9         Disparities are overwhelmingly significant with regards to the proportion of the  
10 protected population residing within the six mile affected range of a facility. People of color  
11 comprise 34.8% more of the affected population within six miles of a GHG-emitting facility  
12 than of the non-affected comparison population beyond the six mile range of impact. The  
13 percentage change is even more pronounced for African Americans, who make up 87% more  
14 of the population inside the six-mile zone of impact than in the comparison population.  
15 Latinos and Asians follow a similar pattern: they represent 33.5% and 29.9% more of the  
16 population inside the zone of impact than outside. In fact, the only population that does not  
17 follow this trend is non-Hispanic whites. The state population within six miles of a facility is  
18 29.6% *less* non-Hispanic white than outside the six-mile range.

19         Again, the significance of these disparities increases when considering the relative  
20 burden of co-pollutant emissions borne by each sub-population. People of color make up  
21 42.6% more of the population in a high co-pollutant emissions range compared to the  
22 percentage of people of color living beyond six miles from a cap and trade facility. In terms of  
23 their co-pollutant exposure burden, African-Americans are overrepresented by an order of  
24 magnitude: they comprise 245.7% more of the population experiencing high co-pollutant  
25 emissions than they comprise of the population beyond the six-mile reach of a facility. The  
26 discrepancies for Latinos, Asian/Pacific Islanders, and immigrants are also significant: they

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28 <sup>96</sup>*Id.* at 30.

1 respectively represent 22.8%, 20.6%, and 21.4% more of the population impacted by high  
2 co-pollutant emissions than their proportion of the state population beyond six miles of a  
3 facility. In addition, the disparity between people of color and non-Hispanic whites is again  
4 more pronounced: the population of California in high emissions zones is composed of 36.3%  
5 less non-Hispanic whites than outside the six-mile radius of impact.

6 As discussed above, the significance of these disparities becomes even more acute  
7 when accounting for underlying vulnerabilities of these communities to health risks from  
8 environmental exposures. The significance also grows after accounting for the cumulative  
9 exposure from all health-harming co-pollutants (PM2.5, ultrafine particulate matter, NOx,  
10 SOx, and toxic pollutants) emitted from facilities that intensively emit greenhouse gases.  
11 OCR should assess this total burden from all Cap and Trade associated co-pollutants in  
12 investigative action following on this Complaint to derive a complete picture of the  
13 significance and depth of adverse disparities.

14 By allowing heavily polluting facilities to trade away their co-pollutant emissions  
15 reductions obligations under Cap and Trade, CARB will exacerbate these existing inequities  
16 and further heighten their significance.

### 17 **C. There are Less Discriminatory Alternatives**

18 CARB had less discriminatory alternatives to implement AB32 before them, yet  
19 CARB chose to adopt Cap and Trade.<sup>97</sup> For example, CARB could have decided to directly  
20 regulate each facility and require greenhouse gas emission reductions. This alternative would  
21 not allow facilities the option to trade pollution credits or buy offsets. By requiring emission  
22 reductions at each facility site, the local impacts due to co-pollutants described above would  
23 be reduced as well. Direct regulation is a less discriminatory alternative that would achieve  
24 greenhouse gas reductions and protect California communities of color from the disparate and  
25 adverse impacts of co-pollutant emissions caused by Cap and Trade.

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26  
27 <sup>97</sup>See EJAC letters, *supra* notes 13, 18; CARB's alternatives analysis available at  
28 [http://www.arb.ca.gov/cc/scopingplan/document/appendices\\_volume3.pdf](http://www.arb.ca.gov/cc/scopingplan/document/appendices_volume3.pdf); Public comments,  
*supra* note 19.

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**VII. REMEDIES**

Under EPA regulations, EPA may use any means authorized by law to obtain compliance with Title VI.<sup>98</sup> EPA regulations require a recipient who has previously discriminated on the basis of race to take affirmative action to provide remedies to those who have been injured by the discrimination.<sup>99</sup>

In order to provide effective remedies for the discrimination set forth in this Complaint, EPA should require as a condition of continuing to provide federal financial assistance to CARB that the Board:

- (1) Reverse its October 2011 decision to approve the Cap and Trade regulation;
- (2) Adopt less discriminatory alternatives to meet the requirements of AB 32, such as direct regulations;
- (3) Sue to compel compliance with the law, to the extent that imposition of the foregoing remedies proves in any way to be ineffectual;
- (4) Provide complainants with copies of all documents related to the investigation, including but not limited to all correspondence to or from CARB throughout the course of the investigation, deliberation, and disposition of this Complaint; and
- (5) Notify Complainants of, and meaningfully include Complainants in, any settlement negotiations or voluntary compliance negotiations with CARB.

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<sup>98</sup>40 C.F.R. § 7.130(a).  
<sup>99</sup>40 C.F.R. § 7.35(a)(7).

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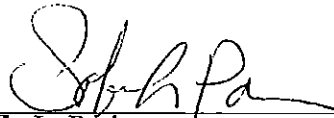
**VIII. CONCLUSION**

The California Air Resources Board's decision of October 20, 2011, which became final on December 13, 2011, to adopt Cap and Trade inflicts a significant disparate and adverse impact on people of color living within 6 miles of Cap and Trade facilities in California. This violates Title VI and EPA's implementing regulations.

DATE: June 8, 2012

Respectfully submitted,

**CENTER ON RACE, POVERTY & THE ENVIRONMENT**



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On the Complaint:  
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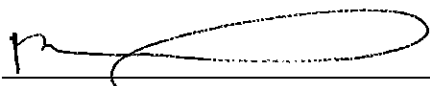
## DECLARATION OF SERVICE

I, Marissa Alexander, declare that I am over the age of eighteen (18) and not a party to this complaint. My business address is 47 Kearny Street, Suite 804, San Francisco, CA 94108.

On June 8, 2012, I filed and served one copy of the COMPLAINT UNDER TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 on the following persons by (1) placing it in a sealed, postage-paid envelope to be sent through the U.S. mail via certified mail, return receipt requested in the regular course of business; (2) by facsimile (without exhibits); and (3) by electronic mail:

Rafael DeLeon, Director  
Helena Wooden-Aguilar, External Civil Rights – Assistant Director  
U.S. Environmental Protection Agency  
Office of Civil Rights  
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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on June 8, 2012 in San Francisco, California.

  
\_\_\_\_\_  
Marissa Alexander

# Exhibit 2

# Minding the Climate Gap

What's at Stake if California's Climate Law isn't Done Right and Right Away



Manuel Pastor, Ph.D. | Rachel Morello-Frosch, Ph.D., MPH | James Sadd, Ph.D. | Justin Scoggins, M.S.



## **Acknowledgments**

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## Introduction

The California Global Warming Act (AB 32) – a cutting edge policy that no one expected to pass so quickly and with so much bipartisan support – proposes to cut green house gas emissions to 1990 levels by 2020. The successful implementation of such a standard would mean reducing carbon emissions from major polluters around the state – cement refineries, power plants, and oil refineries top among them. It's a clear victory for all Californians, it would seem – but the underlying picture may be a bit more complicated.

As we have shown in a recent report entitled *The Climate Gap* (Morello-Frosch, et al. 2009), climate change is not affecting all people equally: communities of color and low-income communities suffer the greatest negative health and economic consequences. Among the many disparate impacts, these communities are more vulnerable to heat incidents, more exposed to air pollution, and may be more affected by the economic dislocations of ongoing climate change.

While reducing greenhouse gas emissions will benefit all Californians, a carbon reduction system that does not take co-pollutants into account could likely result in significantly varying benefits for different populations. Those who are most likely to suffer the negative consequences of a short-sighted carbon trading system are the communities of color and the low-income communities already facing the greatest impacts of climate change – widening instead of narrowing the climate gap.

Consider the La Paloma power plant and the Exxon Mobil refinery in Torrance. The La Paloma power plant sits about 35 miles west of Bakersfield in an abandoned oil field just outside the small town of McKittrick (population 160) with less than 600 residents in the surrounding six miles, and no other facilities in the immediate vicinity. The Exxon Mobil refinery, on the other hand, is one of many facilities affecting nearly 800,000 people in the encircling six

miles. While these facilities share one similarity – according to recently released 2008 GHG emissions data from the California Air Resources Board, they both emit between 2.5 and 3 million tons of carbon dioxide each year – La Paloma releases 48.6 tons of asthma and cancer causing particulate matter per year while Exxon Mobil emits 352.2 tons. This staggering health risk is important to people who live in Torrance's dense neighborhoods, yet this fact is often ignored in the debates about how we might best implement AB 32.

Why is the difference between reducing emissions at La Paloma and in Torrance overlooked in the discussion about mitigating climate change? Part of the reason is that too much of the discussion stays at the macro-level: climate change is imagined as ozone layer erosion, heat waves, and sea level rises. So while the catastrophic potential of climate change is well documented, the story of the climate gap – the often unequal impact the climate crisis has on people of color and the poor in the United States – is just starting to be told. Until recently, systemic efforts to combat climate change have focused primarily on reducing carbon with little, if any, regard for where the reductions take place and who they might affect. In this view, reducing greenhouse gas emissions – no matter where it occurs – is the central objective of policy change.

People, however, do live somewhere – and it is at the local and not the macro level where changes from new policy will be most immediately felt. When smoke stacks in low-income communities belch less carbon, they also emit less particulate matter, sulfuric oxides, and nitrous oxides. When truck operators retrofit their units to reduce emissions, children's asthma rates are likely to fall along the traffic corridors that they impact. Paying attention to the climate gap – focusing on the co-pollutants and the potential co-benefits of greenhouse gas reductions – is important for public health. And lifting this issue up can give California not only a chance to address its historic pattern of environmental inequity but also



the opportunity to implement a climate change policy that will be replicated throughout the nation.

Additionally, the economic opportunity that could be realized by reducing air pollution in dense neighborhoods is also enormous. All Californians are affected by higher insurance premiums, medical costs and lost productivity due to the many illnesses caused by air pollution, and all stand to benefit from an equitable system that would work toward minimizing these costs as opposed to adding to this growing burden. Not only does it make economic sense, but the text of AB 32 itself also requires CARB in designing any market-based mechanisms for GHG reductions to consider the localized impacts in communities that are already impacted by air pollution, prevent any increase in co-pollutants, and maximize the co-benefits of co-pollutant reductions.<sup>1</sup>

This report seeks to analyze co-pollutants and co-benefits, with an eye toward thinking through policy designs that could help maximize public health and close the climate gap. We begin below by discussing why geographic inequality in greenhouse gas (GHG) reduction is likely under any market-based scheme and why it matters for public health. We then describe the necessary baseline for any analysis, indicating how some major facilities that emit significant GHGs – power plants, petroleum refineries, and cement plants – affect their neighbors, and who (and how many) those neighbors are. We then take on a trickier task: assessing the potential impacts of a cap-and-trade program in California. Because we cannot see into the market's future, we take a simpler approach: we identify which industries and their associated facilities are driving environmental inequity, and use this to suggest how policy-makers could take this into account in fulfilling AB 32's requirement to both reduce overall emissions *and* protect climate gap neighborhoods.

AB 32 has heralded a new era of regulatory action to reduce greenhouse gas emissions, and California finds itself once again leading the country in the area of environmental protection. As proud as we

should be of that, we must be mindful that the state is deeply plagued by issues of environmental inequity, and that if our new climate change regulations are not designed to address the growing climate gap, the suffering of those who bear the brunt of this burden may grow. Numerous studies demonstrate that air pollution burdens tend to fall disproportionately on those who are the least privileged and the most vulnerable. We do not need to perpetuate and worsen this trend. Instead, we can lift up issues of public health and fair environmental policies to ensure that the implementation of AB 32 is a success for all Californians and a model for the nation and a world looking for viable paths to environmental, social and economic sustainability.

## The Problem

California is at the forefront of dealing with climate change, by setting new standards, driving toward energy efficiency, encouraging renewables, and even working to rebalance the mix of land uses and transportation that have produced our well-documented sprawl. Within the context of our myriad efforts, the state has committed to the development of a “cap-and-trade” system in which GHG emissions from the facilities of certain polluting industries would be capped and emissions permits or “allowances” would be allocated (through auction, a fee, for free, or otherwise) to create a market for carbon emissions. In such a system, once the allowances are distributed for any compliance period, emitters of greenhouse gases whose emissions exceed their allowances may purchase allowances from other facilities – those who are reducing emissions beyond their own goals – rather than taking on the cost of reducing emissions from their own facilities. Another option, though highly controversial, is that they could cover their excess GHG emissions through the purchase of “offsets,” which are basically projects or activities that yield a net GHG emissions reduction



for which the ownership of the reduction can be transferred.

The arguments for cap-and-trade revolve around a narrow concept of industrial efficiency – if it is less costly for some firms to meet reduction goals, they should move first and fastest, and this will reduce the overall burden of compliance and perhaps speed the attainment of stricter GHG emissions targets overall (i.e. “the cap”). Some also argue that such a system could encourage technological innovation as firms seek to either buy fewer permits or chase the profit opportunities inherent in reducing their own emissions and offering their unused permits to other firms that cannot reduce as quickly. In this view, the market is being harnessed for public good, with the incentive structure providing businesses a positive reason to participate in making the intentions of AB 32 real as well as the flexibility to meet goals.

Opponents of cap-and-trade worry that enforcement of such a market system is not feasible and that the market will inevitably be gamed, leading to a sinkhole of financial resources with little regulatory oversight; opponents point to the subprime mortgage crisis and the recent economic meltdown as examples of trading markets that went haywire with little accountability. Others have noted that some experiences with cap-and-trade, as in the early implementation in the European Union, did not lead to significant GHG reductions. Still others object to program design, particularly the notions of handing out allowances *gratis* to polluting firms – something that is *de facto* a mass transfer of wealth from the general public to private polluters – and the use of offsets, which could displace actual emissions reductions in California through, for example, slowing deforestation somewhere across the globe.

While these are legitimate concerns this report explores a more limited and focused issue: whether or not implementation of cap-and-trade in

California might fail to capture public health benefits, or even make an already inequitable situation worse, thereby failing to maximize the social good to the same extent that might be obtained from a different or better-designed system.

To see this, it is important to recognize that cap-and-trade is inherently unequal. The cap part is, of course, equal: everyone gains from a regional reduction in GHG and the slowdown in climate change that might be induced. But the trade part is inherently unequal – or why would anyone trade? Indeed, trading is justified on the grounds that reducing pollution is more efficient in some locations compared to others, and thus *where* reductions will occur is a decision such a system leaves in the hands of the market and businesspeople – neither of which have any incentive to lower emissions in order to benefit the low-income and minority communities hit hardest by concentrated pollution.

Some argue that the location of the emissions reduction is not important – reductions in GHG benefit the planet no matter where they occur. But since GHG emissions are usually accompanied by releases of other pollutants, there could be very different impacts on the health of residents living near plants that choose, under cap-and-trade, to either reduce emissions or purchase their way out of that requirement. Therefore, the reductions made at the lowest marginal price might be efficient in





terms of the costs and benefits to the industrial economy, but would likely be enormously inefficient in a real sense if they fail to completely account for all external costs such as health impacts. Any carbon trading plan blind to the effects of co-pollutants would be deeply flawed in ignoring significant health impacts and the associated costs, such as the economic burden that could be shifted to other sectors, such as the healthcare system.

This public health concern has been among the arguments made by members of the Environmental Justice Advisory Committee (EJAC) – a group made up of leaders representing the communities most impacted by pollution in the state and itself a product of the AB 32 legislation intended to advise the California Air Resources Board (CARB). EJAC has, among other things, been concerned that the Scoping Plan for AB 32 calls for a cap-and-trade regulatory mechanism, which on its own, has no way to ensure the protection or improvement of environmentally degraded or stressed neighborhoods.

The public health issue arises in part because while cap-and-trade tries to price in one externality – carbon and other GHG emissions – it does not price in all externalities, including the health and other impacts of co-pollutants. While quantifying such economic externalities is not our focus, Groosman et al. (2009) have found the health co-benefits alone from co-pollutant reductions due to a nationwide cap on carbon emissions *may be greater than the cost of making such reductions itself* – without even considering the large-scale benefits of slowing climate change. In a study of the co-benefits of carbon emissions reductions in the European Union, Berk et al. (2006) reached similar conclusions.

There are reasonable arguments that other regulations, such as the Clean Air Act, can tame co-pollutant emissions and that one does not want to overload a new carbon trading system. Yet it is not clear why the introduction of a whole new market in carbon trading is not in and of itself sufficiently complicated that building in a few safeguards to

protect stressed communities would be the straw that breaks the regulatory camel's back. Moreover, given the well-founded skepticism of existing regulations that is held by many Environmental Justice (EJ) communities based on historical experiences, it is also not clear why the inclusion of safeguards would not make political sense as well.

Of course, whether one wants to think about such safeguards at all depends on whether or not a market system actually does have the realistic potential to introduce uneven benefits in public health – and the rest of this document is devoted to assessing whether such a scenario is possible. Thus, we need to investigate the current distribution of plants with regard to race, income and population density in order to see whether this is a concern worthy of public policy (and not just academic) consideration. Although we believe it is, we would also offer a few caveats to the case we will make.

First, some have dismissed concerns around uneven emissions reductions, arguing that because of other regulations, cap-and-trade will never produce “hot spots” – that is, places where emissions of both GHG and co-pollutants actually increase (an outcome that actually occurred in Southern California, for example, in a poorly designed system that allowed NO<sub>x</sub> emissions trading between mobile and stationary sources, and led refineries to purchase and decommission “clunkers” rather than clean up near fenceline communities; see Drury, et al. 1999). Thus, any form of trading should meet the limited requirement in AB 32 that any market system should “prevent any increase in the emissions of toxic air contaminants or criteria air pollutants.”<sup>2</sup>

We do think that there is a possibility of “hot spots,” particularly if plants below current regulatory emissions requirements for co-pollutants might eventually be sunsetted and so operators step up production (and emissions) in the interim (just as one might run an aging appliance past its prime knowing that it will soon be replaced). This is by no means an extreme view: the potential for “hot spots” is acknowledged by some who are against imposing



any sort of health- or EJ-based constraints on the cap-and-trade system. Schatzki and Stavins (2009), for example, argue for mechanisms to address EJ concerns over cap-and-trade that are external to the system itself (and particularly stress the use of traditional regulations for co-pollutants) but do concur that cap-and-trade could lead to an increase in local co-pollutant emissions, even if there is a net reduction statewide. However, we do not contend that this is the most likely outcome and believe that the main problem is one of missed opportunity: that we will fail to achieve and target public health benefits from GHG reductions in the communities that need them the most.

Second, while we focus here on cap-and-trade, the concerns we raise are equally applicable to the carbon fee system proposed by some cap-and-trade opponents. Although regulatory oversight is more straightforward in a fee-based system, here too, polluters can decide whether to reduce emissions or pay to pollute. We focus on cap-and-trade because it is the primary mechanism being discussed on both the state and federal policy agendas. The issues raised here are relevant to the potential gaps left by any market-based tool – cap-and-trade, carbon fee or a hybrid – and CARB must assess the potential for market-based mechanisms to worsen existing public health disparities before it develops such a regulatory framework.

Finally, we are *not* suggesting that considering inequitable health impacts in the development of a market-based carbon reduction plan is the only (or even the most important) piece of the puzzle in addressing the “climate gap”. There are many other areas of concern – such as the economic impacts on consumers, the job opportunities for low-skill workers, the role of urban heat islands, and the nature of our logistic and social preparation for extreme weather events. Still, we think that the public health piece is an important component within a larger climate justice debate.

## The Data

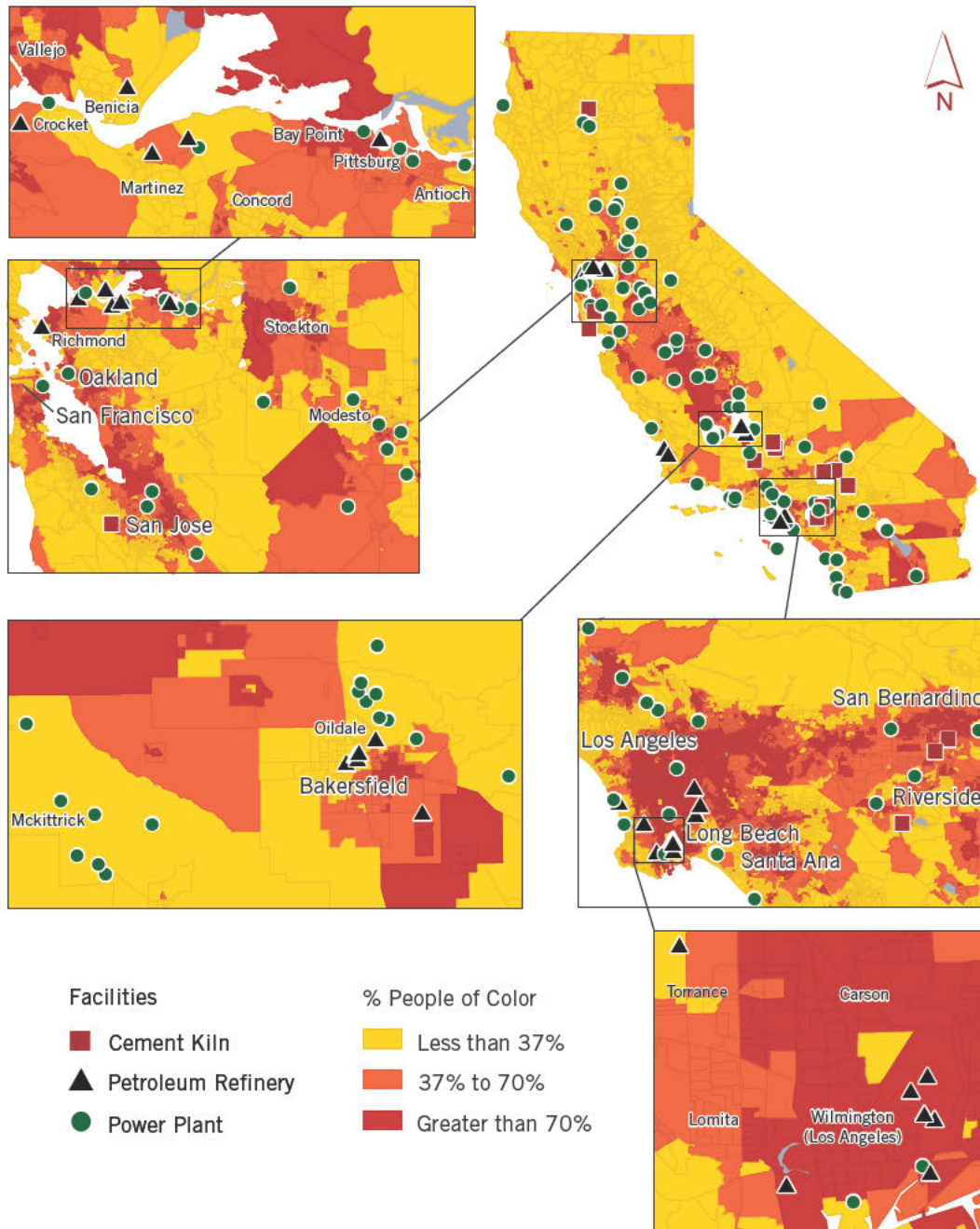
To connect climate change indicators with neighborhood disparities, we combined several data sources. We specifically performed GIS spatial analysis using demographic and emissions data, working down to detailed neighborhood measures needed to understand local health impacts.

Following a method developed by the Natural Resources Defense Council (NRDC) (Bailey et al. 2008), we pulled together emissions data on industries that are known to emit large quantities of CO<sub>2</sub> – petroleum refineries, cement plants, and power plants.<sup>3</sup> Together, the facilities included in our analysis from these sectors account for about 20 percent of the state’s GHG emissions and will be the first group to come under regulation. We extracted data from two sources: the 2006 CARB Emissions Inventory<sup>4</sup> for information on co-pollutants (NO<sub>x</sub> and PM<sub>10</sub>) and the 2008 GHG emission from CARB’s first annual release under the state’s mandatory GHG Reporting Program.<sup>5</sup> The power plant data only includes those oil and natural gas plants who reported to the California Energy Commission (CEC) in 2007 that they produced at least 50 online megawatts, and all other plants that may not have met that criteria but were either coal-fired or among the top 20 polluters of nitrous oxides (NO<sub>x</sub>), particulate matter (PM<sub>10</sub>), or carbon dioxide equivalent (CO<sub>2</sub>e). Petroleum refineries and cement plants data are from 2006, and the resulting overall dataset includes 146 facilities, once restricted to those for which co-pollutant emissions information could be obtained from a total of 154 facilities considered. This set of facilities overlaid on racial demographics can be seen in Figure 1.

The process of attaching emissions to the facility location is similar to that followed by NRDC using an earlier version of the data to understand the regional health benefits of reducing emissions from these sources. Because we were interested in local health impacts, we conducted two additional steps in the preparation of this new iteration of the data.



Figure 1: Major GHG-Emitting Facilities in California





First, we used a variety of means to verify the address locations of the facilities indicated in the databases – a vital step since the purpose here is to consider local effects. While addresses were provided in the CARB Emissions Inventory for all facilities, these didn't always match the actual locations, sometimes because they were for the company headquarters instead of the actual refinery or plant. To determine correct locations, we cross-referenced the addresses given by CARB Emissions Inventory with data from the GHG Reporting Program, the CEC power plants database, and a dataset of facility locations from the U.S. Environmental Protection Agency (EPA), which provided geographic coordinates in addition to addresses, and then used aerial imagery<sup>6</sup> in Google Earth to visually confirm that the deduced coordinates were correct; in cases where they were not, we used the air photos to first find the facilities and then derive a set of coordinates that matched the emissions source at the facility. For a few facilities that seemed to be nowhere near their given coordinates or given address, we found their actual physical location through web-research, official documentation (e.g. permit history), and making phone calls to the parent companies.

Second, we verified NRDC's calculations of how the facilities impact the health of their neighbors, and updated it with more recent, 2006 data. NRDC researchers had created a "health impacts index" (for the formula, see the Technical Appendix) that quantifies, using health endpoint factors, how each facility's  $\text{NO}_x$  and  $\text{PM}_{2.5}$  emissions increases premature mortality in the region, or more specifically, the local air basin.<sup>7</sup> The index is quite useful as a broader geographic measure of health impacts posed by a facility. At smaller scales, it must be used carefully. We use it in combination with population-weighted  $\text{NO}_x$  and  $\text{PM}_{10}$  emissions at varying distances from a facility for facility level analysis. For neighborhood level analysis, we use only proximity at various distances along with total co-pollutant emissions as indicators of health risk or burden.

We then gathered demographic and socioeconomic data on the neighborhoods surrounding facilities, using the 2000 Census data (Summary Files 1 and 3). We used block groups as the unit of analysis because it is the lowest level at which income information is available. Block groups consist of some number of similar blocks and in California have an average population of about 1,500. They are drawn to represent fairly homogenous populations in terms of demographic and economic characteristics, making them a good approximation of a neighborhood. They are more geographically detailed than census tracts, which are the next higher level of geographic aggregation in the census, and less detailed than census blocks, which are the lowest level of geography but one at which only basic demographic information is available.

Matching people in block groups with facilities is complicated. Facility addresses are a single point on a map but block groups are polygonal "aerial units" – that is, they have dimension. Thus, there are many instances in which a block group is only partially contained within a given distance of a facility (e.g., with a portion that is within one mile of a facility but with the remainder more than one mile away from that facility). A further complication is that block groups do not have evenly distributed populations – just think of a typical neighborhood wherein there might be several residential blocks adjacent to a mini-mall. Given that proximity is a central component to how co-pollutants affect people's health, how do we determine a definite measure of proximity?

We settled this dilemma in two ways. First, we considered where people were situated within each block group, attempting to gauge how many were within the specified distance of a facility, and second, we varied these distances to test the sensitivity of our measurements. On the first consideration, we created circular buffers around each facility and used them to capture census blocks – the components of block groups – to determine neighborhood proximity. Blocks that fell



completely inside the buffer circle were counted as being proximate to the facility. Blocks that fell only partially inside the buffer circle were only considered proximate to the facility if the buffer circle captured the geographic center of the block (usually encompassing about half its area). We then tallied up the populations of the captured blocks to get the total share of the block group's population that was within the buffer circle, and used that number to appropriately "down-weight" any association between a facility and a block group that was only partially captured by a buffer circle. If, for example, six of a block groups' ten blocks were inside a facility's buffer circle and they accounted for 75 percent of the block group's population, then only 75 percent of the block group's population was associated with the facility and 75 percent of the facility's emissions were associated with the block group. This approach ensured a focus on where people actually live in relation to a facility and its emissions.

We also varied the perimeters to test for sensitivity. We specifically utilized half mile, one mile, two and a half mile, five mile, and six mile buffers to account for whether the inclusion of additional block groups moving away from the facility made a difference in terms of our analytical results. The broadest of these distances, six miles, is used by the California Energy Commission when it attempts to determine whether or not there are environmental justice communities located nearby any proposed location for a power plant. The other tighter distances have been utilized in much of the environmental justice literature to determine which neighborhoods might be considered proximate to, say, a facility listed in the Toxic Release Inventory maintained by the U.S. Environmental Protection Agency.

While we do not, in this report, delve into how tight the relationship is between distance and co-pollutant effect, one reason for drawing multiple buffers of different radii is because of the large variation in the size of the facilities subject to analysis. While they are represented as points on a map, some facilities may cover a large area and may have multiple

points of emission, in which case a one mile buffer drawn from the center of the identified stack or plant address may, in reality, barely reach the perimeter of the lot containing the facility. By running all analyses under various distances and identifying consistent conclusions, we can discount the distorting effect that variation in facility size may have on our findings.

We use these geographic procedures to provide a picture of what each community looks like in terms of co-pollutant burden, and what each facility looks like in terms of the socioeconomic characteristics of its neighbors. Where a block falls within the reach of several facilities, its share of the block group is associated with each of those facilities to paint a cumulative picture. These aggregate portrayals enable us to examine neighborhood level patterns of environmental disparity and the facilities driving such patterns, the extent to which the co-pollutants of facilities burden nearby populations, and the effect of changes in emissions that might be anticipated under a cap-and-trade program.

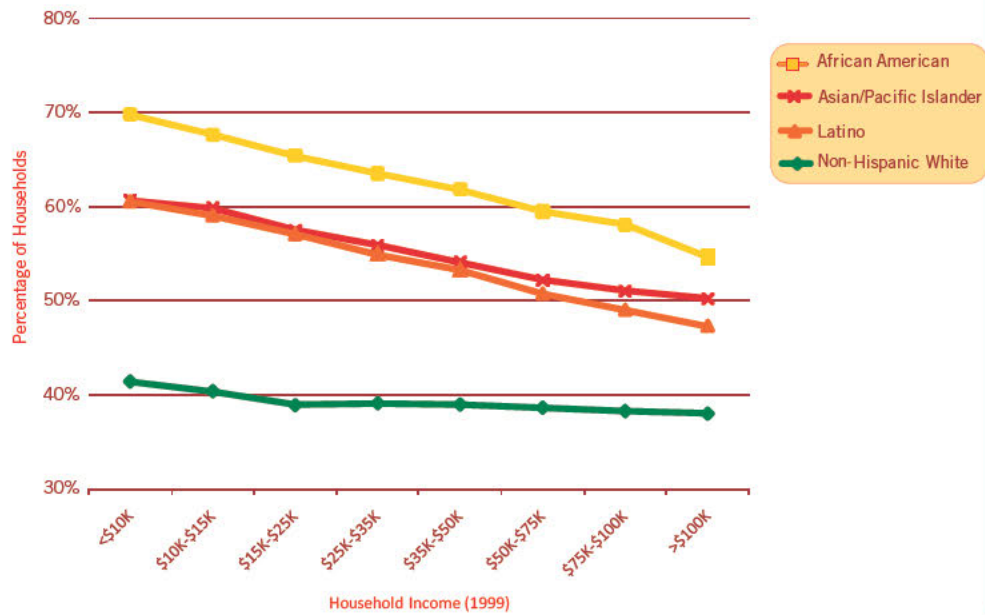
## The Neighborhoods

Unequal emissions burdens from this set of large GHG emitting facilities by race or ethnicity may seem like an obvious point given that existing environmental justice analyses of other sources of pollution in California and Southern California have already shown disparities for stationary as well as mobile sources of air toxics (see, for example Pastor, Sadd, and Morello-Frosch 2004). However, the large GHG emitters subject to this analysis are a different kind of air pollution source and one cannot presume that patterns will hold without empirical verification.

As it turns out, we find a familiar story: the neighborhood analysis reveals the facilities are unevenly distributed across space, with a disproportionate share in communities that include more people of color and more poor families.



**Figure 2: Percentage Households Within 6 Miles of any Facility by Income and Race/Ethnicity, California**



However, the data shows an interesting nuance not always shown in other studies. With regard to large GHG emitters, in California, there are distinct differences by ethnicity that seem to trump income differences.

Figure 2 shows the order of burden with the six mile distance range across income brackets and race. The likelihood of proximity is highest for African-Americans, then Asians, then Latinos, and finally non-Hispanic white. At the lower end of the income distribution, racial disparities are the largest, with African Americans having more than two-thirds of their lower-income households located near a facility. It is not much better for Latinos or Asians, particularly when compared to whites, whose share of households within six miles of a facility hovers around 40 percent across all income levels. Figure 2 makes clear that while it is true for all groups that the likelihood of living near a facility declines as income rises (as does the racial disparity between groups),

there remain difference by race at each and every level of income. And while the focus here is on the six mile distance, this pattern is the same at other distances.

While Figure 2 looks at the likelihood of a particular group living within six miles of a facility, Table 1 offers a more nuanced view: the composition of the neighborhoods within each of the buffers. The first five columns of the table present statistics for sets of block groups near any large GHG emitting facility by various distances; the same set of statistics is calculated for all block groups further than six miles away from a facility for purposes of comparison (column six). As discussed above, considering the results at a variety of distances helps ensure that conclusions are based on actual trends instead of statistical flukes.

The table shows that nearly half of all Californians live within six miles of a facility (46 percent), but they

**Table 1: Average Characteristics by Distance from a Facility**

	< Half Mile	< 1 Mile	< 2.5 Miles	< 5 Miles	< 6 Miles	> 6 Miles
Total Population	96,362	575,014	4,368,581	12,844,279	15,492,631	18,226,753
% of California Population	0.3%	1.7%	13.3%	38.8%	45.9%	54.1%
People Per Square Mile	1,002	1,325	1,841	1,802	1,779	125
Non-Hispanic White	42.6%	41.2%	37.4%	37.5%	38.0%	54.0%
People of Color	57.4%	58.8%	62.6%	62.5%	62.0%	46.0%
African American	8.7%	8.2%	8.3%	8.5%	8.6%	4.6%
Latino	35.0%	38.1%	40.2%	38.6%	37.5%	28.1%
Asian/Pacific Islander	10.2%	8.9%	10.6%	12.0%	12.6%	9.7%
1980's and 1990's Immigrants	19.1%	20.3%	20.9%	21.3%	21.4%	15.4%
People Below Poverty Level	16.5%	16.3%	16.8%	16.9%	16.6%	12.2%
Children (under 18 years)	24.0%	26.8%	28.5%	28.1%	27.7%	27.0%
Renters	56.0%	52.8%	50.3%	49.6%	49.4%	37.8%
Per Capita Income (1999)	\$21,399	\$20,794	\$20,043	\$20,950	\$21,186	\$24,013
Relative Median Household Income (CA median = 100)	87.7	87.7	90.4	93.5	94.0	105.0

are disproportionately people of color – 62 percent of nearby residents are people of color as compared to the 38 percent who are non-Hispanic white. African Americans live disproportionately close to facilities; their share of the population within half a mile of a facility is about twice their share of the population living outside of the six-mile range. The Latino community share is highest at the two and a half mile range, where they make up about 40 percent of that proximate population as compared to only 28 percent of those more than six miles away. Asian Pacific Islanders are also overrepresented within six miles of a facility, with the disproportionality most marked in the farthest reaches.

Beyond race and ethnicity, there are troubling trends for other vulnerable populations: immigrants, youth and the poor. Immigrants from the 1980's and 1990's are overrepresented within the six mile range, with a pattern similar to that seen in the "people of color" category. Children in poverty (not shown), along with all people in poverty, are both disproportionately near facilities – around 23 percent and 17 percent within six miles versus 16.3 percent and 12.2 percent more than six miles away, respectively, with only slight variation within the six mile radius. Though not shown in the table,

we also examined figures utilizing 150 percent of the poverty line (since some argue this is a better measure of low income for a high-cost state like California) and found the same pattern. As for other income measures, there are more renters, lower per capita incomes, and lower household incomes near polluting facilities.

In looking at the pattern, the two and a half mile radius is, we think, of special interest, partly because it captures a much more reasonable share of the overall California population (just over 13 percent) and represents a balance between stretching too far (six miles) and too tight (the half mile radius in which we capture very few people and are not allowing for the ways in which co-pollutants can travel well beyond plant boundaries). It is also the distance at which the highest correlation was found between the population-weighted co-pollutant emissions (person-tons of co-pollutants) we later consider and the air basin-wide health impacts index utilized by NRDC. The snapshot reveals that this is also a distance at which many of the disparities are the most pronounced.

While the demographic indicators in Table 1 are useful, they do not account for the relative burdens the neighborhoods carry. Columns one through



**Table 2: Average Characteristics by PM<sub>10</sub> Emissions from Facilities Within 6 Miles**

	High Emissions	Middle Range	Low Emissions	No Facilities Within 6 Miles
Total Population	2,317,884	10,940,640	2,234,107	18,226,753
% of California Population	6.9%	32.4%	6.6%	54.1%
People Per Square Mile	2,638	1,746	1,425	125
Non-Hispanic White	34.4%	37.7%	43.5%	54.0%
People of Color	65.6%	62.3%	56.5%	46.0%
African American	15.9%	7.8%	4.9%	4.6%
Latino	34.5%	38.8%	33.9%	28.1%
Asian/Pacific Islander	11.7%	12.5%	14.3%	9.7%
1980's and 1990's Immigrants	18.7%	22.2%	20.2%	15.4%
People Below Poverty Level	17.5%	16.3%	16.8%	12.2%
Children (under 18 years)	31.1%	30.5%	30.5%	29.4%
Renters	50.6%	49.6%	47.3%	37.8%
Per Capita Income (1999)	\$20,986	\$21,482	\$19,945	\$24,013
Relative Median Household Income (CA median = 100)	90.8	95.8	88.4	105.0

five, for example, only break up neighborhoods according to whether they have *any* facility inside the specified distance, but some neighborhoods are within range of several facilities, and not all facilities emit the same amount of pollution. Because in-depth emissions modeling is beyond the scope of this project – although the results we offer up suggest it might be useful for a next phase – we instead employ a fairly simple methodology in which we sum up the tons of co-pollutant emissions for each co-pollutant by neighborhood (block group) from all facilities within six miles, and classify these neighborhoods into three categories: High Emissions (greater than average), Middle Range (about average) and Low Emissions (less than average), with the breaks derived through looking at the mean and what is called a standard deviation (see the appendix for details). The results of this approach are shown in Table 2. The comparison group, here, is the same used in Table 1, those neighborhoods in the greater than six mile range. We focus here on PM<sub>10</sub> because is it a well known co-pollutant with

serious health effects including respiratory problems, cardiovascular disease and premature death.<sup>8</sup>

Gauging relative emissions burdens by breaking up the neighborhoods by total emissions from *all* facilities rather than by proximity to *any* facility, we find some differences, particularly in racial composition, that did not show up in the first part of Table 1, while others that did show up are strengthened and still others change in different ways. African Americans are drastically overrepresented in the High Emission group of neighborhoods, making up about 16 percent of the population – more than three times their share in either the Low Emissions group of neighborhoods or neighborhoods outside the six mile range of any facility. Latinos have their highest population representation in the middle range of emissions, and while Asians are over represented at each emissions level, their share is the highest in the places with lower emissions. As a group, there is a disparate pattern for all people of color: they make up about 46 percent of the population outside the six mile range, 57 percent of those in Low Emission areas, and 66



percent of those in High Emission areas. Again, while we only show the results at the six mile range, they are similar at other distances, including the two and a half mile distance which becomes the focus below.

While all the areas with emissions have lower income levels than in the rest of the state, and poverty generally rises with the level of emissions, one result may seem surprising: both the High Emissions *and* the Low Emissions neighborhoods have slightly lower levels of per capita and household income than the Middle Range neighborhoods. The reason seems to be that the Low Emissions areas – which have facilities but less clustering of facilities and/or facilities with lower emissions – tend to be more rural, which is geographically associated with lower-income.

In any case, the data suggests that, on average, communities of color tend to be situated near the facilities with the highest emissions, or clusters of facilities whose combined emissions add up, while pre-dominantly Anglo or mixed communities tend to live either around facilities with less emissions or beyond the range altogether. Place matters, and existing residential patterns leave communities of color more exposed to facilities that are responsible for the greatest share of co-pollutant emissions. The question, now, is how to ensure that emissions are reduced where the burdens are the largest (i.e. those neighborhoods in the High Emissions category), and in so doing, ensure that “co-benefits” go to communities on the least advantaged side of the climate gap. To begin answering this question, we try to determine which industries are driving the emission trends.

## The Industries

To understand what cap-and-trade could mean for environmental justice, we assessed which sectors and which facilities pose the greatest threat to their neighbors’ health and where emissions reductions

would accordingly provide the greatest benefit. This analysis reveals the distribution of responsibility by sector and facility. Such an analysis may inform the debate by helping to quantify the worst case and best case scenarios for environmental justice with regard to these facilities. For example, if the responsibility for the inequity is spread evenly across sectors and facilities, then exactly which ones curb their GHG emissions is less important for promoting environmental justice; therefore, cap-and-trade is unlikely to be a cause for public health concern because reductions anywhere would ameliorate the overall disparate pattern. If, on the other hand, the inequity is largely due to a small set of facilities, or largely restricted to a particular sector, then those facilities or that sector’s purchase of allowances or failure to make reductions could significantly exacerbate existing inequalities. Trades among these facilities would be of highest concern.

Of course, the real gold standard in this task would involve forecasting how and where trades would occur (or, in the case of fees, predicting which firms would choose to pay rather than reduce emissions). However, this kind of predicting would require good financial and economic data on firms that is difficult to acquire and complicated to model. Further, it would mean making assumptions about the details of AB 32 implementation that have yet to be determined, such as how many allowances would be auctioned and at what price to which sectors. While this analysis can have value, it is beyond the scope of this report. Instead we focus on the disparities that facilities are already causing and what policy makers and regulators should take into account when creating safeguards against health-impacting trades that could widen the climate gap.

To measure the contribution of each facility to environmental disparities, we account for three measures. First, we determine how many Californians are impacted by any particular facility, utilizing information on the density of surrounding neighborhoods. Second, we take into account the total tons of co-pollutant emissions from



the facility as a gauge of relative health burden. Third, we measure the racial/ethnic composition of the impacted population. These three factors in combination help us gauge the magnitude of

disparity by sector, and later by facility; we focus here on PM<sub>10</sub> emissions due to the regulatory emphasis on the established adverse health effects of particulates (and since the results for NO<sub>x</sub> are similar to those of PM, they are omitted from reporting for the sake of brevity).

Figure 3: Average Population per Facility (in Thousands) By Distance from Facility in California

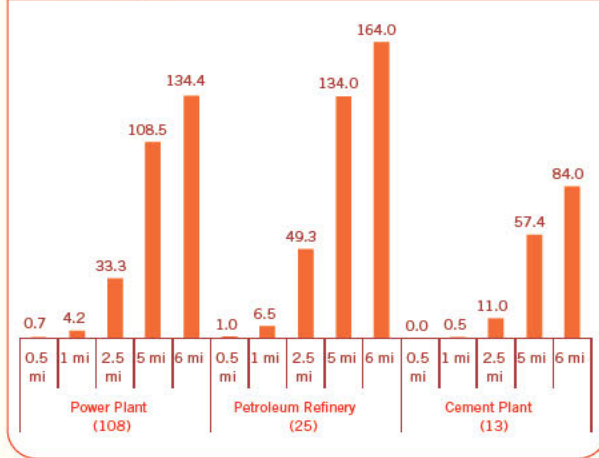
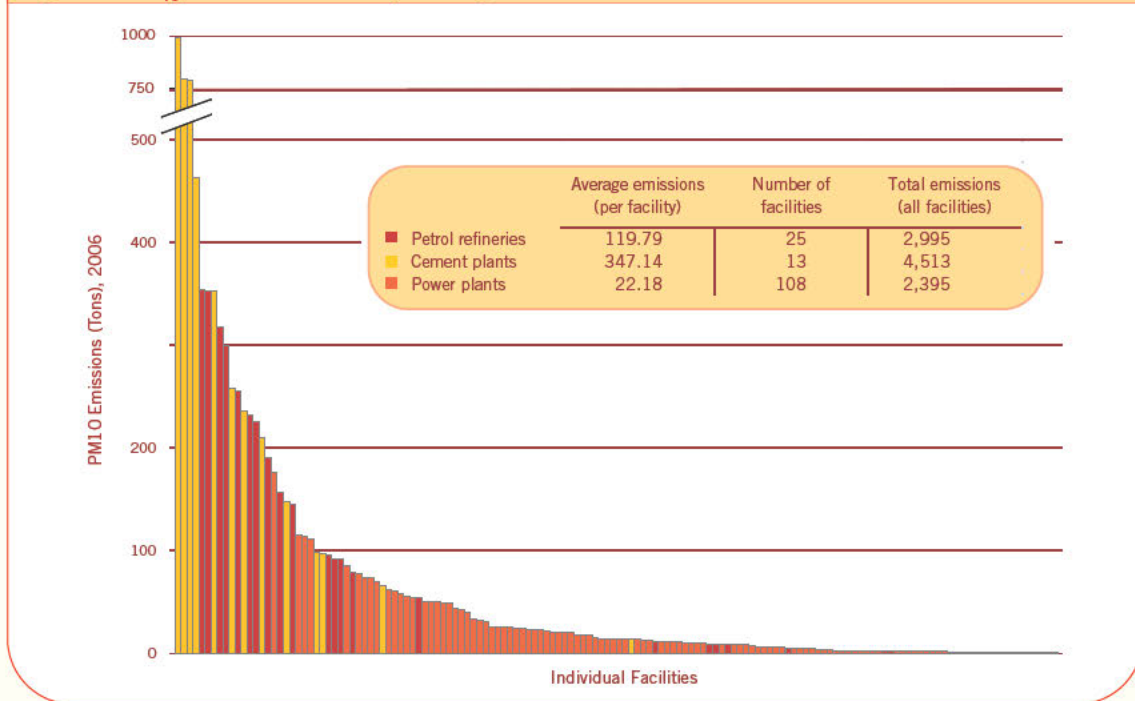


Figure 3 starts the analysis by counting up the populations within ranges of facilities and giving the total for sectors. Note that while power plants will affect more people overall due to their sheer number, refineries generally have the highest proximate population within the different ranges for the average facility. Power plants in California may also be the least harmful in terms of health impacts and least inequitably distributed by race. Despite the fact that there are more people living within a six mile radius of power plants than other facilities – primarily because there are so many more power plants than refineries or cement kilns – the 108 plants release the lowest tonnage of co-pollutants (see Figure 4

Figure 4: PM<sub>10</sub> Emissions (Tons) by Facility

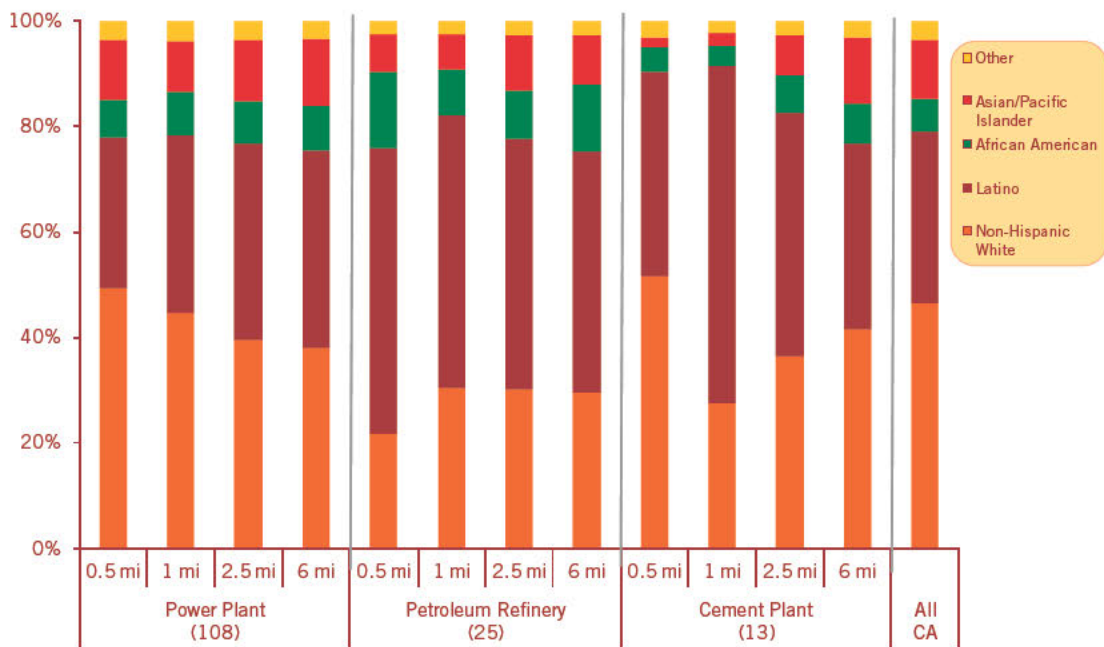


in which we order the various types of facilities by their PM emissions from most to least – the power plants show up most frequently in the long tail of the distribution where emissions are lowest while cement plants and refineries show up more frequently in the early part of the distribution where emissions are much higher, resulting in combined emission by sector being highest for cement plants, followed by refineries, and lowest for power plants). Power plants also affect the lowest share of non-white residents, particularly at the nearer distances (Figure 5).<sup>9</sup> This is not to deny rather spectacular cases, including the recent attempt to expand a power plant in Vernon that gave rise to significant resistance from adjoining communities. Such resistance made sense: the current Vernon plant is the top power plant contributor to environmental inequity by race in California, due partly to its proximity to a

predominantly immigrant population living in an area of high population density.

Petroleum refineries offer a more problematic picture. They are, on average, located in more densely populated areas (Figure 3) that are consistently home to communities of color (Figure 5). The total minority share ranges between 70 and 78 percent (depending on the particular distance) within six miles of the facility – on average, easily the most disproportionate of the three sectors. Particularly notable, blacks make up a large share in the closest distance buffers, more so than for cement plants and power plants. At the half mile distance, the African American share is more than double their share of the state population (14 percent as compared to 6 percent) and at the one mile distance it is one and a half times as high. Refineries are also unique in that their associated demographics are quite consistent

**Figure 5: Racial/Ethnic Composition of Population by Distance from Facility California**





throughout the surrounding geography, at least beyond the immediate half mile range. They tend to have much higher co-pollutant emissions than power plants, but lower than cement plants (Figure 4).

Although cement plants are few and affect few (Figure 3), they are by far the dirtiest (again, see the distribution as well as the average emissions figures in Figure 4). At the closest range of half a mile, non-Hispanic Whites are actually slightly overrepresented as compared to the state. However, the number of people in this range of cement plants is very small (about 300 people in all). When we consider the much larger population within one mile (about 6,500 people) the minority population is large, due almost exclusively to the high concentration of Latinos who make up 64 percent of the population (Figure 5). The percentage minority declines rapidly moving further away from cement facilities due exclusively to a steep decline in the Latino share of the population, supplemented by a steep increase in the non-Hispanic White share, and despite both a steep increase in the Asian/Pacific Islander share and a more modest increase in the African American share.

## The Disparities

Closing the climate gap requires measuring the factors that contribute to any disparity in environmental burdens. To evaluate the contribution of each facility to the overall pattern of environmental disparity, we developed a single metric of disparity that combines the total impacted population, PM emissions, and the racial/ethnic composition of the surrounding neighborhoods. Such a measure can characterize the individual impact of one facility, but it also allows us to aggregate by sector or across all facilities in the state. It captures the difference in relative impact between a facility located in a sparsely populated area with a population that is 90 percent minority but whose emissions are moderate,

and a facility in a densely populated area that is 70 percent minority, but with very high emissions.

The index we developed – the “pollution disparity index” – measures the relative co-pollutant burden on communities of color, as compared with non-Hispanic white communities. We start our calculations at the facility level. Using the socioeconomic neighborhood characteristics that have been attached to each facility, we approximate the local PM<sub>10</sub> emissions burden as the population-weighted PM<sub>10</sub> emissions (i.e. total person-tons of PM<sub>10</sub>) for people of color and non-Hispanic whites. Using such a population-weighted emissions measure means that a facility may have a higher score for people of color even if it has a lower share of people of color in the vicinity because, although the community of color is a lower percentage, it is larger in population and around a facility with higher emissions. We then subtract the population-weighted PM<sub>10</sub> emissions for non-Hispanic whites from those for people of color (after adjusting the weights by dividing by the number of each group in the state), which gives us the pollution disparity index for that facility, or a measurement of environmental injustice (See the Technical Appendix for details). If the pollution disparity index is added up across all facilities in the state, the result is equal to the statewide difference – or disparity – in average PM<sub>10</sub> emissions burden between people of color and non-Hispanic whites.

Every facility in our data set is given a pollution disparity index at the varying buffer distances used throughout this analysis (half mile, one mile, two and a half mile, five mile, and six mile), with the characteristics of the “neighborhood” determined by the distance from the facility. The pollution disparity index can then be used to aggregate (at discrete distances bands) for different levels of analysis – it can be combined by sector or across the facilities in a particular region to get the combined contribution of that group of facilities to the statewide disparity in average PM<sub>10</sub> emissions burden between people of



color and non-Hispanic whites caused by all facilities under analysis.

While we cover many technical details of this calculation in the Technical Appendix, a few are worth noting here. First, the measure of population-weighted PM<sub>10</sub> emissions upon which the pollution disparity index is based should be viewed only as a relative measure that compares the impact of facilities and their disparity within each buffer distance and not across them (similar to the Risk Screening Environmental Indicators risk score developed by the U.S. EPA; see Ash, et al. 2009). Second, the pollution disparity index can have positive and negative values. This depends on the demographics of the neighborhood near the facility; if the share of the state’s people of color residing near the facility is greater than the share of the state’s non-Hispanic white population residing near the facility, then the score will be positive (if reverse is true, it will be negative). Third, we are effectively assuming in this calculation that beyond six miles, there are no emissions. In practice this is not true, but as mentioned earlier, doing complex emissions dispersion modeling is beyond the scope of this report. Finally, the pollution disparity index is just that – an index of demographic disparity in local pollution burden and not a pure measure of local pollution burden. Thus, while it is useful for highlighting the most disparate facilities, it should be considered in practice along with overall local pollution burden (e.g. population-weighted PM<sub>10</sub> for all people) as we do below.

The formula for the pollution disparity index also allows for determining average emissions burdens for individual ethnic groups. To do this, we calculate the population-weighted PM<sub>10</sub> emissions for each ethnic group around each facility, divide it by the state population for each group, and then sum it up to the California level, at each buffer distance. The resulting average burdens are summarized in Table 3; there, the emissions burdens rise with distance because we are “allowing” a wider range of facilities to have an impact on any particular community.

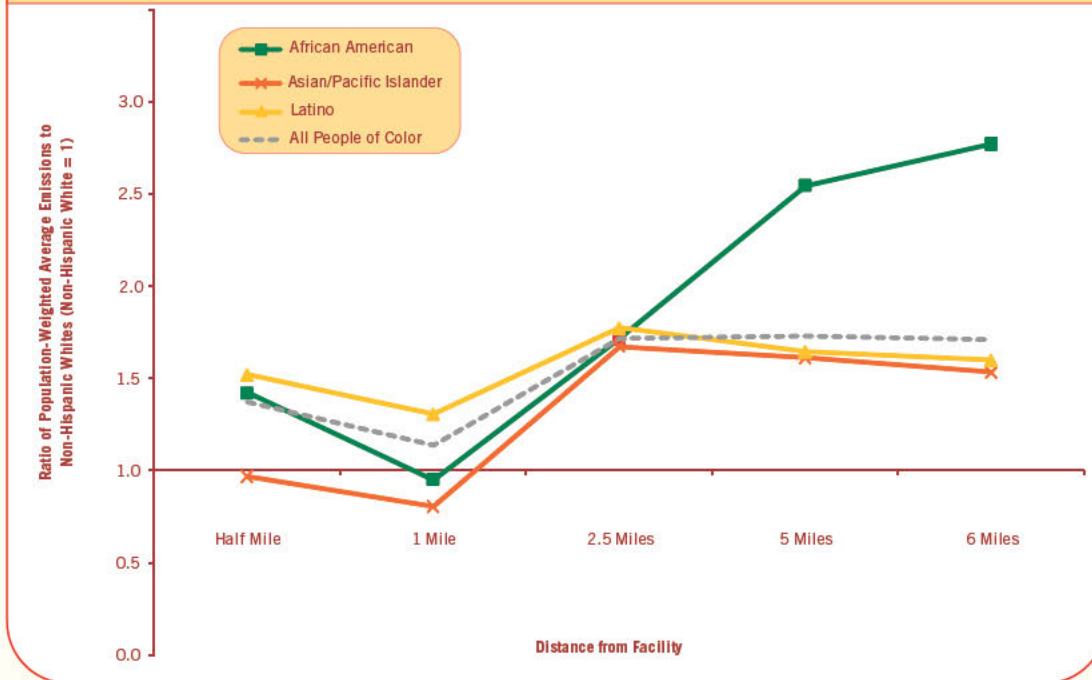
The difference between the average value for each group and that for non-Hispanic whites at each distance in Table 3 is a measure of statewide disparity in PM<sub>10</sub> emissions burden between that group and non-Hispanic whites at that particular distance. To determine relative differences in emissions burden, which allows us to compare the degree of disparity across the distances, we simply divide the average value for each racial/ethnic group by that for non-Hispanic whites at each distance. The resulting relative PM<sub>10</sub> emissions burdens are reported in Figure 6.

With the exceptions of Asians at the half and one mile distances, and African Americans at the one mile distance, there are persistent gaps at each level; the relative emissions burden for all people of color combined is always above that for non-Hispanic whites (which is always equal to one in the graph). The trend for Latinos is similar to the trend for all people of color, which is not surprising given that Latinos constitute the overwhelming majority of non-

**Table 3: Population-Weighted Average Annual PM<sub>10</sub> Emissions (Tons) Burden by Race/Ethnicity**

	Half Mile	1 Mile	2.5 Miles	5 Miles	6 Miles
Non-Hispanic White	0.07	0.67	6.73	29.55	41.51
African American	0.10	0.64	11.55	75.23	115.03
Latino	0.11	0.88	11.93	48.61	66.37
Asian/Pacific Islander	0.07	0.54	11.26	47.62	63.57
All People of Color	0.10	0.77	11.54	51.08	70.98

**Figure 6: Relative Racial/Ethnic Inequities Compared to Non-Hispanic Whites in PM<sub>10</sub> Emissions Burden from Large GHG-Emitting Facilities by Buffer Distance**



whites. They have the greatest emissions burden of any group up to the two and a half mile range where it levels off and declines slightly, while the emissions burden for African Americans soars dramatically to nearly three times the level for non-Hispanic whites at the six mile range. As for Asians, once we move beyond the one mile range, there are also persistent differences. Following the pattern for Latinos, as distance increases beyond the two and a half mile range, the disparity for all people of color combined levels off.

## The Sectors

Given the disparity in PM emissions burdens for people of color seen in Figure 6, we decided to examine whether power plants, refineries, or cement plants were driving the overall trend. For this analysis, we focus on the two and a half mile distance threshold. We think this is a reasonable distance for portraying our results in terms of emissions burden – and it is also the case that the population-weighted emissions burden at two and a half miles is the most highly correlated among the different buffer distances with the air basin-wide Health impacts index, giving us some confidence in this choice of radius. In any case, the relative contribution of the various sectors and facilities to statewide inequity as measured by the pollution disparity index is not particularly sensitive to the buffers (with the exception of the half mile distance



due to the very small populations captured in that range), so focusing in on one distance illustrates the overall pattern and allows for brevity in the presentation.

Figure 7 begins this analysis by graphically displaying the difference in emissions burdens between people of color and non-Hispanic whites seen in the third column of Table 3. Figure 8 then calculates which sectors are accounting for the PM emissions loads of each group and for the difference between them. From this, we can see that while refineries account for the majority of PM<sub>10</sub> emissions burden for all people, they account for a much larger share (about 93 percent) of the difference in emissions burden between people of color and non-Hispanic whites.

Which facilities are driving this difference in emissions burden? Because the statewide difference is simply the sum of the pollution disparity index across all facilities, we are able to rank the facilities by the index in Figure 9. The ranking confirms that refineries are driving the difference, as they are eight of the top ten contributors to co-pollutant emissions disparity. Moreover, the top eight facilities overall actually add up to the entire difference; if you took all the facilities below that, you'd have an even distribution of PM<sub>10</sub> emissions burden by race, since some facilities (displayed at the bottom of the distribution in that figure) disproportionately burden whites.

The full distribution also shows that a vast majority of facilities have a score near zero. In short, a few facilities, mostly petroleum refineries, account for most of the observed inequity.

The geographic location of the top ten facilities is depicted in Figure 10. There we can see that nearly all are in Southern California, with only one in the San Francisco Bay Area – the Chevron refinery in Richmond, which ranks sixth in pollution disparity. In Southern California, we see that it is mainly a cluster of refineries around the Los Angeles and Long Beach ports that are driving the pattern of disparity, with five of the remaining top ten facilities located in or

Figure 7: Population-Weighted Average Annual Particulate (PM<sub>10</sub>) Emissions Burden (Tons) by Race/Ethnicity for Facilities within 2.5 Miles

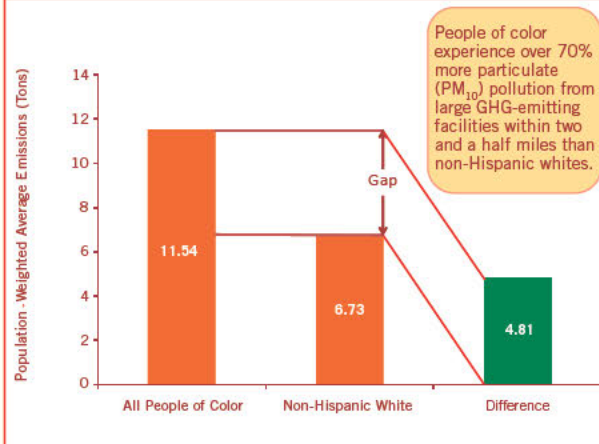
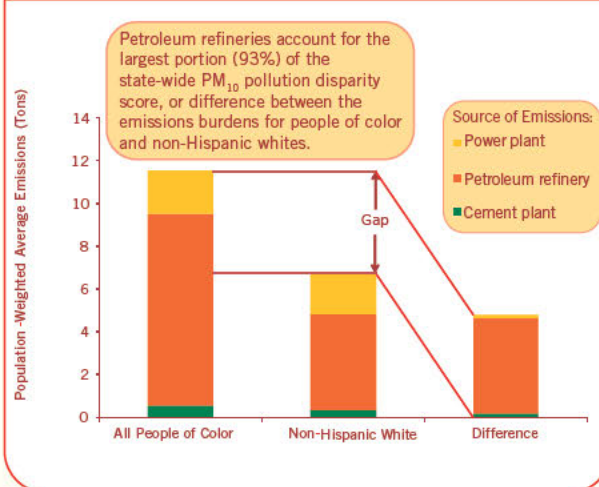


Figure 8: Population-Weighted Average Annual Particulate (PM<sub>10</sub>) Emissions Burden (Tons) by Facility Category and Race/Ethnicity for Facilities within 2.5 Miles



adjacent to the port-side neighborhood of Wilmington (part of Los Angeles City). These include the BP refinery in Carson, which takes first place in disparity, and the Tesoro Wilmington Refinery, which comes in second. The rest of the top ten facilities include two refineries (the Paramount Refinery in Paramount and the ExxonMobil Torrance Refinery in Torrance), one power plant (the Malburg Generating Station in Vernon), and one cement plant (the California Portland Cement Company Colton Plant in Colton).

**Figure 9: Distribution of the Pollution Disparity Index for PM<sub>10</sub> at 2.5 Miles Across All Major GHG-Emitting Facilities**

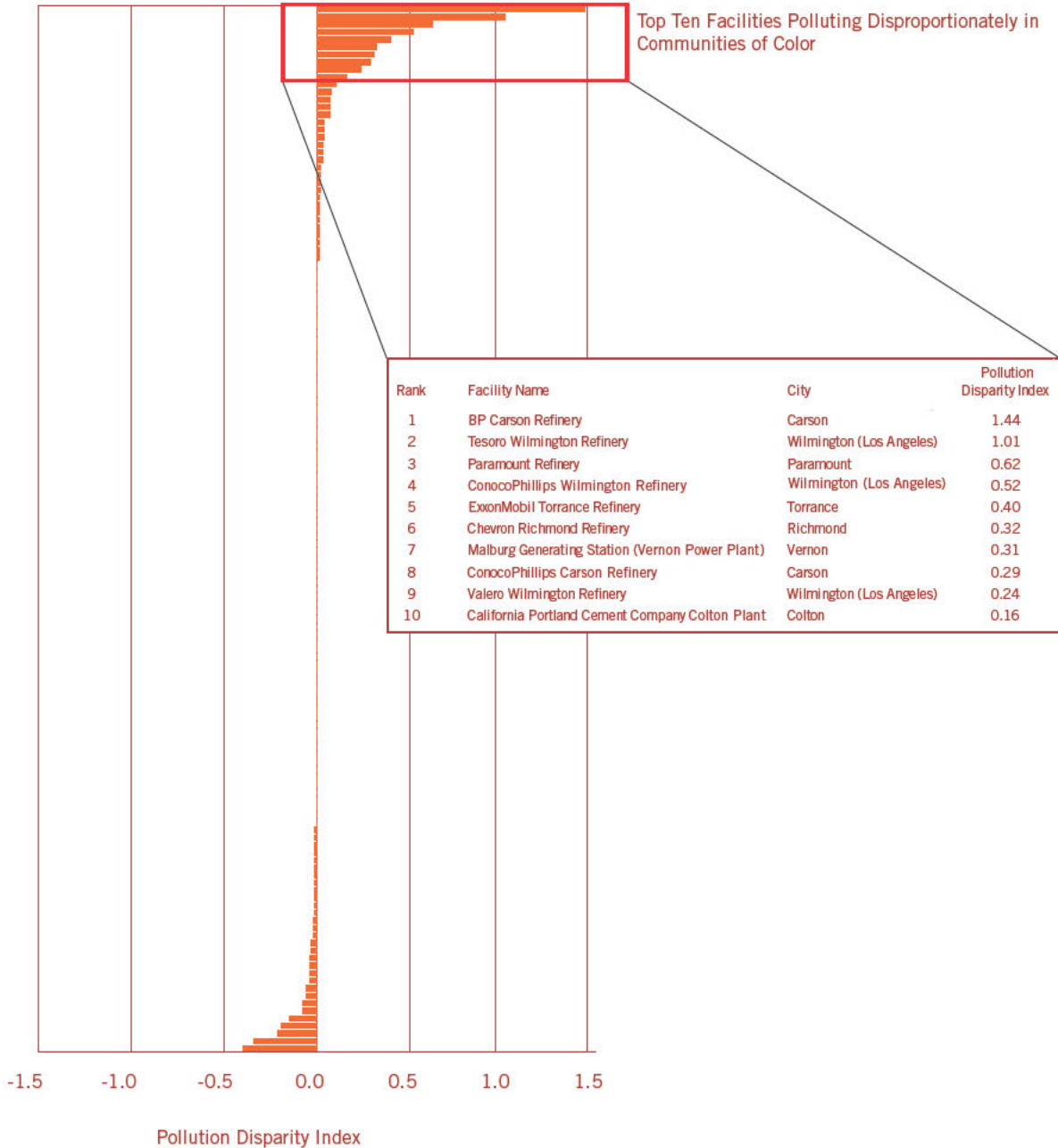
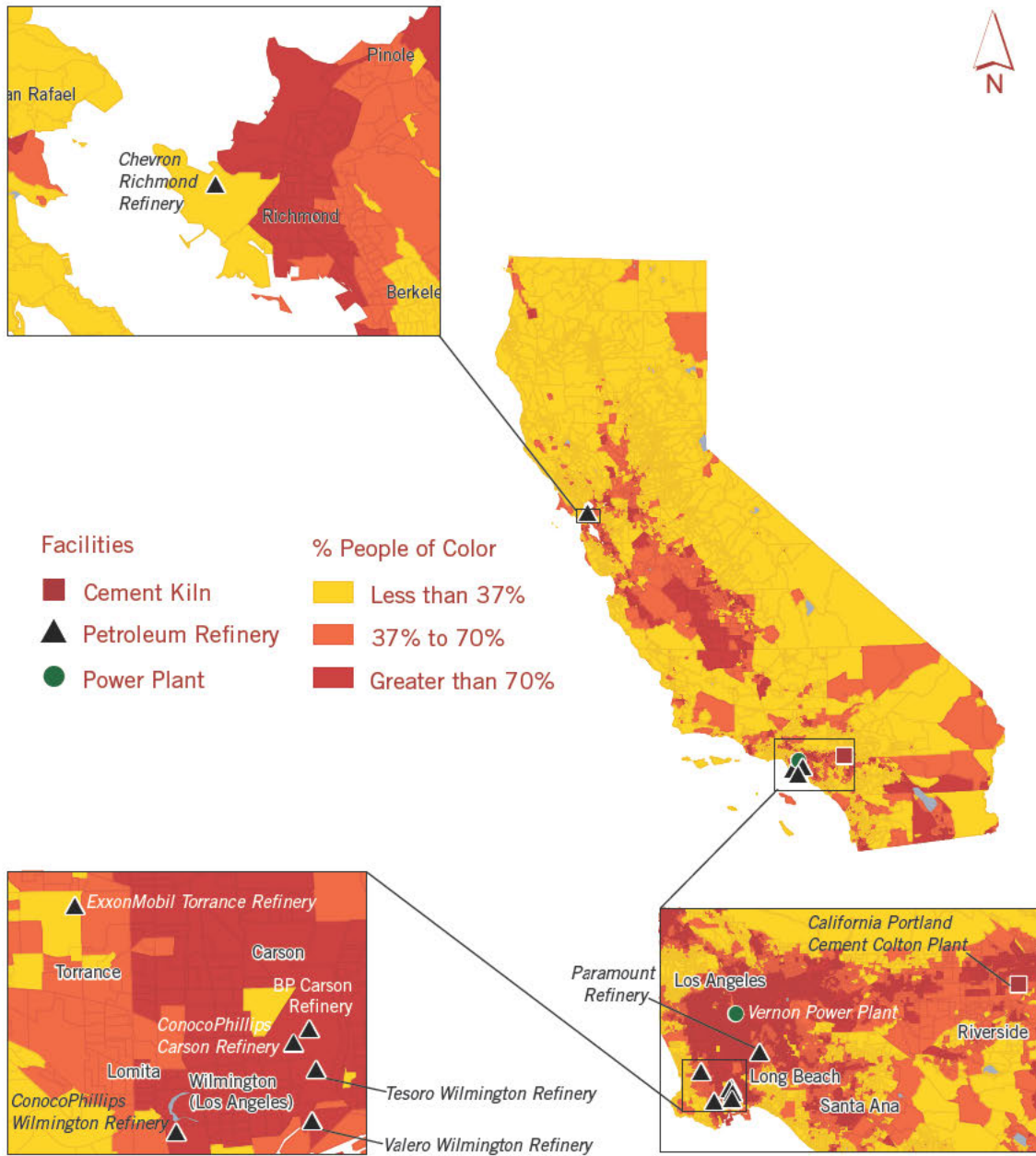




Figure 10: Map of Top Ten Facilities in Pollution Disparity





## The Risks

What does all this mean for lowering carbon emissions, protecting public health and closing the climate gap? How should these findings affect CARB’s implementation of AB 32? What are the broader implications for market-oriented policies that might eventually emerge at the national level?

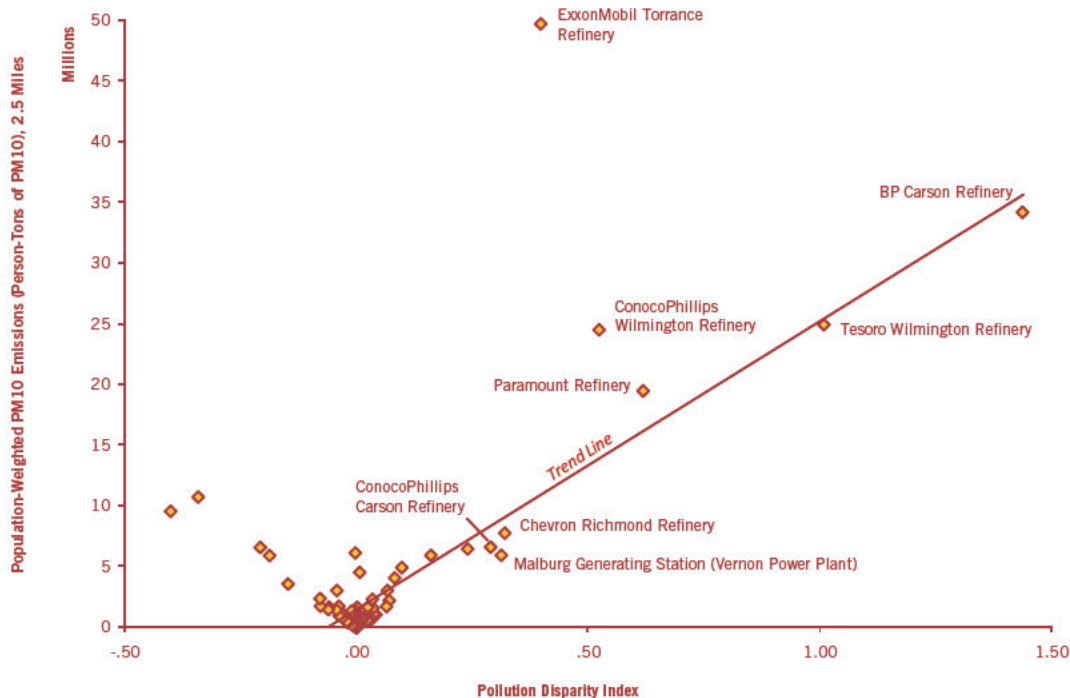
The first point made by this analysis is that some trades or allowance allocations *could* widen the climate gap by worsening disparities in emissions burdens by race/ethnicity. The second point is that while there are legitimate concerns about outcomes resulting from trades or the distribution of allowances *within* a sector – such as when a power plant that impacts a large number of people in low-income communities of color eschews reductions in favor of buying credits from a power plant that is nowhere near any population of size or outbidding that power plant in an allowance auction – the real concern

might be trade and allowance distribution *between* sectors.

The third point that emerges from this work is the fact that it is a relatively small number of facilities that are driving most of the disparity in emissions; while this could be a problem, the concentration of “bad actors” also suggests that regulatory efforts could be carried out in an administratively feasible and cost efficient way to maximize public health benefits of GHG reduction strategies in the communities that need them the most.

Another point, which is of great importance for policy, is that targeting these facilities would help everyone. Recall, for example, that we employed the two and a half mile distance buffer in our analysis partly because of the strong correlation between population-weighted co-pollutant emissions at that distance and the health impacts index for the air basin derived using the measure indicated in Bailey et al. (2008). In Figure 11, we plot that measure

**Figure 11: PM<sub>10</sub> Emissions Burden and Racial/Ethnic Inequity by Facility**



against the pollution disparity index. There we can see that the two measures generally have a positive relationship – the higher the emissions burden the higher the inequity – and it is a handful of facilities with extreme values that are really driving the positive correlation (as they did in our analysis of disparity by race). The pattern suggests both that these are the sites of concern *and* that focusing on disproportionality will also have strong impacts on overall health (or vice versa). For example, in absence of the top eight facilities in terms of the pollution disparity index (labeled in Figure 11), co-pollutant emissions would be more or less evenly distributed by race/ethnicity *and* overall emissions burden would be significantly reduced.

Table 4 illustrates this in a slightly different way by showing the top ten percent of the facilities studied ranked by the aforementioned health impacts index (which is more regional in scope). There we see many of the same facilities that were identified as the most disparate by race/ethnicity in Figure 9, with eight of the ten most disparate facilities also ranking highly in terms of potential health impacts.

Clearly, facilities have to be located somewhere and not all sites will find it cost-efficient to be the first to reduce their emissions. These facilities will be among those purchasing relatively more credits and

the last to realize co-pollutant reductions in their neighborhoods. While we have not demonstrated conclusively that the disparity by race *will* sharpen, we have shown that this type of disparity *could* sharpen.

The text of AB 32 unmistakably lifts up health benefits from reduced co-pollutants as an important objective of the legislation, and the California Air Resources Board has long indicated a serious concern about promoting equitable environmental outcomes as part of its overall program of activities. With the issues of overall burden and disproportionate burden intimately related, CARB could craft safeguards that ensure market strategies address these concerns and help close the climate gap.

## The Policy Choices

So what would an environmentally just GHG reduction strategy look like? We suggest a menu of market-based and regulatory approaches that could work toward a more equitable outcome.

**Table 4: Top Ten Percent of California’s Major Greenhouse Gas-Emitting Facilities Ranked by the Health Impacts Index**

Rank	Facility Name	City	Health Impacts Index
1	ExxonMobil Torrance Refinery	Torrance	54.4
2	Tesoro Wilmington Refinery	Wilmington (Los Angeles)	50.0
3	BP Carson Refinery	Carson	46.3
4	Chevron El Segundo Refinery	El Segundo	41.2
5	ConocoPhillips Wilmington Refinery	Wilmington (Los Angeles)	30.3
6	Shell Martinez Refinery	Martinez	27.1
7	Valero Benicia Refinery	Benicia	19.1
8	Mountainview Power Plant	San Bernardino	17.5
9	Chevron Richmond Refinery	Richmond	17.3
10	California Portland Cement Company Colton Plant	Colton	14.1
11	Paramount Refinery	Paramount	13.8
12	Valero Wilmington Refinery	Wilmington (Los Angeles)	13.0
13	Cemex Victorville/White Mountain Quarry	Apple Valley	12.5
14	Tesoro Golden Eagle Refinery	Martinez	12.1
15	Etiwanda Generating Station	Rancho Cucamonga	11.1



First, one theoretically ideal but perhaps logistically challenging approach would entail pricing in the co-pollutants along with carbon. In this case, allowances might get extra credit (or carbon fees might be priced differently) depending on the ratio of co-pollutants to GHG. Suppose, for example, that a carbon fee was higher (or allowances were more expensive) if co-pollutants were more prevalent and/or population densities were greater; this could induce deeper GHG reductions in locations where health benefits would be maximized.

This is an elegant idea but one that would involve significant complexity in allowance design, could create problems in a trading system (which is easier if allowances are homogenous units measured only by their carbon emissions), and could significantly complicate the administration and compliance for either a trading or fee system. A simpler approach might be to vary permit prices (or fees) by the average relationship between co-pollutants and GHGs in different sectors, but this would be highly inefficient because it does not consider the substantial variation in marginal health co-benefits from GHG reduction that appears to exist at the facility level.

We see four other strategies that might make sense and be easier to implement.

The first strategy involves identification of those facilities that either have very high co-pollutant levels or make a very significant contribution to the pattern of environmental disparity in the state. These facilities – which should be small in number – would be restricted in allowance allocations, purchases of allowances from other facilities, and use of offsets, required instead to reduce emissions locally to meet their contribution to achieving the statewide carbon cap. While this might limit the market, it would be a small imposition on the system as a whole and would target only a handful of facilities. In a fee system, these facilities could be restricted in their capacity to pay fees rather than change operations.



A second strategy involves the creation of trading zones, based not on whether the facility imposes a significant burden but whether the adjacent areas are currently overburdened by emissions. Zonal restrictions on trading were used in the second phase of the RECLAIM program in Southern California, in which inland facilities were allowed to purchase credits from coastal facilities (where pollution was highest) as well as other inland facilities but coastal facilities were prohibited from making out-of-zone buys (Fowlie, Holland and Mansur 2009). This imposes some inefficiency but it is not administratively complex and it could be justified by the associated environmental benefits. However, as Kaswan (2009) suggests, certainty in achieving actual reductions in prioritized areas would largely depend on how allowances were distributed, with trading playing a small role, for example, if facilities are able to purchase all the allowances they need for any compliance period at auction or if they are able to rely on offsets to make up the difference between allowances holding and emissions. Thus, for this strategy to be effective it would have to be coupled with limits on overall allowance allocations and use of offsets in such zones to ensure that the total quantity of emissions allowed in the zonal market amounted to a net reduction of sufficient size. The zonal restrictions on trading would then prevent any increase above that level and likely lead to further reductions.



A third strategy involves the imposition of surcharges on allowances or fees in highly impacted areas, with the funds being returned for environmental and other improvements in those same areas. In this case, some facilities that are not the worst offenders – but share responsibility for the highest impacts because of their location – would be forced to contribute as well. This would create a tight nexus between the surcharge and the improvement and would be justified by the potential health benefits that could be realized (Boyce 2009).

A fourth strategy involves the creation of a community benefits fund, based as a share of all the monies collected from allowance auctions or fees that could target emissions improvements in neighborhoods that are overburdened, regardless of whether they are in the same location as the sources. Such neighborhoods could be identified through examining dimensions such as the proximity to hazards, exposure to various sorts of air pollution, and community-based social vulnerability; we have been working with the support of the California Air Resources Board to develop exactly such a typology. While the geographic nexus between the emitters and the communities receiving benefits might be looser in this scheme – unlike in the surcharge approach – it would be more efficient in achieving health and other benefits (money collected is spent where it is most needed not only where it is collected). Neighborhoods need not be limited to pollution issues in how they spend the funds but could rather improve park space, job training, and other identified needs.

The basic concept of a community benefits fund finds support even amongst some who are critical of any tinkering with carbon market mechanisms (e.g. Schatzki and Stavins 2009). A benefits fund is also aligned with the notion of compensating lower-income consumers for the higher energy prices that will be triggered by limiting carbon (Boyce and Riddle 2007). All of this would be made more possible if the state was to take up the recommendation of the Economic and Allocation

Advisory Committee (EAAC 2010) that indicated that the Air Resources Board “rely principally, and perhaps exclusively, on auctioning as the method for distributing allowances.” A full auction would make the system much closer to a carbon fee system and, as EAAC notes, have several other attractive features. Finally, legislation currently in progress in the state legislature (AB 1405) could make a community benefits fund real: it would force the state to direct a portion of any revenues generated under AB 32 – whether from fees or auction revenues – to communities that are historically disadvantaged in terms of both economic and environmental health.

There are therefore real policy opportunities to close the climate gap. At the very least, CARB needs to create a mechanism for monitoring allowance allocations and trades or fee payments, and assess the impact on co-pollutants as facilities make their choice about how to contribute to achieving the overall cap. The research above has demonstrated a point that is really quite obvious: cap-and-trade is inherently unequal – and if it weren't, no trades would take place. Given that, we should all be interested in exactly the pattern of geographic inequality that will emerge and whether it will exacerbate or ameliorate the pattern of environmental disparity that has marked the state and helped to produce the climate gap.

## Minding the Gap

California is at a crossroads. With a world in peril and public health at risk, the state has chosen to lead in the global fight to reduce greenhouse gas emissions, rescue our economy, and protect the planet for generations to come.

The state has also chosen to make equitable environmental outcomes central to its approach to these issues. An Environmental Justice Advisory Committee (EJAC) was written explicitly into the AB 32 legislation and while there have been tensions



between the committee and the state, particularly related to cap-and-trade as a viable GHG reduction strategy, there is clearly a shared concern that implementation of AB 32 be done in a way that is fair to all communities.

As California takes steps to respond to the climate crisis, closing the climate gap needs to be a higher priority, starting with making sure GHG reduction policies don't leave anyone behind and don't unintentionally widen the climate gap.

The research reviewed here suggests that the concerns of environmental justice advocates about the unequal impacts of cap-and-trade are not misplaced. The major facilities that will be regulated under any carbon reduction program are more frequently located near people of color and lower-income communities, with a handful of petroleum refineries making a significant contribution to the pattern of inequity. While we cannot predict the exact direction of trades, we do know that it is quite possible that an unconstrained market system will, at a minimum, fail to realize the full benefits of co-pollutant reduction and, at a maximum, worsen the current pattern of inequality.

Ensuring that a market-oriented regulatory system – either cap-and-trade or fees – avoids widening the climate gap is essential. A series of simple strategies – prohibit facilities from making trades with and restrict allowance allocations and offset uses with significant health impacts, impose a surcharge in locations where health benefits could be high, limit trades by zone depending on overall pollution burden, or develop a compensation system that could redirect revenues to climate gap communities to address health and other concerns – are all relatively simple to design and implement and should be considered as part of the policy menu. In addition, the state should consider the development of a monitoring system that tracks trades and offset use (or fee payments) to ensure that a market system does not contribute to the inequities depicted here, and to enable other mitigation policies to be triggered as needed.

The stakes are high and the time is now. In order to successfully make the monumental economic and social shifts required to address the climate change challenge, we need to engage diverse constituencies in ways that take into account everyone's needs and health concerns. New and more inclusive GHG reduction policies can protect our communities and the planet. California faces a big challenge but also a big opportunity. We are poised to lead not only in curbing climate change, but also in closing the climate gap. As other states and the nation move forward, the impact of this work will multiply. We should get this right – and fair – from the beginning.



## Notes

- <sup>1</sup> See California Health & Safety Code §38570(b).
- <sup>2</sup> *Ibid.* §38570(b)(2).
- <sup>3</sup> For a description of how the dataset was constructed, see “Appendix A: Co-Benefits Analysis Methods” at: <http://www.nrdc.org/globalWarming/boosting/boostinga.pdf>
- <sup>4</sup> The emissions inventory can be accessed at: <http://www.arb.ca.gov/ei/emissiondata.htm>
- <sup>5</sup> The 2008 GHG emissions data can be accessed at: <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-reports.htm>
- <sup>6</sup> TeleAtlas, 2007.
- <sup>7</sup> Health endpoint factors are the estimated number of tons per year of a particular pollutant that can be associated with each case of a health endpoint (in this case premature mortality) in within a particular geographic area (in this case air basins). See [www.arb.ca.gov/planning/gmerp/march21plan/docs/health\\_analysis\\_supplement.pdf](http://www.arb.ca.gov/planning/gmerp/march21plan/docs/health_analysis_supplement.pdf) for the more information, including the health endpoint factors for each air basin.
- <sup>8</sup> See USEPA, AIRTrends 1995 Summary at: <http://www.epa.gov/airtrends/aqtrnd95/pm10.html>
- <sup>9</sup> For Figure 5, in order to simplify the graph, the racial composition of people living near the different facility types at the five mile distance is not shown. It was chosen as the distance band to omit because it had a racial composition that was nearly identical to the composition at the six mile distance band, which is shown.

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## Photo Credit

Photos on the front cover from left to right:

Photo by Jesse Marquez.

Photo of Kari Fulton by Ben Powless.

Photo of Communities for a Better Environment (CBE) Wilmington Lead Organizer by PERE.

Executive Summary, Page 1: La Paloma power plant and Exxon Mobile Refinery in Torrance, CA, TeleAtlas, 2010.

Executive Summary, Page 3: Tesoro Wilmington Refinery, 9/25/09, Photo by Jesse Marquez.



## Technical Appendix

### Constructing the Health Impact Index

Based on Bailey et al. (2008), we used the  $NO_x$  and  $PM_{10}$  emissions to calculate a health impacts index for each facility, which represents the relative potential health impact of the facilities included in the analysis (see Bailey et al. 2008 for assumptions and limitations). The only difference is that we used  $PM_{10}$  rather than total PM because it is considered more closely tied to health endpoints. The  $NO_x$  and  $PM_{10}$  data come from the 2006 ARB Emissions Inventory for stationary sources and can be accessed at: <http://www.arb.ca.gov/app/emsinv/emssumcat.php>. The index also relies on health endpoint factors which are the estimated number of tons per year of a particular pollutant (here,  $NO_x$  and  $PM_{10}$ ) that can be associated with each case of a health endpoint (here, premature mortality) within a particular geographic area (here, air basins). The formula for the health impacts index is:

$$HI_i = (NO_x / HEP_{AB}) + (PM_{2.5} / HEP_{AB})$$

Where:  $HI_i$  = Health Impacts Index

$NO_x$  =  $NO_x$  emissions in 2006

$PM_{2.5}$  =  $PM_{10}$  emissions in 2006  
divided by the ratio of  $PM_{10}$  to  $PM_{2.5}$

$HEP_{AB}$  = Air basin specific health endpoint  
factor for premature mortality

### Matching Block Groups and Facilities

The challenge of matching neighborhoods and facilities is this: facilities are points in space and block groups are areal units. Mohai and Saha (2006) found in their study of geographic methodology that the method employed to describe the spatial relationship of point-location environmental hazards and surrounding populations is the primary reason for the varied results found in many studies relying on similar data and geographic coverage. The “classic” approach, used in most studies, connects census tracts to a hazardous waste treatment,

storage, or disposal facility (TSDF) if such a facility is located within the boundaries of the tract itself, making it a “host tract.” This approach does not account for people residing in nearby, but non-host tracts, that could well possibly live, on average, about the same distance from the facility. These discrepancies are particularly important given the tendency for TSDFs to be located near tract boundaries (which are often defined by roads) and the large variation in the size and spatial distribution of populations within census tracts.

Instead, Mohai and Saha recommend a distance-based approach where tracts become associated with a facility if they fall within a specified distance of the facility as measured by either one of the tract boundaries, its centroid, or half of its geographic area. We employ a distance-based approach at the block group level that incorporates population weighing. We specifically drilled down to census block level to get the most geographically detailed population information publicly available and, as noted in the text, estimated the share of each block group’s population that fell within each buffer distance of each facility. Thus, rather than expressing the block group-facility association in binary terms (i.e., proximate or not), in cases where a buffer intersects the boundaries of a block group, it is expressed as a percentage or fractional association that is equivalent to the share of the block group population captured. In our opinion, such “population weighting” using block-level population information is important because even at the relatively detailed block group level of geography, an evenly distributed population within the block group is uncommon; half of the area of a block group does not necessarily include half the population. Thus, this method should result in a more accurate representation of the number of people and the characteristics those who live near facilities.

### Emissions Categorizations

We chose the  $PM_{10}$  emission categories shown in Table 2 based on standard deviations from the mean. The means and standard deviations used were



calculated at the block group level for the natural log of the summed emissions from all facilities within six miles of each block group, across all block groups within six miles of any facility. The natural log function is commonly used to normalize measures that exhibit a “long tail” or exponential distribution – which describes the measure of summed emissions.

Among all block groups within six miles of any facility, we defined High Emissions block groups as those with emissions over one standard deviation above, Middle Range block groups as those with emissions within one standard deviation of the mean (plus or minus), and Low Emissions block groups as those with emissions under one standard deviation below the mean.

### Constructing the Pollution Disparity Index

The pollution disparity index used in this report, which was calculated at the facility level, can be described as a measure of the contribution each facility makes to the statewide difference in average co-pollutant emissions burden between people of color and non-Hispanic whites from the facilities included in our analysis, for a particular distance from the facilities. The derivation below describes how the statewide difference in emissions burden can be decomposed into the facility-level index. Note that while we used PM<sub>10</sub> as the pollutant and people

of color and non-Hispanic whites as the population groups, by making slight adjustments to the below equation, the index and associated statewide difference in emissions burden could be calculated to reflect disparity in emissions of any other pollutant and/or between any other two population groups defined by race/ethnicity, income, or any other measurable characteristic.

In the derivation shown below, POC stands for total people of color, NHW stands for total non-Hispanic whites, d is distance, i is any facility in California included in the analysis, and CA means for the entire state of California.

Total statewide PM<sub>10</sub> emissions burden associated with the facilities included in our analysis can be calculated as the population-weighted sum of PM<sub>10</sub> emissions across all facilities i within a certain distance d (i.e. total person-tons of PM<sub>10</sub>). Average local PM<sub>10</sub> emissions burden at distance d, calculated separately for each group, is measured essentially as a simple population-weighted average of PM<sub>10</sub> emissions across all facilities i, using the population within distance d of each facility as the weight, but with one modification: the sum of the weights (the denominators above) is set to the total California population for each group rather than the sum across facilities. This weighting scheme implicitly sets the PM<sub>10</sub> emissions to zero for all people beyond distance d of any facility, and is

$$\begin{aligned}
 & \text{CA difference in average PM10 burden (POC - NHW)}_d \\
 &= [\text{average POC PM10 burden}_d] - [\text{average NHW PM10 burden}_d] \\
 &= \left[ \frac{\sum_{i=1}^n \text{POC}_i \times \text{PM10}_{i,d}}{\text{POC}_{CA}} \right] - \left[ \frac{\sum_{i=1}^n \text{NHW}_i \times \text{PM10}_{i,d}}{\text{NHW}_{CA}} \right] \\
 &= \sum_{i=1}^n \left[ \frac{\text{POC}_i \times \text{PM10}_{i,d}}{\text{POC}_{CA}} \right] - \sum_{i=1}^n \left[ \frac{\text{NHW}_i \times \text{PM10}_{i,d}}{\text{NHW}_{CA}} \right] \\
 &= \left[ \frac{\text{POC}_{1,d} \times \text{PM10}_{1,d}}{\text{POC}_{CA}} + \frac{\text{POC}_{2,d} \times \text{PM10}_{2,d}}{\text{POC}_{CA}} + \dots + \frac{\text{POC}_{n,d} \times \text{PM10}_{n,d}}{\text{POC}_{CA}} \right] - \left[ \frac{\text{NHW}_{1,d} \times \text{PM10}_{1,d}}{\text{NHW}_{CA}} + \frac{\text{NHW}_{2,d} \times \text{PM10}_{2,d}}{\text{NHW}_{CA}} + \dots + \frac{\text{NHW}_{n,d} \times \text{PM10}_{n,d}}{\text{NHW}_{CA}} \right] \\
 &= \left[ \frac{\text{POC}_{1,d} \times \text{PM10}_{1,d}}{\text{POC}_{CA}} - \frac{\text{NHW}_{1,d} \times \text{PM10}_{1,d}}{\text{NHW}_{CA}} \right] + \left[ \frac{\text{POC}_{2,d} \times \text{PM10}_{2,d}}{\text{POC}_{CA}} - \frac{\text{NHW}_{2,d} \times \text{PM10}_{2,d}}{\text{NHW}_{CA}} \right] + \dots + \left[ \frac{\text{POC}_{n,d} \times \text{PM10}_{n,d}}{\text{POC}_{CA}} - \frac{\text{NHW}_{n,d} \times \text{PM10}_{n,d}}{\text{NHW}_{CA}} \right]
 \end{aligned}$$



imposed so that disparities are figured relative to the statewide population rather than to the population within distance  $d$  of any facility.

While this is not a realistic assumption – in reality  $PM_{10}$  and other emissions disperse and de-concentrate at varying rates around a facility – in lieu of “fate-and-transport” modeling, this is our best estimate. Our method tests a variety of distances under the assumption that the  $PM_{10}$  concentration is constant within each buffer and zero outside the buffer. If similar disparities are found across distance bands and there is a similar composition of sectors and facilities that are driving disparity at each distance, then we expect a more sophisticated model would draw similar conclusions to those drawn from this methodology.

In the last line of the derivation, each bracketed term represents the contribution (positive or negative) of each facility  $i$  to the overall statewide difference in person-tons of  $PM_{10}$  between people of color and non-Hispanic whites, and is what we have termed the pollution disparity index. A positive or negative index value is determined by the representation of each group near the facility; if the share of the state’s people of color residing near the facility is greater than the share of the state’s non-Hispanic white population residing near the facility, then term will be positive. If reverse is true, it will be negative.

While the statewide difference expresses environmental disparity in co-pollutant emissions from the facilities included in our analysis at the state level, the pollution disparity index tells of each facility’s contribution to that measure of statewide disparity, which is experienced at the local level. The facility-level index can be summed up across any group of facilities by type or locale (e.g., across all power plants in the state or across all facilities in a particular county, city, or neighborhood) to get a measure of the contribution that group of facilities makes to the statewide difference.

Finally, we emphasize that the approximation of “emissions burden” we use here is just that – an

approximation. “Exposure” as used in the public health field typically implies modeling of emissions to determine concentrations at the neighborhood level, taking into account distance from the facility, how emissions are released, and local wind and atmospheric patterns, among other factors. Instead, emissions burden and the pollution disparity index rely on a rough approximation based on total co-pollutant emissions and the number of people within a particular distance from the facility.



## About the Research Team

**DR. RACHEL MORELLO-FROSCH** is Associate Professor in the Department of Environmental Science, Policy and Management and the School of Public Health at the University of California, Berkeley. Dr. Morello-Frosch's research examines race and class determinants of environmental health among diverse communities in the United States. A focus of her work is the relationship between segregation and environmental health inequalities associated with air pollution, children's environmental health, and the intersection between economic restructuring and community environmental health. Currently, Dr. Morello-Frosch collaborates with colleagues and environmental justice organizations to research and address climate justice issues, including the social equity implications of proposed greenhouse gas reduction strategies in California associated with the AB 32 Scoping Plan; and disparities in community capacity to adapt to environmental impacts of climate change. Her work is funded by the National Institutes of Health, the National Science Foundation, the California Environmental Protection Agency, the California Wellness Foundation, and the California Endowment, among others. Dr. Morello-Frosch currently serves on the Health Impacts Assessment Advisory Committee for the implementation of the AB 32 Scoping Plan.

**DR. MANUEL PASTOR** is Professor of Geography and American Studies & Ethnicity at the University of Southern California where he also serves as Director of the Program for Environmental and Regional Equity (PERE) and co-Director of USC's Center for the Study of Immigrant Integration (CSII). Pastor holds an economics Ph.D. from the University of Massachusetts, Amherst, and has received fellowships from the Danforth, Guggenheim, and Kellogg foundations and grants from the Irvine Foundation, the Rockefeller Foundation, the Ford Foundation, the National Science Foundation, the Hewlett Foundation, the MacArthur Foundation, the California Environmental Protection Agency, the

California Wellness Foundation, and many others. His most recent book, co-authored with Chris Benner and Martha Matsuoka, is *This Could Be the Start of Something Big: How Social Movements for Regional Equity are Reshaping Metropolitan America* (Cornell University Press, 2009). Dr. Pastor served on the Regional Targets Advisory Committee, a group advising the California Air Resources Board on methods to set goals for the reduction of greenhouse gas emissions through better land use planning.

**DR. JAMES L. SADD** is Professor of Environmental Science at Occidental College, Los Angeles, California. He earned his doctorate in geology at the University of South Carolina, Columbia. His research includes spatial analysis using geographic information systems and remote sensing tools, particularly to evaluate questions related to environmental exposure. His recent research is supported by contracts and grants from the Andrew W. Mellon Foundation, US Army Corps of Engineers, US Navy Office of Naval Research, NOAA SeaGrant. Dr. Sadd served on the Nationally Consistent Environmental Justice Screening Approaches Work Group, advising on the EPA's Environmental Justice Strategic Enforcement Screening Tool (EJSEAT).

**JUSTIN SCOGGINS** is a data analyst at the Program for Environmental and Regional Equity at the University of Southern California. Since graduating with an MS in applied economics and finance from the University of California, at Santa Cruz, he has been assisting with research around issues of social justice, specializing in statistical analysis of patterns of environmental injustice, labor market intermediaries, and regional equity. He has published articles in both the *Journal of Urban Affairs* and the *Journal of Planning Education and Research*.

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**Minding the Climate Gap Report**

# Exhibit 3





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 12 2012

OFFICE OF  
CIVIL RIGHTS

**CERTIFIED MAIL #7004 2510 0004 2241 6398**  
**RETURN RECEIPT REQUESTED**

**In Reply Refer to:**  
EPA File No. 09R-12-R9

Brent Newell  
Attorney  
Center on Race, Poverty and the Environment  
47 Kearny Street, Suite 804  
San Francisco, CA 94108-5528

Sofia Parino  
Attorney  
Center on Race, Poverty and the Environment  
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**Re: Rejection of Title VI Administrative Complaint**

Dear Mr. Newell and Ms. Parino:

The United States Environmental Protection Agency (EPA) Office of Civil Rights (OCR) has reviewed your complaint filed on behalf of the Coalition for a Safe Environment, the Association of Irrigated Residents, California Communities Against Toxics, the Society for Positive Action, and the West County Toxics Coalition. OCR received the complaint on June 8, 2012. The complaint alleges that the California Air Resources Board (CARB) violated Title VI of the Civil Rights Act of 1964, as amended (Title VI), 42 U.S.C. §§ 2000d *et seq.*, and EPA's nondiscrimination regulations at 40 C.F.R Part 7 in approving the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols (Cap-and-Trade program). OCR is responsible for conducting a preliminary review of complaints alleging discrimination by programs or activities that receive financial assistance from EPA for acceptance, rejection, or referral to another federal agency.

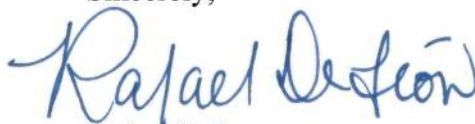
CARB issued regulations implementing the Cap-and-Trade program on October 20, 2011, pursuant to AB 32, the California Global Warming Solutions Act. That Act established statewide 2020 greenhouse gas (GHG) emissions limits and directed CARB to develop a plan to reduce GHG emissions to the statewide limit of 1990 levels by 2020. Enforceable compliance obligations for GHG emissions from affected sources will begin on January 1, 2013.

OCR finds that this complaint is not ripe for review. The allegations in the complaint are speculative in nature and anticipate future events that may not occur. The actions to be taken in response to the new compliance obligations and the results of those actions are unknown and unpredictable. As a result, a meaningful review cannot be conducted at this time. Therefore, OCR rejects your complaint and its allegations.

While this decision does not reach the merits of the complaint, OCR notes that CARB took the proactive step of adopting an Adaptive Management Plan that requires CARB to take a range of actions to monitor co-pollutant emissions and address any unanticipated adverse impacts caused by the Cap-and-Trade regulation. The Plan states that such actions could include, for example, the adoption of additional regulatory requirements and using funds obtained from the sale of allowances to support local mitigation projects.

If you have any questions about this matter, please contact Helena Wooden-Aguilar, Assistant Director, Office of Civil Rights by telephone at 202-564-0792, by email at [Wooden-Aguilar.Helena@epa.gov](mailto:Wooden-Aguilar.Helena@epa.gov) or by mail at U.S. EPA, 1200 Pennsylvania Ave., NW, Mail Code 1201A, Washington, D.C., 20460-0001.

Sincerely,



Rafael DeLeon  
Director

cc: Stephen G. Pressman, Associate General Counsel  
Civil Rights & Finance Law Office (MC 2399A)

Jared Blumenfeld, Title VI Contact, U.S. EPA Region 9  
75 Hawthorne Street  
Mail Code: ORA-1  
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California Air Resources Board  
Ms. Mary Nichols, Chairman  
1001 "I" Street  
Sacramento, CA 95814-2828

# Exhibit 4



**CENTER ON RACE, POVERTY & THE ENVIRONMENT**

47 KEARNY STREET, SUITE 804, SAN FRANCISCO, CA 94108 TEL 415-346-4179 FAX 415-346-8723 WWW.CRPE-EJ.ORG

August 6, 2012

*Via Electronic and U.S. Mail*

Rafael DeLeon, Director  
Office of Civil Rights  
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Mail Code 1201A  
1200 Pennsylvania Ave NW  
Washington, D.C. 20460

**Re: Petition for Reconsideration; *Coalition for a Safe Environment v. California Air Resources Board*, EPA File No. 09R-12-R9**

Dear Mr. DeLeon:

Complainants Coalition for a Safe Environment, Association of Irrigated Residents, California Communities Against Toxics,, Society for Positive Action, and West County Toxics Coalition (collectively “Complainants”) petition EPA to accept their Title VI complaint alleging that the California Air Resources Board (“CARB”) violated Title VI of the Civil Rights Act when CARB adopted the Cap and Trade regulation which, by allowing pollution trading and offsets, denies communities living near Cap and Trade facilities the benefits of co-pollutant reductions and allows increases in such pollution when facilities expand.

On July 12, 2012, the Office of Civil Rights (“OCR”) erroneously rejected the complaint as not ripe. *See* Letter from Rafael DeLeon to Brent Newell and Sofia Parino, Rejection of Title VI Complaint, dated July 12, 2012 (hereafter “DeLeon Letter”), attached as Exhibit 1. OCR found that “the allegations in the complaint are speculative in nature and anticipate future events that may not occur.” *Id.* at 2. OCR further found that “the actions to be taken in response to the new compliance obligations and the results of those actions are unknown and unpredictable.” *Id.* at 2. OCR concluded that “a meaningful review cannot be conducted at this time” and rejected the complaint.

The Supreme Court articulated the question of ripeness as “best seen in a twofold aspect, requiring us to evaluate both the fitness of the issues for judicial decision and the hardship to the parties of withholding court consideration.” *Abbott Labs. v. Gardner*, 387 U.S. 136, 149 (1967).



As the Complaint alleged, CARB adopted a regulation that, rather than requiring all facilities to reduce greenhouse gas (and resulting co-pollutant emissions) on-site, allows all facilities to purchase allowances and offsets from a third-party, thus avoiding on-site pollution reductions. The Complaint further alleged that communities living near cap and trade facilities already suffer disparate and adverse impacts from co-pollutant emissions, and that cap and trade denies those communities a benefit of co-pollutant reductions by allowing trading. In addition, when facilities expand, they may also purchase offsets or allowances to meet their compliance obligations even when increasing greenhouse gas and co-pollutant emissions.

The adoption of the Cap and Trade regulation and the denial of benefits could not be more ripe for review. OCR concluded, without any factual analysis, that the allegations in the complaint “may not occur” and that it is “unknown and unpredictable” what actions regulated entities will take. *Id.* at 2. Cap and Trade is a reality, has been adopted by CARB, has been approved by the Office of Administrative Law, and CARB has been implementing Cap and Trade for nearly a year. The Complainants need not, and should not, wait until facilities in their communities actually purchase allowances and offsets, and use such allowances and offsets in their compliance demonstration, for this Complaint to be ripe. CARB violated Title VI by adopting a final regulation that permitted such conduct to occur.

Complainants will suffer undue hardship from OCR’s decision to reject the Complaint. Rather than having the EPA protect their right to live free of discrimination from federally-funded agencies like CARB, the Complainants apparently must endure the denial of co-pollutant reductions *before* having their complaint investigated and resolved by OCR, which could take years given OCR’s history of processing Title VI complaints. OCR has further exacerbated that hardship by failing to articulate when a complaint alleging that Cap and Trade violates Title VI would be ripe. Complainants are left in the untenable position of not knowing when OCR would consider the Complaint ripe, and simultaneously face the short 180-day limitations period in which they must file a new complaint.

OCR accepted a similar Title VI Complaint in *Communities for a Better Environment v. South Coast Air Quality Management District*, EPA File No. 10R-97-R9, which alleged that South Coast Rule 1610 allowed pollution trading that disparately and adversely affected communities of color. EPA cannot square its acceptance of that complaint also a regulatory challenge to a trading scheme with its unsubstantiated conclusions here that trading “may not occur” and its effects are “unknown and unpredictable.”

Even if OCR maintains that this Complaint is not ripe, it should accept the complaint, articulate which factual events must transpire, and hold the complaint in abeyance pending the fruition of those events. That was exactly the action OCR took when OCR recently accepted the complaint in *Greenaction v. San Joaquin Valley Air Pollution Control District*, EPA File No. 11R-09-R9. See Letter from Rafael DeLeon to Bradley Angel, dated August 6, 2010, attached as Exhibit 2. In *Greenaction*, the Complaint alleged that the operation of the proposed Avenal Power Plant would violate Title VI. *Id.* at 2-3. OCR accepted the complaint, but held the complaint in abeyance pending the issuance of a Prevention of Significant Deterioration permit by EPA. “OCR will hold the investigation of this allegation in abeyance because the Clean Air Act Prevention of Significant Deterioration pre-construction permit application for the Avenal power plant is pending approval from EPA and, thus, the allegations are not yet ripe for review.” *Id.* at 3.

Finally, OCR disingenuously endorses CARB's Adaptive Management Plan. The Adaptive Management Plan "requires CARB to take a range of actions to monitor co-pollutant emissions and address any unanticipated adverse impacts caused by the Cap-and-Trade regulation." DeLeon Letter at 2. OCR fails to acknowledge that the Adaptive Management Plan is a *discretionary* plan, whereby CARB stated its intent to exercise its *discretion* to determine if an adverse impact has occurred, and then will use its *discretion* to take action CARB deems appropriate. See Adaptive Management Plan, attached as Exhibit 3. Nothing in the Adaptive Management Plan guarantees that Cap and Trade will not inflict a disparate and adverse impact. Furthermore, the Adaptive Management Plan was not adopted as part of the Cap and Trade Regulation, see Cal. Code Regs. tit. 17 § 95801 *et seq.*, and is thus nothing more than CARB's non-binding intent to exercise its discretion in the future. OCR should not cite or rely on the Adaptive Management Plan as a basis for Cap and Trade's compliance with Title VI.

Complainants respectfully request that OCR (1) articulate a standard for ripeness that will inform the public when a complainant should file a Title VI complaint; and (2) accept this Complaint for investigation. Even if OCR finds that this complaint is still not ripe for review, then OCR should nevertheless accept the complaint for investigation and hold the complaint in abeyance pending the action OCR deems necessary for ripeness. Thank you for your time and courtesy.

Sincerely,



Brent Newell  
General Counsel

cc: Lisa P. Jackson, EPA Administrator  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
Mail Code: 1101A  
Washington, DC 20460

Jared Blumenfeld, Regional Administrator  
EPA Region IX  
75 Hawthorne Street  
Mail Code: ORA-I  
San Francisco, CA 94105

Mary Nichols, Chairman  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814-2828

cc: Robert Perciasepe (by electronic mail)  
Diane Thompson (by electronic mail)  
Scott Fulton (by electronic mail)  
Steve Pressman (by electronic mail)  
Helena Wooden-Aguilar (by electronic mail)

# **EXHIBIT 1**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 12 2012

OFFICE OF  
CIVIL RIGHTS

**CERTIFIED MAIL #7004 2510 0004 2241 6398**  
**RETURN RECEIPT REQUESTED**

**In Reply Refer to:**  
EPA File No. 09R-12-R9

Brent Newell  
Attorney  
Center on Race, Poverty and the Environment  
47 Kearny Street, Suite 804  
San Francisco, CA 94108-5528

Sofia Parino  
Attorney  
Center on Race, Poverty and the Environment  
47 Kearny Street, Suite 804  
San Francisco, CA 94108-5528

**Re: Rejection of Title VI Administrative Complaint**

Dear Mr. Newell and Ms. Parino:

The United States Environmental Protection Agency (EPA) Office of Civil Rights (OCR) has reviewed your complaint filed on behalf of the Coalition for a Safe Environment, the Association of Irrigated Residents, California Communities Against Toxics, the Society for Positive Action, and the West County Toxics Coalition. OCR received the complaint on June 8, 2012. The complaint alleges that the California Air Resources Board (CARB) violated Title VI of the Civil Rights Act of 1964, as amended (Title VI), 42 U.S.C. §§ 2000d *et seq.*, and EPA's nondiscrimination regulations at 40 C.F.R Part 7 in approving the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation, Including Compliance Offset Protocols (Cap-and-Trade program). OCR is responsible for conducting a preliminary review of complaints alleging discrimination by programs or activities that receive financial assistance from EPA for acceptance, rejection, or referral to another federal agency.

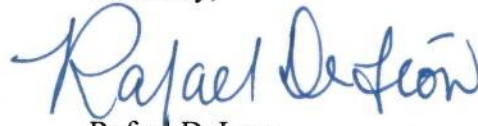
CARB issued regulations implementing the Cap-and-Trade program on October 20, 2011, pursuant to AB 32, the California Global Warming Solutions Act. That Act established statewide 2020 greenhouse gas (GHG) emissions limits and directed CARB to develop a plan to reduce GHG emissions to the statewide limit of 1990 levels by 2020. Enforceable compliance obligations for GHG emissions from affected sources will begin on January 1, 2013.

OCR finds that this complaint is not ripe for review. The allegations in the complaint are speculative in nature and anticipate future events that may not occur. The actions to be taken in response to the new compliance obligations and the results of those actions are unknown and unpredictable. As a result, a meaningful review cannot be conducted at this time. Therefore, OCR rejects your complaint and its allegations.

While this decision does not reach the merits of the complaint, OCR notes that CARB took the proactive step of adopting an Adaptive Management Plan that requires CARB to take a range of actions to monitor co-pollutant emissions and address any unanticipated adverse impacts caused by the Cap-and-Trade regulation. The Plan states that such actions could include, for example, the adoption of additional regulatory requirements and using funds obtained from the sale of allowances to support local mitigation projects.

If you have any questions about this matter, please contact Helena Wooden-Aguilar, Assistant Director, Office of Civil Rights by telephone at 202-564-0792, by email at [Wooden-Aguilar.Helena@epa.gov](mailto:Wooden-Aguilar.Helena@epa.gov) or by mail at U.S. EPA, 1200 Pennsylvania Ave., NW, Mail Code 1201A, Washington, D.C., 20460-0001.

Sincerely,



Rafael DeLeon  
Director

cc: Stephen G. Pressman, Associate General Counsel  
Civil Rights & Finance Law Office (MC 2399A)

Jared Blumenfeld, Title VI Contact, U.S. EPA Region 9  
75 Hawthorne Street  
Mail Code: ORA-1  
San Francisco, CA 94105

California Air Resources Board  
Ms. Mary Nichols, Chairman  
1001 "I" Street  
Sacramento, CA 95814-2828

## **EXHIBIT 2**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG - 6 2010

OFFICE OF  
CIVIL RIGHTS

**RETURN RECEIPT REQUESTED**  
**Certified Mail #7009-2820-0002-1759-4019**

**In Reply Refer to:**  
EPA File No. 11R-09-R9

Mr. Bradley Angel  
Executive Director  
Greenaction for Health and Environmental Justice  
703 Market Street  
Suite 501  
San Francisco, California 94103

**Re: Partial Acceptance and Referral of Administrative Complaint**

Dear Mr. Angel:

This letter is in reference to the administrative complaint you filed with the U.S. Environmental Protection Agency (EPA) Office of Civil Rights (OCR) on October 15, 2009, on behalf of Greenaction for Health and Environmental Justice (Greenaction). Your complaint alleges that the California Energy Commission (Energy Commission) and the San Joaquin Valley Air Pollution Control District (APCD) violated Title VI of the Civil Rights Act of 1964, as amended (Title VI), 42 U.S.C. §§ 2000d *et seq.*, and EPA's nondiscrimination regulations implementing Title VI, found at 40 C.F.R. Part 7. OCR is partially accepting your complaint for investigation and partially referring your complaint to the U.S. Department of Energy (DOE). We are referring the allegations against the Energy Commission to DOE for its consideration because the Energy Commission receives financial assistance from DOE and not from EPA.

Pursuant to EPA's nondiscrimination regulations, OCR conducts a preliminary review of discrimination complaints to determine acceptance, rejection, or referral. 40 C.F.R. § 7.120(d)(1). To be accepted for investigation, a complaint must meet the jurisdictional requirements described in EPA's nondiscrimination regulations. First, it must be in writing. Second, it must describe an alleged discriminatory act that, if true, may violate EPA's nondiscrimination regulations (*i.e.*, an alleged discriminatory act based on race, color, national origin, sex, age, or disability). Third, it must be filed within 180 calendar days of the alleged discriminatory act. 40 C.F.R. § 7.120(b). Finally, the complaint must be filed against an applicant for, or a recipient of, EPA financial assistance that allegedly committed the discriminatory act. 40 C.F.R. § 7.15.



After careful consideration, OCR is accepting the following allegations against APCD.

- 1. APCD intentionally discriminated against Avenal and Kettleman City residents of color and Spanish-speakers by failing to notify or involve residents (e.g., failing to publish information in Spanish, failing to hold public hearings) during the decision-making process prior to APCD issuing the corrected Notice of Final Determination of Compliance (FDOC) for the proposed Avenal power plant on November 4, 2008.**

On January 14, 2010, OCR sent you a letter requesting additional information regarding the dates associated with each alleged discriminatory act described in your complaint. Your March 3, 2010 response states that you did not learn of the corrected notice of FDOC until June 2009.

This allegation is accepted for investigation. The complaint is in writing and states an alleged discriminatory act that would violate EPA's nondiscrimination regulations (*i.e.*, discrimination from lack of public participation during the approval process). Additionally, APCD is a recipient of EPA financial assistance. Although the complaint was filed more than 180 days after the date of the alleged discriminatory act, OCR has the authority to waive the 180-day time limit for good cause. 40 C.F.R. § 7.120(b)(2). Based on the jurisdictional review, OCR is waiving the 180-day timeliness requirement because the complainant could not reasonably be expected to have known about the alleged discriminatory act within the 180-day period in light of the circumstances.<sup>1</sup> Waiving the timeliness requirement is a jurisdictional decision and does not constitute a finding of fact or violation of EPA's nondiscrimination regulations. No substantive determination about this allegation will be made until the completion of a full investigation.

- 2. The operation of the proposed Avenal power plant will result in additional adverse health impacts on the residents of color of Avenal and Kettleman City, who are already impacted by multiple pollution sources.**

The complaint and your March 3, 2010 response to our request for clarification letter state that the proposed Avenal power plant will have an adverse disparate impact on the Avenal and Kettleman City residents of color living near the proposed Avenal power plant.

This allegation is accepted for investigation because it meets EPA's jurisdictional requirements, but the investigation is being held in abeyance. The complaint is in writing, and states an alleged discriminatory act that would violate EPA's

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<sup>1</sup> Guidance from the U.S. Department of Justice provides that agencies may waive the timeliness requirement in a number of situations, including cases where "[t]he complainant could not reasonably be expected to know the act was discriminatory within the respective filing period." U.S. Dep't of Justice, *Investigation Procedures Manual for the Investigation and Resolution of Complaints Alleging Violations of Title VI and Other Nondiscrimination Statutes*, Sept. 1998 at 35.

nondiscrimination regulations (*i.e.*, adverse disparate health impacts from the upcoming operation of the Avenal power plant). Additionally, APCD is a recipient of EPA financial assistance and the complaint was timely filed. However, OCR will hold the investigation of this allegation in abeyance because the Clean Air Act Prevention of Significant Deterioration pre-construction permit application for the Avenal power plant is pending approval from EPA and, thus, the allegations are not yet ripe for review.

### **Remaining Allegations**

#### **1. California Energy Commission**

Your complaint asserts that the Energy Commission failed to provide meaningful opportunities for public comment in the approval of the proposed power plant and failed to conduct a thorough environmental review of the health impacts on nearby residents.

A complaint must be filed against an applicant for, or a recipient of, EPA assistance to be accepted by EPA for investigation. 40 C.F.R. § 7.15. The Energy Commission does not receive EPA assistance. Therefore, OCR does not have the authority to accept the allegations against this entity for investigation. Because OCR has determined that the Energy Commission receives financial assistance from DOE, EPA is forwarding this allegation to DOE.

#### **2. Executive Order 12898 and Environmental Law**

Finally, your complaint raises allegations related to Executive Order 12898, including discrimination on the basis of income, and allegations related to violations of environmental laws. OCR does not have authority over these matters, but EPA's Office of Environmental Justice and Region 9 are currently engaged in these issues in Kettleman City and Avenal. OCR, therefore, defers to them with respect to these concerns.

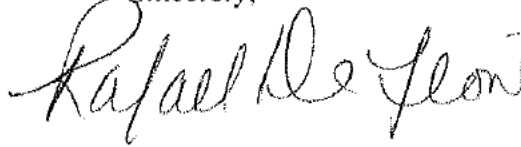
Pursuant to EPA's nondiscrimination regulations, APCD is being notified of the acceptance of this complaint. APCD may respond to the notice of acceptance of this complaint within 30 calendar days of receiving it. EPA's nondiscrimination regulations provide that OCR must attempt to resolve complaints informally, whenever possible. 40 C.F.R. § 7.120(d)(2). Accordingly, OCR may discuss, at any point during the process, offers to informally resolve the complaint, and may, to the extent appropriate, facilitate an informal resolution process with the involvement of affected stakeholders.

You should be aware that no one may intimidate, threaten, coerce, or engage in other retaliatory conduct against anyone because he or she has either taken action or participated in an action to secure rights protected by the nondiscrimination statutes EPA enforces. Any individual alleging such harassment or intimidation may file a complaint with EPA.

If you have any questions or need clarification regarding this letter, please contact Anthony Napoli of the OCR External Compliance and Complaints Program via Federal

Relay Service 866-377-8642, and provide the relay operator his telephone number 202-233-0651. He may also be reached via electronic mail at [Napoli.Anthony@epa.gov](mailto:Napoli.Anthony@epa.gov), or by mail at: U.S. EPA, Office of Civil Rights (Mail Code 1201A), 1200 Pennsylvania Ave., N.W., Washington, D.C. 20460-1000.

Sincerely,

A handwritten signature in black ink that reads "Rafael DeLeon". The signature is written in a cursive style with a large initial "R".

Rafael DeLeon  
Acting Director

cc: Stephen G. Pressman, Associate General Counsel  
Civil Rights and Finance Law Office (2399A)

Charles Lee, Director  
Office of Environmental Justice

Jo Ann Asami, EPA Region 9

Seyed Sadredin, Air Pollution Control Officer  
San Joaquin Valley Air Pollution Control District

Karen Douglas, Chair  
California Energy Commission

William A. Lewis, Jr., Acting Director  
Office of Economic Impact and Diversity  
U.S. Department of Energy

# **EXHIBIT 3**



California Environmental Protection Agency



Adaptive Management Plan for the Cap-and-Trade Regulation

October 10, 2011

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## **I. Executive Summary**

This document describes the Air Resources Board's (ARB or Board) recommended adaptive management plan. The plan is focused on two specific areas: localized air quality impacts from the proposed cap-and-trade regulation (cap-and-trade regulation or Regulation) and forest impacts from the proposed Compliance Offset Protocol for U.S. Forest Projects (U.S. Forest Protocol) contained in the Regulation. The plan is being released for public comment, and will be presented to the Board for consideration at the October 20-21, 2011, Board meeting. If adopted, the plan will require ARB to take a range of actions in these two areas to monitor and respond as appropriate to address unanticipated adverse impacts that are caused by the Regulation or the U.S. Forest Protocol.

Adaptive management is a process of information gathering, review and analysis, and response that promotes flexible agency decision-making. It is particularly appropriate where complex systems are involved, where the effects of an agency's decisions and actions play out over an extended period of time, and where the agency must meet multiple objectives – as in the case of the proposed Regulation. Adaptive management is consistent with ARB's long-standing approach to program implementation which incorporates on-going evaluation of how programs and regulations are implemented on the ground, regular updates to the Board, and adjustments to program implementation and regulatory requirements, as necessary.

In this plan, ARB is focusing on the two aforementioned areas where, although not anticipated, unintended environmental impacts could occur. The adaptive management plan focuses on these two areas because they were identified in the environmental analysis accompanying the rulemaking as areas where the potential for unanticipated impacts could occur and because they were specifically identified as being of special concern in public comments. It is important to note, however, that this focused adaptive management plan should be viewed in the larger context of ARB's planned oversight of the proposed Regulation and the U.S. Forest Protocol, which includes comprehensive monitoring of auctions, reserve sales, allowance holdings, compliance offset credit generation and use, reported emissions, leakage, and other aspects of the Regulation. Additionally, the adaptive management plan should also be viewed in the context of ARB's larger air pollution control programs, which already incorporate systems to measure air quality and emissions in an effort to continuously improve air quality in California.

### **Plan Elements**

The key elements of this adaptive management plan are: (1) data and data source identification (information gathering); (2) analysis to determine whether an adverse impact is caused by the cap-and-trade regulation (review and analysis); and (3) identifying potential actions ARB could take to address these impacts and committing to take appropriate action (response).

### **What Data Will ARB Gather for Evaluation?**

ARB identified data sources for the evaluation of potential localized air quality impacts. These include cap-and-trade specific data such as greenhouse gas (GHG) emissions, and the holdings of allowances and compliance offset credits, as well as traditional criteria pollutant and air toxics information such as air pollution control district permits, air monitoring data, and emission inventories. If the Board approves the Regulation and this plan, ARB will work with local air districts and stakeholders to refine plan details concerning air quality data gathering prior to initiation of the first compliance period on January 1, 2013.

ARB has identified data sources for the evaluation of potential unanticipated forest impacts resulting from the U.S. Forest Protocol. These include information that must be reported under the protocol, as well as emission inventories, timber harvest plans, the Fire and Resource Assessment Program, and information from other states (should forest offset projects occur in other states). As part of the adaptive management plan, ARB intends to contract with an independent third-party to assist in determining the best ways to filter and analyze the data needed to evaluate potential unanticipated impacts in this sector. ARB will work with the appropriate agencies and stakeholders to refine plan details related to data filtering and analysis.

### **How Will ARB Review and Analyze the Data?**

As part of this plan, ARB will analyze the collected data to determine whether an environmental change such as an increase in emissions has occurred, and whether the change is caused, directly or indirectly, by the cap-and-trade regulation or the U.S. Forest Protocol. If the analysis indicates a change has occurred as a result of the Regulation or U.S. Forest Protocol, ARB will evaluate whether such change had or is likely to have an adverse impact.

It is unlikely that ARB will be able to rely on any single analysis or data source. The complex interplay of possible economic drivers, as well as other regulatory drivers, will most likely require ARB to conduct multiple analyses. It may not be possible to identify a direct causal relationship between the environmental change and the Regulation or U.S. Forest Protocol. Therefore, ARB will evaluate the weight of available evidence to determine the reason for the change.

In conducting the analysis, it will be necessary to consider normal variations, existing trends, and other factors that may be responsible for changes in the data. For example, air quality data can vary significantly from year-to-year because of meteorology. Additionally, changes in economic activity can produce large impacts on air quality and emissions trends, and factors such as rainfall can have significant impacts on emissions as a result of California's utilization of hydroelectric power as a source of energy.

The following is an illustrative example of the stepwise approach ARB will take to analyze the data for determining a localized impact:

- Monitor facilities subject to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR) for GHG emissions increases. Increases in GHGs could indicate that an increase in other pollutants has occurred. If an increase is apparent, then;
- Review indicators to assess if the change was caused by the Regulation (e.g., the result of a compliance response to the Regulation) or some other factor (e.g., the result of increased production due to economic growth). If the change is determined to be caused by the Regulation, then;
- Work with the local air district to review co-pollutant emissions for appropriate sources and geographic areas to determine whether the change had or is likely to have adverse impacts on local air quality.

### **How Will ARB Respond?**

In the event that an unanticipated adverse localized air quality or forest impact is identified and determined to have been caused by the Regulation or U.S. Forest Protocol, this plan requires ARB to take action to respond appropriately. While it is not feasible in this plan to identify all potential actions that could be pursued, ARB is committed to promptly developing and implementing appropriate responses through a public process, including consideration and approval by the Board as necessary.

ARB would consider a range of options to address localized adverse air quality impacts. These could include the adoption of additional regulatory requirements, using funds obtained from the sale of allowances to support local mitigation projects, coordination with other agencies to provide additional incentives for energy efficiency or other emission reduction activities within the community, or modifications to the Regulation.

For unanticipated impacts from the U.S. Forest Protocol, ARB could consider revising the types and/or geographic location of forest offset projects, or disallowing the use of certain types of U.S. Forest Protocol compliance offset credits. Other types of responses are also possible and would be considered and implemented as necessary.

### **Public Process for this Adaptive Management Plan**

ARB is soliciting comments on this plan. The Board will consider this plan at its October 20-21, 2011, Board meeting. Interested members of the public may present comments orally or in writing at the meeting, and comments may be submitted by postal mail or electronic submittal before the meeting.

Postal Mail: Clerk of the Board, Air Resources Board  
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Upon Board approval, ARB will work with our local air district partners, departments of the Natural Resources Agency (resource agencies), and stakeholders to implement the plan based on the following schedule:

October 10, 2011	ARB releases Draft Adaptive Management Plan for comment.
October 20-21, 2011	Board considers Adaptive Management Plan for approval.
November 2011	Staff works with local air districts, resource agencies, and stakeholders to finalize specific details concerning data gathering under the Adaptive Management Plan.
Early 2012	ARB contracts for third-party forestry expertise.
Mid-2012	Staff updates Board on Adaptive Management Plan implementation.
December 2012	Staff releases Adaptive Management Implementation Report (prior to first compliance period).
December 2013	Staff updates Board on Adaptive Management implementation.
December 2014	Staff releases Adaptive Management Report for calendar year 2013.
December 2015	Staff releases Adaptive Management Report for calendar year 2014 and end of first compliance period.
Ongoing	Staff releases Adaptive Management Report annually.



## II. Introduction

In December 2010, ARB considered the proposed cap-and-trade regulation. As part of the rulemaking, an environmental impacts analysis was prepared and included in Appendix O to the Staff Report: Initial Statement of Reasons and entitled Functional Equivalent Document (FED). The environmental analysis concluded that increases in localized air pollution or forest project related impacts caused by the Regulation or U.S. Forest Protocol are unlikely based on available data and current laws that control localized air pollution and regulate forest activities. However, ARB could not determine that increases would not ever occur. In addition, commenters raised concerns about the potential for localized air impacts and the potential for impacts to forest resources related to forest offset projects. ARB, therefore, committed to use an adaptive management approach as an integral part of the implementation of the cap-and-trade program in order to address unanticipated impacts that could result from the Regulation related to these two specific areas.

The areas of focus in this adaptive management plan are localized air quality impacts and impacts from the U.S. Forest Protocol on special status species, sensitive habitats, and federally protected wetlands (hereafter referred to as forest impacts). It is important to note, however, that the elements of monitoring, review, and feedback contained in adaptive management will be more generally applied to the cap-and-trade regulation to ensure that all of its objectives, including GHG emissions reductions, are achieved. Accordingly, the focused adaptive management plan in this document must be viewed in the larger context of our planned oversight of the cap-and-trade regulation which includes comprehensive monitoring of auctions, reserve sales, allowance holdings, compliance offset credits generation and use, reported emissions, leakage, and other aspects of the program.

The plan includes a description of what is meant by adaptive management, ARB's objectives in implementing the plan, and a process for systematic data compilation, evaluation, and public review. The key elements of this adaptive management plan are: (1) data and data source identification (information gathering); (2) analysis to determine whether an adverse impact is caused by the cap-and-trade regulation (review and analysis); and (3) identifying potential actions ARB could take to address these impacts and committing to take appropriate action (response).

Staff anticipates that data gathering will be straightforward. The work of review and analysis, however, will be challenging because there could be many reasons for a change in localized air emissions or forest management practices. Examples are a change in laws unrelated to the Regulation; economic growth related to recovery from the economic downturn; adoption of a new technology within an industry; and increased consumer demand for a specific product.

Under the plan, ARB staff would work with the local air districts where facilities subject to the Regulation are located in an effort to refine a specific, systematic approach for efficiently compiling, interpreting, and evaluating the data. Because ARB is not expert

in forestry practices, ARB plans to contract with an independent third-party (ARB contractor) to assist it in determining the best ways to filter and analyze the data needed to evaluate potential, unanticipated impacts related to forestry.

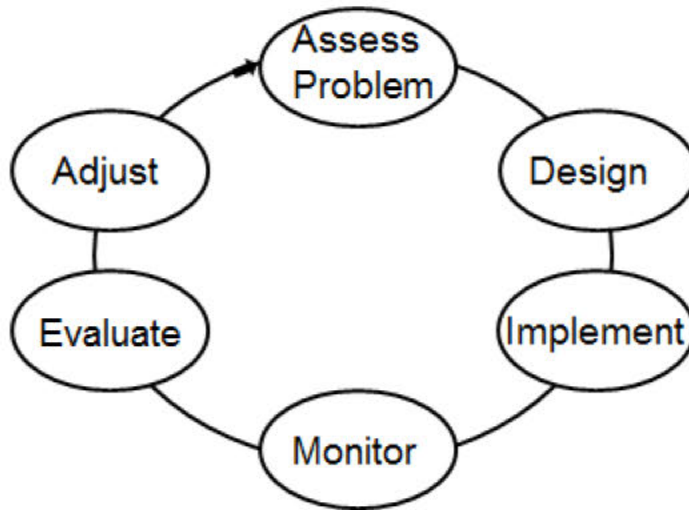
ARB will consider approval of this plan at the October 20-21, 2011, Board meeting. Upon Board approval, ARB will work with the local air districts, resource agencies, and stakeholders to implement the plan. The timeline for completion of this work is before the beginning of the first compliance period in January 2013. The first adaptive management report is planned for December 2012, and will focus on the first phase of implementation. Annually thereafter, staff will provide reports to the public and the Board on the implementation of the adaptive management plan. The annual adaptive management plan reports will, among other things, outline the data collected and the trends observed, and discuss any recommended responses.

### **III. Adaptive Management**

Adaptive management is a process of information gathering, review and analysis, and response that promotes flexible agency decision-making. It is particularly appropriate where complex systems are involved, where the effects of an agency's decisions and actions play out over an extended period of time, and where the agency must meet multiple objectives – as in the case of the proposed Regulation. Adaptive management is consistent with ARB's long-standing approach to program implementation which incorporates on-going evaluation of how programs and regulations are implemented on the ground, regular updates to the Board, and adjustments to program implementation and regulatory requirements, as necessary.

Figure 1, representing the adaptive management process, illustrates how new information is used to refine and adjust agency action to continually meet its defined objective<sup>1</sup>.

Figure 1: Adaptive Management Process



Implementation of the cap-and-trade regulation is expected to begin in January of 2012 (assuming it is approved by the Board). Using the adaptive management approach, ARB will assess whether there are unanticipated, adverse localized air quality or forestry impacts from the Regulation or U.S. Forest Protocol and evaluate the data discussed in this plan for indicators of unintended adverse impacts. If adverse impacts in these areas are found and demonstrated to be the result of the Regulation or U.S. Forest Protocol, ARB is committed to taking appropriate action and adjusting the operation of the program to minimize the effect or occurrence of the action that caused the impact.

### **A. Objectives of ARB's Adaptive Management Plan**

The objectives of ARB's adaptive management plan include:

- Identify potential localized emission increases and forest impacts caused by the cap-and-trade regulation.
- Establish a process to address unanticipated adverse local air quality and forest impacts.
- Keep the public and Board informed of impacts attributed to the cap-and-trade regulation.

<sup>1</sup> United State Department of the Interior: <http://www.doi.gov/initiatives/AdaptiveManagement/whatis.html>

The strategies that ARB will employ to achieve these objectives include:

- Identify data sources.
- Use data to assess if there has been or is anticipated to be an increase in localized emissions or change in forest ecology.
- Assess if the change is caused directly, or indirectly, by the cap-and-trade regulation.
- Use data to assess if there has been or is anticipated to be an adverse impact.
- Share data and reports with the Board and public annually.
- Report to the Board as needed but, at a minimum, annually in conjunction with the issuance of the annual adaptive management plan report.
- Take appropriate action to address any adverse impacts related to localized emissions or forestry caused by the Regulation.

## **B. Questions that Frame Review and Analysis Under the Adaptive Management Plan**

The key questions that must be answered on an on-going basis by the adaptive management plan are:

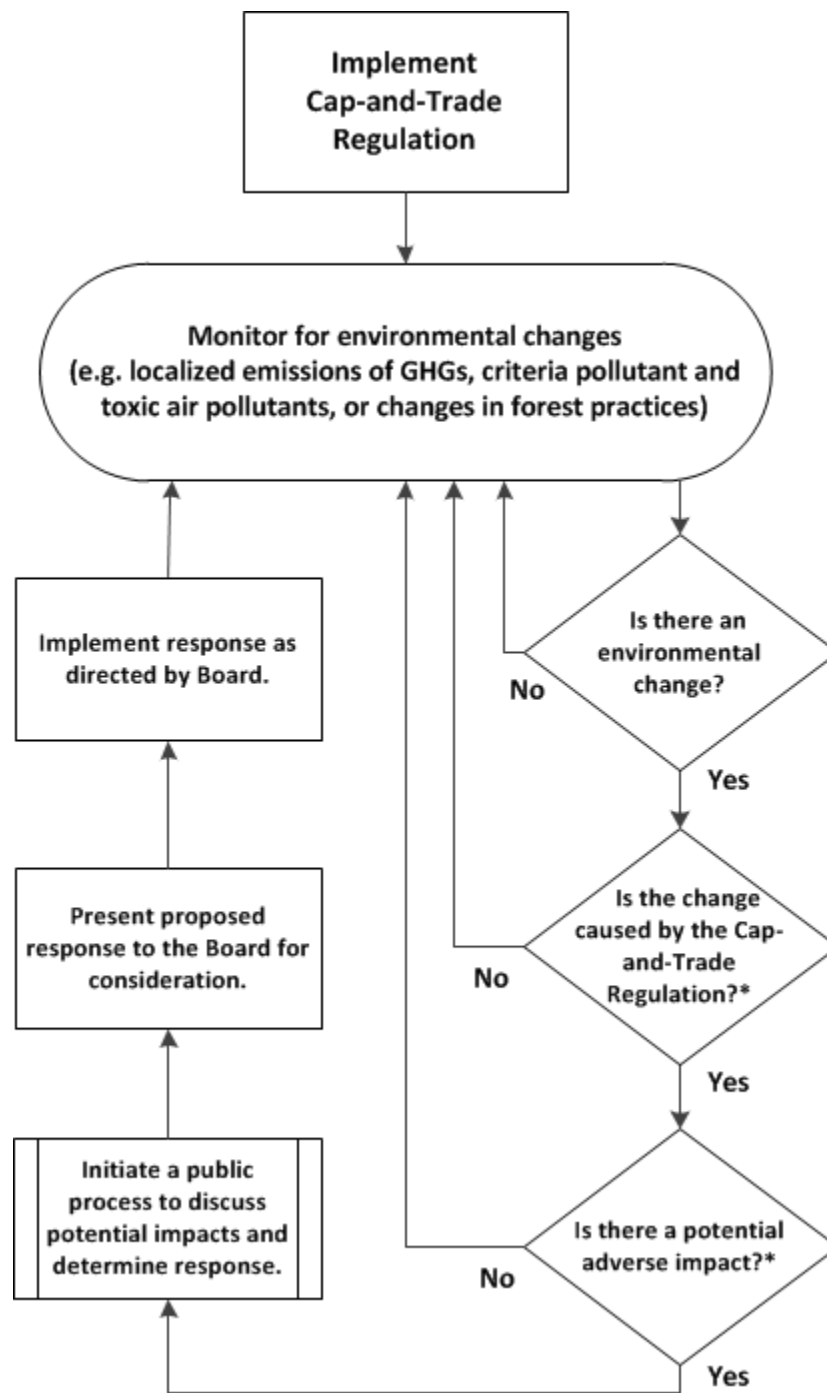
- Has an environmental change (e.g., increase in emissions or transition in forest practices used) occurred?
- Is the environmental change caused, directly or indirectly, by the cap-and-trade regulation or U.S. Forest Protocol?
- Has the environmental change had an adverse localized air quality or forest impact?
- What action could ARB take to address an adverse impact linked to the cap-and-trade program or U.S. Forest Protocol?

The key elements of this adaptive management plan are: (1) data and data source identification (information gathering); (2) analysis to determine whether an adverse impact is caused by the cap-and-trade regulation (review and analysis); and (3) identifying potential actions ARB could take to address these impacts and committing to take appropriate action (response).

Figure 2, representing the flow of ARB's adaptive management plan, illustrates how ARB will implement adaptive management, monitor and evaluate data, and make adjustments to the Regulation, if necessary.



Figure 2: ARB Adaptive Management Plan Flow Chart



\* These questions will be addressed based on the evaluation of a range of data sets and will involve technical judgment and other available tools and methods.

## **IV. Information Gathering**

In this section, ARB discusses the information to be gathered for review and evaluation. Because this section discusses at various places why staff is gathering certain data – that is, why it is relevant – this section also necessarily previews the next section on analysis and review.

### **A. Localized Air Quality Data**

ARB identified data sources for the evaluation of potential localized air quality impacts. These include GHG inventories, traditional criteria pollutants and air toxics emissions data, local air district or state agency permit information, air monitoring data, special monitoring studies, and other sources of data including new cap-and-trade program specific data such as GHG emissions, and the use of allowances and compliance offset credits to comply with the Regulation. If the Board approves this plan, ARB will work with local air districts and stakeholders to finalize specific details concerning data gathering, including the best means to transmit, filter, and analyze the data for localized air quality impacts, and complete the details before initiation of the first compliance period in January 2013.

It is important to remember that many factors can cause changes at facilities, and that once an increase has been detected, additional sources of data must be used to assess if the increase is the result of the cap-and-trade regulation. Below are a number of sources of information that ARB will consider in determining if an adverse impact resulting from the cap-and-trade regulation has occurred or will occur. As ARB implements the adaptive management plan, it may find additional sources of data to include or it may find that some sources of data are not useful to continue to monitor.

#### **1. Greenhouse Gas Mandatory Reporting Regulation (MRR)**

Reporting of annual GHG emissions by major sources is required by AB 32. ARB approved the MRR in December 2007, and it became effective in January 2009. Revisions to the regulation were considered by the Board at its December 2010, Board hearing, and ARB staff is proposing additional modifications based on Board direction and stakeholder comments, prior to finalizing the regulation for 2012 reporting. More on the MRR can be found at:

<http://arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>

The current MRR requires reporting emissions of six GHGs: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF<sub>6</sub>). It is applicable to: facilities in California that generate 25,000 metric tons of CO<sub>2</sub> per year (MTCO<sub>2</sub>/year) or greater; electrical generating facilities that produce 1 megawatt (MW) or greater, or that generate 2,500 MTCO<sub>2</sub>e or greater per year; and retail providers and marketers of electrical power. Facilities report directly to ARB, and are required to use the methodologies in the MRR,

providing consistency across the State. The first reporting year was in 2009 (for 2008 data, which was not third-party verified). Beginning in 2010 (for 2009 data), the reported data were subject to third-party verification by ARB-accredited verifiers, which requires that data are reported within ninety-five percent accuracy. For 2010 (2009 data), about ninety-five percent of all reporting facilities were able to report their data with less than five percent error. The verification deadline is currently December 1.

The pending, proposed amendments to the MRR cover three GHGs: CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. The other gases that were previously covered are proposed to be covered in various new regulations (e.g., high global warming potential gases and SF<sub>6</sub> regulations). The proposed amendments are applicable to: facilities in California that generate between 10,000-25,000 MTCO<sub>2</sub>e/year (no verification) and 25,000 MTCO<sub>2</sub>e/year or more (verification required); fuel and CO<sub>2</sub> suppliers; and electric power entities. The first reporting year is in 2012 which will include 2011 emissions data that are third-party party verified. The verification deadline will be September 1 starting in 2012 and continuing in future years.

The GHG MRR database involves the collection of total annual combustion emissions for a facility by fuel types and includes specific chemical process emissions. Device-level emissions are limited in most cases. Thus, MRR GHG data are summarized at a higher level than the criteria pollutant California Emission Inventory Development and Reporting System (CEIDARS) inventory, which is available at the device and process level. However, the GHG data are reported annually and available approximately nine months after the end of the inventory year making it the most current data source in any year. Due to differences in the level of detail in data collected from these two sources, it may be difficult to evaluate consistency in emissions trends.

The MRR data could be used to track increases in GHG emissions, or equipment changes at facilities covered under the proposed Regulation, identify fuel type changes, and help point to potential impacts resulting from co-pollutants.

## **2. Compliance Instrument Tracking System**

The Compliance Instrument Tracking System will contain the records of compliance instrument ownership for the Regulation. It will contain information related to accounts, record compliance instrument transfers, facilitate compliance verification, and support market oversight. Reviewing the number of compliance offset credits and allowances held by facilities covered by the proposed Regulation could provide information on potential plans to increase emissions at a facility. It is important to note that holdings in these accounts are confidential data, and therefore, this information will not be publicly available, but can be monitored by ARB staff.

## **3. Local Air District Permits for Covered Entities**

Local air districts permit stationary sources that are sources of air pollutants. These permits are required prior to construction of new facilities or modification at existing

facilities subject to local air district regulations. Additionally, the facility must maintain its permit and continue to abide by the restrictions contained therein to continue to operate.

#### Local Air District Existing Permits

The permitted level of emissions is typically based on the maximum expected throughput or maximum rated capacity of a piece of equipment or process. It is possible that emissions increases could occur at a facility and the facility would still meet the legal requirements of their operating permit. Because of this, permit activity will not show increases that may have occurred within the conditions legally authorized by the existing permit(s). However, information from these permits could still provide valuable insight into whether a facility covered under the proposed Regulation has, or could, increase emissions by understanding emissions trends for existing facilities.

#### Local Air District Permits to Modify Facilities Covered by Cap-and-Trade Program

When construction of a new facility, or modification to an existing facility, is proposed, the facility operator must apply with the local air district for permission to construct most equipment that will emit criteria or toxic pollutants. This permission is known as a permit to construct or authority to construct. Not all proposed facilities that are issued a permit or authority to construct are constructed.

A local air district conducts an engineering evaluation on the equipment and processes in the permit application to determine the potential emissions. The proposed construction is evaluated for emissions of criteria pollutants and local impacts of emissions of toxic air pollutants, if applicable. The project is typically subject to requirements under its permit conditions that reduce emissions (known as controlled emissions), depending on factors such as the attainment status of the local air district or the local impact of toxic air pollutant emissions from the project. Additionally, most projects that require a permit to construct generally are subject to the California Environmental Quality Act (CEQA). Projects that will have a significant effect on the environment must undertake feasible mitigation. It is important to note that the local air district may, or may not, be the lead agency in the CEQA assessment.

As part of this permitting process, local air districts' rules to meet federal and State requirements for new source review (NSR) programs may be applicable, especially to large sources covered under the Regulation. These rules are intended to improve or maintain a region's air quality by assuring that new emissions from new and modified facilities do not slow progress toward cleaner air or worsen air quality in regions that attain air quality standards. The best available control technology (BACT) provisions of NSR provide assurance that emissions from any large new or modified industrial source will be stringently controlled. Additionally, if new construction or modification results in the facility exceeding a district's NSR offset thresholds, then the facility must either reduce emissions elsewhere at the facility or obtain emission reduction credits (ERCs) in amounts greater than the direct emissions increase. These ERCs must be obtained from within the region or from areas close by, thus mitigating the increase in emissions at the facility in terms of regional air quality.



Working with local air districts, ARB will implement a process to track permit applications for modifications to facilities subject to the Regulation, or for construction of new facilities that would be subject to the Regulation.

#### **4. California Energy Commission (CEC) Power Plant Permitting**

The CEC permits thermal power plants that have the capacity to generate fifty megawatts (MW) or greater. Local municipalities permit those with less than a fifty MW generating capacity. Local air districts also permit power plants that are combustion sources. However, CEC and local municipality permits may provide greater advanced notice of proposed facilities. Additionally, the CEC tracks announced projects with generating capacity of 50 MW or greater that have not yet filed for review. Not all facilities that are issued a permit are constructed. ARB currently works with CEC to track permit applications for construction of new power plant facilities or modification of existing power plant facilities.

#### **5. Economic Forecast Data**

A variety of economic forecast data are available from local, State, and federal agencies. Including forecast data in the analysis will be useful for evaluating the proportion of emission changes related to economic factors. Examples of specific forecasts from agencies that could be used include economic and energy forecasts based on the estimates adopted by the CEC published in Integrated Energy Policy Reports. Examples of academic economic forecasts that could be used include the California and Metro forecast published by the Business Forecasting Center at the University of the Pacific and the UCLA Anderson Forecast published by the Anderson School of Management at the University of California, Los Angeles. ARB will use these types of economic forecasts for comparison with emissions trends to determine if emissions are consistent with changes in the economy, or in specific economic sectors. If emissions are substantially different than changes in the economy, then the data could suggest that changes in emissions are related to factors other than economic change.

#### **6. Air Quality Monitoring Data**

In California, ambient air quality is routinely measured for gaseous, toxics, and particulate air pollutants. The extensive network is designed to cover the diverse range of topography, meteorology, emissions, and air quality in California, while adequately representing a large population. In general, the network tends to be denser in areas with more severe air quality problems and in areas with larger populations. The monitoring stations are operated by ARB, local air districts, the National Park Service, and private contractors.

The data collected by the monitoring network are used to track air quality progress, evaluate emissions inventory and air quality models, analyze neighborhood or regional source attribution, and evaluate the success of emission control programs. The

measured data form a backbone for air quality management programs, provide the public with information on current conditions and progress in improving air quality, and are used by health researchers, business interests, environmental groups, air quality planners, and others.

The ambient air quality monitoring network captures data representative of a broad range of sources and regions throughout the State. Monitors are designed to represent pollutant levels on different spatial scales, ranging from near-source localized impacts up to broad regional-scale conditions. Although a few monitors are located so they will represent small areas dominated by specific local sources, most monitors are designed to represent the combined impact of multiple, distributed sources over the scale of a neighborhood or city or more. Thus, detecting the impact of changes at an individual facility can be difficult.

Monitors are also designed to represent different periods of time. A number of pollutants, including gaseous pollutants such as ozone (O<sub>3</sub>), oxides of nitrogen (NO<sub>x</sub>), and carbon monoxide (CO) are reported hourly. Many other pollutants, such as particulate matter (PM), hydrocarbons, and toxics are typically measured as 24-hour averages on a less-than-daily schedule. Hourly values can sometimes be used to represent a significant source by selecting hours when the monitor was downwind of that source. Daily values, however, usually represent a varying mix of wind directions, so the impact of a specific source is harder to detect.

Levels of air pollutants fluctuate from year-to-year for various reasons, including changes in human activity and differences in weather conditions. A longer term record of measurements at a monitor helps establish the expected level of variability. Special studies in which monitors operate for a few years often lack the track record needed to assess this variability and thus may have less utility in tracking the impacts of emission changes.

ARB reviews data collected as part of the routine network and evaluates air quality trends on an ongoing basis. ARB will use this data to assess, within the context of normal air quality variability, whether any unusual trends are being observed. Staff will also work with local air districts to review and evaluate data from localized monitoring networks and special studies.

The following sections describe the various types of air quality monitoring networks that are currently operating in California, data from which will be considered under the adaptive management plan.

Statewide Criteria Pollutant Monitoring Network: The statewide criteria pollutant monitoring network consists of more than 250 monitoring locations with over 700 monitors that measure O<sub>3</sub>, PM, NO<sub>x</sub>, sulfur dioxide (SO<sub>x</sub>), CO, hydrogen sulfide (H<sub>2</sub>S) and lead. Each site in the monitoring network includes a combination of one or more monitors that collect either continuous or non-continuous air quality data. As mentioned above, gaseous monitoring data for O<sub>3</sub>, NO<sub>x</sub>, SO<sub>x</sub>, CO, and H<sub>2</sub>S, are collected hourly.

Lead monitoring data and most particulate monitoring data reflects a 24-hour average which is collected on schedules ranging from daily, up to once every sixth day. A subset of particulate monitoring sites also collect hourly data. Data for pollutants that are directly emitted, such as PM, SO<sub>x</sub>, and CO, tend to represent concentrations over a smaller area, such as a neighborhood. In contrast, data for pollutants that are formed in the atmosphere, such as O<sub>3</sub>, generally represents larger scale regions such as a city or county.

Statewide Toxics Monitoring Network: The statewide toxics monitoring network includes 17 sites that collect 24-hour samples two or three times each month. This network collects data for cancer-causing compounds, such as benzene, 1,3 butadiene, and formaldehyde. Data for toxic metals such as arsenic, cadmium, and chromium are also collected. The toxics monitoring network is focused on major urban areas of the state and the sites are generally co-located with other criteria pollutant monitoring. As such, the toxics network represents the combined emissions of widespread and distributed sources, rather than localized emission impacts from individual sources.

Additional toxics monitoring has been conducted by some local air districts for special purposes, some short-term, and some for ongoing interests. The South Coast Air Quality Management District and the Bay Area Air Quality Management District have been especially active in this respect. These data can assist in evaluating trends in ambient air toxics as a comparison to changes observed at covered facilities.

Localized Monitoring Networks: In addition to ARB's long-term statewide ambient monitoring network, there are several source-oriented monitoring networks that are operated by local air districts. These networks are intended to manage air quality improvement efforts and to discern near source, localized air quality impacts (from refineries, ports, and industries within communities). This data can assist in evaluating trends in ambient air quality as a comparison to changes observed at covered facilities. Some selected examples of the near-source programs are:

**Bay Area Refinery Monitoring Program:** The Bay Area Air Quality Management District (BAAQMD) Regulation 9 requires monitoring of SO<sub>2</sub> and H<sub>2</sub>S near potential major sources of either pollutant. Each of the five oil refineries as well as an associated carbon plant within the BAAQMD jurisdiction is subject to Regulation 9 as a condition of their BAAQMD operating permit. Covered facilities are required to operate a minimum of three Ground Level Monitoring (GLM) sites with instruments capable of recording pollutant concentrations in the ambient air outside of the property line of their facility.

There are twenty GLM monitoring sites surrounding the covered facilities in the Bay Area. Five of the facilities covered are located in northwest Contra Costa County and one is located in southwest Solano County. Of the twenty GLM sites, thirteen have instruments that monitor both SO<sub>2</sub> and H<sub>2</sub>S, five measure H<sub>2</sub>S only, and two measure SO<sub>2</sub> only. This network has been operational for the last ten to

fifteen years, though location and site conditions may have changed over this time period.

**South Coast Ports Monitoring:** This monitoring network, operated by the Ports of Long Beach and Los Angeles, measures air quality at the ports and nearby communities to better manage local air quality improvement efforts. Monitoring was initiated at both ports in 2006. O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>x</sub>, and PM are collected on a real-time basis. The Port of Long Beach operates two monitoring stations: one in the Inner Port area, near West Long Beach, and the second in the Outer Port area, near the breakwater. The Port of Los Angeles operates four monitoring stations, located in the Outer Harbor area at Berth 47, at the Terminal Island Treatment Plant, in the community of San Pedro, and in the community of Wilmington. The six-monitor network was developed under the Green Port Policy.

**South Coast Lead Monitoring:** The South Coast Air Quality Management District has collected lead data for a number of years at five sampling sites located near lead-related facilities that were established as part of the District's Rule 1420 (Emissions Standard for Lead). The purpose of Rule 1420 is to reduce lead emissions from non-vehicular sources. It applies to all facilities that use or process materials containing lead, including primary or secondary lead smelters, foundries, lead-acid battery manufacturers or recyclers, as well as facilities that produce lead-oxide, brass, and bronze. The samplers are located at or beyond the property line of the facility and comply with United State Environmental Protection Agency (U.S. EPA) siting and operating criteria. Lead samples are generally collected on a 1-in-6 day schedule, although samples are collected more frequently at sites with the highest concentrations.

Special Studies: A subset of monitoring is special studies conducted by ARB or local air districts. The information obtained from these types of studies may be helpful in establishing "initial conditions. If additional follow-up studies are undertaken (i.e., MATES III was a follow-up to MATES II), then the data collected may provide a useful input in establishing changes in conditions (depending upon the design and location of follow up studies). The following describes two of these special studies conducted by local air districts. In addition, ARB special studies, including those using mobile monitors, may provide additional sources of data.

**Multiple Air Toxics Exposure Study III (MATES III):** The Multiple Air Toxics Exposure Study III (MATES III) was a monitoring and evaluation study conducted in the South Coast Air Basin (Basin). The study is a follow on to previous air toxics studies in the Basin and is part of the South Coast Air Quality Management District Governing Board's Environmental Justice Initiative. The study consists of several elements, including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. It focuses on the carcinogenic risk from exposure to air toxics.



A network of ten fixed sites was used to monitor toxic air contaminants once every three days for two years. The location of the sites was the same as in the previous MATES II Study to provide comparisons over time. The one exception was the addition of the West Long Beach site. In addition to the fixed sites, five additional locations were monitored for periods of several months using moveable monitoring platforms. These micro-scale sites were chosen to determine if there were gradients between communities that would not be picked up by the fixed locations. Over 30 gaseous and particulate air toxics were measured.

**Community Air Risk Evaluation (CARE) Program:** The CARE program was initiated in 2004 by the Bay Area Air Quality Management District to evaluate and reduce health risks associated with exposures to outdoor toxic air contaminants in the Bay Area. The program is being carried out in three phases.

The goal of Phase I was to develop an emissions inventory for year 2000 and compile demographics and health statistics in order to identify high sites and locations of sensitive populations. In Phase 1, an annual emissions inventory was developed for diesel PM, benzene, formaldehyde and other toxic air contaminants (TACs) for localized areas. Additional studies conducted to verify TAC emissions estimates and improve the Bay Area toxic inventory include a telephone survey of residential wood burning, a carbon-14 analysis to determine new versus old carbon fractions in the ambient air, a chemical mass balance (CMB) study to estimate the source contributions to various ambient PM compounds, and a CMB analysis of organic PM compounds.

The goal of Phase II was to improve the TAC inventory and begin preliminary regional (Bay Area) and local (priority communities) scale modeling to estimate significant sources of diesel PM and TACs. Using regional modeling, the CARE program identified areas within the Bay Area, where high TAC exposures of sensitive populations—youth and seniors—intersect areas with high TAC emissions and areas with high poverty levels. This analysis identified six impacted communities where special studies, grant funding, emission reduction efforts, and enforcement actions have been focused. TAC emissions reduction measures are in place throughout the Bay Area but, through the Bay Area Air Quality Management District's *Mitigation Action Plan*, special attention has been given to promoting and tracking progress in the impacted areas.

The goal of Phase III is to conduct an extensive exposure assessment to identify and rank the communities as to their potential TAC exposures, and determine the types of activities that place them at highest risk. The District will also pursue additional mitigation measures and provide a metric to assess their effectiveness in reducing overall exposure.

## **7. Continuous Emissions Monitors (CEMs)**

Many large industrial facilities have continuous emissions monitors (CEMs) installed on equipment that are sources of air pollutants. As the name implies, CEMs units continuously monitor the concentrations of pollutants in the exhaust stream of the emission source. Typically, these monitors are required by the local air district's permit to operate, or rule provisions, to ensure that the equipment does not violate the permit conditions.

Local air districts receive data from CEMs units that are in place to satisfy permit or rule requirements. ARB will work with the local air districts to determine whether CEMs data would be useful for identifying overall facility emissions and, if so, ARB will include it in the adaptive management process.

## **8. Criteria Pollutant and Toxic Contaminant Emissions Inventory Databases**

In addition to the GHG inventories discussed above, ARB and local air districts develop inventories of criteria pollutant and toxic contaminants. These emission inventories are used in a multitude of air quality programs to understand the relative contribution of sources, to develop control strategies for State Implementation Plans, track regional progress towards air quality goals, conduct risk assessments, and support regulatory development. Inventories are calculated estimates of emissions that are released from sources into the air where they disperse. When used in combination with other sources of data, such as economic activity and trends, ambient air quality, facility permit data and more specialized air quality data or studies, inventories can be helpful in understanding potential changes and impacts on the air quality of regions and sub-regions.

As part of the State's comprehensive inventory development process, local air districts collect emission information directly from the facilities and businesses that are required to obtain an air pollution operating permit. That data includes information about the nature of the facility's processes, the location of the facility, the type of pollutants emitted and the mass of the pollutants emitted. Facilities work with their respective local air districts to determine the best methodology to estimate their emissions, and the methodologies for estimating criteria pollutant emissions may vary across districts. Local air districts report the criteria pollutant data to ARB annually. Emission inventories of toxic pollutants are developed in a similar way and are collected through the Air Toxics "Hot Spots" Program. Local air districts collect toxic inventory data and report it to ARB every four years as defined by California statute.

It is important to note that inventories in general represent calculated estimates of emissions, except where facilities are required to use CEMs to measure emissions from stacks. For the most part, facilities (and broader source categories) rely on average emission factors and estimates of activity to determine the total estimated emissions. For these reasons, inventories are most useful for understanding relative contributions

and long term trends, inventories are not generally designed to detect day-by-day or even month-by-month changes.

In addition, many external factors can influence the variability in emissions, and it is essential to take these factors into account when looking at emission trends. For example, a facility's emissions can vary because of changes in facility-specific product demand, fuel cost or availability, cost or availability of electric power, economic conditions; labor availability; production material availability; routine maintenance; or unusual events such as power outages or breakdowns. In recent years, the economic downturn has had a dramatic impact on activity resulting in lower emissions. As the economy recovers, a commensurate increase in emissions should be expected. Another factor that has to be considered when comparing inventories is the improvement in methods used for estimating emissions. Over time, our understanding of emission rates and activity from sources has improved substantially. With new methods, the resulting emission estimate may be different. Therefore, a change in emissions at a facility from year-to-year may be the result of a better characterization of emissions rather than a real world increase or decrease. The following sections describe some of the available emission inventory data and databases maintained by ARB. Local air districts also maintain data on their facilities; two of these are also described.

#### **a. California Emission Inventory Development and Reporting System (CEIDARS)**

The federal Clean Air Act requires states to compile emission inventories of criteria pollutants. California's statewide emissions inventory is maintained by ARB, and is populated with data submitted by the local air districts, as well as that collected by ARB. The criteria pollutant emission inventory includes information on the emissions of reactive organic gases (ROG), NO<sub>x</sub>, SO<sub>x</sub>, CO, and PM. Data are gathered on an ongoing basis and stored in CEIDARS. A summary of the criteria pollutant inventory is published in ARB's Air Quality and Emissions Almanac. More information on CEIDARS and the Almanac can be found at:

<http://www.arb.ca.gov/ei/general.htm>

<http://www.arb.ca.gov/aqd/almanac/almanac.htm>

CEIDARS contains California's comprehensive inventory and includes information on approximately 13,000 individual facilities such as electric power plants and refineries. There are also about 135 aggregated point source categories. Aggregated point sources are not inventoried as individual facilities but are estimated as a group and reported as a single source category (e.g., gas stations and dry cleaners). In addition to individual facilities, CEIDARS includes approximately 80 source categories made up of sources of pollution, such as architectural coatings and consumer products, spread across a region and mobile sources - all on-road vehicles such as automobiles and trucks; plus off-road vehicles such as trains, ships, aircraft; and farm equipment.

Emission estimates within CEIDARS are based on a snap-shot of a variety of dynamic and variable processes. The data in CEIDARS represent annual average estimates for a specific calendar year. Annual average emissions are stored for each county, air basin, and district. There is also a Facility Search Tool that provides direct access to the year-by-year emissions reported for individual facilities, both criteria and toxics:

<http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>

CEIDARS data can be used to look at trends in emissions as a comparison to observed changes at covered sources.

#### **b. California Toxic Inventory (CTI)**

ARB collects toxic emissions from thousands of facilities in California. The CTI provides annual average estimates of toxic emissions and is updated every four years. CTI data is stored in CEIDARS (described above).

Toxic pollutant emissions from stationary sources include point source data provided by local air districts pursuant to the Air Toxics "Hot Spots" Program (AB 2588). The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

For sources without AB 2588 data, the CTI is developed by dis-aggregating (also known as "speciating") CEIDARS-based estimates of total organic gas (TOG) and PM for area, mobile, and natural sources using the most recent speciation profiles. Speciation profiles provide species-specific mass ratios (i.e., chemical-species-to-total TOG or PM) and are based on source tests from representative emission sources. The "speciated" emissions for each source category are then reconciled with reported stationary point source toxics data to establish a complete inventory. More information on the CTI can be found at:

<http://www.arb.ca.gov/toxics/cti/cti.htm>

CTI data can be used to evaluate trends in emissions of air toxics as a comparison to observed changes at covered sources.

#### **c. Data for Non-vehicular Source, Consumer Products and Architectural Coatings Fees**

The Health and Safety Code authorizes ARB to impose additional fees on non-vehicular sources (facilities) that emit 250 tons or more per year of any nonattainment pollutant or its precursors. While the data used for the fee program

initially comes from ARB CEIDARS database, ARB provides the facilities and the local air districts an opportunity to update and correct emission estimates. These updates are more current than the annual criteria pollutant submittals. The fee program includes approximately 60 facilities. These fees are used by ARB to mitigate or reduce air pollution created by non-vehicular sources in the State.

[http://www.arb.ca.gov/ei/nscpac\\_fees/nscpac\\_fees.htm](http://www.arb.ca.gov/ei/nscpac_fees/nscpac_fees.htm)

This data provides another source of emission data that can be compared to observed changes at covered emission sources.

#### **d. South Coast AQMD Annual Emission Reporting (AER) Program**

The South Coast Air Quality Management District's Annual Emission Reporting (AER) program was developed to track emissions of air contaminants from permitted facilities. The data collected by AER is used to update the comprehensive emissions inventory for the District, which includes Orange County, the non-desert portions of Los Angeles and San Bernardino counties, and the Riverside county areas west of the Palo Verde Valley. Fees for emissions of air contaminants are assessed based on the reported data. These fees help to cover the costs of evaluating, planning, inspecting, and monitoring air quality efforts. Under this program, those who emit more, pay more toward air pollution control efforts – and at the same time are given an incentive to reduce emissions. On January 1, 2008, the South Coast Air Quality Management District moved AER from a fiscal year basis (July 1 through June 30 of the following year) to a calendar year basis (January 1 through December 31 of each year). The compiled inventory is published in each update of the Air Quality Management Plan. More on the AER can be found at:

<http://www.aqmd.gov/aer/aer.html>

#### **e. South Coast AQMD RECLAIM Program**

The REgional CLean Air Incentives Market (RECLAIM) program is a cap-and-trade program operated by the South Coast Air Quality Management District. It encompasses most of the Basin's largest NO<sub>x</sub> and SO<sub>x</sub> stationary sources. It was developed to make significant progress in cleaning up the worst air in the nation. It is a multi-industry program with each facility having annual allocations and declining balances. Developed in the early 1990s, RECLAIM was seen as an innovation compared to previous command-and-control programs. Benefits included lower costs and greater flexibility for industry participants, and secured emission reductions with better emissions monitoring for environmental and community interests. More information on RECLAIM can be found at:

<http://www.aqmd.gov/reclaim/index.htm>



Nearly 80 percent of emissions under RECLAIM are from major sources, which are monitored by CEMs. Therefore, the accuracy of these emission data is of utmost importance in determining if RECLAIM is achieving its emission goals. In order to assure the highest accuracy, several checks are imposed on CEMs – initial certification and re-certification when modified, daily calibration checks, routine quality assurance and quality checks (QA/QC), and a semi-annual relative accuracy test audit (RATA).

## **B. Forest Data**

ARB identified data sources for the evaluation of potential forest impacts caused by the U.S. Forest Protocol. Some of the data sources described below are readily available and some are expected to be available at a later date. ARB expects that it will be able to review and analyze some of the data sets without expert assistance. Other data sets require ARB to work with other State agencies and academia, as well as out-of-state resource agencies to interpret the data, and to conduct further analysis using the data.

In 2012, ARB plans to hire a contractor to develop a process to track data to detect environmental changes resulting from the U.S. Forest Protocol. ARB will also coordinate with and utilize the forestry expertise of the resource agencies during the implementation of this adaptive management plan. By working with these forestry experts and stakeholders, ARB can best ensure that the robustness of the adaptive management approach for the U.S. Forest Protocol is equal to that of the adaptive management approach for local air quality. Details as to how the data will be used will be developed through the work of the ARB contractor and the expertise of the resource agencies. That process is further described in the Review and Analysis section of this plan.

### **1. U.S. Forest Protocol Project Data**

The proposed Regulation requires reporting of information on the performance of the forest offset projects prior to the issuance of compliance offset credits. Data reported under the U.S. Forest Protocol includes summarized forest project monitoring data, an annual update of the project's forest carbon inventory that calculates the amount of GHG reductions and carbon sequestration. This information will be in the offset project data annual report.

ARB will collect U.S. Forest Protocol data for each individual forest project. This information will be submitted annually by the project developer to ARB through the annual report. Forest project developers will assemble the annual report, and then submit it for verification to ARB or an accredited registry, and it must be verified by an ARB-accredited third party offset project verifier. ARB will not obtain this forest project level data until the first annual report is submitted during the first reporting cycle in 2013.

Based on the project type, the annual report will contain the following forest project information where applicable:

- Forest project name, location, type of project and project operator.
- Reporting period.
- Ownership, including any changes in ownership.
- Statement of compliance with all applicable laws and regulations.
- Estimated carbon stocks in all required carbon pools.
- Explanation of any decrease over a 10-year consecutive period in the standing live carbon pool.
- Description of how the project meets the definition of natural forest management.
- Projections of baseline and actual harvesting volumes from the forest project area over a 100 year period.
- Estimate of harvest volumes and associated carbon in harvested wood products.
- Estimate of mill efficiency.
- Baseline carbon estimates for all carbon pools.
- Uncertainty discount for avoided conversion projects.
- Forest carbon inventory (updated annually) following all required protocol calculation methodologies and models.
- Calculation of carbon sequestration and GHG reductions.
- Calculation of GHG removal enhancements.
- Description and explanation of the unintentional “reversal.”<sup>2</sup>
- Reversal risk rating.
- Calculation of Forest Buffer Account contribution.

This information will be useful to get a better understanding of each forest project. Each forest project is unique and may not have the same ecosystem characteristics to make comparisons amongst forest projects. Using the annual report data, ARB will work with the ARB contractor to implement a specific process to review the data sources and track data to assess potential forest impacts.

## **2. Forest Buffer Account Information**

Due to the possibility that forest projects could unintentionally “reverse” their carbon storage because of wildfire, pest infestation, or disease, negating the benefits of those projects, ARB will create and maintain a Forest Buffer Account holding a percentage of ARB-issued compliance offset credits from forest offset projects. ARB will annually monitor the number of compliance offset credits in the Forest Buffer Account as it relates to the number of reported reversals.

The Forest Buffer Account is a mechanism to replace offset credits in the event of an unintentional reversal, thereby insuring that GHG reductions reflected in offset credits

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<sup>2</sup> “Reversal” refers to an event that abruptly releases stored carbon, such as a high intensity wildfire.

are permanent. A portion of the offset credits issued to forest projects must be placed into the Forest Buffer Account to cover unintentional reversals.

### **3. Greenhouse Gas Mandatory Reporting Regulation (MRR)**

In addition to the reporting of GHG emissions from fossil fuel combustion, the MRR also requires reporting of CO<sub>2</sub> emissions from biomass derived fuels, including forest biomass. As part of the recent proposed modifications to the MRR, ARB addressed stakeholder concerns related to potential increased use of forest-derived wood and wood waste. In the MRR, end users of solid biomass fuels would report the mass of fuel consumed by fuel type, and end users of forest biomass would also report location of forest biomass used.

### **4. ARB's Updated GHG Statewide Inventory for Forests**

ARB is responsible for developing and maintaining California's statewide GHG emission inventory, which includes a sector on GHG emissions and atmospheric sequestration of CO<sub>2</sub> from forests and rangelands. ARB is working with U.C. Berkeley to develop a next-generation GHG inventory system for forests, rangeland, and other wildlands statewide. The contractor will develop procedures to use in combination with ground-based biometric data from the U.S. Department of Agriculture - Forest Service Forest Inventory and Analysis plots, satellite remote sensing data, and other data on disturbance processes (fire, harvest, land use conversion, etc.). This data will be used to develop estimates of CO<sub>2</sub> uptake and GHG emissions across the landscape statewide (at appropriate spatial and temporal scales).

### **5. California Forest Practices Act as Administered by CalFire**

The California Forest Practices Act provides a CEQA functional equivalent process for reviewing and permitting timber harvests. This process evaluates project-level and cumulative impacts (usually at a planning watershed scale) to ensure that all impacts are mitigated to a level less than significant. Impacts to State and federally listed and non-listed species and their habitats, and water resources (e.g., watercourses, lakes, marshes, meadows and wet areas; water supply; watersheds; riparian areas) are considered, as well as soils, archaeological resources, and hazards from wildfire, insects and disease. The California Department of Forestry and Fire Protection (CalFire) inspects projects to evaluate compliance with prescribed mitigations and timber restocking, and corrective action is taken if necessary to ensure satisfactory project completion. Large landowners must develop long-term landscape-level management plans and provide regular reporting to CalFire on compliance with projected levels of timber harvesting. Some landowners also conduct ongoing surveys or monitoring of habitat or water quality at the request of other state agencies.

## **6. Timber Yield Tax and Harvest Values Schedules**

The California State Board of Equalization has a Timber Yield Tax program that sets harvest values of timber and collects an in lieu tax when it is harvested. This data is aggregated by county and provides forest land ownership and timber harvest volumes.

## **7. Fire and Resource Assessment Program (FRAP)**

CalFire implements the FRAP program that conducts periodic assessments of California's forests and rangelands. The forest and range assessment report includes a detailed assessment of ecosystem characteristics within California's forests.

For the 2010 assessment, FRAP's analytical framework is based on defining assets and threats specific to each subtheme. Geographic information systems (GIS) technology is used to combine or "overlay" assets and threats, to determine areas of both high value and high threat. These priority landscapes rank areas for where action is needed in terms of applying various tools that can result in the desired future landscape condition. The 2010 Assessment will also take into consideration various existing planning efforts, ranging from statewide plans (i.e., California's Wildlife Action Plan) to Community Wildfire Protection Plans. The final Assessment product will combine qualitative, quantitative, and geospatial data.

## **8. Geographic Information System (GIS) and Geodatabases**

Several GIS databases are available that report activities and processes occurring on federal, State, and private forest lands in California. These include activities such as timber operations (i.e., road building, thinning, harvest, replanting) and non-timber related activities (i.e., prescribed burning, salvage logging in areas hit by wildfire, replanting, and treatment for disease/pest infestations). Fires of all categories are also carefully mapped using GIS.

### **CalFire - Forest Practice GIS**

CalFire's Forest Practice GIS captures current and historic timber harvesting activities for over 4 million acres of California timberland. These data layers include silviculture, yarding, new road construction, watercourse classifications, and timberland conversions, which are tracked through GIS. Once in GIS, this information can be graphically represented on maps and is available for the analyses of local and regional cumulative impact assessments, and to meet the requirements of California's Forest Practice Rules.

Available geodatabases and GIS data layers include: Timber Harvesting Plans from 2000 to 2010; non-industrial timber management plans from 1991 to 2010; and notice of timber operations from 1991 to 2009.

### U.S. Forest Service, Region 5 - GIS Clearinghouse

The U.S. Forest Service clearinghouse developed a geodatabase that maps activities (i.e. harvest, thinning, vegetation fuels management, reforestation) accomplished on national forest lands in California for the approximate period of October 2003 to December 2010.

### **9. Special Monitoring Projects (CalFire, Department of Fish and Game, Regional Water Quality Control Boards)**

CalFire conducts a statewide monitoring program that analyzes the effectiveness of timber harvest rules and best management practices to protect water quality and also participates in cooperative instream monitoring programs in various parts of the State. Other studies are conducted by responsible State and federal agencies, including the Department of Fish and Game, Department of Conservation's California Geological Survey (previously known as the Division of Mines and Geology), and the Regional Water Quality Control Boards, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

## **V. Review and Analysis**

ARB will take a stepwise approach to evaluating the data gathered as part of the adaptive management plan. In doing this, ARB will first evaluate data that will provide a forward look at potential emissions increases or forest impacts and is readily available to identify potential impacts at the earliest opportunity. The indicators that ARB investigates will be prioritized, or "tiered" based on the order in which they will be used to assess if unanticipated adverse impacts have occurred as a result of the Regulation or U.S. Forest Protocol. First tier indicators would indicate a potential environmental change. Second tier indicators would indicate if an environmental change was caused by the Regulation or U.S. Forest Protocol. Third tier indicators would indicate if an environmental change caused by the Regulation or U.S. Forest Protocol caused an adverse impact.

If the weight of evidence indicates that the answer to any of the following questions is "yes", then the evaluation moves to the next tier, ultimately culminating in the appropriate response to the adverse impact if all questions are answered in the affirmative. Staff will prioritize the order of investigations to answer the following questions:

1. Has an environmental change taken place?  
If yes, then;
2. Is the environmental change caused by the Regulation or U.S. Forest Protocol?  
If yes, then;
3. Has a change that is determined to be caused by the Regulation or U.S. Forest Protocol caused an adverse impact?  
If yes, then;
4. Identify the options for responding and take appropriate action.



Different indicators will be used to assess the answer to these questions. The weight of evidence available from this approach will guide ARB's conclusions on whether or not the cap-and-trade regulation was the cause of a potential adverse impact.

## **A. Local Air Quality Impacts**

### **Tier 1 Indicators:**

Tier 1 indicators will be used to assess if a change in operation or project development has taken place that could be caused by the Regulation (determined in the Tier 2 analysis) and could result in adverse localized air quality impacts (determined in the Tier 3 analysis). If there is a positive result in screening Tier 1 indicators, ARB will initiate the next step to investigate whether the change was caused by the Regulation. Tier 1 indicators do not rely on monitoring of criteria pollutants or toxic air pollutants but do show changes in operation or project development that could result in increases in criteria pollutants or air toxics that ARB will analyze further in Tier 2 and Tier 3 (discussed below).

### **Indicators**

- Covered facility annual GHG emissions.
- Fuel volume, or new fuel used.
- New local air district or CEC application for permit to construct or modify submitted by a facility covered by the Regulation.
- Holdings of compliance instruments.

### **Example Analyses**

The types of analyses that draw on Tier 1 indicators may include:

- Identify covered facilities reporting an increase in annual GHG emissions through MRR.
- Identify covered facilities reporting increased fuel volume used or a new fuel used as reported through the MRR (e.g., biomass or tires).
  - Identify covered facilities reporting new equipment through the MRR; investigate use of equipment and if emissions increased due to new equipment.
- Identify covered facilities that have applied for new permits for construction or modification; investigate if the project is likely to increase localized emissions and the primary driver for the new facility or modifications (cap-and-trade regulation, efficiency, etc.).
- Identify covered facilities that are holding compliance offset credits above the amount they are expected to need for compliance.
- Identify facilities or geographic regions that show GHG emissions increases greater than expected from average economic growth.
- Identify regions in the State where facilities are located and areas where multiple facility emissions could contribute to localized air quality impacts.

No single Tier 1 indicator alone would necessarily reflect that an impact caused by the Regulation has occurred. They would only reflect that there has been, or potentially could be, an environmental change. Additional investigation would be necessary if significant change is observed in one indicator or if a variety of Tier 1 indicators reflect environmental changes.

### **Tier 2 Indicators:**

If the analysis of Tier 1 indicators indicates that there has been an environmental change, then ARB will investigate the Tier 2 indicators to assess if the environmental change was caused by the Regulation. A positive result in screening will cause initiation of the next step.

It is likely that determining the cause of a change will require the use of multiple Tier 2 indicators. Additionally, it is highly probable that most changes will have multiple causes (e.g., growing economies, changes in world-wide manufacturing trends, etc.). Potential causes identified at this time are:

- Economic growth related to recovery from the recent recession.
- Global manufacturing trends and availability of new technology.
- Changes in a company's business model.
- Dry rainfall year leading to decrease in hydroelectric power production.
- Impacts of other regulatory programs (i.e., Renewable Portfolio Standard, reduction of once-through-cooling practices for electricity generation, federal or local regulations, etc.).
- Changes in emission factors or other methodologies used to report or calculate emissions.
- Cap-and-trade regulation.

### **Indicators**

- Forecasted economic growth.
- Facility-specific product demand.
- Consumer demand.
- Meteorological conditions (e.g., rainfall or ambient temperature).

### **Example Analyses**

The types of analyses that draw on Tier 2 indicator data may include:

- Assess if changes in emissions are comparable to changes in the economy or consumer demand.
- Assess if manufacturing trends or changes in common business models have occurred that may result in activities that increase emissions.
- Assess if hydroelectric power production has decreased and if fossil fuel energy production increased as a result.

- Assess if there have been any regulatory or policy changes that impacted emissions.
- Monitor industry-specific trade data to assist in determining whether/where potential changes may occur.
- Assess methodology changes in how emissions are reported or calculated.

### **Tier 3 Indicators:**

If an environmental change is attributed to the Regulation, ARB will review Tier 3 indicators to assess if the change has had an adverse impact. An increase in NO<sub>x</sub> at a facility with a 100 foot tall exhaust stack may have no discernable impact on the local community if the design allows emissions to disperse. However, increased toxic air pollutant emissions monitored at a facility's fence line may indicate an adverse impact. As with Tier 2 indicators, it is likely that investigation of multiple indicators will be required to assess if an adverse impact to localized air quality has occurred.

### **Indicators**

- Criteria and toxic pollutant emissions.
- Changes in ambient air quality monitoring data:
  - Criteria pollutants;
  - Toxic air pollutants; and
  - Localized monitoring networks.
- Emissions measured in facility CEMs data.
- Emissions determined in California Clean Air Act Fee Program data.

### **Example Analyses**

The types of analyses that draw on Tier 3 indicators data may include:

- Identify covered facilities reporting an increase in facility annual emissions (criteria pollutants or toxic air pollutants) through review of local air district emission surveys, special purpose monitoring, or CEMs data; investigate reason for emissions increase.
- Identify criteria pollutant or toxic air pollutant monitoring network data indicating increased ambient concentrations; investigate reason that monitored ambient concentrations increased.
- Compare activity reported through the criteria pollutant inventory or specialized inventories supporting programs such as RECLAIM.

## **B. Forest Impacts**

The environmental impacts analysis in the FED concluded that increased forest project related impacts attributable to the Regulation, or the U.S. Forest Protocol are unlikely based on available data and current laws that regulate forest activities. However, ARB could not determine that increases would not ever occur. ARB, therefore, committed to use an adaptive management approach as an integral part of the cap-and-trade

program to evaluate data for potential unanticipated impacts that could be caused by the Regulation, or the U.S. Forest Protocol.

ARB will use the same approach to evaluate forest impacts as is being used for local air quality impacts. Under this proposed adaptive management plan, in 2012, ARB will hire a contractor to develop and implement a specific process to track data to detect environmental changes resulting from the U.S. Forest Protocol. ARB will also coordinate with and utilize the forestry expertise of the resource agencies during the implementation of this adaptive management plan. By working with these forestry experts, ARB can best ensure that the robustness of the adaptive management approach for the U.S. Forest Protocol is equal to that of the adaptive management approach for local air quality. Details as to how the data will be used will be developed through the work of the ARB contractor and the expertise of the resource agencies.

The ARB contractor will develop Tier 1, Tier 2, and Tier 3 indicators and analyses. The ARB contractor will conduct the review and analysis under ARB's direction and the results will be incorporated into the annual adaptive management reports. Additionally, the ARB contractor will be called upon to review the usefulness of the data sources, including screening forest offset project annual report data. ARB will work with the ARB contractor to assess if any relevant data sets are missing from the list set forth in the previous section, as well as investigate the effectiveness of the existing data sources. Additionally, the ARB contractor will educate staff in general forest practices, indicators of potential forest impacts, and forest assessments and analyses.

## **C. Causation**

In conducting the analysis, it will be necessary to consider normal variations, existing trends, and other factors that may be responsible for changes in the data. For example, air quality data can vary significantly from year-to-year because of meteorology. Additionally, changes in economic activity can produce large impacts on air quality and emissions trends, and factors such as rainfall can have significant impacts on emissions as a result of California's utilization of hydroelectric power as a source of energy.

ARB recognizes that the results of the data review are unlikely to point absolutely to the cap-and-trade regulation or U.S. Forest Protocol as the cause of a potential adverse impact, and that a judgment will need to be made based on the weight of evidence available. It is likely that it will be necessary for ARB to use several sources of data in combination to conclude that an adverse impact is attributable to the Regulation or U.S. Forest Protocol.

### **1. Localized Air Quality**

If initial screening and analysis of the data point to a potential impact, then ARB will take steps to assess why the change occurred. An example scenario that would indicate a change to be further investigated is as follows: a new application is received by a local air district for a permit to construct or modify a cogeneration unit at a facility. For this

case, ARB would work with the local air district to obtain the details of the project and the environmental analysis. If the project is likely to increase emissions, then ARB would consult with the local air district on the impact of the new unit on overall facility emissions. If the weight of the evidence were to indicate that the cogeneration facility is 1) being proposed as a result, directly or indirectly, of the cap-and-trade regulation; and 2) would increase localized emissions and result in an adverse impact to public health, then the adaptive management plan would require ARB to move to the next step – devising and implementing a response.

## **2. Forest Impacts**

As with potential local air quality impacts, if initial screening and analysis of the data point to a potential impact then ARB will take steps to assess the cause of the change. ARB will work with forestry experts to refine the details of the screening and analysis process to ensure that the robustness of the adaptive management approach for the U.S. Forest Protocol is equal to that of the adaptive management approach for local air quality. The areas to refine are: (1) data and data source identification (information gathering) and (2) analysis to determine whether an adverse impact is caused by the U.S. Forest Protocol (review and analysis).

## **VI. Response**

If the process described above confirms that there has been an adverse impact to local air quality or a forest impact caused by the cap-and-trade regulation or U.S. Forest Protocol, under the adaptive management plan, ARB is committed to developing and implementing appropriate responses through a public process, including consideration and approval by the Board as necessary. ARB would work to ensure that the level of response is commensurate with the level of the impact.

ARB would consider a range of options to address localized adverse air quality impacts. These could include the adoption of additional regulatory requirements, using funds obtained from the sale of allowances to support local mitigation projects, coordination with other agencies to provide additional incentives for energy efficiency or other emission reduction activities within the community, or modifications to the Regulation.

For unanticipated impacts from the U.S. Forest Protocol, ARB could consider revising the types and/or geographic location of forest offset projects, or disallowing the use of certain types of U.S. Forest Protocol compliance offset credits. Other types of responses are also possible and would be considered and implemented as necessary.

The examples are illustrative and not intended to be an exhaustive list of appropriate responses. What responses may be appropriate depends on what impacts are identified, the specific causes of those impacts, and the responses available at some future point in time (which may be different than the responses available today). These considerations support the use of adaptive management, which will allow ARB to devise the most appropriate response should unintended consequences occur. While it is not



feasible in this plan to identify all possible future responses, it is clear that ARB has many tools available to it should unanticipated consequences occur. This plan requires that where adverse impacts related to localized air quality or to forestry occur, ARB must take appropriate action. In most cases, this will require staff to identify potential responses and promptly take a recommended response to the Board for approval.

## **VII. Public Process for this Adaptive Management Plan**

As mentioned earlier, the Board will consider this plan at the October 20-21, 2011, Board meeting. Upon Board approval, ARB will work with stakeholders, local air districts, and resource agencies to finalize specific details of data gathering.

An important part of the public process is reporting. The first adaptive management report is planned for December 2012, and will focus on the first phase of implementation. Annually thereafter, staff will provide reports to the public and the Board on the implementation of the adaptive management plan. The annual adaptive management plan reports will, among other things, outline the data collected and the trends observed, and discuss any recommended responses.

The plan would be implemented based on the following schedule:

October 10, 2011	ARB releases Draft Adaptive Management Plan for comment.
October 20-21, 2011	Board considers Adaptive Management Plan for approval.
November 2011	Staff works with local air districts, resource agencies, and stakeholders to finalize specific details concerning data gathering under the Adaptive Management Plan.
Early 2012	ARB contracts for third-party forestry expertise.
Mid-2012	Staff updates Board on Adaptive Management Plan implementation.
December 2012	Staff releases Adaptive Management Implementation Report (prior to first compliance period).
December 2013	Staff updates Board on Adaptive Management implementation.
December 2014	Staff releases Adaptive Management Report for calendar year 2013.

December 2015

Staff releases Adaptive Management Report for calendar year 2014 and end of first compliance period.

Ongoing

Staff releases Adaptive Management Report annually.

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# Exhibit 5



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 25 2013

OFFICE OF  
CIVIL RIGHTS

**Return Receipt Requested**

Certified Mail# 7004-1160-0002-3622-6352

**In Reply Refer to:**

EPA File No.: 09R-12-R9

Brent Newell  
Attorney  
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Sofia Parino  
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**Re: Request to Reconsider Decision to Reject Administrative Complaint**

Dear Attys. Parino and Newell:

This is in response to your August 6, 2012, letter to the U.S. Environmental Protection Agency (EPA), Office of Civil Rights (OCR) requesting that OCR reconsider its decision to reject your Title VI Complaint (EPA File No. 09R-12-R9). Your original Complaint was filed with EPA on June 8, 2012, and alleged that the California Air Resources Board (CARB) violated Title VI of the Civil Rights Act of 1964, as amended (Title VI),<sup>1</sup> and EPA's nondiscrimination regulations at 40 C.F.R Part 7 in approving the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation, including Compliance Offset Protocols (Cap and Trade program).

EPA may reconsider decisions about Administrative Complaints when new and significant information is provided that demonstrates OCR made a major substantive error in its resolution of a Complaint.<sup>2</sup> After carefully reviewing the petition for reconsideration and the additional information submitted with the letter as attached exhibits, OCR has determined that the request and additional information do not meet these criteria, and therefore are insufficient to alter the July 12, 2012, decision to reject your Complaint. OCR's July 12, 2012, decision determined that your Complaint was premature and unripe for review. Although you state in

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<sup>1</sup> 42 U.S.C. §§ 2000d *et seq.*

<sup>2</sup> Note: There is no specific EPA regulation or guidance establishing a process for OCR to review petitions for reconsideration. These criteria are derived from the Department of Justice *Title VI Investigation Procedures Manual*, p. 165.



your August 6, 2012, letter that the impact of CARB promulgating the Cap and Trade program will be discriminatory, and state in the request for reconsideration that the rejection of the petition will cause the complainants undue hardship, your request for reconsideration does not provide any evidence demonstrating this. Like the Complaint, your request lacks specific information that CARB either discriminated against “communities of color” in promulgating the Cap and Trade program, or that their actions in taking the preparatory steps to initiate the Cap and Trade program have resulted in harm to the complainants, either at the time the complaint was filed or now. Moreover, your request did not include any facts about the actual, real-world implementation of the program that would help to assess whether adverse, disparate impacts will occur.

In your request, you ask that EPA accept your Complaint, but hold its investigation in abeyance, as was done in the *Greenaction* Complaint (EPA File No. 11R-09-R9). However, the specific allegation held in abeyance in *Greenaction* concerned the Clean Air Act Prevention of Significant Deterioration pre-construction permit application for the Avenal power plant, which was pending approval from EPA. This element is distinguishable from the situation in your Complaint. The ripeness issue arising in your Complaint about the Cap and Trade program is not caused by a pending EPA decision.

Alternatively, you alleged that this case should be treated in the same manner as the *Communities for a Better Environment (CBE)* Complaint (EPA File No. 10R-97-R9). Yet, the *CBE* Complaint is also distinguishable from the present situation. The *CBE* Complaint highlighted a number of very specific trades that were authorized under the South Coast Air Quality Management District trading program. OCR accepted the *CBE* Complaint because the data regarding impacts of those trades was available at the time *CBE* submitted their complaint in July 1997, whereas that is not the case here. That Complaint was later withdrawn at the request of the complainant.

In this case, as stated in our July 12, 2012, decision, enforceable compliance obligations for greenhouse gas emissions from affected sources have begun on January 1, 2013. CARB has also indicated through the Adaptive Management Plan (AMP) that they will monitor, identify, and address potential adverse impacts of the Cap and Trade program as implementation continues, regardless of where they may occur. This does not indicate that they are in violation of or in compliance with Title VI, only that CARB is aware that there may be potential adverse impacts and that they are prepared to address them if they occur.

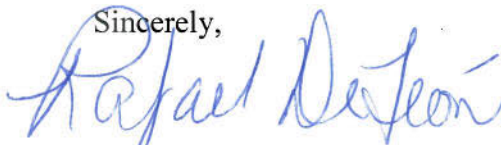
With respect to your concerns of whether a future complaint would be timely, OCR encourages continued communication on this matter when CRPE acquires notice of any specific information potentially addressing OCR’s identified reasons for viewing the June 8, 2012, Complaint’s allegations as speculative and uncertain. If CRPE makes a good faith effort to file a complaint in a timely manner, but fails to do so because they couldn’t reasonably have been expected to know the discriminatory act has occurred, then OCR has the discretion to waive the requirement of 180-day timeliness for good cause shown.<sup>3</sup>

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<sup>3</sup> 40 C.F.R. § 7.120(b)(2).

If you have any questions about this matter, please contact Helena Wooden-Aguilar, Assistant Director, Office of Civil Rights, by telephone at 202-564-0792, by email at [Wooden-Aguilar.Helena@epa.gov](mailto:Wooden-Aguilar.Helena@epa.gov), or by mail at U.S. EPA, 1200 Pennsylvania Avenue, N.W., Mail Code 1201A, Washington, D.C., 20460.

Sincerely,



Rafael DeLeón  
Director

cc: Mr. Stephen G. Pressman, Associate General Counsel  
Civil Rights & Finance Law Office (MC 2399A)

Ms. Gina Edwards, Civil Rights Contact, U.S. EPA Region 9  
75 Hawthorne Street  
Mail Code: ORA-1  
San Francisco, CA 94105

Ms. Mary D. Nichols, Chairman  
California Air Resources Board (CARB)  
1001 "I" Street  
Sacramento, CA 95814-2828

# Exhibit 6





# A PRELIMINARY ENVIRONMENTAL EQUITY ASSESSMENT OF CALIFORNIA'S CAP-AND-TRADE PROGRAM

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**USC**  
**Dornsife**  
*Program for  
Environmental and  
Regional Equity*



## OVERVIEW

California's cap-and-trade program is a key strategy for achieving reductions in greenhouse gas (GHG) emissions under AB32, the California Global Warming Solutions Act. For residents living near large industrial facilities, AB32 offered the possibility that along with reductions in GHGs, emissions of other harmful pollutants would also be decreased in their neighborhoods. Carbon dioxide (CO<sub>2</sub>), the primary GHG, indirectly impacts health by causing climate change but is not directly harmful to health in the communities where it is emitted. However, GHG emissions are usually accompanied by releases of other pollutants such as particulate matter (PM<sub>10</sub>) and air toxics that can directly harm the health of nearby residents.

In this brief, we assess inequalities in the location of GHG-emitting facilities and in the amount of GHGs and PM<sub>10</sub> emitted by facilities regulated under cap-and-trade. We also provide a preliminary evaluation of changes in localized GHG emissions from large point sources since the advent of the program in 2013. To do this, we combined pollutant emissions data from California's mandatory GHG and criteria pollutant reporting systems,<sup>1,2</sup> data on neighborhood demographics from the American Community Survey, cumulative environmental health impacts from the California Environmental Protection Agency's CalEnviroScreen tool, and information from the California Air Resources Board (CARB) about how regulated companies fulfilled their obligations under the first compliance period (2013-14) of the cap-and-trade program. Our methodology is described in greater detail in the appendix to this report.

In this analysis, we focus primarily on what are called "emitter covered emissions," which correspond to localized, in-state emissions (derived mostly from fossil fuels) from industries that are subject to regulation under cap-and-trade. The cap-and-trade program also regulates out-of-state emissions associated with electricity imported into the state and, beginning in 2015, began regulating distributed emissions that result from the burning of fuels such as gasoline and natural gas in off-site locations (e.g., in the engines of vehicles and in homes).

We found that regulated GHG-emitting facilities are located in neighborhoods with higher proportions of residents of color and residents living in poverty. In addition, facilities that emit the highest levels of both GHGs and PM<sub>10</sub> are also more likely to be located in communities with higher proportions of residents of color and residents living in poverty. This suggests that the public health and environmental equity co-benefits of California's cap-and-trade program could be enhanced if there were more emissions reductions among the larger emitting facilities that are located in disadvantaged communities. In terms of GHG emission trends, in-state emissions have increased on average for several industry sectors since the advent of the cap-and-trade program, with many high emitting companies using offset projects located outside of California to meet their compliance obligations. Enhanced data collection and availability can strengthen efforts to track future changes in GHG and co-pollutant emissions and inform decision making in ways that incentivize deeper in-state reductions in GHGs and better maximize public health benefits and environmental equity goals.



## FINDINGS

### *1. Facilities that emit localized GHGs are located in more disadvantaged communities.*

On average, neighborhoods with a facility that emitted localized GHGs within 2.5 miles<sup>3</sup> have a 22 percent higher proportion of residents of color and 21 percent higher proportion of residents living in poverty than neighborhoods that are not within 2.5 miles of such a facility. Neighborhoods within 2.5 miles of a facility are also more than twice as likely to be among the worst statewide in terms of their CalEnviroScreen score, a relative ranking of cumulative impact based on indicators of social and environmental stressors to health (Table 1<sup>4</sup>).

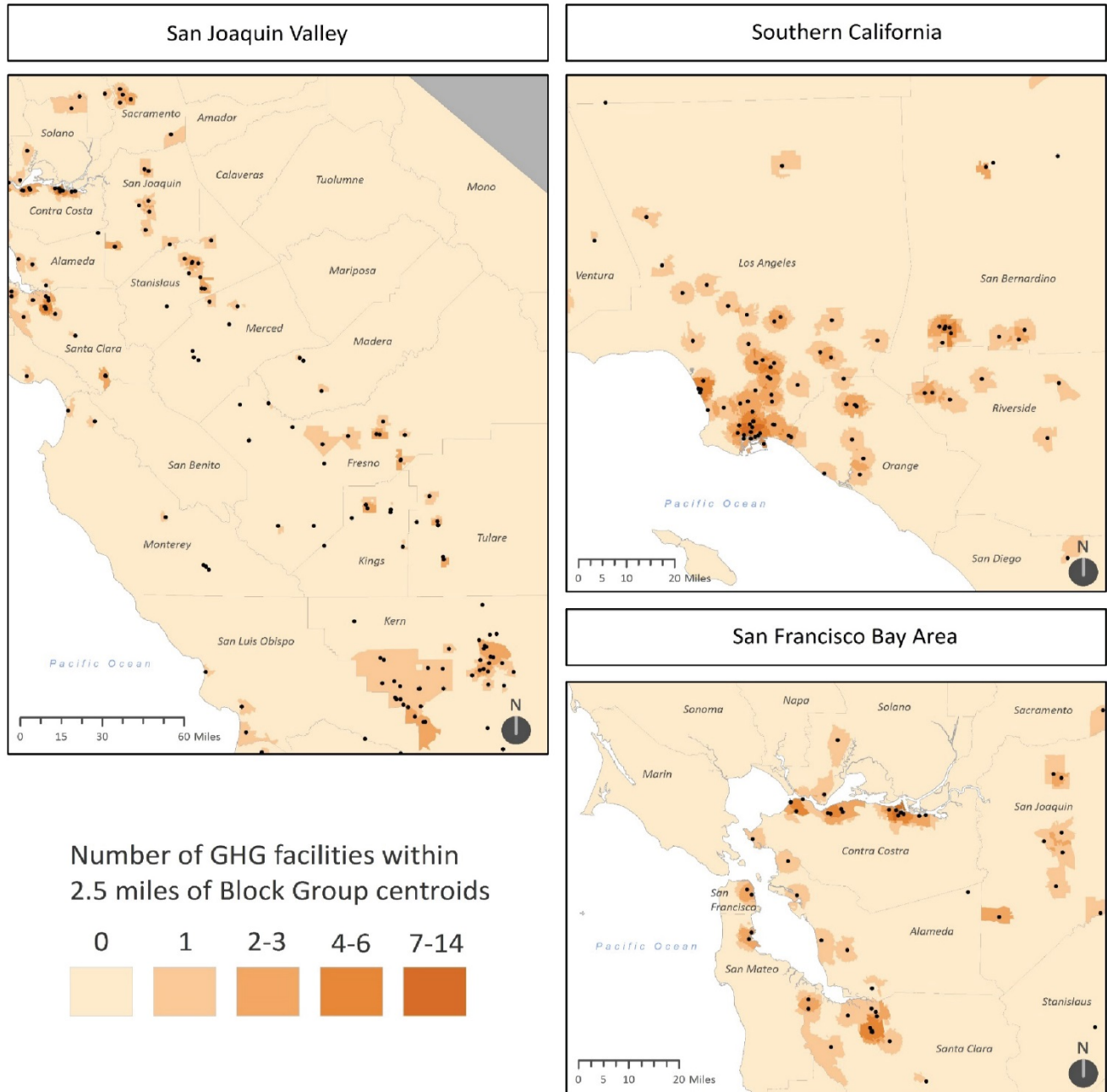
**TABLE 1**  
Characteristics of Neighborhoods within 2.5 miles of GHG-emitting Facilities  
(N=255 facilities)

	Block groups with at least one facility within 2.5 miles (N=6,397)	Block groups with no facilities within 2.5 miles (N=16,705)
Mean % People of Color	66%	54%
Mean % People Living Below Twice the Poverty Level	41%	34%
% of Block Groups in a "Top 10%" CalEnviroScreen tract	17%	7%
% of Block Groups in a "Top 20%" CalEnviroScreen tract	31%	15%

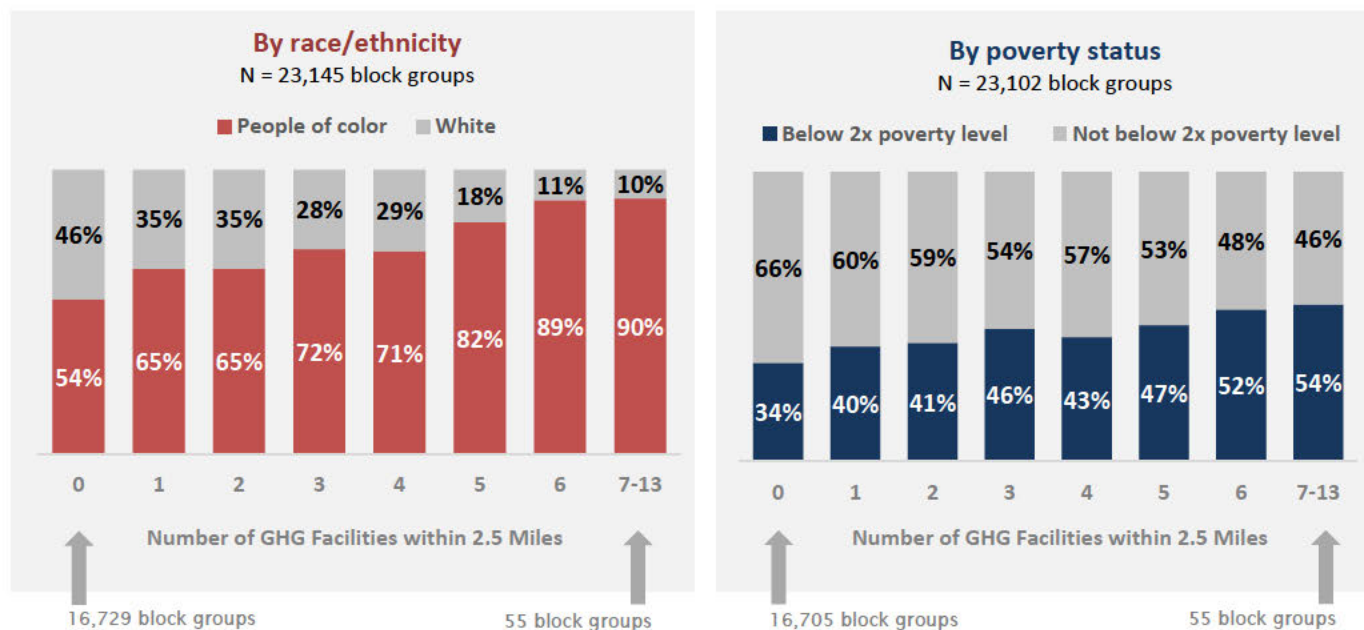
### *2. Many of California's residential communities are within 2.5 miles of more than one GHG-emitting facility (Figure 1<sup>5</sup>).*

These communities are home to a higher proportion of residents of color and people living in poverty than communities with no or few facilities nearby. Indeed, the higher the number of proximate facilities, the larger the share of low-income residents and residents of color (Figure 2).

**FIGURE 1**  
 Residential Proximity to Facilities Reporting Emitter Covered GHG Emissions during the 2013-14 Compliance Period (N=321 facilities)



**FIGURE 2**  
Demographics in Block Groups near GHG-emitting Facilities (N=255 facilities)

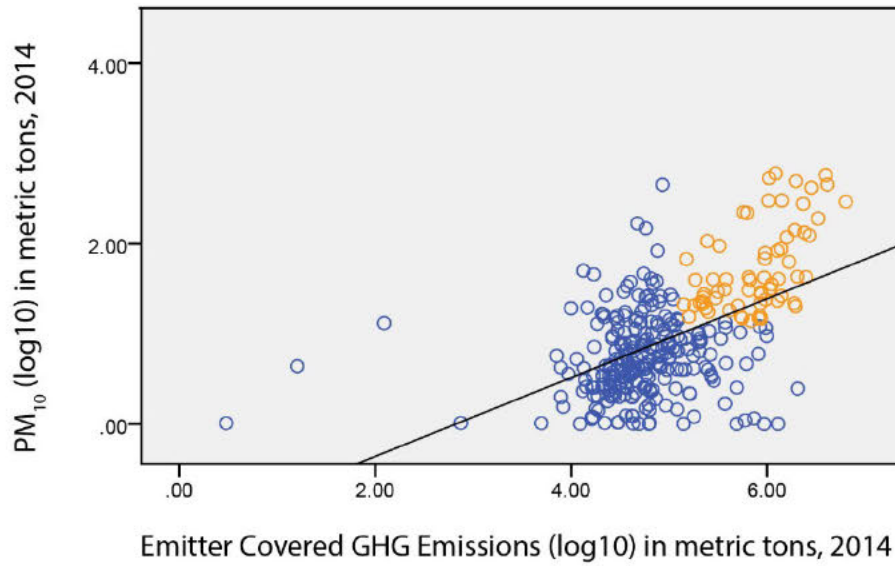


**3. While GHG emissions do not generally have direct health impacts, co-pollutants such as particulate matter ( $PM_{10}$ ) do. Such emissions are correlated (Figure 3<sup>6</sup>), with large GHG emitters reporting that they emit more particulate matter. The largest emitters of both GHGs and  $PM_{10}$  also tend to be located near neighborhoods with higher proportions of disadvantaged residents (Table 2<sup>7</sup>).**

The neighborhoods within 2.5 miles of the 66 largest GHG and  $PM_{10}$  emitters (defined as the top third in emissions of both  $PM_{10}$  and GHGs and highlighted in orange in Figure 3) have a 16 percent higher proportion of residents of color and 11 percent higher proportion of residents living in poverty than neighborhoods that are not within 2.5 miles of such a facility (Table 2). Compared to other parts of the state, nearly twice as many neighborhoods within 2.5 miles of these highest-emitting facilities are also among the worst statewide in terms of their CalEnviroScreen score. We also found that 40 (61 percent) of these high-emitting facilities reported increases in their localized GHG emissions in 2013-14 relative to 2011-12, versus 51 percent of facilities overall. Neighborhoods near the top-emitting facilities that increased emissions had higher proportions of people of color than neighborhoods near top-emitting facilities that decreased their emissions (Table 6 in the Appendix).

**FIGURE 3**

Correlation between Emitter Covered GHG Emissions and Particulate Matter (N=317 facilities)



**TABLE 2**

Characteristics of Neighborhoods within 2.5 miles of the top GHG- and PM<sub>10</sub>- Emitting Facilities (N=66 facilities)

	Block groups within 2.5 miles of the largest GHG and PM <sub>10</sub> emitters (N=1,290)	All other block groups (N=21,812)
Mean % People of Color	66%	57%
Mean % People Living Below Twice the Poverty Level	40%	36%
% of Block Groups in a "Top 10%" CalEnviroScreen tract	18%	9%
% of Block Groups in a "Top 20%" CalEnviroScreen tract	35%	19%

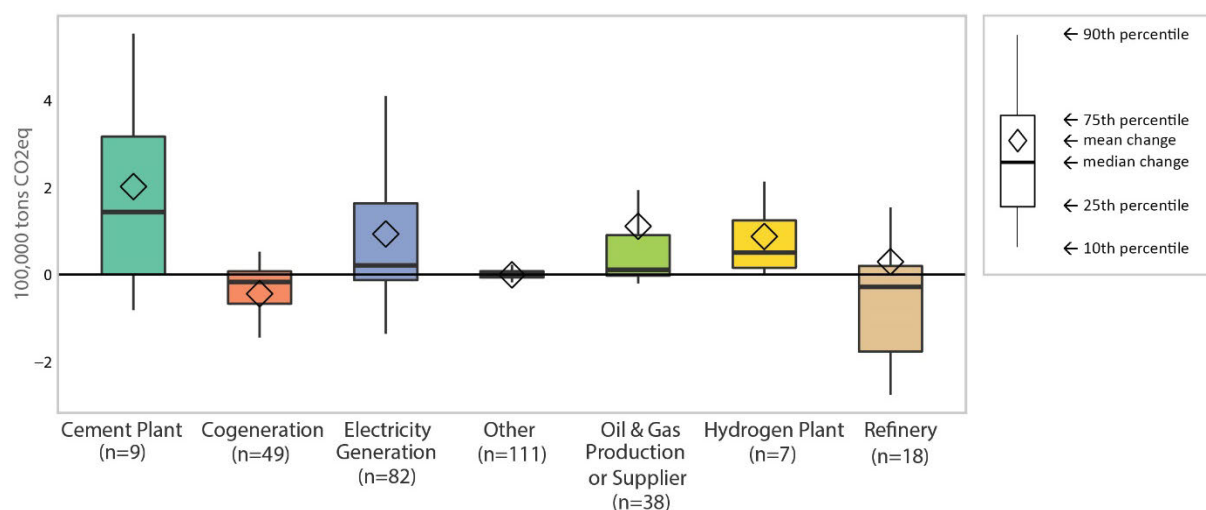


**4. While overall, GHG emissions in California have continued to drop from a peak in 2001, we find that, on average, many industry sectors covered under cap-and-trade report increases in localized in-state GHG emissions since the program came into effect in 2013.<sup>8</sup>**

Only a portion of the state’s total GHG emissions are regulated under the cap-and-trade system. For example, the industrial and electrical sectors accounted for about 41 percent of the state’s estimated total GHGs emissions in 2014.<sup>9</sup> (The remainder originated from sectors such as transportation, commercial and residential buildings, and agriculture.) As a result, overall emissions and emissions regulated under cap-and-trade can exhibit slightly different patterns. Moreover, not all emissions regulated under the cap-and-trade program occur in-state. For example, according to CARB’s 2016 Edition of the California GHG Emission Inventory, emissions from electrical power decreased by 1.6 percent between 2013 and 2014. However, when these emissions are disaggregated, we see that it is the emissions associated with *imported* electricity that decreased, while emissions from *in-state* electrical power generation actually increased.<sup>8</sup>

**Figure 4** shows the distribution of the change in localized GHG emissions regulated under cap-and-trade for two time periods: the two years prior and the two years after the program came into effect. We present the range in emissions changes reported by individual facilities within seven industry sectors for 2013-14 versus 2011-12; this includes the median (50<sup>th</sup> percentile), mean (average), and 10<sup>th</sup> to 90<sup>th</sup> percentile of changes in emitter covered emissions for 314 GHG facilities. For example, six of the nine cement plants included in **Figure 4** reported increases in emissions during 2013-14 relative to 2011-12. The median value corresponds to the 143,295-ton increase reported by the cement plant in the middle of the distribution (5<sup>th</sup> highest emitting facility out of the nine total). Similarly, the 25<sup>th</sup> and 75<sup>th</sup> percentiles correspond to the increases reported by the 3<sup>rd</sup> and 7<sup>th</sup> highest emitting facilities. The facilities with the minimum and maximum emissions changes are not shown in this graph to make it more legible; for example, the Cemex Victorville cement plant reported an increase of over 843,000 tons, an amount that far exceeds the range portrayed in **Figure 4**.

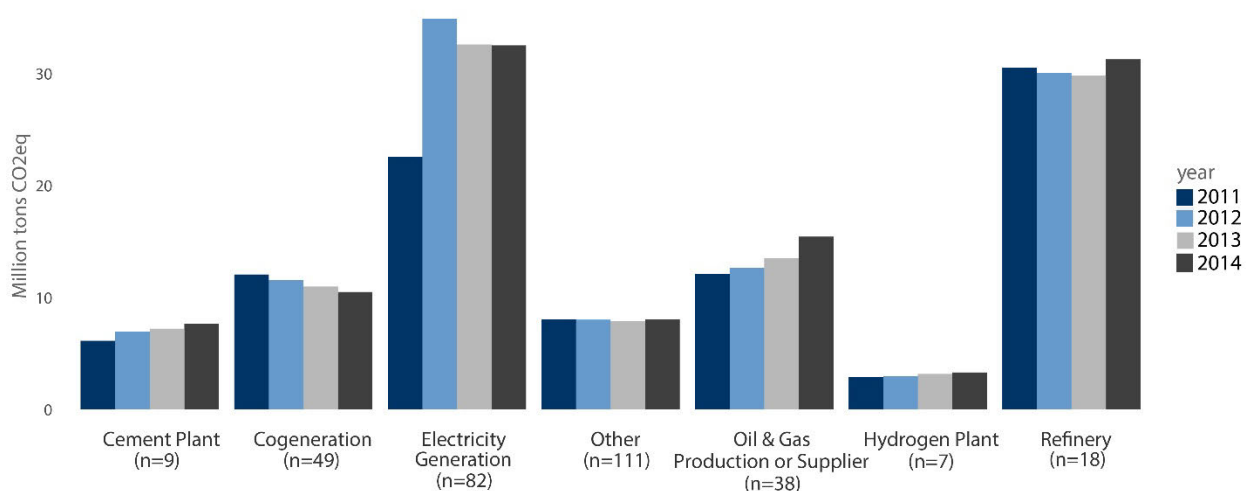
**FIGURE 4**  
Change in Emitter Covered GHG Emissions by Industry Sector (N=314 facilities)





**Figure 5** shows temporal trends in total emitter covered emissions (the sum of emissions from all individual facilities) by industry sector for 2011-2014. The number of facilities can change from year to year due to shutdowns, startups, and changes in emissions that affect whether facilities are required to report GHG emissions to CARB. In both **Figure 4** and **Figure 5**, we included only those facilities that: 1) report to the inventory every year during the four-year period, and 2) report at least some emitter covered emissions during those same four years. Again, the upward trend in several sectors is notable.

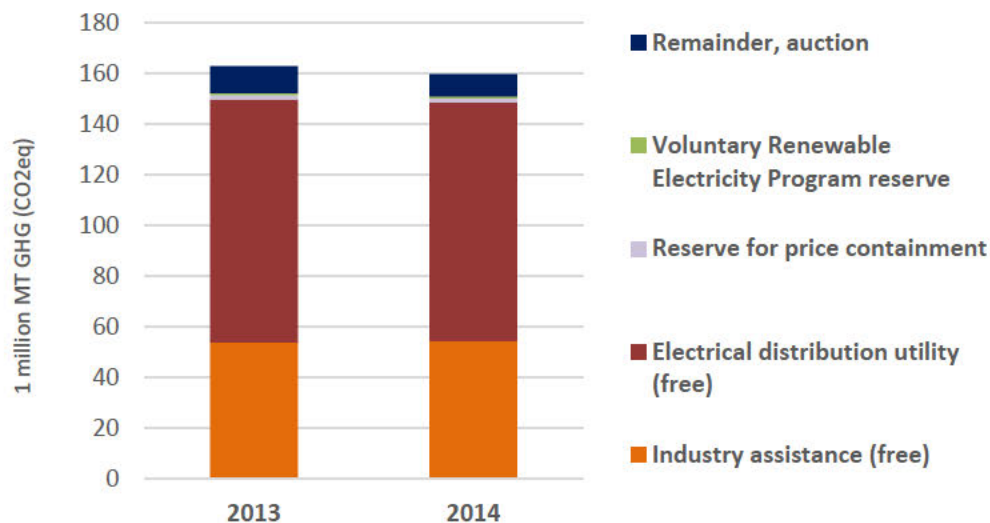
**FIGURE 5**  
Temporal Changes in Total Emitter Covered GHG Emissions by Industry Sector



**5. Between 2013 and 2014, more emissions “offset” credits were used than the total reduction in allowable GHG emissions (the “cap”). These offsets were primarily linked to projects outside of California, and large emitters of GHGs were more likely to use offset credits to meet their obligations under cap-and-trade.**

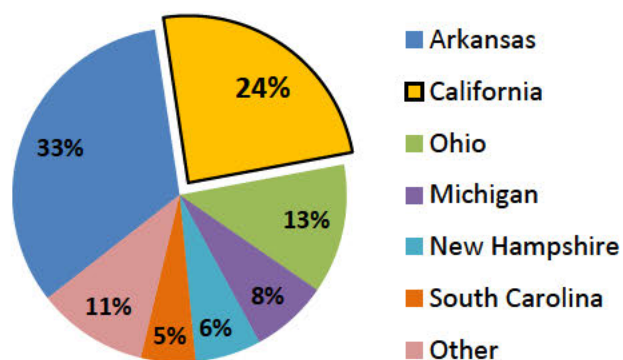
The cap-and-trade program requires regulated companies to surrender one compliance instrument—in the form of an allowance or offset credit—for every ton of qualifying GHGs they emit during each compliance period. These instruments are bought and sold on the carbon market. The total number of allowances is set by the “cap,” which decreases by roughly 3 percent per year in order to meet GHG reduction targets. In 2013 and 2014, most allowances were given to companies for free for leakage prevention, for transition assistance, and on behalf of ratepayers (**Figure 6**). Additional offset credits were generated from projects that ostensibly reduce GHGs in ways that may cost less than making changes at a regulated facility.

**FIGURE 6**  
Allocation of Allowances

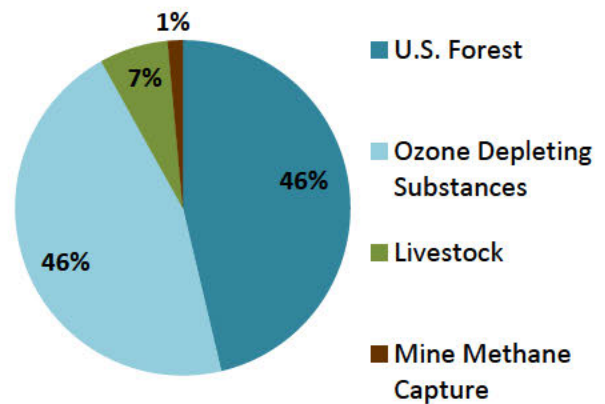


Regulated companies are allowed to “pay” for up to 8 percent of their GHG emissions using such offset credits. The majority of the offset credits (76 percent) used to date were generated by out-of-state projects (**Figure 7**). **Figure 8** shows that most offset credits were generated from projects related to forestry (46 percent)<sup>10</sup> and the destruction of ozone-depleting substances (46 percent). Furthermore, over 15 percent of offset credits used during the first compliance period were generated by projects undertaken before final regulations for the cap-and-trade program were issued in 2011, calling into question whether these GHG reductions can be attributed to California’s program, or whether they might have happened anyway.

**FIGURE 7**  
Origin of Offset Credits



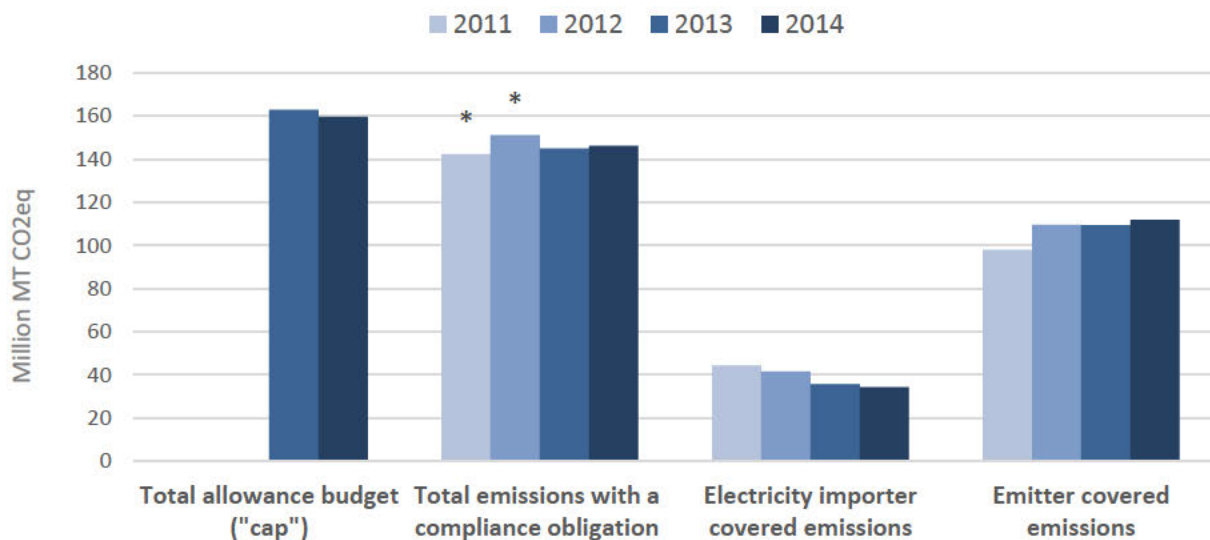
**FIGURE 8**  
Offset Credits by Project Type



During the first compliance period of 2013-14, the total emissions that were subject to a compliance obligation (the second set of columns in **Figure 9**) were lower than the cap set by the allowance budget (left-most set of columns in **Figure 9**). This total includes both the emitter covered emissions that have been the focus of our analysis so far (right-most set of columns in **Figure 9**) and out-of-state emissions associated with imported electricity (which went down every year during the four-year period as shown by the third set of columns in **Figure 9**). Offset credits worth more than 12 million tons of CO<sub>2eq</sub> were utilized to meet these obligations. These offsets represent 4.4 percent of the total compliance obligation of all regulated companies and over four times the targeted reduction in GHG emissions from 2013 to 2014 as established by the cap (**Figure 10**).

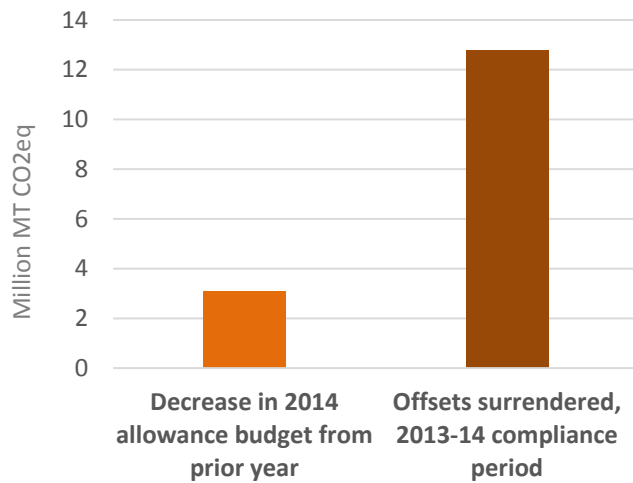
We found that the majority of companies did not use offset credits to meet their compliance obligation; however, those companies that *did* use offsets tended to have larger quantities of GHG emissions. The top 10 users of offsets account for 36 percent of the total covered emissions and 65 percent of the offsets used. These top offset users included Chevron (1.66 million offsets), Calpine Energy Services (1.55 million offsets), Tesoro (1.39 million offsets), SoCal Edison (1.04 million offsets), Shell (0.62 million offsets), PG&E (0.44 million offsets), Valero (0.43 million offsets), La Paloma Generating Company (0.40 million offsets), San Diego Gas & Electric (0.39 million offsets), and NRG Power (0.33 million offsets).

**FIGURE 9**  
Total GHG Budget



\* Only emissions during 2013 and 2014 were subject to a compliance obligation. Estimates of comparable emissions during 2011 and 2012 were derived by summing the "emitter covered" and "electricity importer covered" emissions reported by regulated facilities for those years.

**FIGURE 10**  
Offset Credits vs. Decrease in Allowance Cap



## CONCLUSIONS

California's efforts to slow climate change by reducing GHG emissions can bring about additional significant co-benefits to health, particularly in disadvantaged communities. Preliminary analysis of the equity implications of California's cap-and-trade program indicates that regulated GHG-emitting facilities tend to be located in neighborhoods with higher proportions of residents of color and residents living in poverty. There is a correlation between emissions of GHGs and PM<sub>10</sub>, and facilities that emit the highest levels of both GHGs and PM<sub>10</sub> are similarly more likely to be located in communities with higher proportions of residents of color and residents living in poverty. This suggests that the public health and environmental equity co-benefits of California's cap-and-trade program could be enhanced if there were more emissions reductions among the larger emitting facilities that are located in disadvantaged communities.

Currently, there is little in the design of cap-and-trade to ensure this set of localized results. Indeed, while the cap-and-trade program has been in effect for a relatively short time period, preliminary evidence suggests that in-state GHG emissions from regulated companies have increased on average for several industry sectors and that many emissions reductions associated with the program were linked to offset projects located outside of California. Large GHG emitters that might be of most public health concern were the most likely to use offset projects to meet their obligations under the cap-and-trade program.

Further research is needed before firm policy conclusions can be drawn from this preliminary analysis. As regulated industries adapt to future reductions in the emissions cap, California is likely to see more reductions in localized GHG and co-pollutant emissions. Thus far, the state has achieved overall emissions reductions in large part by using offsets and replacing more GHG-intensive imported electricity with cleaner, in-state generation. Steeper in-state GHG reductions can be expected going forward if the use of offsets were to be restricted and the opportunity to reduce emissions by replacing imported electricity with in-state generation becomes exhausted.

However, ongoing evaluation of temporal and spatial trends in emissions reductions will be critical to assessing the impact of the cap-and-trade program. Several recommendations would strengthen future analyses and facilitate better tracking of the public health and environmental equity aspects of the cap-and-trade program going forward.

These include:

- Building better linkages between state facility-level databases on GHG and co-pollutant emissions. To conduct this preliminary analysis, we had to do a series of matches between datasets with different facility ID codes (see Appendix for details). Harmonization of facility ID codes between relevant data sources could be built into facility emissions reporting requirements going forward in order to facilitate analysis of temporal and spatial GHG and co-pollutant emissions trends.
- Publicly releasing data on facility- and company-specific allowance allocations.
- Tracking and making data available on facility- and company-specific allowance trading patterns.

Good quality, publicly accessible data and robust analysis will be critical to informing policy discussions and improving regulatory implementation of California's climate law in ways that incentivize deeper in-state GHG reductions and that achieve both sustainability and environmental equity goals.

## ACKNOWLEDGEMENTS

We thank USC PERE Data Manager Justin Scoggins, Graduate Research Assistant Melody Ng, and Communications Specialist Gladys Malibiran for their assistance in the production of this brief; the California Environmental Justice Alliance for helpful feedback on an early version of this brief; and the Energy Foundation (grant number G-1507-23494), the Institute for New Economic Thinking (grant number INO1500008), and the Resources Legacy Fund for their support of this work.

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## APPENDIX

This appendix includes a description of the methods used in our preliminary environmental equity assessment of California's cap-and-trade program. We also present supplemental analyses, including a comparison of neighborhood demographics near regulated GHG facilities using different buffer distances to define proximity.

### Methods

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#### GREENHOUSE GAS EMISSIONS

To start, we downloaded annual, facility-specific GHG emissions data for 2011-2014 from the Mandatory Reporting of Greenhouse Gas Emissions (MRR) program.<sup>1</sup> The MRR includes self-reported estimates of annual emissions of greenhouse gases (GHGs)—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated GHGs—from regulated industries that have been verified by an independent third party. Emissions are given in units of CO<sub>2</sub>-equivalents, a metric that combines the quantity of individual gases emitted with the potency of each gas in terms of its contribution to climate change over a 100-year time frame (also known as “global warming potential”). Our analysis focused on one class of emissions included in this database called “emitter covered emissions,” which corresponds to localized, in-state emissions resulting from “the combustion of fossil fuels, chemical and physical processes, vented emissions...and emissions from suppliers of carbon dioxide”<sup>11</sup> as well as emissions of GHGs other than CO<sub>2</sub> from biogenic fuel combustion. The term “covered” refers to the fact that these emissions are subject to a compliance obligation under the cap-and-trade program; releases of CO<sub>2</sub> that result from the combustion of biogenic fuels, for example, are exempted. The cap-and-trade program also regulates out-of-state emissions associated with electricity imported into the state and, beginning in 2015, began regulating distributed emissions that result from the burning of fuels such as gasoline and natural gas in off-site locations (e.g., in the engines of vehicles and in homes); although we did not analyze distributed emissions in this report, this category of emissions will be a future research topic.

The number of facilities reporting to the MRR can change from year to year due to shutdowns, startups, and changes in emissions that affect whether facilities are required to report. In our analysis of trends in emissions across industry sectors, we excluded facilities that did not report to the emissions inventory every year during 2011-14, as well as facilities that reported no emitter covered emissions during the four-year period. Facilities were categorized according to the sector reported in the MRR with slight modifications to reduce the number of categories. Facilities described as a refinery alone or in combination with any of the following were categorized as a refinery: hydrogen plant, CO<sub>2</sub> supplier, or transportation fuel supplier. Facilities described as “other combustion source” or “other combustion source/ CO<sub>2</sub> supplier” were categorized as “other.”

We determined or confirmed the geographic location of each facility using a variety of data sources and methods. Geographic point locations for some facilities were obtained directly from the California Air Resources Board (CARB), and facility addresses reported in CARB's online GHG visualization tool were geocoded.<sup>12</sup> We located some sites using individual internet searches. All locations inside California were visually confirmed, and point locations were adjusted for accuracy using aerial imagery in Google Earth Pro.

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## CO-POLLUTANT DATA (PM<sub>10</sub>)

We obtained emissions of criteria air pollutants from the California Emission Inventory Development and Reporting Systems (CEIDARS) database for years 2011-14.<sup>2</sup> Reporting requirements, including the way in which facilities are defined, the numeric identifier attached to each facility, and the frequency of reporting, differ between CEIDARS and the MRR GHG database. This presents a challenge for combining emissions estimates from the two sources. In particular, criteria air pollutants are not required to be reported annually, and emissions estimates contained in the 2014 CEIDARS database may correspond to estimates from prior years. We joined data on PM<sub>10</sub> emissions from the 2014 CEIDARS with GHG emissions information from the MRR GHG database based on the facility name, city, and ZIP code. For some GHG facilities listed in the MRR GHG database, we obtained addresses from CARB's Facility GHG Emissions Visualization and Analysis Tool.<sup>12</sup> Since the CEIDARS database also contains addresses, we were able to use the address field to confirm and find additional matches. When all variables (facility name, city, and ZIP code) did not match between the two data sources, matches were confirmed by hand through internet searches of company websites and online databases containing facility names and addresses.

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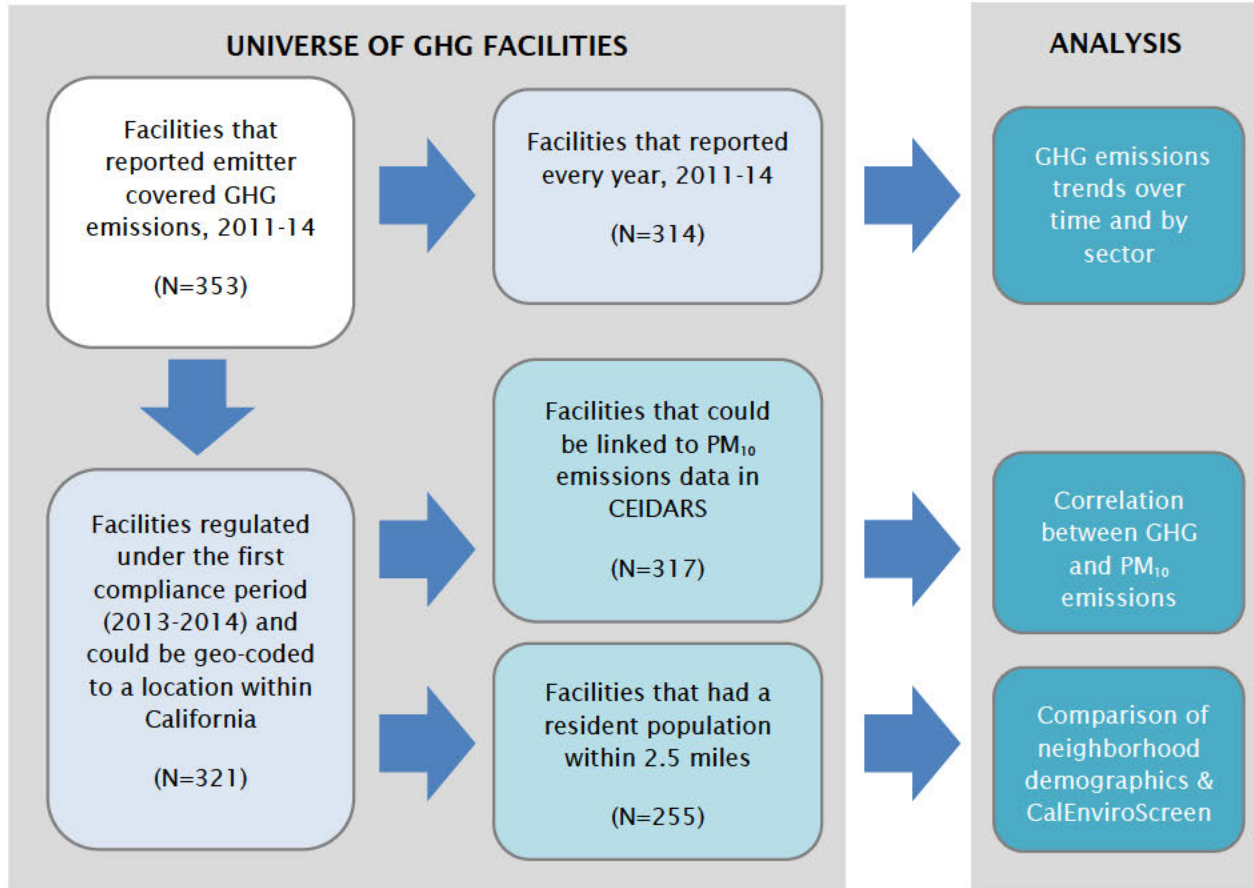
## NEIGHBORHOOD DEMOGRAPHICS AND CUMULATIVE IMPACT

We defined neighborhoods on the basis of 2010 vintage Census block group boundaries provided by the U.S. Census.<sup>13</sup> Block group centroids were created by using the point-to-polygon tool in ArcGIS and the distance between block group centroids and GHG facility locations was calculated using the point-distance tool in ArcGIS (ESRI, Redlands, CA).

Demographic information for each block group was obtained from the 2014 5-year American Community Survey estimates. White individuals were defined as those who self-identified as white but not Hispanic. People of color were defined as all other individuals, including those who identified as multiracial or of Hispanic ethnicity. Poverty was defined as twice the federal poverty level (FPL) to reflect increases in the cost of living since the FPL was established and California's high cost of living.

CalEnviroScreen is a state-level screening tool developed by the California Environmental Protection Agency that helps identify California communities that are disproportionately burdened by multiple sources of pollution.<sup>14</sup> It includes indicators of proximity to environmental hazards and population vulnerability to derive a relative score of cumulative environmental health impact. We assigned block groups the most recent CalEnviroScreen score of their census tract in order to compare CalEnviroScreen rankings near GHG facilities to the rest of the state. **Figure 11** summarizes the construction of our facility-level dataset.

FIGURE 11 – Construction of the Dataset



## ALLOWANCES AND OFFSETS

Unlike the emissions data, information on the allocation of allowances and ways in which regulated industries are complying with the cap-and-trade program is reported on an industry- and company-specific basis, rather than at the facility level. One company may own several regulated facilities. Information on the allocation of allowances was compiled from the California Code of Regulations (17 CA ADC § 95841 and 17 CCR § 95870) and CARB publications on the public allocation of allowances and estimates of state-owned allowances.<sup>15</sup> We obtained the number of allowances and offsets surrendered by each company at the completion of the first compliance period from CARB's 2013-14 Compliance Report.<sup>16</sup> Information on individual offset projects was compiled from CARB documents on offsets issued as of August 10, 2016<sup>17</sup> and individual project descriptions provided in the American Carbon Registry and Climate Action Reserve carbon offset registries.<sup>18</sup>

## Supplemental Analyses

Consistent with the findings presented in **Table 1** in the main text, **Table 3** shows that neighborhoods within 1.5 miles of a facility with localized GHG emissions have a 16 percent higher proportion of residents of color, a 26 percent higher proportion of residents living in poverty, and a higher likelihood of scoring among the worst statewide in terms of their CalEnviroScreen score than neighborhoods that are not within 1.5 miles of such a facility. **Table 4** and **Table 5** show similar trends when neighborhoods up to a larger distance of 3.5 and 6 miles away are considered. These results confirm that the findings presented in our main analysis were not sensitive to our choice of buffer distance.

**TABLE 3**  
Characteristics of Neighborhoods within 1.5 miles of GHG-emitting Facilities  
(N=255 facilities)

	Block groups with at least one facility within 1.5 miles (N=2,710)	Block groups with no facilities within 1.5 miles (N=20,392)
Mean % People of Color	<b>66%</b>	<b>57%</b>
Mean % People Living Below Twice the Poverty Level	<b>44%</b>	<b>35%</b>
% of Block Groups in a “Top 10%” CalEnviroScreen tract	<b>20%</b>	<b>9%</b>
% of Block Groups in a “Top 20%” CalEnviroScreen tract	<b>36%</b>	<b>18%</b>

**TABLE 4**  
Characteristics of Neighborhoods within 3.5 miles of GHG-emitting Facilities  
(N=255 facilities)

	Block groups with at least one facility within 3.5 miles (N=9,991)	Block groups with no facilities within 3.5 miles (N=13,111)
Mean % People of Color	<b>66%</b>	<b>51%</b>
Mean % People Living Below Twice the Poverty Level	<b>39%</b>	<b>33%</b>
% of Block Groups in a “Top 10%” CalEnviroScreen tract	<b>15%</b>	<b>6%</b>
% of Block Groups in a “Top 20%” CalEnviroScreen tract	<b>29%</b>	<b>13%</b>



**TABLE 5**  
 Characteristics of Neighborhoods within 6 miles of GHG-emitting Facilities  
 (N=255 facilities)

	Block groups with at least one facility within 6 miles (N=16,365)	Block groups with no facilities within 6 miles (N=6,737)
Mean % People of Color	<b>65%</b>	<b>41%</b>
Mean % People Living Below Twice the Poverty Level	<b>37%</b>	<b>32%</b>
% of Block Groups in a "Top 10%" CalEnviroScreen tract	<b>13%</b>	<b>3%</b>
% of Block Groups in a "Top 20%" CalEnviroScreen tract	<b>25%</b>	<b>7%</b>

In the main text, we defined the 66 largest GHG and PM<sub>10</sub> emitting facilities as those that were within the top third in terms of their 2014 emissions of both PM<sub>10</sub> and localized GHGs, and highlighted them in orange in **Figure 2**. We found that 40 (61 percent) of these high-emitting facilities reported increases in their localized GHG emissions in 2013-14 relative to 2011-12, versus 51 percent of facilities overall. Neighborhoods near the top-emitting facilities that increased emissions had higher proportions of people of color than neighborhoods near top-emitting facilities that decreased their emissions (**Table 6**).

**TABLE 6**  
 Characteristics of Neighborhoods near top GHG- and PM<sub>10</sub>-Emitting Facilities that Increased and Decreased GHG Emissions (N=66 facilities<sup>19</sup>)

	Block groups within 2.5 miles of at least one top emitting facility that increased GHG emissions (N=675)	Block groups within 2.5 miles of at least one top emitting facility that decreased GHG emissions (N=669)
Mean % People of Color	<b>74%</b>	<b>58%</b>
Mean % People Living Below Twice the Poverty Level	<b>46%</b>	<b>34%</b>
% of Block Groups in a "Top 10%" CalEnviroScreen tract	<b>25%</b>	<b>14%</b>
% of Block Groups in a "Top 20%" CalEnviroScreen tract	<b>46%</b>	<b>28%</b>



## ENDNOTES

<sup>1</sup> Mandatory Reporting of Greenhouse Gas Emissions (MRR), <http://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/ghg-reports.htm>.

<sup>2</sup> CEIDARS, <http://www.arb.ca.gov/ei/disclaim.htm>; <http://www.arb.ca.gov/ei/drei/maintain/dbstruct.htm>.

<sup>3</sup> GHG facilities were limited to those that report emitter covered emissions during the first compliance period of cap-and-trade (2013-14), could be geo-coded in California, and had a resident population within 2.5 miles (N=255). We define neighborhoods using Census block groups. Residential proximity to a GHG facility was based on the distance between the facility location and each block group's centroid. We chose a 2.5 mile distance due to its common use in other environmental justice analyses. The Appendix gives results using alternative distance buffers.

<sup>4</sup> For calculations in Table 1, we used the universe of block groups for which there are valid data (i.e., non-missing data) for all four measures shown. However, the results were the same when we included all block groups with valid data for each measure on an individual basis.

<sup>5</sup> The map in Figure 1 shows 66 additional facilities that are not included in Table 1 and Figure 2 because they are not within 2.5 miles of a block group centroid with a resident population. See Figure 11 in the Appendix for details.

<sup>6</sup> Because there are several PM<sub>10</sub> values that are between zero and one metric ton, in Figure 3 we added 1 to the PM<sub>10</sub> value for all facilities prior to taking the log10 to avoid reporting negative values.

<sup>7</sup> Similar to Table 1, for calculations in Table 2, we used the universe of block groups for which there are valid data (i.e., non-missing data) for all four measures shown. However, the results were the same when we include all block groups with valid data for each measure on an individual basis.

<sup>8</sup> The results were qualitatively similar when we compared 2014 emissions to 2012 emissions. That is, the median and mean for each industry sector were in the same direction as shown in Figure 4 (above, near, or below zero), with one major exception: electricity generators on average decreased their emitter covered emissions in 2014 relative to 2012.

<sup>9</sup> California GHG Emission Inventory, 2016 Edition, [http://www.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2014/ghg\\_inventory\\_trends\\_00-14\\_20160617.pdf](http://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf).

<sup>10</sup> Some have critiqued the appropriateness of forestry projects for carbon offset purposes. For example, tree planting projects can take decades to reach maturity in terms of their ability to sequester carbon. Younger trees sequester less carbon and often take decades to fully mature. Moreover, it is challenging to measure and quantify the ability of forestry projects to sequester carbon over time. In particular, the permanence of forestry projects cannot be guaranteed as they remain susceptible to fire, disease, natural decay, clearing, or mismanagement. Forestry projects are also vulnerable to "leakage." This refers to the fact that, unless global demand for wood products goes down, a reduction in logging in one location can simply result in greater deforestation in another location.

(See [http://www.ipcc.ch/ipccreports/sres/land\\_use/index.php?idp=0](http://www.ipcc.ch/ipccreports/sres/land_use/index.php?idp=0) and <http://www.web.uvic.ca/~repa/publications/REPA%20working%20papers/WorkingPaper2007-02.pdf> for overviews of these issues.)

<sup>11</sup> <https://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/2014-ghg-emissions-2015-11-04.xlsx>

<sup>12</sup> [http://www.arb.ca.gov/ei/tools/ghg\\_visualization/](http://www.arb.ca.gov/ei/tools/ghg_visualization/)

<sup>13</sup> [https://www.census.gov/geo/maps-data/data/cbf/cbf\\_blkgrp.html](https://www.census.gov/geo/maps-data/data/cbf/cbf_blkgrp.html)

<sup>14</sup> <http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-version-20>

<sup>15</sup> <http://www.arb.ca.gov/cc/capandtrade/allowanceallocation/publicallocation.htm>;

<http://www.arb.ca.gov/cc/capandtrade/allowanceallocation/edu-ng-allowancedistribution/electricity-allocation.pdf>;

<http://www.arb.ca.gov/cc/capandtrade/stateauction.htm>

<sup>16</sup> <http://www.arb.ca.gov/cc/capandtrade/2013-2014compliance/2013-2014compliancereport.xlsx>

<sup>17</sup> [http://www.arb.ca.gov/cc/capandtrade/offsets/issuance/arb\\_offset\\_credit\\_issuance\\_table.pdf](http://www.arb.ca.gov/cc/capandtrade/offsets/issuance/arb_offset_credit_issuance_table.pdf)

<sup>18</sup> <http://americancarbonregistry.org>; <http://www.climateactionreserve.org>

<sup>19</sup> 66 GHG facilities fell in the top third in terms of both PM<sub>10</sub> and localized GHG emissions. We found that 40 of these facilities increased localized GHG emissions, 23 decreased emissions, and three did not report to the database all four years (2011-2014) so we could not determine an increase or decrease.

# Exhibit 7

**From:** [Chang, Edie@ARB](mailto:Chang_Edie@ARB)  
**To:** [Brent Newell](mailto:Brent_Newell)  
**Subject:** RE: C&T Adaptive Management Plan  
**Date:** Wednesday, August 19, 2015 6:08:21 PM

---

Hi Brent – we don't release information about transactions within the C&T program because that information is considered market sensitive. There is information posted on our website about allowance allocation (<http://www.arb.ca.gov/cc/capandtrade/allowanceallocation/v2015allocation.pdf>) and auction participation ([http://www.arb.ca.gov/cc/capandtrade/auction/may-2015/summary\\_results\\_report.pdf](http://www.arb.ca.gov/cc/capandtrade/auction/may-2015/summary_results_report.pdf) and [http://www.arb.ca.gov/cc/capandtrade/auction/may-2015/ca\\_proceeds\\_report.pdf](http://www.arb.ca.gov/cc/capandtrade/auction/may-2015/ca_proceeds_report.pdf)).

As I mentioned in my note, we're going to starting some outreach in the fall on AM. We've haven't taken actions on adaptive management to date.

Thanks,  
Edie

---

**From:** Brent Newell [mailto:[bnewell@crpe-ej.org](mailto:bnewell@crpe-ej.org)]  
**Sent:** Tuesday, August 18, 2015 5:28 AM  
**To:** Chang, Edie@ARB  
**Subject:** RE: C&T Adaptive Management Plan

Edie,

Please send me information (1) on where facilities obtained their allowances/offsets for the 2013 compliance event; and (2) any actions ARB has taken pursuant to the Adaptive Management Plan in response to the 2013 compliance event.

Thanks!

PLEASE NOTE OUR NEW ADDRESS

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---

**From:** Chang, Edie@ARB [<mailto:edie.chang@arb.ca.gov>]

**Sent:** Friday, August 14, 2015 10:26 AM

**To:** Brent Newell

**Subject:** RE: C&T Adaptive Management Plan

Hi Brent – I've attached links to the cap and trade data that is available.

Reported and verified GHG emissions data is available here. The latest data posted is 2013. We will be posting the 2014 data in November. We've been collecting data under the reporting reg since 2008 and I think it's available on that website. <http://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/ghg-reports.htm>

We have had one compliance event so far - in November of 2014. At that time, entities were required to submit allowances to cover 30% of their 2013 emissions. This is the report from that compliance event. You can see how many compliance instruments (allowances and offset) each entity submitted and also what offsets were used. Our next compliance event is November 2015 at which time allowances to cover the remaining 70% of 2013 emissions and 100% of 2014 emissions will be due. We will post a similar report after that compliance event. <http://www.arb.ca.gov/cc/capandtrade/2013complianceeventreport.xlsx>

This is a report that shows the total compliance instruments that have been issued.

<http://www.arb.ca.gov/cc/capandtrade/complianceinstrumentreport.xlsx>

We're continuing to work on our adaptive management plan and will be starting some outreach in the fall. Let me know if you have any questions,

Edie

---

**From:** Brent Newell [<mailto:bnewell@crpe-ej.org>]

**Sent:** Thursday, August 13, 2015 3:39 PM

**To:** Chang, Edie@ARB

**Subject:** C&T Adaptive Management Plan

Edie,

I hope all is well. On the CAA 111(d) call in July you mentioned that ARB had analyzed cap and trade program data for 2013 as part of the Adaptive Management Plan. I would like to receive that data,

especially data that shows how each source met its compliance obligation (e.g. through surrendering allowances, buying offsets, etc.). I'd also like to receive source specific emissions data to understand how each source has increased or decreased its emissions under cap and trade.

Please advise.

Thanks,  
Brent

PLEASE NOTE OUR NEW ADDRESS

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# Exhibit 8



Feature

Bulletin of the Atomic Scientists

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## How California's carbon market actually works

Danny Cullenward

### Abstract

Almost 10 years ago, California's legislature passed Assembly Bill 32, the Global Warming Solutions Act of 2006. AB 32 set the most ambitious legally binding climate policy in the United States, requiring that California's greenhouse gas emissions return to 1990 levels by the year 2020. The centerpiece of the state's efforts—in rhetorical terms, if not practical ones—is a comprehensive carbon market, which California's leaders promote as a model policy for controlling carbon pollution. Over the course of the past 18 months, however, California quietly changed its approach to a critical rule affecting the carbon market's integrity. Under the new rule, utilities are rewarded for swapping contracts on the Western electricity grid, without actually reducing greenhouse gas emissions to the atmosphere. Now that the Environmental Protection Agency is preparing to regulate greenhouse gases from power plants, many are looking to the Golden State for best climate policy practices. On that score, California's experience offers cautionary insights into the challenges of using carbon markets to reduce greenhouse gas emissions.

### Keywords

California, cap and trade, carbon market, climate policy, emissions, leakage, resource shuffling

For years, Southern California Edison imported electricity from the Four Corners Power Plant, a coal-fired facility in northwestern New Mexico. When California's groundbreaking carbon market took effect in 2013, Edison, like all other in-state utilities, became responsible for the climate pollution from its generating fleet. A few months later, the company sold its interest in the coal plant to an Arizona utility (APS, 2013). Whatever replacement supplies Edison selects will be cleaner than coal, the most carbon-intensive fossil fuel, and Edison will

report reduced emissions in California's carbon market.

At first this sounds like a positive story: Policy puts price on carbon, pollution falls. But this transaction will not reduce net greenhouse gas emissions to the atmosphere. The coal plant will keep emitting pollution just as before—only now it serves customers in Arizona, not California.

As it has with many other environmental issues before, California aims to set an example for the United States on climate policy. The key to its success, according to state officials, is a

comprehensive carbon market featuring “good policy design, clear oversight and strong enforcement” (Nichols, 2014). Ironically, one of the most visible consequences of the market’s first year is a rush to swap coal power imports for cleaner replacements, limiting the extent to which California’s policy leadership actually helps the climate. Is this perverse outcome the unavoidable consequence of California acting without its neighbors’ support, or could the state have done more to ensure that its market creates real environmental benefits?

### **An efficient theory**

The slow birth of American climate policy coincides with a transition in the way our country manages its environmental problems. Most of our national environmental laws were drafted at a time when both political parties supported government regulation of the private sector. That was, of course, a different era. Since then, the center of national political opinion has shifted dramatically in favor of the free market. And that trend is visible in contemporary environmental policy, which, over the last few decades, has moved away from traditional regulatory approaches to controlling pollution. Flexible, market based mechanisms are now the preferred route.

The thinking goes something like this: Rather than impose specific requirements on individual companies or industries, it is more efficient for the government to set economy wide policy targets and let the private sector find the cheapest way to meet them. In theory, this not only increases the flexibility of regulated industries’ compliance options but also reduces the policy’s

administrative complexity. Thus, if done right, economic approaches to environmental policy should result in a win win.

Enter a uniquely American invention, the carbon market also known as emissions trading or cap and trade.<sup>1</sup> The idea is simple, though the practice is not. Economic theory says that all a government needs to do is: set a quantitative cap on emissions; create and freely distribute or auction emissions permits, with the total number of permits equal to the cap; and require polluters to turn in a permit for each unit of pollution they emit. With this framework in place, the government steps back to let the private sector do what it does best: trade permits to minimize costs.

The most critical component of a carbon market is the cap. Typically, the cap is expressed as a maximum quantity of emissions allowed in any given year, with each year’s limit declining toward a long term goal. Think of it like a game of musical chairs with carbon pollution as the players, and the chairs representing emissions permits. At the end of every year, the music stops and the players must seat themselves. When there are more people than chairs, market forces dictate who leaves the game and who can stay; the government’s role in this analogy is only to set up the rules and remove the correct number of chairs at each stage. So long as the government counts the right number of chairs, everything should work out fine.

### **California’s climate policy**

After the United States withdrew from the Kyoto Protocol and elected George W. Bush, whose administration strongly opposed legally binding federal climate

policy, momentum shifted to the states. California moved to claim its traditional role as an environmental policy leader by passing AB 32, the Global Warming Solutions Act of 2006. Most notably, this bill requires California's emissions to fall to 1990 levels by the year 2020. AB 32 also designated a primary regulator, the California Air Resources Board (CARB), making CARB responsible for developing specific policies and measures that would lead California to its 2020 target.

The key to understanding California's climate policy system lies in recognizing the overlapping structure of the instruments that CARB and other agencies eventually adopted. Arguably the state's best known climate policy is its comprehensive carbon market, which CARB designed and implements. At the same time, California has a number of robust regulatory programs that apply to sectors that are also covered by the carbon market. For example, California has one of the strongest renewable portfolio standards (requiring utilities to purchase 33 percent of their electricity from renewable sources by 2020), as well as world class energy efficiency programs and a clean transportation fuels policy.

Climate experts refer to these programs as "complementary policies" a phrasing that suggests they exist to support the primary instrument, a carbon market. In practice, however, the complementary policies do most of the work. When CARB created its plan for meeting California's 2020 emissions target, it relied on complementary policies for approximately 80 percent of the reductions, leaving a mere 20 percent to "additional reductions" in the sectors covered by the state carbon market (CARB, 2008) meaning that most of the emissions reductions are being

accomplished by individual policies, not driven by the comprehensive market price on carbon. As my colleague Michael Wara (2014) explains elsewhere in this issue, the complementary policies effectively hide the true cost of California's climate policy: Because most of the necessary emissions reductions are required by separate regulation, rather than left to the carbon market, the carbon price reflects only a fraction of the state's climate policy efforts.<sup>2</sup>

### California's market design

California benefits from the experience of the emissions trading systems that came before it. By carefully observing the early years of the European Union's Emissions Trading Scheme (ETS), for example, CARB was able to avoid many of the hiccups that confronted its predecessors. These successes are all the more laudable because California has implemented the most comprehensive market to date. While the northeastern states' Regional Greenhouse Gas Initiative controls only emissions from power plants, California's market currently covers the power and industrial sectors (as does the European ETS), and will expand next year to include the transportation fuels and natural gas sectors. All told, this will encompass about 85 percent of the state's total emissions a comprehensive policy by any standard.

On the other hand, California faces many new challenges that previous markets never had to address. In particular, the state must contend with the fact that it is only a small part of a regional electricity transmission grid stretching from the Pacific Ocean to the Rocky Mountains. The scale of the Western grid matters because California is a

significant net importer of electricity. Recognizing that the emissions profile of its electricity imports is part of California's carbon footprint, regulators rightly included electricity imports in the cap and trade program. But geography introduced new headaches. Because California is the only western state that prices its greenhouse gas emissions, utilities and power traders now face an incentive to swap their high emitting imports for cleaner replacements—a practice known as resource shuffling. (Recall the earlier example of Southern California Edison divesting its interest in a New Mexico based coal power plant: Emissions reported in California go down, but emissions across the western United States do not change.)

If utilities are allowed to shuffle electric power imports, the emissions reductions they report in California's carbon market will not reflect reduced emissions to the atmosphere. Instead, the dirty resources California utilities divest will continue polluting the air under new, unregulated ownership. Given this dilemma, what should carbon market regulators do?<sup>3</sup>

### **A quiet coup**

As it happens, the California Legislature anticipated these concerns. When the legislature delegated broad authority to CARB to create climate policy, it also issued guidelines that the regulator must incorporate in its policies. Specifically, state law requires that “to the extent feasible,” climate regulations must “minimize leakage.”<sup>4</sup> California law defines leakage as “a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state.”<sup>5</sup>

In plain English, this requirement means that CARB should not give credit to actions that merely shift the responsibility for greenhouse gas emissions beyond state borders. Instead, AB 32 dictates that CARB should only recognize net reductions in emissions to the atmosphere. For a time, CARB followed this instruction. Its initial carbon market regulations banned resource shuffling, and went so far as to require companies' executives to attest that they were not engaged in this practice.<sup>6</sup>

But this approach proved controversial. In the months leading up to the beginning of the market's first compliance period, several stakeholders objected to the resource shuffling rules and began agitating for reforms. The first public proposal came from California's investor owned utilities, which in September 2012 advocated a series of exemptions to the prohibition on resource shuffling (Joint Utilities Group, 2012). The following month, CARB directed its staff to develop modifications to the resource shuffling regulations, providing 13 fully developed “safe harbor” exemptions to the definition of resource shuffling (CARB, 2012a) directly comparable to, if not more permissive than, the Joint Utilities Group proposal. A few weeks later, CARB staff released a new regulatory guidance document that incorporated these safe harbors, almost word for word (CARB, 2012b).

When a regulator issues a guidance document that publicly describes how to interpret its rules, that description provides a legal defense to any private party that reasonably relies upon it. After all, it would be extremely unfair if following the regulator's own advice could get one in legal trouble. But consider what this meant for the carbon



market. On the eve of the program's launch in January 2013, the regulator quietly rewrote its own rules through informal guidance documents. Formally, its regulations prohibited resource shuffling. Yet CARB's own guidance document indicated that this straightforward prohibition would not apply to 13 broad categories of transactions. Thus, when the market began operation in 2013, its practical function had already diverged from its formal legal rules.

### The market springs a leak

My colleague David Weiskopf and I had been studying CARB's resource shuffling rules during this tumultuous time. We recognized that CARB faced an incredibly difficult task in writing effective and legally permissible cross border accounting rules, yet we were surprised at the scope of CARB's informal guidance document. We believed that a compromise was possible, to give utilities clear and flexible rules without undermining the environmental integrity of the market.

Meanwhile, we were deeply concerned that the informal guidance document effectively revoked the prohibition on resource shuffling. We published our analysis of the safe harbors and the leakage risks they created in July 2013 (Cullenward and Weiskopf, 2013). Most important, we described how several of the safe harbors were broader than the underlying prohibition. In addition, we pointed out that two safe harbors explicitly allowed California utilities to divest their long term contracts with out of state coal power plants.

As it happens, these coal power imports account for a significant portion of California's emissions. We calculated that if California utilities relied on the

safe harbors to divest from just six coal power plants, they could cause between 108 and 187 million tons of carbon dioxide to leak out of California's market—a quantity that is roughly equivalent to the expected size of the market, after accounting for the likely impact of the complementary policies. Furthermore, we realized that our analysis was consistent with calculations from CARB's own economic advisory committee, called EMAC, which found that resource shuffling of all types could lead to leakage of between 120 and 360 million tons of carbon dioxide (Borenstein et al., 2013). (The EMAC report did not assess whether the safe harbors would enable leakage; it looked only at what the effects of resource shuffling would be if there were no prohibition against it.)

In addition to presenting our concerns, we also developed a complete regulatory text to implement an alternative approach to controlling resource shuffling. Even if our suggestions could have been helpful, they probably arrived too late. That same month, CARB hosted a workshop to consider draft regulatory amendments that would codify the safe harbors into law. As it became clear that CARB would proceed without any public acknowledgment of the leakage problem, I wrote an op ed in the *San Jose Mercury News* raising the issues described here (Cullenward, 2013a), as well as two comment letters addressing the technical and legal questions in the formal administrative process (Cullenward, 2013b, 2014a).

Over the following months, three of the six coal power plants that Weiskopf and I identified became involved in resource shuffling related transactions, leaking between 30 and 60 million tons of carbon dioxide out of California's carbon market (Cullenward, 2014b).

Two of these contracts have already left the regulatory system, while a third under which the Los Angeles utility LADWP imports power from the coal fired Navajo Generating Station on tribal lands in Arizona is on its way out. In a regulatory filing connected with its purchase of replacement power, LADWP even disclosed that a benefit of divestment from the Navajo Generating Station would be “relieving LADWP from having to purchase emission credits” in the carbon market (LADWP, 2013: 3). Yet, as I pointed out in my second comment letter to CARB (Cullenward, 2014a), there is little doubt that the utility’s divestment plan fits squarely in one or more of the safe harbors, and therefore does not violate CARB’s guidance. By the time CARB unanimously voted to approve its new regulations, it had substantial evidence that its safe harbors were facilitating significant leakage despite AB 32’s clear requirements to the contrary.

### **A weak cap**

What does leakage mean for California’s climate policy? First and foremost, it means the “cap” in cap and trade is much less than it seems.

Return for a minute to the analogy of carbon markets as a game of musical chairs. Earlier, I suggested that so long as the government sets out the right number of chairs (a shrinking supply of emissions permits), the game should run smoothly. But resource shuffling essentially allows players to leave the game say, by offering them an open spot on a comfortable couch in a nearby room. If resource shuffling is allowed, counting the number of chairs no longer provides reliable information about the environmental performance of the system.

And that’s the major flaw in California’s system. Now that resource shuffling is happening, we know that California’s supposed reductions reflect bad bookkeeping, because the market cap is no longer firm. If the remaining coal power imports leave the carbon market, or if utilities take full advantage of the other safe harbor provisions, a significant majority of the market’s apparent emissions reductions will be attributable to leakage, not progress.

Although the market is no longer producing the net emissions reductions for which it was designed, it does have other, positive impacts. Notably, it sets a minimum price, which was \$11.34 per metric ton of carbon dioxide in July 2014. The price had previously ranged from approximately \$13 to \$20 per ton, but began a steady decline in approximately July 2013. As this article went to press, it rested slightly above the price floor, as can be seen at the California Carbon Dashboard website (<http://calcarbondash.org>). These data show that an oversupply of emissions permits caused in no small part by reduced demand due to resource shuffling has crashed the market price down to its legal minimum.

Curiously, so long as these conditions persist, the market actually looks like a carbon tax. In other words, after years of complex negotiations, emissions trading, and hundreds of pages of market rules, California’s market operates much like the carbon tax (or “fee”) policies preferred by both moderate Republicans (Paulson, 2014; Shultz and Becker, 2013) and grass roots environmentalists (Citizens’ Climate Lobby, 2014) only without the transparency and accountability mechanisms that motivate many of these advocates’ positions.<sup>7</sup> Perhaps simplicity is a virtue in climate policy after all.

In all fairness, California has managed to create the highest price on carbon pollution in the United States. It also has robust energy policies that are encouraging the expanded use of clean and efficient resources. These are all significant accomplishments, but the carbon price is still too low to do much good. We know it is lower than the actual cost of California's clean energy policies—for example, CARB reports that California's clean fuels policy credits were trading between \$63 and \$79 per metric ton of carbon dioxide during the last three months of 2013 (CARB, 2014), well above the carbon market price and therefore the carbon market is not driving compliance in those sectors. In any case, the market price is certainly lower than the levels needed for the long term transformation of the energy system.

### **A cautionary tale**

Can anything be done about the failure of California's flagship carbon market to live up to expectations? Yes, but the political challenges are far greater than the technical issues. At this point, there is only one solution that can preserve the market's integrity: CARB must observe the leakage that results from its permissive resource shuffling rules, then tighten the overall market cap accordingly. (In my musical chairs analogy, this means removing a chair for every person who leaves the game before the music stops.) But acknowledging and resolving the problem will likely increase the carbon market price, and hence political opposition.

Some stakeholders prefer to place hope in new developments in state and federal climate policy. They argue that resource shuffling will be less of a problem if enough of California's neighbors

adopt their own climate regulations. For example, the leaders of California, Oregon, Washington, and British Columbia signed an agreement to harmonize their approach to climate policy (Center for Climate and Energy Solutions, 2013). There is little chance, however, of a similar agreement with southwestern states, where most of California's legacy coal power imports originate. Waiting for the Environmental Protection Agency to act isn't an option, either. Assuming that the EPA's proposed rules are finalized and survive intense litigation, they won't produce results until after 2020, the current end date for California's legally binding market. (Moreover, the proposed federal rules do not apply to tribal lands, yet two of the three coal fired power plants that have already leaked from California's market are located in Navajo territory.) Thus, the prospects for California's neighbors to independently resolve this problem are dim.

Even if CARB fails to address the leakage issue, California's experience offers useful insights into the politics of climate policy though the precise lessons depend on one's point of view. The optimistic perspective looks something like this: Perhaps the flaws in the current plan reflect realistic concessions on the road to deep, long term emissions reductions. (State policy makers are currently discussing how to set a goal for 2030 and have a nonbinding aspirational target of reducing emissions 80 percent below 1990 levels by 2050.) Even the most proactive government officials have to navigate a maze of political obstacles, technically complex issues, and the constant threat of litigation especially when working on controversial issues such as climate policy, which challenges powerful established interests.

Sometimes policy makers make mistakes, and sometimes they make compromises. Whatever the case here, the good news is that a state can only rely on leakage once: After the high emitting resources are gone, there are no more opportunities for resource shuffling. Instead of fighting over complex market rules, climate policy makers should focus on raising the minimum market price in future reforms. Their critics should remember that the complementary policies are unaffected by a weak market cap.

Taking a less optimistic perspective, one might question the credibility of the market regulators. At the end of the day, CARB let the utilities write their own rules. Whether CARB intended to rely on leakage to artificially lower the market price, or simply didn't understand what its economic advisers were saying about the probable consequences of these reforms, it deferred to the industry it was charged with regulating. Political realists who worry about costs should also be concerned with the environmental performance of policy instruments designed to keep costs low; California will need these policies to work if it is to achieve long term climate targets. Equally important is consistency with the rule of law, which will be necessary to strengthen climate policy over the coming decades. From this perspective, relying on questionable accounting tricks is hardly the mark of a strong regulator that is prepared to impose tough rules for 2030 and beyond.

If there is a broader lesson in California's experience, it is this: The political and technical challenges of implementing climate policy are greater than most people appreciate even within the expert community, which tends to view

carbon markets as both eminently tractable (Newell et al., 2014) and politically expedient (Stavins, 2014). It is not enough to pass legislation or propose new regulations. Indeed, that is only the beginning.

### Acknowledgements

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### Funding

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### Notes

1. Many people incorrectly think of the carbon market as a European invention because the European Union was the first to apply it to climate policy. Europe did create the world's largest carbon market, the EU Emissions Trading Scheme, as part of its Kyoto Protocol obligations (Ellerman et al., 2007). Nevertheless, emissions trading actually got its start in the United States. For example, the US Environmental Protection Agency developed cap-and-trade markets to control lead in gasoline in the 1980s (Stavins, 2014) and for sulfur dioxide pollution from power plants in the 1990s (Ellerman et al., 2000).
2. This is not to say that California's climate policy is too expensive. My point is merely that the apparent cost observed in the carbon market is significantly lower than the true cost.
3. This challenge is not unique to California; it applies to nearly all sub-national carbon markets, including the Regional Greenhouse Gas Initiative and the pilot programs in China (Cullenward and Wara, 2014). So long as the carbon market is smaller than the region's electricity market, cross-border accounting issues will be present.
4. See California Health and Safety Code (2014: §§ 35852(b), (b)(8)).

5. See Legislative Counsel of California (2014: § 38505(j)).
6. See California Code of Regulations (2014: § 95852(b)(2)). The attestation requirement was suspended soon after adoption and recently repealed in its entirety.
7. Although advocates of these policies use different terminologies, they share the common goal of putting a price on emissions—for all practical purposes, a tax. But framing matters in politics. Citizens' Climate Lobby eschews "tax" and prefers "fee and dividend," returning all revenue back to households. Shultz and Becker promote a "revenue-neutral carbon tax," which they distinguish from other taxes by requiring that all revenues be returned to individual (and potentially corporate) taxpayers. Finally, others, like Paulson, refer simply to a carbon tax, without specifying how the revenue would be used.

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# Exhibit 9

State of California  
AIR RESOURCES BOARD

**PUBLIC HEARING TO CONSIDER THE PROPOSED AMENDMENTS TO THE  
CALIFORNIA CAP ON GREENHOUSE GAS EMISSIONS AND  
MARKET-BASED COMPLIANCE MECHANISMS**

**STAFF REPORT: INITIAL STATEMENT OF REASONS**

**DATE OF RELEASE: August 2, 2016**  
**SCHEDULED FOR CONSIDERATION: September 22, 2016**

Location:

**California Environmental Protection Agency  
Air Resources Board  
Byron Sher Auditorium  
1001 I Street  
Sacramento, California 95814**

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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## **EXECUTIVE SUMMARY**

Air Resources Board (ARB or Board) staff is proposing to amend the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms (Cap-and-Trade Regulation or Regulation; title 17, California Code of Regulations, sections 95801 et seq.). The Cap-and-Trade Program (Program) is a key element of California's strategy to reduce greenhouse gas (GHG) emissions; it complements other measures to ensure that California cost-effectively meets its established goals for GHG emissions reductions. This report presents ARB staff's proposal to amend the Cap-and-Trade Regulation to extend the major provisions of the Program beyond 2020, to broaden the Program through linkage with Ontario, Canada, to prevent emissions leakage in the most cost-effective manner through appropriate allocation to entities, to clarify compliance obligations for certain sectors, and to enhance ARB's ability to implement and oversee the Program. Amendments also propose how the Program can be used to demonstrate California's compliance with the federal Clean Power Plan.

### **Background on AB 32 and the Cap-and-Trade Regulation**

Climate change is one of the most serious environmental threats facing the world today, and California is already feeling its effects. California committed to take action to address the threat through the adoption of the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or AB 32; Nuñez, Chapter 488, Statutes of 2006), which is codified at California Health and Safety Code sections 38500 *et seq.* AB 32 requires California to reduce GHG emissions to 1990 levels by 2020, to maintain and continue GHG emissions reductions beyond 2020, and to develop a comprehensive strategy to reduce dependence on fossil fuels, to stimulate investment in clean and efficient technologies, and to improve air quality and public health. It identifies ARB as the State agency charged with monitoring and regulating sources of the GHG emissions that cause climate change. AB 32 also requires ARB to work with other jurisdictions to identify and facilitate the development of integrated and cost-effective regional, national, and international GHG reduction programs.

In 2015, California ranked as the world's sixth largest economy, up from number ten in 2012. Yet, GHGs per capita and GHG's per gross domestic product declined while the economy grew. Over the past half century, the State has made great strides in addressing air pollution and continues to seek and implement new policies to meet national and state air quality standards. California's current climate program relies on a mix of an economy-wide cap with a market-based allowance trading system, accompanied by a suite of sector specific policies such as a renewable portfolio standard for electricity, a low carbon fuel standard, and strong vehicle emission standards. The recently released 2014 GHG inventory demonstrates that the State's suite of climate policies are yielding GHG reductions and the State is on track to achieve the 2020 statewide target and accomplish our longer-term climate goals.

Despite California's marked progress, greater innovation and effort is needed to avoid the worst consequences of climate change. Recognizing the threat to California's

future, Governor Brown called on California to pursue a new and ambitious set of objectives to continue to reduce GHG emissions by 2030 and beyond. In his January 2015 inaugural address, Governor Brown identified five key climate change strategy “pillars,” which recognize that several major areas of the California economy will need to reduce their emissions to meet California’s ambitious climate change goals. These five pillars are:

1. Reducing today’s petroleum use in cars and trucks by up to 50%;
2. Increasing from one-third to 50% our electricity derived from renewable sources;
3. Doubling the efficiency savings achieved at existing buildings and making heating fuels cleaner;
4. Reducing the release of methane, black carbon, and other short lived climate pollutants; and
5. Managing farm and rangelands, forests and wetlands so they can store carbon.

Consistent with these goals, Governor Brown signed Executive Order B-30-15 in April 2015 establishing a California GHG reduction target of 40 percent below 1990 levels by 2030. This new emissions reduction target represents the most aggressive benchmark enacted by any government in North America to reduce GHG emissions over the next decade and a half. This new target is also consistent with the scientifically established levels needed to limit global warming below 2 degrees Celsius (°C)—the warming threshold at which scientists agree that there will likely be major climate disruptions—and aligns California’s GHG reduction targets with those of leading international governments.

Executive Order B-30-15 calls on ARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. The 2030 Target Draft Scoping Plan will serve as the framework to define the State’s climate change priorities for the next 15 years and beyond. The 2030 Target Draft Scoping Plan is expected to be considered by the Board for a final vote in early 2017. It will chart the path to achieving the 2030 target and describe the potential role of a post-2020 Cap-and-Trade Program. ARB is proposing to move forward with the regulatory amendments to address areas for the third compliance period (2018-2020) and to provide an investment signal that the current suite of climate policies, including the Cap-and-Trade Program, are delivering the reductions needed to achieve the 2020 target and have an essential continued role to play in achieving the 2030 target. Staff intends for the Board to consider and act on an update to the Scoping Plan prior to final action on the Cap-and-Trade Regulation amendments.

The Program is a key element of California’s GHG reduction strategy. The Regulation establishes a declining limit on major sources of GHG emissions, and it creates a powerful economic incentive for major investment in cleaner, more efficient technologies. The Program applies to emissions that cover about 80 percent of the State’s GHG emissions. ARB creates allowances equal to the total amount of permissible emissions (i.e., the “cap”) over a given compliance period. One allowance



equals one metric ton of GHG emissions. Fewer allowances are created each year, thus the annual cap declines and statewide emissions are reduced over time.

The Program is designed to achieve the most cost-effective statewide GHG emissions reductions; there are no individual or facility-specific emissions reduction requirements. Each entity covered by the Regulation has a compliance obligation that is set by its GHG emissions over a compliance period, and entities are required to meet that compliance obligation by acquiring and surrendering allowances in an amount equal to their compliance obligation. Companies can also meet a limited portion of their compliance obligation by acquiring and surrendering offset credits, which are compliance instruments that are based on rigorously verified emission reductions that occur from projects outside the scope of the Program. Like allowances, each offset credit is equal to one metric ton of GHG emissions. The Program began in January 2013 and achieved a near 100 percent compliance rate for the first compliance period (2013-2014). The emissions covered by the Program are well under the cap, though demonstrating some minor annual variability.

Allowances are issued by ARB and distributed by free allocation and by sale at auctions. Offset credits are issued by ARB to qualifying offset projects. Secondary markets exist where allowances and offset credits may be sold and traded among Program participants. Facilities must submit allowances and offsets to match their annual GHG emissions. Facilities that emit more GHG emissions must surrender more allowances or offset credits, and facilities that can cut their emissions need to surrender fewer compliance instruments. Entities have flexibility to choose the lowest-cost approach to achieving Program compliance; they may purchase allowances at auction, trade allowances and offset credits with others, or take steps to reduce emissions at their own facilities. Monies from the sale of State-owned allowances at auction are placed into the Greenhouse Gas Reduction Fund.

SB 1018 and other implementing legislation requires that monies deposited into the GGRF be used to further the purposes of AB 32, while also fostering job creation by promoting in-state GHG emissions reduction projects carried out by California workers and businesses. SB 535 directs State and local agencies to make significant investments from monies deposited into the GGRF that improve California's most vulnerable communities. Specifically, SB 535 requires that a minimum of 25 percent of these investments are allocated to projects that provide benefits to disadvantaged communities, and a minimum of 10 percent are allocated to projects located within and providing benefits to disadvantaged communities. Based on agency data reported as of December 2015, 51% of the \$912 million dollars implementing California Climate Investments are funding projects that provide benefits to disadvantaged communities; 39% of the \$912 million are funding projects located within disadvantaged communities.<sup>1</sup>

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<sup>1</sup> Excluding High Speed Rail.

The Program is also designed to accommodate regional trading programs. Since 2007, California has been a partner in the Western Climate Initiative (WCI), an effort of U.S. states and Canadian provinces working together to implement policies to combat climate change, including through the development of a regional cap-and-trade system. Staff works with other WCI jurisdictions to ensure that rigorous and compatible systems are being developed. This cooperation facilitates future Program linkages with other developing GHG reduction programs in the region. On January 1, 2014, California and Quebec linked their respective cap-and-trade programs. The proposed Regulation includes a proposal to continue that linkage post-2020 and link with Ontario's program beginning January 1, 2018.

### **Regulatory Development of the Cap-and-Trade Regulation**

The Regulation was adopted by the Board in October 2011, and it took effect January 1, 2012. The first allowance auction occurred in November 2012, and the first compliance period began January 1, 2013. In 2012, ARB proposed two sets of amendments to the Regulation. The first set of amendments, related to program implementation, was approved by the Board in June 2012 and took effect in September 2012. The second set of amendments, related to jurisdictional linkage with Québec, was approved by the Board in April 2013 and took effect in October 2013. The start date for the linked California and Québec Cap-and-Trade Programs was January 1, 2014.

In 2013, ARB proposed another set of amendments to the Regulation that extended transition assistance for some covered entities, refined the required data collected from registered participants to support market oversight, and added an additional cost containment measure. These amendments also included a new Mine Methane Capture compliance offset protocol, updates to offset implementation and usage, refinement of resource shuffling provisions, and changes to the surrender order of compliance instruments. The Board approved these amendments in April 2014, and they took effect July 1, 2014.

In 2014, ARB staff proposed an additional two sets of amendments to the Regulation. The first set of targeted amendments addressed allowance allocation methods, compliance obligations for certain sectors, disclosure of corporate associations, updates to existing offset protocols, and clarifications of provisions on implementation and oversight of the Regulation. This first set of 2014 amendments was adopted by the Board in September 2014, and they took effect January 1, 2015. The second set of 2014 amendments modified the Regulation to include a new Rice Cultivation Compliance Offset Protocol and to update the United States Forest Compliance Offset Protocol to allow eligibility for projects in parts of Alaska. The second set of amendments was adopted by the Board in June 2015 and became effective November 1, 2015.

The full regulatory record and background for these previous Cap-and-Trade Regulation rulemakings is available at the main Cap-and-Trade Program webpage.<sup>2</sup>

## **Proposed Amendments to the Cap-and-Trade Regulation**

### *Staff Proposal*

In October 2015, staff began a public process to propose additional amendments for Board consideration. Staff proposes to amend the Cap-and-Trade Regulation to extend the Program beyond 2020, broaden the Program through linkages with other jurisdictions, comply with the federal Clean Power Plan, and generally enhance ARB's ability to oversee and implement the Regulation. The proposed amendments would:

- Extend the Program beyond 2020 by establishing new emissions caps, enabling future auction and allocation of allowances, and continuing all other provisions needed to implement the Program after 2020;
- Link the Program with the new cap-and-trade program in Ontario, Canada beginning January 2018;
- Continue Program linkage with Québec, Canada beyond 2020;
- Continue to prevent emissions leakage in the most cost-effective manner through appropriate allowance allocation for a post-2020 program;
- Ensure that quantifiable and verifiable GHG emissions are captured by the Program;
- Continue the allocation of allowances to the utilities on behalf of rate-payers;
- Provide for California compliance with the federal Clean Power Plan;
- Clarify compliance obligations for certain sectors; and
- Simplify participation in the Program by streamlining registration, auction participation, information management, and issuance of offset credits.

With a cap decline of about three and a half percent per year, the proposed Regulation is expected to reduce cumulative statewide GHG emissions between 100 and 200 million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e) from 2021 through 2030, and the flexibility inherent to the Program will ensure that these reductions are cost-effective.

### *Evaluation of Regulatory Alternatives*

Staff analyzed three alternatives to the proposed Cap-and-Trade Regulation: (1) a “no project” alternative; (2) facility-specific regulations designed to achieve the 2030 emissions target; and (3) a carbon fee. In evaluating these alternatives, ARB staff

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<sup>2</sup> <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

found that none were as or more effective than implementing a cap-and-trade program for achieving the goals of AB 32. In addition, staff considered several alternatives to the specific provisions of the Regulation that are contained in the proposed amendments. In recommending the amendments included in this proposal, staff balanced the need to maintain the environmental integrity of the Program, to retain flexibility for covered entities to help ensure cost-effectiveness, and to consider the potential for co-benefits.

Some of these same alternatives may be considered in the development of the 2030 Target Draft Scoping Plan. As this staff report and its analyses are focused on alternatives to the Proposed Amendments, the alternatives and Proposed Amendments do not factor in other complementary policies that, when considered in the context of a comprehensive statewide plan, may yield different findings.

### *Environmental Assessment*

This proposal has been evaluated for possible environmental impacts in a Draft Environmental Analysis (EA) prepared by ARB consistent with the requirements of the California Environmental Quality Act (CEQA). The full EA is provided in Appendix B of this Staff Report, and it is summarized in Chapter IV. It provides a single coordinated programmatic environmental analysis of an illustrative, reasonably foreseeable compliance scenario that could result from implementation of the proposed amendments to the Cap-and-Trade Regulation, including provisions to comply with the federal Clean Power Plan (CPP). The EA identifies potential adverse impacts and potential environmental benefits associated with the proposed amendments to the Regulation.

The EA states that implementation of the proposed Regulation could continue beneficial reductions in GHG emissions, criteria pollutant emissions, and energy demand from capped sectors in California from 2020 through 2030 and beyond.

The EA adopts a conservative approach in its significance conclusions and discloses, for CEQA compliance purposes, that some impacts of the proposed Regulation could be potentially significant and unavoidable. While many impacts associated with the proposed amendments could be reduced to a less-than-significant level through conditions of approval applied to project-specific development, the authority to apply that mitigation does not lie with ARB, so those impacts are conservatively deemed potentially significant and unavoidable. The EA identified potentially significant air quality impacts related to activities that disturb the ground, such as construction projects or site preparation for tree planting to establish offset credits. Such impacts are likely to be mitigated during project development, but are nonetheless possible. ARB's adaptive management program will monitor and address unanticipated localized air quality impacts resulting from the Regulation and biological resource impacts resulting from implementation of the Compliance Offset Protocol U.S. Forest Projects.

The EA also analyzes cumulative impacts as required under CEQA. The EA identifies relevant programs that would result in related impacts. These include the First Update to the Climate Change Scoping Plan (ARB 2014), the 2030 Target Scoping Plan

Update<sup>3</sup> (currently in preparation), the Low Carbon Fuel Standard<sup>4</sup> (LCFS), the Short-Lived Climate Pollutant (SLCP) Reduction Strategy (ARB 2016a),<sup>5</sup> the State Strategy for the State Implementation Plan (ARB 2016b),<sup>6</sup> and the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (Oil and Gas Regulation).<sup>7</sup> The EA states that implementation of the Proposed Project would potentially result in cumulatively considerable contributions to significant cumulative impacts related to certain resource areas. While project-level mitigation is likely to occur for each potential cumulatively considerable contribution to a significant impact, other agencies would be responsible for implementing the mitigation measures. Consequently, it is uncertain whether mitigation measures would be implemented, which precludes assurance that significant impacts would be avoided or reduced to a less-than-significant level. Where impacts cannot feasibly be mitigated or where there is uncertainty about implementation of mitigation, the EA recognizes the impact as significant and unavoidable.

### *Economic Assessment*

Facilities directly covered by the Program will be required to acquire and surrender compliance instruments equal to their annual emissions, increasing their cost of production. The Program gives facilities the flexibility to either make emissions reductions or purchase allowances, whichever is cheaper, minimizing their costs of compliance because the costs are assumed to be passed through. All other consumers of fossil fuel products would pay higher prices for fossil fuels and products that use fossil fuels, but these consumers are not directly covered by the regulation.

The economic analysis of the proposed amendments assessed the impacts of these Program costs on the California economy. At expected allowance prices, between the Auction Reserve Price (sometimes called the floor price; \$25.20 in 2030 in 2015 dollars) and the Allowance Price Containment Reserve price (\$85.16 in 2030 in 2015 dollars) the Program will have only a small impact on the California economy. Economic growth between 2021 and 2030 continues at a rate virtually on par with current projections. Impacts on long-term projected growth rates in personal income and employment are similarly small. At the Auction Reserve Price, economic impacts from the Program are well within normal fluctuations.

This economic analysis focuses exclusively on the economic effects of implementing the Cap-and-Trade Program, and does not consider the avoided costs of inaction. The potential effects of climate change on California could cause severe economic damage. While California has developed a climate adaptation strategy to help alleviate these potential costs, the economic cost from climate change in California is very significant.

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<sup>3</sup> <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

<sup>4</sup> <http://www.arb.ca.gov/fuels/lcfs/lcfs.htm>

<sup>5</sup> <http://www.arb.ca.gov/cc/shortlived/shortlived.htm>

<sup>6</sup> <http://www.arb.ca.gov/planning/sip/sip.htm>

<sup>7</sup> <http://www.arb.ca.gov/cc/oil-gas/oil-gas.htm>



California continues to work toward developing a broader market linked with other jurisdictions. Linkage can provide additional options for emissions reductions, reduce concerns related to market power, as well as increase liquidity and potentially reduce volatility in the allowance market. Linking jurisdictions will likely result in a small change to the allowance price in California. The direction and magnitude of this change will depend on such factors as the size of each market, the availability of offsets, and the cost of reduction opportunities. However, at current allowance prices it is unlikely that linkage with Ontario will have a noticeable effect on allowance prices.

### **Staff Recommendation**

Staff recommends that the Board adopt the proposed amendments to the Cap-and-Trade Regulation. The proposed regulatory amendments extend the Program beyond 2020, broaden the Program through linkage with other jurisdictions, ensure that emissions leakage prevention is done in the most economically efficient manner, protect the environment through assigning a compliance obligation to quantifiable and verifiable GHG emissions, and enhance ARB's ability to implement and oversee the Regulation. In doing so, the Regulation amendments will enable the Program to continue to reduce GHG emissions while minimizing emissions leakage and benefitting the California economy through investment in clean energy technologies.

## I. INTRODUCTION AND BACKGROUND

This Staff Report presents ARB staff's rationale for proposed amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms (Cap-and-Trade Regulation or Regulation, title 17, California Code of Regulations, sections 95801 et seq.), which was developed pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or AB 32; Nuñez, Chapter 488, Statutes of 2006). AB 32 established an initial goal for California to reduce statewide greenhouse gas (GHG) emissions to 1990 levels by the year 2020 and to maintain and continue GHG emissions reductions beyond 2020. As one of the suite of measures developed to help the State achieve the 2020 limit, the Cap-and-Trade Regulation is designed to cost-effectively reduce GHG emissions by establishing a cap covering the State's major emission sources, applying a cost to those GHG emissions, and therefore driving investment in cleaner and more efficient technologies. And, ARB's recent GHG inventory (ARB 2016c)<sup>8</sup> shows that the suite of measures adopted pursuant to the initial Scoping Plan (ARB 2008a) are delivering the emissions reductions needed to achieve the 2020 statewide limit while the economy has continued to grow with co-benefits in reductions of criteria and toxic air pollutants.

Some of the proposed amendments pertain to the third compliance period of the Cap-and-Trade Program (Program), which will begin January 1, 2018, and some proposed amendments extend the Program beyond 2020. Proposed amendments that would affect the Program starting in the third compliance period would link the Program with Ontario, Canada; update assistance factors and other allowance allocation elements to ensure that allocation is economically efficient and effectively protects against leakage; ensure that quantifiable and verifiable GHG emissions are captured by the Program; clarify compliance obligations; and streamline Program implementation through changes to registration, information management, and issuance of offset credits. Amendments that would affect the post-2020 Program starting January 1, 2021 would generally extend the major provisions of the Program beyond 2020, establish emissions caps for 2021 through 2030, enable California compliance with the federal Clean Power Plan, allow for the extension of allowance allocation, and continue Program linkage with other jurisdictions. Several inconsequential changes are made to the Regulation to correct typographical errors, improve internal consistency, and remove provisions that are no longer needed (for example, because the provisions only applied to the first compliance period).

As the proposed Cap-and-Trade Regulation amendments have been developed, there has been a parallel regulatory process to amend the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR) to ensure that the emissions and product data reported pursuant to MRR are accurate and fully support the Cap-and-Trade Program. The amendments to MRR are a separate rulemaking package from the amendments to the Cap-and-Trade Regulation, but both amendment processes are following a similar schedule for regulatory development.

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<sup>8</sup> <http://www.arb.ca.gov/cc/inventory/inventory.htm>

This introduction describes the climate change problem that is addressed by the Regulation, provides background information on California's Climate Change Scoping Plan, the Cap-and-Trade Program, and the Western Climate Initiative, and presents an overview of the public process during development of the proposed amendments.

### **A. Description of the Public Problem**

Climate change is one of the most serious environmental threats facing the world today. Global warming is already impacting the western United States, particularly California, in more severe ways than the rest of the country. The 2010 Climate Action Team report (Climate Action Team 2010) concluded that climate change will affect virtually every sector of the State's economy and most of California's ecosystems. Significant impacts will likely occur even under moderate scenarios of increasing global GHG emissions and resulting climate change.

North America is experiencing the effects of climate change. Annual mean air temperature in North America has increased over the past forty years (Füssel 2009; Pederson et al. 2010). More frequent and intense extreme weather events have impacted ecosystems, increased coastal damage, and affected a considerable proportion of people (Christensen and Hewitson 2007; Emanuel et al. 2008).

When compared to the rest of the country, California is particularly vulnerable to significant resource and economic impacts from at least three effects of climate change. First, as sea level rises and coastal erosion and flooding increase, California will experience loss of, and damage to, coastal property, infrastructure, recreational beaches, wildlife habitat, and coastal water supplies. Second, California relies on its snowpack for water supply and storage, and this resource is predicted to be substantially diminished by climate change during this century. Third, California's urban, suburban, and rural areas are highly impacted by wildfires in ways that most of the country is not, and climate change will increase the incidence and severity of wildfires as well as the resulting air quality and economic impacts.

Extreme weather events have also had severe impacts on transportation systems, energy supplies, and other industries in North America. For example, major hurricanes in 2004 and 2005 in the United States affected oil and natural gas platforms and pipelines, creating billions of dollars in restoration costs for public utilities and transportation networks on the regional and national level (Edison Electric Institute 2005). Cities are forecast to experience more extreme heat waves, increased numbers of dangerous storm surges, and more severe water shortages, droughts, and floods. In addition, the more intense heat waves, weather events, and air pollution generated by climate change may lead to social disruption, an increased spread of vector-borne diseases, and a deterioration of human health. Climate change is already impacting the health of our communities. Those facing the greatest health inequities include low-income individuals and households, the very young and the very old, communities of

color, and those who have been marginalized or discriminated against based on gender, race/ethnicity, or sexual orientation. Addressing climate change presents a significant opportunity to improve public health for all of California's residents and work towards making our State the healthiest in the nation.

It is imperative that California continue to work to reduce GHG emissions in order to decrease the probability of these impacts. In 2005, Governor Schwarzenegger issued Executive Order S-3-05 (EO S-3-05), which set a target of reducing GHG emissions to 80 percent below 1990 statewide levels by 2050. In 2006, California enacted AB 32 to address this public problem by requiring cost-effective reductions in GHG emissions. AB 32 directed ARB to continue its leadership role on climate change and to develop a scoping plan identifying integrated and cost-effective regional, national, and international GHG reduction programs. In 2015, Governor Brown issued Executive Order B-30-15 (EO B-30-15), which set a goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 as an interim step to meeting the 2050 goal. EO-B-15 also directed ARB to update the scoping plan and instructed agencies to take steps consistent with statutory authority to meet the 2030 and 2050 goals.

## **B. Background**

### *1. Climate Change Scoping Plan*

As required by AB 32, in 2008, the first Climate Change Scoping Plan (ARB 2008a) laid out a comprehensive program to reduce California's GHG emissions to 1990 levels by 2020, to reduce the State's dependence on fossil fuels, to stimulate investment in clean and efficient technologies, and to improve air quality and public health. The coordinated set of policies in the Scoping Plan employed strategies tailored to specific needs, including market-based compliance mechanisms, performance standards, technology requirements, and voluntary reductions. The Scoping Plan described a conceptual design for a cap-and-trade program that included eventual linkage to other cap-and-trade programs to form a larger regional trading program. As implemented, the Cap-and-Trade Program is designed to work in concert with other measures, such as standards for cleaner vehicles, low-carbon fuels, renewable electricity, and energy efficiency. The Program also complements and supports California's existing efforts to reduce criteria and toxic air pollutants. AB 32 also requires the Scoping Plan to be updated at least once every five years, and the first update was in 2014 (ARB 2014). In 2015, Governor Brown issued EO B-30-15, which directs ARB to update the Scoping Plan, in collaboration with other State agencies, to establish the path for realizing the 2030 GHG emissions limit.

In response to the Executive Order, ARB began a process, in coordination with other state agencies, to update the Scoping Plan with a series of symposia and a kickoff workshop in summer and fall 2015. The 2030 Target Draft Scoping Plan will serve as the framework to define the State's climate change priorities for the next 15 years and beyond. ARB is currently coordinating with other state agencies, economic reviewers,

and the Environmental Justice Advisory Committee (EJAC), and holding public workshops to complete the process of updating the Scoping Plan for final Board consideration in early 2017. The updated Scoping Plan will chart the path to achieving the 2030 target through a suite of greenhouse gas reduction measures and a potential post-2020 Cap-and-Trade Program. The proposed Cap-and-Trade Regulation amendments, some of which develop a post-2020 Program to support achieving the 2030 statewide GHG target, are being developed concurrently with the Scoping Plan update. As part of the development of the 2030 Target Scoping Plan update, at least two alternatives to a post-2020 Cap-and-Trade Program will be evaluated. During development of these amendments for the Regulation, ARB staff has heard from stakeholders, and believes that long-term signals for GHG reductions are critical for efficient compliance planning and for providing the incentive to make onsite investments to reduce GHG emissions. Staff intends for the Board to consider and act on an update to the Scoping Plan prior to final action on the Cap-and-Trade Regulation amendments.

## *2. Cap-and-Trade Regulation*

California's Cap-and-Trade Regulation was adopted by ARB in October 2011, and the Regulation took effect on January 1, 2012. The first allowance auction occurred in November 2012, and the first compliance period began on January 1, 2013. On January 1, 2014, California and Québec formally linked their Cap-and-Trade Programs, allowing transfers of compliance instruments between the two jurisdictions.

The Program establishes a hard declining cap on major sources of statewide GHG emissions, and it creates a strong economic incentive for investments in cleaner, more efficient technologies. Each entity covered by the Program has a compliance obligation that is set by its GHG emissions, and entities are required to meet that compliance obligation by acquiring and surrendering allowances and a limited quantity of offset credits in an amount equal to their compliance obligation. ARB creates allowances equal to the total amount of permissible emissions (i.e., the cap) over a given compliance period. One allowance equals one metric ton of carbon dioxide equivalent (using the 100-year global warming potentials). Because the cap declines, fewer allowances are created each year and overall emissions decrease over time.

The first three compliance periods are either a 2-year or 3-year block of time in the Program: 2013-2014, 2015-2017, and 2018-2020. Multiyear compliance periods provide entities time to develop compliance responses when annual emissions vary due to drought, economic conditions, or other unique production conditions.

The Program is designed to achieve the most cost-effective statewide GHG emissions reductions. There are no individual or facility-specific emissions reduction requirements; rather, each regulated party must acquire and surrender compliance instruments in an amount equal to their total GHG emissions during each compliance period. Firms can also meet a portion of their compliance obligation by surrendering offset credits, which are compliance instruments that are derived from rigorously verified



emissions reductions from projects outside the scope of the Program. Like allowances, each offset credit is equal to one metric ton of GHG emissions. Allowances are issued by ARB and distributed by free allocation and by sale at auction; offset credits are issued by ARB for emission reductions at qualifying offset projects. A market exists where allowances and offset credits may be sold and traded among Program participants. By virtue of being linked to the Québec Cap-and-Trade System, California entities can also use Québec issued allowances and offsets as all compliance instruments issued by both jurisdictions are fully fungible.

Firms covered by the Program have flexibility to develop their most cost-effective compliance strategy. They may find methods to reduce emissions at their own facilities, trade allowances with other firms, and/or purchase allowances at auction. Through these mechanisms, the Program leverages the power of the market to find the most cost-effective methods to reach California's environmental goals. The ability to auction and trade allowances establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy, and affords those parties that are regulated by the Program the flexibility to seek out and implement the lowest-cost options to reduce emissions.

In 2012, ARB proposed two sets of amendments to the Regulation. The first set of amendments, related to program implementation, was approved by the Board in June 2012, and these amendments took effect in September 2012. The second set of amendments, related to jurisdictional linkage with Québec, was approved by the Board in April 2013, and these amendments took effect in October 2013. The start date for linking the California and Québec Cap-and-Trade Programs was January 1, 2014.

In 2013, ARB proposed another set of amendments to the Regulation. The amendments extended transition assistance for some covered entities, refined the required data collected from registered participants to support market oversight, and added an additional cost containment measure. These amendments also included a new Mine Methane Capture compliance offset protocol, updates to offset implementation and usage, refinement of resource shuffling provisions, and changes to the surrender order of compliance instruments. The Board approved these amendments in April 2014, and they took effect July 1, 2014.

In 2014, ARB staff proposed an additional two sets of Cap-and-Trade Regulation amendments. The first set of targeted amendments clarified the quantification of production data, updated the compliance offset protocols, and modified requirements related to compliance, corporate association disclosures, and offset transfer price reporting related to the transaction of market instruments. This first set of 2014 amendments was adopted by the Board in September 2014, and they took effect January 1, 2015. The second set of 2014 amendments modified the Regulation to include a new Rice Cultivation Compliance Offset Protocol and to update the United States Forest Compliance Offset Protocol to allow eligibility for projects in parts of

Alaska. This second set of amendments was adopted by the Board in June 2015 and became effective November 1, 2015.

### 3. *Western Climate Initiative and Linkage with Other Jurisdictions*

California, Québec, and Ontario are members of WCI, a collaboration among states and provinces that was initiated in 2007 to address climate change at a regional level. Within WCI, the three jurisdictions collaborated on the development of cap-and-trade program-design recommendations, providing a roadmap for program implementation and harmonization. California's Cap-and-Trade Regulation was developed concurrently with the WCI design documents that provide a template for a regional cap-and-trade program. The similar design features and minimum stringency requirements drawn from the WCI process facilitate linkage among the California, Québec, and Ontario programs.

The California Cap-and-Trade Program is currently linked with the cap-and-trade program in the Canadian province of Québec, and the current amendments propose linking with Ontario, Canada. The economic advantages of linking with other jurisdictions are analogous to the benefits of including multiple sectors under a broad California Cap-and-Trade Program. Increasing the number of sources that are able to trade allowances expands opportunities for low-cost emissions reductions, thus reducing the overall cost of reductions, and it improves the efficiency and liquidity of the allowance market.

Senate Bill 1018 (SB 1018; Chapter 39, Statutes of 2012) requires that the Governor make four findings prior to linking the California Program with other jurisdictions. Under SB 1018, the Governor must find that the linked program:

- Has requirements that are equivalent to or stricter than the California Program;
- Will allow for continued enforceability of AB 32 and related statutes;
- Is fully enforceable within its own jurisdiction; and
- Does not impose liability on California.

Governor Brown made these four findings for linkage with Québec, confirming the relative stringency of the programs. A similar process will apply for the proposed linkage with Ontario. Staff expects to request the findings required per SB 1018 for linkage with Ontario in late 2016.

To ensure continued harmonization between the programs, ARB has consulted with Québec on the proposed amendments and will continue to coordinate with Québec to ensure the smooth functioning of the linked Program, consistent with the requirements in SB 1018.

### **C. Public Process for the Proposed Amendments**

The proposed amendments build upon the Regulation that is currently in force, including all previous amendments approved by the Board. The public process for the proposed amendments began with a kickoff workshop on October 2, 2015, and a total of ten publicly noticed workshops were held from October 2015 through June 2016. A meeting of the Environmental Justice Advisory Committee (EJAC) in January 2016 also included a public discussion of the proposed Regulation amendments. In addition, ARB staff held numerous informal meetings with stakeholders to discuss specific topics related to the proposed amendments. These forums provided ARB staff and stakeholders opportunities to present and discuss initial regulatory concepts and potential alternatives. The workshops and meetings allowed ARB staff to consider and incorporate comments and alternatives into the proposed amendments. ARB staff considers stakeholder feedback throughout the regulatory adoption process, including up to the adoption of the final regulation.

The ten publicly noticed workshops at which ARB staff gave presentations on specific amendment topics and solicited comments and feedback from affected stakeholders were held as follows:

- Oct. 2, 2015: Kickoff Workshop on Potential 2016 Amendments to the Cap-and-Trade Regulation and California Compliance with the Federal Clean Power Plan
- Oct. 28, 2015: Including International Sector-Based Offset Credits in the Cap-and-Trade Program
- Dec. 14, 2015: California Plan for Compliance with the Federal Clean Power Plan and Potential 2016 Amendments to the Cap-and-Trade Program
- Feb. 24, 2016: Potential Revisions to ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions and Cap-and-Trade Regulations
- Mar. 22, 2016: Sector-Based Offset Credits: Reference Levels, Crediting Baselines, and Monitoring and Verification
- Mar. 29, 2016: Post-2020 Emissions Cap Setting and Allowance Allocation
- Apr. 5, 2016: Incorporation of Sector-Based Offsets and Cost Containment Provisions
- Apr. 28, 2016: Sector-Based Offset Credits: Linkage Requirements and Environmental Safeguards
- May 18, 2016: Emissions Leakage Prevention Studies
- June 24, 2016: Electricity and Natural Gas Sectors

Each of these workshops was announced at least two weeks prior to its occurrence by giving notice at a previous workshop, posting discussion papers and research papers online, and/or posting a notice to the Cap-and-Trade Program public email service list (capandtrade), which has over 1,000 recipients. Each workshop was open to all members of the public, and each was also made available for participation by webcast. Workshop information and materials, along with public comments that were submitted in response to the workshops, are posted on the Cap-and-Trade Program's Public Meetings webpage.<sup>9</sup> Over 200 comments were received in response to the workshops.

ARB staff publicly released a total of four discussion papers and three research papers related to specific amendment topics. Staff released two discussion papers on using the Cap-and-Trade Program for California compliance with the federal Clean Power Plan, the first in September 2015 and the second in February 2016. Staff also released two discussion papers on the potential incorporation of sector-based offset credits into the Program, the first in October 2015 and the second in March 2016. In May 2016, staff released three research studies conducted by independent researchers that describe the emissions leakage potential of California's manufacturing sectors. All of these papers are included in Appendix F and also posted on the Program's Public Meetings webpage.

Staff also conducted a Standardized Regulatory Impact Assessment (SRIA) as required by Senate Bill 617 (Chapter 496, Statutes of 2011) and received feedback and comments from the Department of Finance (DOF). Staff revised the SRIA in response to the feedback from DOF, and Appendix C to this Staff Report includes the revised SRIA as well as a summary of DOF comments on the SRIA and ARB's responses to those comments.

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<sup>9</sup> <http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>

## **II. STATEMENT OF REASONS**

This chapter provides a general summary of the proposed amendments to the Cap-and-Trade Regulation for each element of the Program where changes are proposed. A description of the underlying reasons for the proposed amendments is also given for each Program element. Summary and rationale statements are also provided that give the purpose and reasoning for every regulation change that is proposed.

Staff has considered the comments received from stakeholders during the development process, and the proposed amendments incorporate feedback to the extent that staff believes the feedback to be reasonable and feasible.

### **A. Description of Problems that this Proposal Is Intended to Address**

Climate change is a serious environmental threat, and California is vulnerable to resource and economic impacts from climate change such as increased flooding and erosion due to rising sea levels, increased incidence and severity of wildfires, and diminished water resources from reduced mountain snowpack. It is important that California continues to reduce GHG emissions in order to decrease the probability and intensity of these impacts.

In 2005, Governor Schwarzenegger issued Executive Order S-3-05 (EO S-3-05), which set a target of reducing GHG emissions to 80 percent below 1990 statewide levels by 2050. In 2006, California enacted AB 32 to address climate change by reducing GHG emissions in a cost-effective manner. AB 32 directed ARB to continue to lead efforts to address climate change and to develop integrated and cost-effective regional, national, and international GHG reduction programs. The Cap-and-Trade Regulation is one of a suite of California measures to reduce GHG emissions and limit the impacts of climate change; and ARB's recent GHG inventory shows that the measures adopted pursuant to the initial Scoping Plan are delivering the emissions reductions needed to help achieve the 2020 statewide limit while the economy has continued to grow. In 2015, Governor Brown set an interim goal to reduce GHG emissions to 40 percent below 1990 statewide levels by 2030 by issuing EO B-30-15. The proposed amendments would extend the major elements of the Program beyond 2020 to continue statewide GHG emissions reductions and further demonstrate California's leadership in addressing climate change.

Climate change is a global problem that California cannot solve on its own; regional and global partners are needed. Because of the global nature of the climate change problem, the atmosphere benefits from GHG reductions that occur anywhere on the planet. Linking the Program with other jurisdictions encourages emissions reductions beyond California's borders, and it expands opportunities for low-cost emissions reductions, thus improving the cost-effectiveness of the reductions achieved by the Program. The proposed amendments would link the Program with the new cap-and-



trade program in Ontario, Canada, providing additional GHG reduction benefits to the atmosphere and market benefits to the Program.

The federal Clean Power Plan (CPP; 40 CFR §§60.5700 to 60.5880) was adopted by the U.S. Environmental Protection Agency in 2015 and published in the Federal Register on October 23, 2015. Among other requirements, CPP establishes a statewide aggregate emissions target for all affected electricity generating units (affected EGUs) for the eight-year period 2022 through 2029, and it establishes a statewide aggregate emissions target for all affected EGUs for the two-year period 2030 through 2031 and for each two-year period thereafter. California has developed a draft plan that describes its general approach for compliance with CPP. Some of the proposed amendments would establish new requirements for electricity generating units so that the Program can serve as the mechanism for the State's compliance with CPP.

With a few years of successful Program implementation experience, ARB staff and regulated entities have identified opportunities to streamline and simplify elements of the Program. Staff and stakeholders have also identified instances where the compliance obligations, allowance allocation, and other Program elements could be applied more consistently and equitably among covered entities, or could be improved to better meet Program goals. Some proposed amendments would streamline Program registration, management of information, auction administration, and issuance of offset credits, and some would modify provisions to improve the consistency and equitability of the Regulation and to enhance the environmental benefits of the Program.

## **B. Proposed Solutions to the Problems**

The proposed amendments would extend the major elements of the Program beyond 2020 to support the State's GHG emissions reduction goals. The amendments would establish decreasing aggregate emissions caps for covered entities through 2031. All other major elements of the Program, such as the general compliance requirements, auction administration, allowance allocation, trading, and banking of allowances, the offset credits program, linkage with Québec, and the market monitoring and enforcement provisions, would extend beyond 2020 with some modifications.

Provisions are included in the proposed amendments to continue the Allowance Price Containment Reserve in the post-2020 Program. To further support liquidity and cost containment, amendments are proposed to link with the Ontario cap-and-trade program (that is currently under development) beginning in 2018. Linkage can provide additional options for lower cost abatement, reduce concerns related to market power, reduce volatility in the allowance market, and increase market liquidity.

Staff may propose to add assistance factors for industrial allowance allocation for a post-2020 program based on analysis of leakage risk studies (Fowlie et al. 2016; Gray et al. 2016; Hamilton et al. 2016) that were released in spring 2016. AB 32 requires ARB to minimize emissions leakage, which is a reduction in GHG emissions within the State that is offset by an increase in GHG emissions outside the state. Leakage may

occur when industry or production moves out of State in response to increased costs due to the California price on carbon.

Proposed amendments would establish new requirements for electricity generating units (EGUs) so that the Cap-and-Trade Program can serve as the mechanism for the State's compliance with the federal Clean Power Plan (CPP). California proposes to use a "State measures" approach with mass-based emissions limits on EGUs affected by CPP (affected EGUs) to demonstrate the State's compliance with CPP. Proposed amendments would require Cap-and-Trade Program compliance for all affected EGUs, including compliance with all relevant reporting and verification requirements. The amendments would also set glidepath targets for aggregate emissions from affected EGUs from 2022 through 2031 and establish a federally enforceable backstop that would be activated if the glidepath targets are exceeded by more than ten percent. Start and end dates for compliance periods in the post-2020 Program for all covered entities would be established to align with the CPP compliance periods.

Some proposed amendments would streamline Program registration, management of information, auction administration, and issuance of offset credits, and some would modify provisions to improve the consistency and equitability of the Regulation. Proposed changes to general compliance requirements and allowance allocation provisions aim to ensure that the Program is applied consistently and equitably to all regulated entities.

The following sections provide additional summary information for all proposed amendments to the Regulation as well as an expanded discussion of staff's rationale for these changes. These changes are discussed by major topic area: setting emissions caps for 2021-2031, cost containment and the allowance price containment reserve, linkage with Ontario, Canada, enabling California compliance with the federal Clean Power Plan, allowance allocation, covered sectors and exempt emissions, electricity sector, compliance offset credits, Program registration, and auction administration.

## **1. Setting Emissions Caps**

The annual GHG allowance budgets represent the number of allowances that will be issued by ARB in each year of the Program; these budgets establish the emissions caps. Setting accurate allowance budgets is critical to the design of any cap-and-trade program. The total number of issued allowances combined with the number of permissible offset credits determines the total limit on emissions from all covered entities in the Program. As with the existing annual caps, staff proposes to set a cap trajectory for the post-2020 Program that provides a gradual GHG emissions reduction path toward the 2030 and 2050 targets. And, as has always been envisioned, any allowances of vintage 2020 or earlier could be used for compliance in a post-2020 program.

### a. Emissions Caps for 2021 to 2031

Table 6-2 of the proposed Regulation presents the annual allowance budgets for each year from 2021 to 2031. These budgets set caps that decline annually at a linear rate from 2020 to 2030. The budgets in the table are shown through 2031 so that emission caps are established through the two-year period for which the final emission goals for the federal Clean Power Plan (CPP) are set, which is 2030 to 2031. Staff is proposing to use the post-2020 Program as the compliance demonstration mechanism for CPP, so allowance budgets are needed through the term for the final emissions goals of CPP. Staff relied on the existing caps from 2013 through 2020 (ARB 2010a) as a starting point for developing the post-2020 annual allowance budgets. In the existing Regulation, the 2020 cap is set at 334.2 MMTCO<sub>2</sub>e. The statewide GHG target for 2020 is 431 MMTCO<sub>2</sub>e, meaning that 77.5 percent of the statewide GHG emissions are expected to be under the cap in 2020. Maintaining the same percentage of statewide emissions under the cap results in a 2030 annual allowance budget of 200.5 MMTCO<sub>2</sub>e based on the 2030 target of 258.6 MMTCO<sub>2</sub>e for total statewide emissions.

Emissions modeling conducted as part of development of the 2030 Target Scoping Plan Update<sup>10</sup> includes a draft reference scenario (business-as-usual) that forecasts GHG emissions to 2030. This draft reference scenario estimates statewide emissions for 2020 to be approximately 416 MMTCO<sub>2</sub>e. Based on this statewide forecast, staff estimates 2020 Program emissions of 322.6 MMTCO<sub>2</sub>e, lower than the current cap of 334.2 MMTCO<sub>2</sub>e. Staff contemplated stepping down the annual allowance budget for 2021 to reflect the recent GHG emissions forecast, but after consideration of stakeholder comments and discussion with Québec and Ontario, a proposed new linkage partner, staff decided to apply a straight line path for emissions caps between 2020 and 2030 with no step down between 2020 and 2021.

The proposed annual allowance budgets from 2021 to 2030 set a straight-line path with an annual decrease of about 13.3 MMTCO<sub>2</sub>e per year. The linear rate of decline was calculated from the 334.2 MMTCO<sub>2</sub>e cap established for 2020 and the 200.5 MMTCO<sub>2</sub>e cap in 2030 that is required to meet the statewide target of 258.6 MMTCO<sub>2</sub>e.

To address concerns related to over-allocation of allowance budgets and cost containment, staff proposes to allocate allowances from the annual budgets in Table 6-2 to the Allowance Price Containment Reserve (APCR or Reserve) in a manner that recognizes that 2020 statewide emissions are expected to be lower than the 2020 target. Under this proposal, the total number of allowances allocated to the APCR over the years 2021-2030 is calculated as the difference between the total of the linearly decreasing annual budgets in Table 6-2 and the lower cumulative emissions set by a path that starts from the 2020 cap of 322.6 MMTCO<sub>2</sub>e suggested by the Scoping Plan modeling and declines linearly to the 2030 cap. The annual number of allowances allocated to the APCR decreases each year from 2021 to 2030, and no allowances are

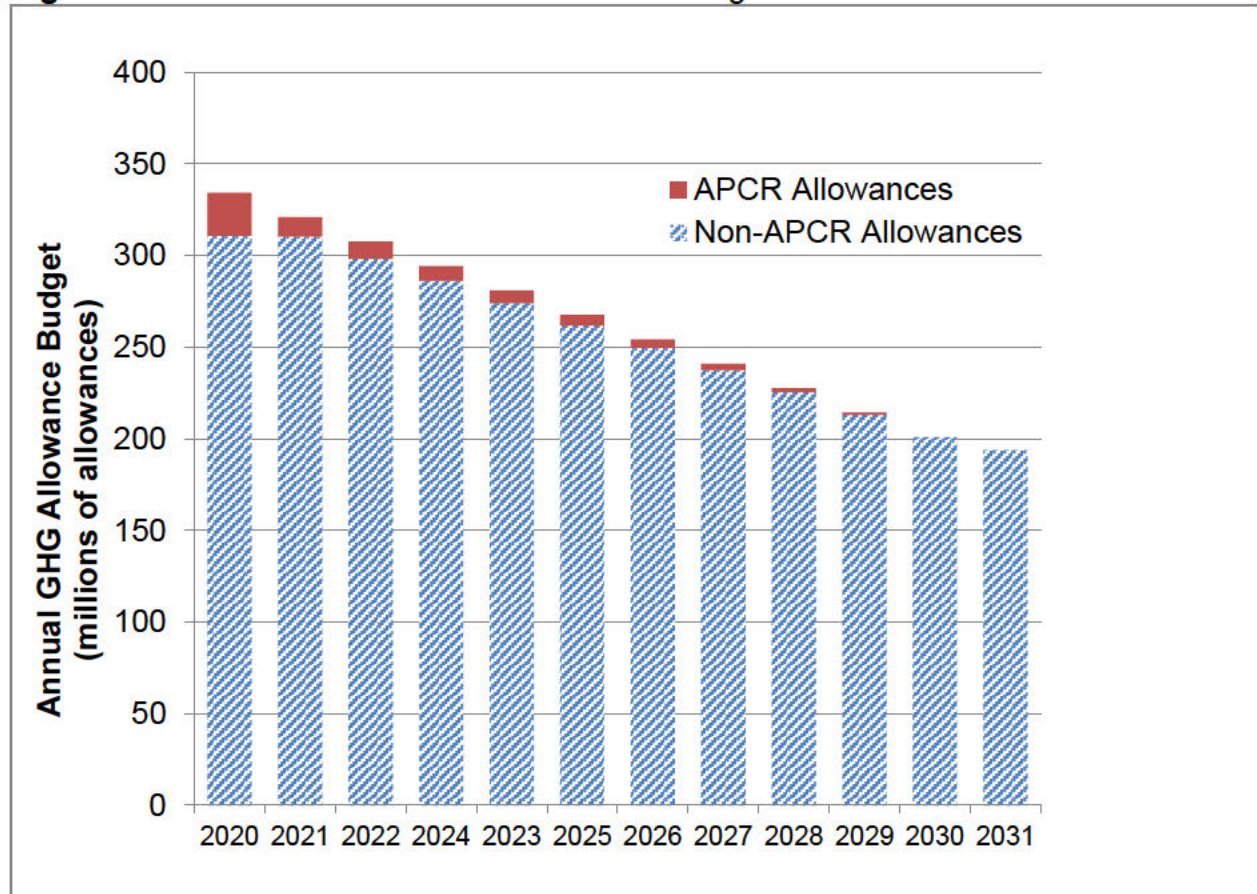
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<sup>10</sup> <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

allocated to the APCR from the 2030 budget year as the linear paths meet at the 2030 cap of 200.5 MMTCO<sub>2</sub>e.

Figure 2-1 shows the proposed annual GHG allowance budgets from 2020 to 2031 and identifies the portion of the annual budgets that are designated for the APCR. The figure shows that the annual California GHG allowance budgets decrease by 13.3 MMTCO<sub>2</sub>e each year from 334.2 MMTCO<sub>2</sub>e in 2020 to 200.5 MMTCO<sub>2</sub>e in 2030. The figure also illustrates the steadily decreasing number of allowances allocated to the Reserve from 10.5 million allowances in 2021 to zero allowances in 2030. A total of 54.5 million allowances are proposed to be allocated to the APCR from 2021 to 2031. Staff expects the Reserve to hold over 120 million allowances at the start of 2021, and staff believes that this quantity, along with the additional 54.5 million allowances allocated to the APCR from 2021 to 2031, is sufficient to meet the cost containment needs of the Program through 2031.

**Figure 2-1.** Annual California GHG Allowance Budgets for 2020-2031.



**b. Emissions Caps for 2031 to 2050**

Staff also proposes to set initial annual allowance budgets for 2031 through 2050 to signal the long-term trajectory of the Program to inform investment decisions. As the

Scoping Plan is required to be updated at least once every 5 years, staff recognizes the caps from 2031 to 2050 will need to be refined as part of a post-2030 discussion of how best to meet the long-term 2050 target. Similar to the process for setting the 2021 to 2030 emissions caps, the caps from 2031 to 2050 are anticipated to decline annually at a linear rate. Staff expects that a 2050 Program emissions cap equal to 66.5 MMTCO<sub>2</sub>e is appropriate for California to achieve its statewide target of 86.2 MMTCO<sub>2</sub>e (i.e., 80 percent below the 1990 levels of 431 MMTCO<sub>2</sub>e). A linear decrease in emissions caps from 2030 to 2050 would require the cap to decrease by 6.7 MMTCO<sub>2</sub>e each year. The proposed amendments introduce an equation that would be used to calculate annual allowance budgets for each year from 2031 to 2050. This equation simply sets an emissions cap for each year that is 6.7 MMTCO<sub>2</sub>e lower than the cap in the previous year for all years starting at 2031 through 2050.

## **2. Cost Containment and the Allowance Price Containment Reserve**

The Allowance Price Containment Reserve (Reserve) contains California-issued allowances that are available to California covered entities at four scheduled Reserve sales each year. The allowances are divided equally among three Reserve tiers, each containing 40.6 million allowances. The allowances in each tier are available at a different price. ARB chose this format after stakeholders voiced a preference for this format over using a price trigger to send part of the Reserve to the regular quarterly auctions. The tier prices were originally set at \$40, \$45, and \$50 in 2013. They escalate each year by five percent plus a measure of the rate of consumer inflation. In 2016 these tier prices are \$47.54, \$53.49, and \$59.43. At each scheduled Reserve sale, entities wishing to purchase from the Reserve may place a bid to purchase from any or all tiers. To date, Reserve sales have been held and no reserve allowances have been sold.

The Reserve contains approximately four percent of the allowances issued under the caps from 2013 through 2020. When ARB originally created the Reserve, ARB raised the offset usage limit over the period from four percent to eight percent of the compliance obligation based on the assumption that entities surrendering offsets up to the full eight percent would allow for the diversion of allowances to the Reserve without unduly tightening the market.

### **a. Proposed Changes to Reserve Operation**

Staff is proposing revisions to the operation of the Reserve that would take effect beginning in 2021; staff is not proposing any restructuring of the Reserve through 2020. The changes would modify the structure of the Reserve, simplify Reserve sale operations, and change the method used to set the Reserve Sale Price.

First, staff is proposing to collapse the three tiers of the existing Reserve into a single tier and to offer allowances from that tier at each Reserve sale at a single price. Bidders would no longer need to specify to which tier or tiers they are bidding. The “roll



down” mechanism, in which bids to a higher-priced tier could be fulfilled with lower-priced allowances when available, will no longer be needed.

Second, staff is proposing to replace the scheduled increases in the Reserve tier prices with a mechanism that sets a single Reserve Sale Price as the sum of the annual Auction Reserve Price and a fixed real dollar amount. This approach would maintain a fixed difference between the two prices in terms of real value as it would be adjusted for inflation. In contrast, the existing schedule of increases in the Auction Reserve Price and the Reserve tier prices would lead to a divergence of these prices. With each annual increase, the Reserve would afford less protection against high prices, although with a correspondingly smaller potential to interfere with market price signals. To illustrate how the existing schedule of price increases works, the Auction Reserve Price was set at \$10 for 2012 with an annual escalation factor equal to five percent plus the rate of inflation. This established an Auction Reserve Price that was nearly \$40 less than the highest Reserve tier price in 2013. With an annual inflation rate of two percent over the period through 2020, the Auction Reserve Price would be above \$17 in 2020, but more than \$60 below the highest Reserve tier price, when the highest Reserve tier price is escalated using the same inflation rate.

As part of this rulemaking, staff is proposing to change the existing schedule of Auction Reserve Price increases, so that the Reserve Sale Price is the sum of the Auction Reserve Price used at auction plus \$60. The \$60 would be a fixed increment. This amount reflects the estimated 2020 difference between the Auction Reserve Price and highest Reserve tier price.

#### **b. Effect of Linkage on Auction Reserve and Reserve Sale Prices**

California’s Cap-and-Trade Regulation allows ARB to conduct joint auctions with other jurisdictions operating greenhouse gas emissions trading systems (GHG ETS) to which California has linked. Each linked jurisdiction’s regulation specifies a method of setting an Auction Reserve Price (sometimes called the floor price) in the jurisdiction’s currency. A single Auction Reserve Price is necessary for each joint auction to ensure that every bidder, regardless of their jurisdiction, is participating under the same parameters and using the same pricing expectations. California’s and linked jurisdictions’ regulations include a procedure to reconcile differences between jurisdiction-specific Auction Reserve Price values. The procedure in both the California and Québec program regulations uses a specified exchange rate to convert the Québec Auction Reserve Price from Canadian dollars into U.S. dollars, and to use the higher of the California and Québec values as the Auction Reserve Price for the joint auction. To date, the California Auction Reserve Price (in U.S. dollars) and Québec Auction Reserve Price (in Canadian dollars) have shown only minor differences since the jurisdictions specified the Auction Reserve Prices in their regulations in a comparable manner. With the proposed linkage with Ontario, staff expects a similar type of reconciliation to continue.

At this time, ARB staff is aware that the Canadian national government has initiated discussions to consider the potential role of carbon pricing mechanisms in meeting Canada's emissions reduction targets. These discussions are ongoing, and it is unclear what type of pricing mechanism or mechanisms may result from the discussions. It is also unclear whether or how Canada's efforts on this initiative would impact Québec's or Ontario's cap-and-trade programs, or the linked WCI market. Pursuant to the Board's direction to staff to update the Board and California stakeholders on any new developments in linked partner jurisdictions within six months of potential regulatory changes being proposed by linked partners, ARB staff will monitor these discussions through continued coordination with Québec and Ontario, and staff will make timely recommendations as appropriate as to whether future amendments to California's Cap-and-Trade Regulation related to the Auction Reserve Price become necessary. No such changes are being proposed as part of this rulemaking.

### **c. Proposed Mechanism to Transfer Allowances Remaining Unsold at Auction to the Reserve**

When ARB conducts an auction, no bids are accepted below the Auction Reserve Price. If ARB receives bids at or above the Auction Reserve Price for less than the number of allowances offered for sale, then some allowances remain unsold. Under the existing Regulation, these allowances remain in the Auction Holding Account for later resale.

ARB developed rules to limit the number of previously unsold allowances returning to auction to prevent a large number of returning allowances from resulting in another undersubscribed auction. No previously unsold allowances may return to auction until two auctions have resulted in an auction settlement price above the Auction Reserve Price. When this occurs, the number of previously unsold State-owned allowances that may return to auction is limited to no more than 25 percent of the number of allowances already designated for the auction. That is, ARB first totals the allowances already designated for the auction as the sum of the number of allowances directly allocated to the auction, the number of consigned allowances, and the number of allowances from other sources, such as untimely surrender obligations or closed accounts. The maximum number of previously unsold allowances that can be returned to auction is 25 percent of this total of already designated allowances. Consigned allowances are always scheduled for the next auction, even if they had previously remained unsold at an auction, so they are always included in total of allowances initially designated for auction.

The existing Regulation continues this process regardless of how long allowances remain unsold. Staff is revisiting this initial decision due to stakeholder concerns that there may be significant and prolonged oversupply in the secondary market. Given the current auction rules, if such a prolonged oversupply emerged, it could result in primary and secondary market prices that remain at or below the level of the Auction Reserve Price.

Staff is proposing amendments to the Regulation to include a method for transferring State-owned (not consigned) allowances that remain unsold at auction for a significant period of time to the Reserve with the amendments taking effect by January 1, 2018. The proposed method would specify that allowances that remain unsold for more than 24 months would be transferred to the Reserve. The proposed amendment can also be viewed as requiring the completion of eight auctions before the transfer could be effected. This means that beginning in 2018, any previously unsold allowances owned by the State that have been in ARB's Auction Holding Account for 24 months would be transferred to the APCR.

### **3. Western Climate Initiative and Linkage with Ontario, Canada**

The California Cap-and-Trade Program is linked with the cap-and-trade program in the Canadian province of Québec and is anticipating linkage with the new cap-and-trade program of Ontario, Canada. The advantages of linking with other jurisdictions are analogous to the benefits of including multiple sectors under a broad cap-and-trade program. Expanding the number of sources that are able to trade allowances reduces the overall cost of achieving emission reductions and improves the efficiency of the allowance market. In addition, an expanded, linked Program can result in greater emissions reductions than operating the stand-alone California Cap-and-Trade Program because each linked partner jurisdiction also achieves emissions reductions.

California, Québec, and Ontario are members of the WCI, a collaboration among states and provinces to address climate change at a regional level. Within WCI, the three jurisdictions collaborated on the development of cap-and-trade program-design recommendations, providing a roadmap for program implementation and harmonization. The similar design features and minimum stringency requirements facilitate linkage among the California, Québec, and Ontario programs. Senate Bill 1018 (SB 1018; Chapter 39, Statutes of 2012) requires that the Governor of California make four findings prior to linking the California Program with other jurisdictions to enable the use of compliance instruments (allowances or offset credits) issued by other jurisdictions for use in California's Program. (Gov. Code, § 12894(f).) Under SB 1018, the Governor must find that:

- The linked program has adopted program requirements for greenhouse gas reductions; including, but not limited to, requirements for offsets; that are equivalent to or stricter than those required by AB 32;
- The State of California is able to enforce AB 32 and related statutes against any entity subject to regulation under those statutes, and against any entity located within the linking jurisdiction to the maximum extent permitted under the United States and California Constitutions;
- The proposed linkage provides for enforcement of applicable laws by the linking jurisdiction of program requirements that are equivalent to or stricter than those required by AB 32; and

- The proposed linkage shall not impose any significant liability on the State or any State agency for any failure associated with the linkage.

In 2014, Governor Brown made these four findings for linkage with Québec, confirming the relative stringency of the California and Québec programs.<sup>11</sup> The proposed linkage with Ontario will require the same four findings to be made prior to Board approval of the amendments for Ontario linkage.

Table II-1 presents the jurisdictional GHG targets for California, Québec, and Ontario in the years 2020 and 2030. These reduction targets guide the levels at which emissions caps are set by each jurisdiction.

**Table II-1. GHG Reduction Targets for 2020 and 2030.**

Target Year	California	Québec	Ontario
2020	Equal to 1990	20% below 1990	15% below 1990
2030	40% below 1990	37.5% below 1990	37% below 1990

Currently, the existing Québec and proposed Ontario cap-and-trade programs have identified annual allowance budgets for their cap-and-trade programs only through 2020. They also have very different requirements for promulgating regulations, and both will begin the process of updating their regulations later this year. Staff expects that both Québec and Ontario will propose post-2020 GHG allowance budgets that reflect their jurisdictional GHG targets and that are consistent with California’s proposal for post-2020 allowance budgets. It is worth noting that both Québec and Ontario have more stringent 2020 jurisdictional targets than California and that a stringency assessment for SB 1018 will take that into account once their program allowances budgets are announced. Because neither jurisdiction has begun their rulemaking processes to set post-2020 annual allowance budgets at the time of this Staff Report, ARB staff will include Québec-specific and Ontario-specific post-2020 annual allowance budget rulemaking documents as additional rulemaking materials in fall 2016 as information becomes available. Ontario-specific post-2020 annual allowance budgets are needed prior to the submittal of the required SB 1018 findings for linkage with Ontario. The existing SB 1018 finding related to California’s linkage with Québec remains valid, and no additional findings under SB 1018 are necessary to remain linked with Québec. A detailed description of the proposed Ontario program can be found in Appendix D.

At this time Ontario is simultaneously developing and revising its Cap-and-Trade Regulation and its GHG Emissions Reporting Regulation. The following program elements are expected to be revised or proposed later this year, and they will be added to the rulemaking record for formal public review and comment as they become available:

<sup>11</sup> <http://www.arb.ca.gov/cc/capandtrade/linkage/linkage.htm>

- **Proposed Enabling Legislation:** The *Climate Change Mitigation and Low-carbon Economy Act, 2016* received Royal Assent on May 18<sup>th</sup>, 2016 and is now law.<sup>12</sup>
- **GHG Reporting Rule:** The *Greenhouse Gas Emissions Reporting Regulation* (O.Reg. 452/09)<sup>13</sup> made under the *Environmental Protection Act* is expected to remain in effect until the 2016 reporting requirements are met. The new *Quantification, Reporting and Verification of Greenhouse Gas Emissions Regulation* under the *Climate Change Mitigation and Low-carbon Economy Act, 2016* goes into effect January 1, 2017.
- **Revised GHG Reporting Methodology:** The revised *Quantification, Reporting and Verification of Greenhouse Gas Emissions Regulation* goes into effect January 1, 2017 and incorporates the *Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emissions* (Ontario Ministry of the Environment and Climate Change 2016).
- **Final Cap-and-Trade Rule:** The *Cap and Trade Regulation* (O.Reg. 144/16)<sup>14</sup> under the *Climate Change Mitigation and Low-Carbon Economy Act, 2016* went into effect July 1, 2016 and incorporates the *Methodology for the Distribution of Ontario Emissions Allowances Free of Charge*.
- **Proposed Offset Program Rule:** Offset protocols are in development and a draft regulatory proposal is expected in Summer 2016
- **Administrative Penalties Rule:** A draft rule is scheduled to be released fall 2016

#### 4. Linkage with External Greenhouse Gas Emissions Trading Systems and Programs

##### a. Retirement-Only Linkage

California is presently linked with the Canadian province of Québec and is proposing a further linkage with the province of Ontario. These linkages are governed by existing subarticle 12. In this type of linkage, each participating jurisdiction recognizes the entities registered into the other jurisdictions as freely able to hold its compliance instruments and to apply those instruments to compliance obligations with another jurisdiction. Compliance instruments and registered entities are all entered into the same tracking system. Auction, market, and Reserve sale procedures and schedules are harmonized. This degree of integration requires substantial investment in coordination efforts.

<sup>12</sup> [http://www.ontla.on.ca/web/bills/bills\\_detail.do?locale=en&Intranet=&BillID=3740](http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&Intranet=&BillID=3740)

<sup>13</sup> <http://www.ontario.ca/laws/regulation/090452>

<sup>14</sup> [http://www.ontario.ca/laws/regulation/r16144?\\_ga=1.142667765.1529783076.1465506388](http://www.ontario.ca/laws/regulation/r16144?_ga=1.142667765.1529783076.1465506388)



ARB has considered additional forms of linkage that would allow registrants to have access to the compliance instruments issued by another Greenhouse Gas Emissions Trading System (GHG ETS) or GHG Program that would not require complete harmonization of operating rules. The interest in a more limited form of linkage arises from discussions with other GHG ETS that are may be compatible for linking, but have different market rules, different sectoral coverages, and different compliance obligations. In addition, the successful operation of California's Cap-and-Trade Program and offsets protocols has led other jurisdictions to consider adoption of non-ETS programs that would allow retirement of California compliance instruments as a compliance option. While the California-Québec style linkage remains the preferred form of linkage, staff is proposing several regulatory provisions to clarify how such linkages could be implemented.

Staff is aware that there have been discussions in other jurisdictions of accessing California compliance instruments without a formal agreement with California, an action commonly referred to as "unilateral linkage." ARB believes it is important to conduct a public process and to seek Board approval of any type of linkage. Therefore, in developing the proposed language on new types of linkage, staff has developed mechanisms to ensure that approved linkages would work while preventing the use of California-issued compliance instruments in other systems without public participation and Board approval.

Staff is proposing two new forms of linkage that would not require the same level of operational integration as the California-Québec style linkage. The first type would allow entities in California to retire compliance instruments issued by another GHG ETS to be used to meet their compliance obligation in California. The second would allow entities registered in a non-California GHG Program to retire California compliance instruments to meet obligations in their own program.

Proposed section 95944 would create the process for the first type of linkage. Since the linkage would be limited to purchasing compliance instruments in another jurisdiction for immediate retirement, this form of linkage is referred to as "Retirement-Only Limited Linkage." (The existing regulation currently defines linkage to amount to integrated systems, so the term "Retirement-Only Limited Linkage" is less inclusive.) Implementation of this type of linkage would require Board approval that specifies the types of compliance instruments issued by another GHG ETS that California entities could retire and apply towards their California obligations, any types of restrictions including offset use limits, as well as a process developed with the linked GHG ETS to facilitate and track retirements and inform ARB of the retirements. This type of Retirement-Only Limited Linkage would require SB 1018 linkage findings prior to Board approval, and would require that the other program to be compatible for linking.

Proposed section 95945 creates the second type of linkage, which would be termed a "Retirement-Only Agreement." This type of linkage would allow entities in other jurisdictions to purchase and retire California compliance instruments in their GHG

programs. The term “program” is meant to include any type of program requiring reductions in greenhouse gas emissions. An ETS would be one kind of GHG program. Another kind of program might not allow compliance instrument trading, but could instead set individual entity targets for reductions with an option to retire another jurisdiction’s compliance instruments. Section 95945 could be applied to programs with many configurations as long as they include the retirement of a standardized compliance instrument.

The implementation of a Retirement-Only Agreement would mirror the implementation described in section 95944 for Retirement-Only Limited Linkage, although SB 1018 findings would not be required. SB 1018 findings are only required if California were to allow the use of compliance instruments issued by another program. Board approval would be required to specify approved jurisdictions, the types of compliance instruments involved, and any restrictions on the use of such instruments. Under the proposed amendments, ARB would create an External GHG Program Holding Account under its control. An entity in an external GHG program with an approved Retirement-Only Agreement with California would acquire California compliance instruments or would arrange with an entity registered with California to acquire compliance instruments on its behalf. The entity registered with California would transfer the instruments to the External GHG Program Holding Account, and would provide the appropriate identification code for the entity that will be using the instruments in the other jurisdiction. ARB would check the entity identification to ensure it was from an approved jurisdiction and then transfer the compliance instruments to the Retirement Account. When the approved jurisdiction needs documentation of retirements in California by its entities, ARB would use the tracking system extracts to provide that information.

## **b. Other Linkages and Linkage-Related Partnerships**

### *Sector-Based Crediting Programs, including Acre, Brazil*

As described in Chapter I of this Staff Report, ARB held public workshops on a number of topics that helped inform the amendments contained in this proposal. Four of those workshops addressed the potential of approving the use of sector-based offset credits from the tropical forestry sector within the Cap-and-Trade Program by developing a set of regulatory standards against which potential partner jurisdictions’ tropical forestry programs would be assessed for linkage. More information on these workshops is presented in Chapter IX and Appendix F of this Staff Report. ARB staff identified the jurisdictional program in Acre, Brazil as a program that is ready to be considered for linkage with California. ARB staff received numerous informal comments following the workshops. Some comments suggested specific recommended approaches, some opposed any action, some supported ARB staff’s initial thinking as outlined in an October 19, 2015 staff paper and as described in the four workshops, and some recommended that staff conduct additional stakeholder engagement before proposing any regulatory amendments.

ARB staff has presented information about how linkage with a state-of-the-art, jurisdictional sector-based offset program can provide significant benefits to California's Cap-and-Trade Program by assuring an adequate supply of high-quality compliance offsets to keep the cost of compliance within reasonable bounds, up to the quantitative usage limit for sector-based offsets. Linkage would also support California's broad climate goals, as well as global biodiversity and tropical forest communities. (ARB 2015a) After reviewing the workshop results, and in order to ensure coordination with Québec and Ontario, ARB staff is proposing to continue discussing with stakeholders and partner jurisdictions, including Acre and others in the Governors' Climate and Forests Task Force,<sup>15</sup> on the regulatory path to optimize the multiple benefits of including sector-based offsets in California's program, including through a linkage with Acre, in time to be used to meet compliance obligations incurred in the third compliance period and thereafter. ARB staff is not proposing any regulatory amendments related to sector-based offset crediting or tropical forests in this rulemaking; rather, ARB staff anticipates that ongoing discussions with stakeholders will resume with additional informal public meetings outside of this rulemaking starting in the fall of 2016. These meetings will also solicit and consider additional tools the State of California could employ to mitigate tropical deforestation, including measures to encourage sustainable supply chain efforts by public and private entities.

### *Washington State*

This spring, Washington State issued a regulation to address GHG emissions reductions from its largest emitters.<sup>16</sup> That regulation includes provisions allowing the use of compliance instruments from multi-sector GHG emissions reductions programs like the California and Québec cap-and-trade programs. To support these types of efforts, ensure coordinated implementation, and allow for a robust public process as with any other type of linkage arrangement, the proposed amendments to the California Regulation provide implementation and process details for how such a potential arrangement could be defined (e.g., as a Retirement-Only Agreement). Since California's rulemaking has been ongoing since fall 2015 and the Washington proposed regulation only recently became available, staff proposes to continue to coordinate with Washington on evaluating its regulation and implementing a public process with California regulated entities, interested stakeholders, and linked partner(s) to potentially partner with Washington in a subsequent rulemaking.

## **5. Compliance with the Federal Clean Power Plan (CPP)**

Staff proposes several amendments that will support California's compliance with the federal Clean Power Plan (CPP; U.S. Environmental Protection Agency 2015), a set of control requirements promulgated by U.S. EPA for GHG emissions from existing electrical generating units (EGUs). The proposed amendments would allow compliance

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<sup>15</sup> <http://www.gcftaskforce.org/>

<sup>16</sup> <http://www.ecy.wa.gov/climatechange/carbonlimit.htm>

with the Cap-and-Trade Regulation (as amended) to allow these EGUs to be in compliance with CPP as well.

#### **a. Background on CPP and Compliance Plan Requirements**

Power plants are the largest stationary source of GHG emissions nationally, and among the largest sources in California. To address these emissions, U.S. EPA has promulgated a final rule directing the states to reduce GHG emissions from existing electrical generating units (EGUs).

U.S. EPA established CPP based upon its authority under Section 111(d) of the federal Clean Air Act (CAA) (42 U.S.C. § 7411(d)). Section 111 of CAA charges U.S. EPA with establishing standards of performance for sources in industry categories whose pollution may reasonably be anticipated to endanger public health or welfare. Each standard is to reflect the degree of emission limitation achievable through the application of the best system of emission reduction that has been adequately demonstrated.

Accordingly, in fall 2015, U.S. EPA issued emission standards for new and modified EGUs. U.S. EPA simultaneously issued guidelines to the states requiring the submission of plans to achieve GHG reductions from *existing* EGUs. These emission guidelines are contained in the CPP, which is codified as Subpart UUUU in the Federal Register (40 C.F.R. § 60.5740 et seq.).

U.S. EPA calculated interim and final corresponding mass targets for each covered state, based on the application of the required emission rates to that state's fleet of existing EGUs. ARB staff has recalculated these goals to account for the final list of affected EGUs that staff has developed. The California goals, after recalculation, are proposed to be 423,990,590 short tons CO<sub>2</sub>e (384.6 MMTCO<sub>2</sub>e) for the eight-year interim period 2022–2029 and 100,587,722 short tons CO<sub>2</sub>e (91.3 MMTCO<sub>2</sub>e) for the final period 2030–2031 and subsequent two-year compliance periods.

These targets are to be achieved over several interim compliance periods. These CPP compliance periods are January 1, 2022–December 31, 2024; January 1, 2025–December 31, 2027; January 1, 2028–December 31, 2029 and January 1, 2030–December 31, 2031, and every two years thereafter.

To comply with CPP, affected states are required to submit state compliance plans for review and approval by U.S. EPA. Initial compliance plans were set to be due in September 2016, with possible extensions up to September 2018, although these deadlines have been temporarily stayed by the U.S. Supreme Court, pending resolution of litigation on CPP. The federal compliance periods begin January 1, 2022, and the full reductions required by CPP must be achieved by December 31, 2031, and maintained

thereafter. Staff anticipates submitting a proposed plan,<sup>17</sup> if approved by the Board, to U.S. EPA once the stay has been lifted.

CPP allows economy-wide emissions trading systems to be used for CPP compliance if they are submitted as “state measures” plans. This plan type, which ARB staff proposes to use, allows for continued operation of a larger state market system, provided that the state includes certain federally enforceable emission standards for CPP-covered electricity generating units (affected EGUs) at the outset, as well as a “backstop” standard that guarantees compliance with federal targets if the larger market underperforms. Sources are free to use any instruments trading in the existing Cap-and-Trade Program to comply with these emission standards. This includes a range of “flexibility mechanisms,” such as offset credits and linked market compliance instruments, incorporated within the state measure and emission standard. Within the larger economy-wide market, requirements of the state program on sources not regulated by CPP (i.e., other industrial sectors) are not federally enforceable.

A federally enforceable “backstop” standard is also required. That backstop must bring affected EGU smokestack emissions into compliance with the federal standard if the combination of the “state measure” (the economy-wide market) and related emission standard (the requirement that EGUs participate in that market) does not perform as expected when compared to a glide path established by the state that is consistent with the federal targets. The backstop can be triggered by emissions exceedances above interim targets that the state sets for each compliance period, consistent with the overall federal targets.

These requirements would be integrated into California regulations by the proposed amendments, ensuring smooth operation of California’s existing suite of climate programs, including the Cap-and-Trade Program. These programs have put the State on a firm course towards deep greenhouse gas reductions, supporting California’s ability to comply with CPP requirements

Many complementary energy sector programs, including California’s energy efficiency standards and Renewables Portfolio Standard (RPS) further support these reductions; their effects are reflected in the design of the Cap-and-Trade Program. As California continues to seek greenhouse gas reductions from the electric power sector, these complementary state programs will help ensure that the State meets and exceeds CPP targets. None of these programs would be federally enforceable under the State’s CPP plan.

Accordingly, ARB staff is developing a Proposed Compliance Plan that incorporates CPP requirements into the Cap-and-Trade Regulation and the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR), allowing these regulations to support “state measures” based compliance with CPP, as well as to meet State

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<sup>17</sup> California’s Proposed Compliance Plan for the Federal Clean Power Plan, which will be issued for public comment separately from the proposed amendments.



goals. The Board will consider the Proposed Plan at the same public hearing as the proposed amendments to the Cap-and-Trade Regulation and the MRR. This connected regulatory and planning package is designed to present an integrated path forward for California climate policy in the decade to come.

### **b. Proposed Amendments for CPP Compliance**

CPP-related proposed amendments are provisions intended to allow the Program to also serve as California's compliance mechanism for the CPP. U.S. EPA designed CPP to allow for this option. As U.S. EPA explains in the CPP preamble, "a mass-based emission budget trading program with broader source coverage and other flexibility features may be designed such that compliance by affected EGUs... would assure achievement of the applicable state mass-based CO<sub>2</sub> goal," but these systems, given their flexibility measures (such as offsets) and larger scope, "must be submitted as a part of a state measures plan type."

Under that plan type, certain requirements that apply solely to affected EGUs are federally enforceable emission standards. These include "the requirement for an affected EGU to surrender emissions allowances equal to reported CO<sub>2</sub> emissions, and meet monitoring and reporting requirements." However, the larger state regulation establishing these requirements is submitted only as "supporting documentation" and does not become federally enforceable more broadly, or as to other sources covered by the state program. As a result, the Program—including affected EGUs—continues to operate as an integrated system, rather than requiring a separate CPP-only system for the affected EGUs.

To ensure that emissions reductions required of affected EGUs are met, states must also include a federally enforceable "backstop" set of emission standards that apply if affected EGU emissions in the larger system exceed federal targets. The backstop is to be designed to reduce reported stack emissions from affected EGUs to the required target level, as well as to recoup any emissions overage.

Proposed Regulation amendments to meet CPP requirements include:

- Alignment of Cap-and-Trade Program compliance periods with CPP compliance periods, including a bridge period to link the two programs.
- Requirements for all CPP affected EGUs to participate in the Cap-and-Trade Program.
- Provisions setting interim mass targets and final mass targets for aggregate emissions from affected EGUs.
- Provisions establishing federally enforceable backstop emissions standards.

The CPP-related amendments to both the Cap-and-Trade Regulation and MRR are largely contained in separately identified portions of the regulations. This approach makes them easy to identify for stakeholders, and also allows ARB to clearly specify

which portions of the regulations would be federally enforceable emission standards as opposed to state measures.

Importantly, staff is proposing that amendments related to CPP—including any changes to Program compliance periods—will take effect only if U.S. EPA approves those elements of California’s Proposed Compliance Plan. If U.S. EPA does not approve the relevant regulations, then they will not take effect.

#### *Provisions to Include Affected EGUs*

The CPP applies to all affected EGUs regardless of emissions, because CPP applicability is determined by unit operating characteristics. Accordingly, ARB staff is proposing amendments to make clear that CPP affected EGUs must continue to participate in the State programs related to this Proposed Plan unless they completely close and shut down. The Program currently imposes a compliance obligation on electrical generators that emit 25,000 tons CO<sub>2</sub>e or more annually. Proposed amendments would impose a compliance obligation on all affected EGUs, regardless of emissions.

#### *Compliance Periods*

ARB staff is proposing to amend Program compliance periods to better align with CPP compliance periods. The Program’s compliance periods are currently set through December 31, 2020, and they consist of one two-year compliance period from 2013–2014, followed by two three-year compliance periods.

Multi-year compliance periods, and three-year periods in particular, were selected to address market challenges that might otherwise be driven by interannual variability in the economy and, especially, in electric power supply and demand. Because a large portion of California’s power is supplied by hydroelectricity, and the West is prone to drought and flood years, variability here is especially important to account for. The three-year compliance periods were chosen after an extended stakeholder process in order to manage these challenges.

CPP, however, requires some changes to this approach. Specifically, it requires that both emission standards and state measures employed for CPP compliance purposes must operate on the same schedule as CPP, including during interim compliance steps.<sup>18</sup> More specifically, though states may subdivide CPP’s compliance periods, they may not extend them.

As noted previously CPP sets out three interim “steps” within the interim “period” from 2022 to 2029: 2022–2024, 2025–2027, and 2028–2029. The final two-year period is 2030–2031, and every following period has a duration of two years.

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<sup>18</sup> CPP uses interim “period” to refer to the entire time between 2022 and 2029, and interim “steps” to refer to divisions within this time. (40 C.F.R. § 60.5880).

Staff proposes to align the Program with these interim steps and final reporting periods by dividing the program's compliance periods as follows after 2020:

- January 1, 2021–December 31, 2022 (“bridge” period);
- January 1, 2023–December 31, 2024 (remainder of first CPP interim step);
- January 1, 2025–December 31, 2027 (second CPP interim step);
- January 1, 2028–December 31, 2029 (third CPP interim step); and
- January 1, 2030–December 31, 2031, and every two years thereafter (final CPP reporting periods).

This proposed timing ensures that each compliance period is at least two years long to continue to accommodate possible interannual variability in emissions (albeit with mostly two-year periods rather than three-year periods, where three-year periods would have been the staff recommendation in the absence of needing to align with CPP).

Under this proposal, the first CPP interim step is divided into two periods, with the first year of the CPP interim step joined to a “bridge” period that also includes the 2021 calendar year. This avoids creating a single “orphan” year between the end of the 2018–2020 compliance period in the Cap-and-Trade Program and the beginning of the first CPP compliance period.

During the bridge period, affected EGUs will have obligations for all covered emissions during both 2021 and 2022; however, only obligations for the 2022 calendar year emissions will be federally enforceable. Affected EGUs may comply with their obligations using compliance instruments issued during or before the bridge period, as is permissible under both State law and CPP, both of which allow for banking of compliance instruments. This means that the federalized portion of the compliance period begins only as of the first CPP interim step, bringing the programs into alignment while avoiding issues associated with interannual variability to the extent possible.

### *Compliance Targets*

CPP allows states to develop their own aggregate emissions goals for affected EGUs in the interim step and final reporting period provided that, for mass-based plans, the goals cumulatively meet CPP requirements. ARB staff proposes to take this approach. As previously discussed, staff has recalculated the *total* mass requirements for the interim and final periods; the interim targets are based upon those recalculated values. The proposed targets are tabulated in Appendix D of the proposed Regulation, and they are expressed in million metric tons of carbon dioxide equivalent for consistency with the California Program. The proposed CPP targets are not the same as the proposed Cap-and-Trade Program targets, which are aggregate targets for all covered sectors.

### *Backstop Requirements*

The operation of California's state measures, including the Cap-and-Trade Program, along with complementary programs, render it extraordinarily unlikely that the backstop provision will be triggered on the basis of the current CPP targets. Projected affected EGU emissions are well below—and in many cases over ten million short tons below—federal targets even under conservative projection scenarios. This means that the economy-wide Program will very likely continue to function without activating the backstop, even as CPP compliance is assured. However, a set of backstop emission standards is nonetheless required under the law in order to provide U.S. EPA with assurance that CPP emission targets will be met, and a backstop standard is an element of the proposed amendments.

ARB staff propose a backstop emission standard that will minimize disruptions to the economy-wide Cap-and-Trade Program while ensuring that affected EGU emissions return to the federal target level (less any overage in prior compliance periods) on the required schedule if needed. The backstop is designed as a trading program that will be activated only upon a triggering event. It would work as follows:

1. Required triggers for the backstop are incorporated into the Regulation by the proposed amendments in this rulemaking, along with the relevant interim step and final reporting period CPP targets. Staff will use annual emissions data reported by affected EGUs to determine if the aggregate emissions for affected EGUs exceed the backstop trigger for the year, and staff will also assess if any other triggering event has occurred.
2. If a triggering event occurs, ARB would deem the backstop triggered and inform U.S. EPA of the trigger by the required deadline. Staff would then calculate the amount of emissions reductions needed to restore the aggregate emissions to the federal targets, and to make up for any emissions that were in excess of the previous target, on the basis of verified data submitted by the verification deadline. This information would be used to determine the pool of California-only CPP allowances that would be created and used to populate a backstop allowance pool available only to affected EGUs.
3. Affected EGUs would be distributed allocations of these CPP allowances on the basis of historical operations, but would be allowed to trade them. ARB would not auction CPP allowances for this purpose. Each affected EGU would then be required to retire one CPP allowance for each metric ton of CO<sub>2</sub>e emitted during the backstop compliance period, meaning that the total amount of backstop allowances acts as a limit on affected EGU emissions. Any emissions not covered by a backstop allowance would be violations of the program.
4. During this time, affected EGUs would also continue to participate in the overall economy-wide Cap-and-Trade Program, and so would be able to acquire and trade allowances in that program as well. However, the requirement to match all

emissions with CPP allowances legally ensures the affected EGUs do not exceed the federal target levels.

5. The backstop feature would be designed to restore affected EGU emissions to the federal target level within 18 months, including any overage in emissions from the prior compliance period, per CPP requirements. Once aggregate emissions from affected EGUs had been restored to below the target level, the backstop pool would be closed, and affected EGUs would again participate without this additional requirement in California's broader Cap-and-Trade Program.

## **6. Allowance Allocation**

Free allocation is one mechanism by which ARB distributes the allowances that it issues. In general, allowances can be distributed by ARB to facilities by sale at auction, by free allocation based on criteria in the Regulation, or by some combination of these two methods. Allowances may be freely allocated to covered entities to prevent emissions leakage, to provide transition assistance as the economy adapts to the imposition of a GHG emissions compliance cost, to reward early action to reduce emissions, and, in the case of electricity distribution utilities and natural gas suppliers, to benefit ratepayers. This section describes the proposed amendments to the allowance allocation provisions in the Regulation.

### **a. Industrial Allocation**

Free allowances are allocated to facilities operating in certain industrial sectors to prevent emissions leakage and to provide transition assistance. Staff proposes to eliminate transition assistance beginning in 2021, but to continue freely allocating allowances to industrial sectors based on leakage risk. In doing so, staff proposes to update the assistance factors (generally, the percent allocation relative to the sector's benchmark(s)) to reflect recent research studies about the risk of emissions leakage for California's industrial sectors. For the 45-day draft, staff is not providing any specific assistance factors, but would like to continue the discussion with stakeholders on the new proposed study-informed methodology and may propose specific industry post-2020 assistance factors as part of a 15-day comment period. Staff believes a longer discussion on the new methodology is warranted to provide stakeholders more opportunity to review and comment on how the post-2020 allocation will incorporate the leakage studies.

Staff proposes to retain the same general approach to calculating industrial allowance allocation that has been used during the first three compliance periods of the Program, applying a product-based approach when possible, and applying an energy-based approach in situations in which a product-based benchmark is difficult to calculate in a manner that accurately reflects the emissions per unit product. Staff also proposes changes to some product-based benchmarks for the third compliance period and changes to allocation in cases in which an entity is allocated allowances for a year in



which it does not incur a compliance obligation. Finally, staff may be proposing cap adjustment factors for the post-2020 period as part of a 15-day comment period.

### *Product-Based Benchmarks*

Changes are proposed for product-based benchmarks in a very limited set of industrial sectors. In general, product-based benchmarks express the emissions efficiency of the manufacturing of a product (i.e., the GHG emissions per unit of production). Changes are proposed to update some benchmarks using data that more accurately represent current sector makeup or to streamline product data reporting. In some cases, staff proposes to eliminate some product-based benchmarks from the Regulation, and facilities operating in those sectors will start receiving allowance allocation through the energy-based methodology in the third compliance period. Changes to product definitions are also proposed to clarify product reporting and support changes to product-based benchmarks. All product data changes would be implemented in the third compliance period, starting with vintage 2018 allowance allocation at the end of the 2017 calendar year.

Sectors with benchmarks that are proposed to be eliminated are:

- Roasted Nuts and Peanut Butter Manufacturing (NAICS code 311911)
- Paper (except Newsprint) Mills (NAICS code 322121)

The 311911 NAICS code benchmarks are proposed to be eliminated because the water content of the nuts, and thus the energy required for roasting them, varies so greatly that staff is not able to calculate product benchmarks that accurately reflect the energy required to process the nuts. Requiring the nuts processors to calculate the initial water content of their processed nuts would be administratively burdensome. The 322121 NAICS code benchmarks are proposed to be eliminated because staff has been unable to more accurately validate the relationship between product use and the water absorbency factors in the current Regulation using data specific to the products manufactured by California covered entities. While these data may be available, they are not available in a public data/publication that could be reviewed as required by the California Administrative Procedures Act. Allowance allocation for facilities operating in these sectors will be calculated by the energy-based allocation methodology beginning in the third compliance period.

Staff proposes to re-calculate some benchmarks in the following industrial sectors:

- Dairy Product Manufacturing (NAICS code 31151; only fluid milk products)
- Secondary Smelting, Refining, and Alloying of Nonferrous Metal (NAICS code 331492)
- Nonferrous Forging (NAICS code 332112)

The fluid dairy product manufacturing sector currently has nine product-based benchmarks in the Regulation. With the concurrence of industry, staff is seeking to streamline product data reporting and allowance allocation for this sector by consolidating and eliminating some of these benchmarks and clarifying some product definitions to better align the benchmarks with the materials that are produced by the sector. Staff proposes to consolidate the benchmarks for milk, buttermilk, skim milk, and ultrafiltered milk processing and cream processing into a single fluid milk product benchmark because of the similar level of processing needed for each product. Staff proposes to eliminate benchmarks for dairy product solids for animal feed processing because the level of allowance allocation under this benchmark is negligible. Staff has concerns about the quality of the data used to develop the original benchmarks for buttermilk powder processing and nonfat dry milk and skimmed milk powder (low heat) processing and is working with facilities in the sector to re-calculate these benchmarks with the best available data. During this recalculation, staff proposes to redefine the nonfat dry milk and skimmed milk powder benchmarks to include higher-fat milks in these categories. Further, stakeholders have requested that ARB consider a benchmark for anhydrous milkfat. Calculation of this new benchmark may require recalculation of all other benchmarks associated with fluid milk products to ensure that the same emissions are not attributed to more than one product and that all products are properly benchmarked. Thus all fluid milk product benchmarks are flagged for changes that will be calculated over the next few months. Proposed changes will be included in the official rulemaking record for public review.

Staff proposed modifications to benchmarks for the secondary smelting, refining, and alloying of nonferrous metal and nonferrous forging sectors due to significant growth in the number of covered entities within these sectors. Staff is currently working with the covered entities in these sectors to establish technically sound and sector-representative product-based benchmarks.

A new product-based benchmark is proposed for sulfuric acid regeneration under NAICS code 325188. ARB generally follows the “one product, one benchmark” principle for allowance allocation; under this principle differences in allocation approaches should be minimized insofar as they differentiate by technology, fuel mix, size, age, climatic circumstances, or raw material quality of the installations producing the product. Currently, ARB provides free allowance allocation for sulfuric acid regeneration to stand-alone facilities using an energy-based approach, and allocation for sulfuric acid regeneration to petroleum refineries under the CWB benchmark using a product-based approach. The current situation where two different approaches (i.e., energy-based vs. product-based) are used to allocate for sulfuric acid regeneration runs counter to the “one-product, one benchmark” principle. This principle, as outlined in Appendix J to the 2010 Staff Report, ensure that benchmarks are not “differentiated by technology, fuel mix, size, age, climatic circumstances or raw material quality of the installations producing the product. Ensuring that all GHG emissions-abatement options remain viable (including switches to different technologies, fuels, etc.) is an integral part of developing an effective product-based benchmarking approach” (ARB 2010b). Under

staff's proposed changes, all facilities conducting the activity sulfuric acid regeneration would receive allocation for this activity based on the new benchmark beginning with vintage 2018 allocation in October 2017. The stand-alone sulfuric acid regeneration facilities would switch from energy-based allocation to product-based allocation using this new benchmark and the appropriate assistance factor for NAICS 325188, which encompasses sulfuric acid regeneration. Petroleum refineries would also receive allocation for sulfuric acid regeneration based on the new benchmark and the assistance factor for NAICS 325188.

Removing the emissions and CWB contribution associated with sulfuric acid regeneration from the CWB benchmark calculation does not change the CWB benchmark. Because sulfuric acid regeneration receives allocation separately, the sulfuric acid regeneration CWB unit would be removed from the calculation of total CWB for refineries. This is the same approach that staff used to disaggregate hydrogen production from the calculation of the original CWB benchmark.

Also with respect to the "one product, one benchmark" policy, staff is re-evaluating the products produced by the following sectors:

- Potash, Soda, and Borate Mineral Mining (NAICS code 212391)
- All Other Nonmetallic Mineral Mining (NAICS code 212399)

In each of these NAICS code sectors, there is at least one facility receiving allocation under a product-based benchmark and at least one covered entity receiving allocation under an energy-based benchmark. Staff is working with the covered entities in these sectors to ensure that the same products are *not* being produced by the covered entities in these sectors.

Staff is also evaluating the need for changes in the Nitrogenous Fertilizer Manufacturing sector (NAICS code 325311) based on concerns about recently discovered anomalies found in the data used to calculate the product benchmarks for the activities in this sector.

Finally, staff proposes changes, or indicates that changes may be needed, to ensure that product definitions match the products produced by covered entities. Some definitions will be deleted if they are no longer used in the Regulation. These changes are coordinated with the same product definitions found in MRR.

Any 15-day changes will be limited to areas that are identified in the regulation for changes as part of the 45-day proposed regulation. No additional sectors will be considered for changes to their benchmarks.

### *Allocation for Purchased Electricity Starting in 2021*

Though not proposed as part of these amendments, staff is considering a change in the way that ARB allocates for industrial covered entity purchased electricity emissions starting with industrial allocation of vintage 2021 allowances. Currently, allowance allocation to industrial entities accounts for on-site covered emissions and the emissions associated with purchased steam and excludes the emissions associated with sold electricity and steam. ARB did not calculate initial benchmarks to include the emissions associated with purchased electricity because it was not clear how electrical distribution utilities (EDU)—especially investor-owned utilities (IOU), which are regulated by the California Public Utilities Commission (CPUC)—would set industrial electricity rates under the Program. Instead, ARB allocated the allowances associated with those industrial purchased electricity emissions to EDUs. Since the calculation of initial energy- and product-based benchmarks in 2010/2011, CPUC has required all IOUs to pass through the cost of compliance with the Program (sometimes called the “carbon cost”) to all ratepayers, including industrial entities. SB 1018 requires CPUC and the IOUs to return IOU-allocated allowance value (from their allocated allowance auction proceeds) to industrial entities. CPUC has chosen to require that IOUs return this value to industrial entities using product- and energy-based benchmarks comparable to ARB’s benchmarks. This process has been slow to implement, and CPUC has requested that ARB directly allocate allowances to industrial covered entities to cover the carbon cost associated with their purchased electricity. ARB staff supports this request.

Having a single agency distribute this value will ensure that allocation is done in a manner that is timely and consistent with the Regulation, and will ensure that POU and electrical cooperative (co-op) industrial covered entities are provided the same leakage protection as IOU customers (as no regulations or statutes require leakage protection for POU and co-op industrial customers). Staff has seen inconsistent carbon cost compensation for covered industrial entities that are customers of POUs and electrical co-ops compared to customers of IOUs (as noted in the annual EDU use of allocated allowance value reporting required pursuant to section 95892(e) of the Regulation). ARB would continue to provide allowance allocation to EDUs for emissions associated with industrial customers that are not covered entities, since ARB does not have a direct regulatory relationship with those entities. Note that ARB staff is *not* proposing to place the compliance obligation for purchased electricity on industrial covered entities.

Because allocation for the emissions associated with purchased electricity would require recalculation of *all* energy-based and product-based benchmarks, staff has proposed to update MRR to ensure that verifiers are required to specifically evaluate all purchased electricity (and other energy product purchase/sales or acquisition/disposition) data reported by industrial covered entities and used to calculate benchmarks for conformance with MRR. Staff would use these data and other onsite covered emissions and covered product data to recalculate all energy- and product-based benchmarks during the third compliance period, and implement new benchmarks

starting with allocation of vintage 2021 allowances. These changes to benchmarks would be part of a subsequent regulatory package.

Notably, because all product-based benchmarks are calculated at a sector level, regardless of EDU type (e.g., IOU versus publicly owned utility (POU)), all product-based benchmarks would need to include the emissions associated with purchased electricity. Because of this calculation requirement, and for the additional reasons stated above, staff is proposing to allocate to all industrial covered entities for the sector-specific emissions associated with purchased electricity regardless of electricity supplier for the industrial covered entities.

Because ARB cannot allocate to different entities for the same emissions, staff is proposing to not allocate to EDUs post-2020 for the emissions associated with industrial covered entity purchased emissions. See Chapter II.B.8. (“Post-2020 EDU Allowance Allocation: Allocation for Industrial Covered Entity Purchased Electricity”) for more details about this adjustment to EDU allowance allocation.

### *Assistance Factors*

In 2011 and 2012, Board Resolutions 11-32 and 12-33, respectively, directed staff to investigate potential improvements to industrial allowance allocation to better meet the AB 32 objective to minimize emissions leakage to the extent feasible. Staff proposes to revise the methodology by which emissions leakage is assessed and assistance factors (AF) are developed in order to meet this direction. An overview of staff’s new proposed methodology is provided here, and Appendix E provides a more detailed discussion of AF development for industrial sectors. Based on this new approach, staff may, in a subsequent 15-day comment period, propose updates to AF values for industrial sectors for a post-2020 program.

Emissions leakage occurs when a Program-caused decrease in emissions in California results in a corresponding Program-caused increase in out-of-State emissions. The Program-caused increase in out-of-State emissions is a necessary condition for emissions leakage. A drop in California emissions and/or economic activity alone is not a sufficient condition for, nor sufficient evidence of, emissions leakage.

ARB allocates allowances to industrial sectors both to prevent emissions leakage and, in the early years of the Program, to provide transition assistance. Transition assistance is intended to help industries adjust to operating in an economy with a cost associated with GHG emissions. Providing transition assistance results in allowance allocation above the level needed to prevent emissions leakage alone. At the outset of the Program staff believed—and continues to believe—that the level of transition assistance should decline over time, leaving continued free allowance allocation in future years at levels necessary to minimize emissions leakage. Under the new methodology, to best minimize leakage, staff would still propose targeting continued high levels of allowance allocation to industries with high risks of emissions leakage, as



determined by the new proposed methodology. Appendix E of this Staff Report and Appendix J of the 2010 Staff Report (ARB 2010b) provide details of the proposed new and historical emissions leakage prevention methodologies, respectively.

Generally, assistance factors (AF) are factors that are multiplied by benchmarks (B), the cap adjustment factor provided in Table 9-2 of the Regulation (c), and entity-specific output (product-based allocation) or historical fuel use (energy-based allocation) (o) to calculate the number of allowances an entity receives. (Allocation = AF x B x c x o.) The value of assistance factors can range from zero to 100 percent. Based on an initial leakage risk assessment for the original Regulation development, staff classified sectors into three leakage risk levels (high, medium, and low) and assigned AFs to each sector based on its leakage risk level. To provide transition assistance, AFs were initially set at 100 percent in the first compliance period for all industrial sectors. Most industrial sectors do not require an AF value as high as 100 percent to prevent emissions leakage alone, so for most sectors, 100 percent AF values suggest levels of free allowance allocation above what is needed to prevent emissions leakage; therefore, this portion of allowance allocation is provided for transition assistance.

The initial AF values for the first three Program compliance periods are shown in the left portion of Table II-2 for the three leakage risk levels, and the originally planned decrease in assistance factors over time, reflecting decreasing transition assistance, can be seen for sectors with medium and low leakage risk. As part of the 2013 amendments to the Regulation, AFs for the second and third compliance periods were increased to the values in the right portion of Table II-2, and this is the level at which AF values currently stand. As AFs decline over time for some sectors, facilities operating in these sectors must either reduce emissions or acquire more allowances and offset credits by other methods to meet compliance obligations.

**Table II-2. Initially Proposed and Current Assistance Factor (AF) Values.**

Leakage Risk Category	AF by Compliance Period in 2010 Regulation			AF by Compliance Period in 2013 Amendments		
	First	Second	Third	First	Second	Third
High	100	100	100	100	100	100
Medium	100	75	50	100	100	75
Low	100	50	30	100	100	50

For all industries, the risk of emissions leakage declines when trading partners adopt policies that apply costs to GHG emissions within their own economies. When competitors in other jurisdictions incur comparable GHG emissions costs from GHG emissions reduction programs with similar stringencies, leakage risk is reduced or eliminated. Thus, when trading partners adopt GHG programs, allowance allocation to minimize leakage risk should be correspondingly reduced to reflect the reduced leakage risk.

## Background on Emissions Leakage Potential Studies

ARB commissioned three emissions leakage potential studies to inform the development of AFs for allowance allocation to manufacturing sectors (i.e., sectors with NAICS codes starting with 3). The international study (Fowlie *et al.* 2016)<sup>19</sup> analyzed international leakage of emissions to other nations and the domestic study (Gray *et al.* 2016)<sup>20</sup> analyzed leakage of California emissions to other U.S. states. The third study (Hamilton *et al.* 2016)<sup>21</sup> was a stand-alone emissions leakage analysis for four food processing sectors. The studies were completed by May 2016 and presented publicly in a workshop<sup>22</sup> on May 18, 2016. These studies and the presentation materials for the workshop are available in Appendix F of this Staff Report. Staff would propose to use the findings from these studies to revise the methodology for developing AFs and to propose new AFs for industrial sectors for a post-2020 program. Extended documentation of the steps by which staff could calculate AFs for manufacturing and non-manufacturing sectors can be found in Appendix E.

## Emissions Leakage Study Methodology

Energy prices are the primary channel by which a carbon compliance obligation changes the operating costs of the majority of the sectors analyzed by the three leakage studies. The international study measured historical industry-specific changes in U.S. imports, exports, and domestic production based on changes in U.S. energy prices. Each sector's international leakage potential was then measured as the sum of the change in the sector's imports and exports, divided by the change in domestic production. High international leakage potential corresponded with a high numerator in this ratio (e.g., an increase in domestic energy prices from a carbon compliance obligation leading to a large decline in exports and large increase in product imports). This ratio is termed international market transfer.

The domestic study measures domestic leakage through analysis of each sector's historical California percent changes in facility-specific output or value-added in response to a change in each sector's facility-specific energy prices, and the energy prices of each facility's competitor. The study assumes that this change in California output or value added in response to a change in energy prices is fully offset by an equivalent change in the output or value added of other U.S. competitors.

The food processor study addressed sectors for which less public data were available. In two of the processor sectors (wet corn milling and tomato processing), the study used statistical methods to measure percent changes in California processor output supply

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<sup>19</sup> <http://www.arb.ca.gov/cc/capandtrade/meetings/20160518/ucb-intl-leakage.pdf> and Appendix F.

<sup>20</sup> <http://www.arb.ca.gov/cc/capandtrade/meetings/20160518/rff-domestic-leakage.pdf> and Appendix F.

<sup>21</sup> <http://www.arb.ca.gov/cc/capandtrade/meetings/20160518/calpoly-food-process-leakage.pdf> and Appendix F.

<sup>22</sup> All May 18, 2016 leakage workshop materials, including the studies, can be found on the Cap-and-Trade Program Public Meetings webpage (<http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>) and in Appendix F of this Staff Report.

and demand. In each of the sectors, however, the study also relied on prior research papers' estimates of these percent changes to calculate potential emissions leakage.

More details on the methods used in these studies can be found in Appendix F.

### Emissions Leakage Metrics

Staff's original leakage risk assessment (ARB 2010c) for industrial sectors relied on two metrics: emissions intensity (EI) and trade exposure (TE). Industries with high EI are expected to face higher costs associated with the Cap-and-Trade Program, and industries with greater TE are expected to be prone to emissions leakage. Informed by the three commissioned studies as well as previous evaluations using EI and TE, and pursuant to the Board's direction through Resolutions 11-32 and 12-33, staff has determined that two new metrics for assessing leakage risk—international market transfer (IMT) and domestic drop (DD)—may be appropriate metrics to replace EI and TE post-2020, because they may provide a more precise measurement of leakage risk. IMT is a measure developed and quantified by Fowlie *et al.* in the international study. DD is a measure developed and quantified in the domestic study by Gray *et al.* The stand-alone food processor study by Hamilton *et al.* provided additional IMT estimates for four food processing industries. In order to place the new leakage risk metrics in context, we describe in the next couple of paragraphs the metrics applied to the leakage risk assessment included in the 2010 Regulation.

TE measures how Program compliance costs could induce a shift of California economic activity to international competitors. TE for a given sector is calculated as imports plus exports (in dollars), divided by total domestic and import activity (in dollars). This is equal to total international trade activity, divided by total U.S. economic activity (including imports) within the sector. TE measures the level of international activity within a sector (i.e., six-digit NAICS code), but it may not capture other important factors that determine international emissions leakage risk. These important factors not captured by TE include how easily international importers can capture business when California industrial entities are assessed a GHG emissions compliance obligation, the degree to which California industrial entities can push cost increases upstream in their supply chain rather than into increased prices, the degree to which California industrial entities command a large or small international market share, the degree to which California may produce highly differentiated or commodity products, and the degree to which the costs of importing international goods may provide a built-in cost advantage for domestic production in some sectors.

EI for a sector is equal to its average emissions in metric tons of CO<sub>2</sub>e per million dollars value added. Value added is defined as total sales minus total costs to produce goods. This is an approximation of profit. A high EI indicates that a sector may be highly affected by emissions-related compliance costs relative to its competitors outside of California. In the absence of output-based allocation, a high-EI sector would have a large compliance obligation per level of economic activity. For the same reasons as TE,

however, a large compliance obligation will not necessarily result in high levels of emissions leakage. These reasons, for example, include that California entities may be able to push cost increases upstream in their supply chains rather than into consumer prices.

The new leakage assessment metric of IMT was developed and calculated for each manufacturing sector in the international study to assess emissions leakage to international competitors. IMT captures factors influencing international leakage that can be missed by EI and TE. It measures the fraction of each dollar decrease in value added resulting from a compliance obligation that is compensated for by an increase in imports. The international study used historical changes in production, exports, and imports in response to changes in industry-specific domestic energy prices to identify this fraction. IMT meets the objective of minimizing international emissions leakage by identifying when international leakage, or a large ratio of increased imports to value-added dollar domestic production drop, is occurring. For example, a sector with significant international emissions leakage potential could see a large increase in international imports due to a carbon-compliance-related increase in energy prices; this creates a large numerator in the sector's calculated IMT ratio, and thus the sector has a large measured IMT. The food processor study provided secondary estimates of IMT for four food processing industries.

The DD metric was developed and calculated for each manufacturing sector in the domestic study to measure emissions leakage to domestic competitors outside of California. DD measures the percentage decline in a California industrial economic outcome in response to a compliance obligation that is offset by competition within the United States. DD was calculated based on two California outcomes: California value added (an approximation of profit) and, separately, California output (an approximation of revenue). The purpose of measuring two outcomes was to minimize leakage based on the more significant decline by industry and thus provide increased industrial assistance in a measure of caution. As measured by the domestic study, DD values for each outcome were typically negative for the sectors, indicating a drop in the economic outcome in response to an increased compliance cost. The domestic study used historical changes in each economic outcome in response to changes in electricity and natural gas prices to identify each industry-specific percentage decline. DD focuses exclusively on U.S.-based leakage from California to other states, the domestic AF component of the revised AFs. IMT already addresses international leakage. Having a component of the AF directly address domestic leakage is an advantage over the previous EI and TE approach. The TE metric originally employed by staff identified the potential for international leakage rather than domestic leakage. It is unclear how well EI correlates with domestic leakage risk, and it is thus unclear if leakage prevention based on EI translates to an effective level of domestic emissions leakage prevention. Because of this, staff believes that DD could more precisely measure the sector-specific exposure of industrial entities to domestic leakage. In general, however, sectors with high (negative) DDs also have large energy intensities, a measure closely tied to EI.



As part of the current assessment, staff is proposing to give IMT and DD equal weight in their contribution to total leakage risk. Thus the international AF component and the domestic AF component for each sector would simply be summed to calculate the total AF for that sector under the new methodology. Details of the AF calculation for each sector are in Appendix E.

### Levels of Assistance to Prevent Emissions Leakage

As described in the paragraphs below, the proposed international and domestic leakage metrics both provide assistance above the level that is needed to protect against emissions leakage. Staff would apply the information from these commissioned studies such that staff's proposed AFs for a post-2020 program would be higher than the values required to prevent emissions leakage.

With respect to IMT values, the international study assumes that every unit of decreased export from California is made up by a one-for-one increase in foreign production; in other words, the study assumes that there is no reduction in international consumption in response to a decrease in California exports. In reality, international competitors may not increase production to meet all of the international demand no longer met by California's producers. Conversely, an increase in imports may decrease foreign production previously directed to serve international demand rather than a one-for-one increase foreign production. In both cases, the full global emissions leakage per dollar value-added is less than the leakage estimated by the IMT value.

With respect to domestic leakage, the DD calculation depends on allowance prices. The DD calculation was conservatively premised on an allowance price of \$24.88 in 2016 dollars, which represents the 2030 Auction Reserve Price assuming a seven percent annual increase from the 2016 price; this value is roughly 195 percent of the 2016 Auction Reserve Price. The DD calculation also assumes one-for-one replacement of California decreases in production (i.e., value added or output) by increases in non-California domestic production. In addition, long-run DD estimates generally indicated five-year leakage responses to a compliance obligation that are smaller than one-year responses, although long-run estimates for some sectors gave counter-intuitive results (i.e., an increase in California production in response to an increase in allowance price). This implies that sectors may be able to adapt over time to a compliance obligation. Staff proposes that the new methodology would use the one-year responses based on the relatively high \$24.88 allowance value (in 2016 dollars) as the basis for calculating DDs and the domestic component of the AF assigned to minimize domestic leakage. This would result in AFs that are likely to be higher than needed to compensate for domestic emissions leakage risk caused by the Program.

## Summary of Assistance Factor Development

Staff believes that the IMT and DD metrics more precisely identify leakage risk from the Cap-and-Trade Program compared to the previous metrics and provide solid footing for minimizing leakage due to the Program. Basing AFs on historical California, national, and international sector-specific economic decisions that are observable and verifiable is the best approach to quantifying leakage risk. Alternative methods such as simulation-only or computable general equilibrium models may give results that are driven by subjective and opaque formulations of theoretical market behavior. Application of the commissioned, statistically based emissions leakage studies to assign specific AFs would help provide appropriate emissions leakage prevention for each industry in a fair and consistent manner. Staff is proposing to take a conservative approach and would apply the new methodology such that the proposed AF values would be higher than the levels deemed to be necessary to prevent emissions leakage. As this proposed methodology is a new framework relative to the existing methodology for establishing AFs and stakeholders have expressed concern regarding adequate time to review the leakage studies and work with staff to review and refine any proposed use of those studies, staff is not including any specific AFs in the 45-day proposed Regulation, but proposes to continue the discussion with stakeholders and may provide industry specific AFs in a 15-day comment period. Regardless, staff expects to continue to assess emissions leakage risk in the future. This will be appropriate as new information becomes available and as other jurisdictions adopt policies that apply costs to GHG emissions.

### **b. Electrical Distribution Utility Allocation**

#### *Electrical Distribution Utility Use of Allocated Allowance Value*

Proposed changes to the Regulation would also make several clarifications to the allowed uses of electrical distribution utility (EDU) allocated allowance values. The proposed amendments specify that allocated allowance auction proceeds may not be used for costs of complying with MRR or the AB 32 Cost of Implementation Fee Regulation. Further, they clarify what is meant by the current Regulation when it states that use of allowance value must benefit ratepayers and be consistent with the goals of AB 32 by stating these proceeds may be returned to ratepayers or used for reduce GHG emissions. These amendments are not substantive changes, but clarifications to the meaning of benefiting ratepayers and consistency with AB 32 goals. Staff also proposes to add a requirement that any allocated allowance auction proceeds must be returned to ratepayers in a non-volumetric manner. This requirement makes it such that there is equal treatment of allocated allowance value for EDUs and natural gas suppliers, which are already prohibited from returning allocated allowance value in a non-volumetric manner, and subsequent carbon cost impacts for electricity and natural gas customers.



The proposed amendments also create a deadline for spending allocated allowance auction proceeds to ensure that this value is put to use in a timely manner—that is, within 10 years of the vintage of the allowances. Because these allowances are allocated for ratepayer benefit and GHG emissions reductions, they should be used within a reasonable period or returned to ratepayers. In drafting this amendment, staff considered several periods by which EDUs must have used the allocated allowance auction proceeds, and decided that ten years was sufficient time to have either saved up proceeds to use for a capital project, or return the value to ratepayers.

EDU reporting on use of allowance value would be amended to focus on allocated allowance auction proceeds spent during the previous year, instead of requiring (as is done under the current Regulation) reporting of the previous vintage year's allocated allowance value. The current reporting structure does not require the reporting of allocated allowance auction proceeds that are not spent in the year of their vintage, which means that if EDUs are banking proceeds, ARB may be missing the complete picture of proceeds uses. Further, because ARB already knows how many allowances POU's and co-ops request that ARB deposit into their (or another entity's) compliance account, that reporting requirement is proposed to be removed from the Regulation. Staff will continue to release public reports on EDU use of allocated allowance value to ensure transparency.

All of these changes would be implemented beginning in 2018, at the start of the third compliance period.

#### *Post-2020 EDU Allowance Allocation*

Even though specific post-2020 EDU allocation is not included in the 45-day proposed Regulation, staff proposes to continue allowance allocation to EDUs after 2020 using an approach based in part on the methodology used for 2013-2020 EDU allocations. Under such a proposal, the 2020 expected cost burden for each EDU would be the starting point for calculating post-2020 allowance allocations. Staff would propose to calculate the 2020 emissions cost burden for each EDU using load data from the California Energy Commission's (CEC) 2015 Energy Demand Forecast (CEC 2016) and resource data from 2015 S-2 forms, supplemented by additional data as needed. The allowance allocation calculation would be modified to exclude some allowances that are currently provided to the electricity sector, but would instead be allocated directly to industrial entities.

The original allocations were based on expectations of EDU load and resource types developed in 2009 as part of the CEC Energy Demand Forecast (CEC 2009). Since 2009, expectations of 2020 loads and resources have changed dramatically. The CEC's 2015 Energy Demand Forecast estimates statewide electricity load in 2020 to be almost 15 percent lower than the 2009 estimate of 2020 load. Furthermore, the CEC 2009 S-2 forms,<sup>23</sup> in which EDUs report expected future resources, included several

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<sup>23</sup> Available at [http://energyalmanac.ca.gov/electricity/S-2\\_supply\\_forms\\_2009](http://energyalmanac.ca.gov/electricity/S-2_supply_forms_2009)

large coal power plants expected to be in operation in 2020 and beyond. The 2015 S-2 forms<sup>24</sup> now show that only one coal power plant serving six utilities will still be operating in 2020, and all other coal power plants serving California load will have been retired.<sup>25</sup> Utilities are affected in different ways by changes in load and resource types. Some utilities will likely see decreasing loads from 2015 to 2020 and beyond, while utilities in fast growing regions such as the Central Valley are likely to see moderate growth as reflected in the 2015 Energy Demand Forecast and in the 2015 S-2 forms.

For post-2020 allocation, staff would propose to allocate to EDUs for renewable electricity in certain cases where the entity has invested renewable generation sources, but the electricity from those sources is not able to be directly delivered to California. This allowance allocation would replace the RPS adjustment in the post-2020 Program (see Chapter II.8.b for more details), and it recognizes that not all contracted RPS electricity in which EDUs have invested will have zero compliance obligation. To address the reality that not all renewable electricity can be directly delivered to California, staff would propose to set the amount of zero-GHG emissions RPS-eligible electricity for the expected 2020 emissions calculation for each EDU at 28 percent instead of 33 percent, which was the percentage used in the 2013–2020 EDU allocation.

Staff proposes that individual EDU post-2020 allocations would be set allowance amounts listed in the Regulation instead of percentages calculated from a total sector allocation. This would provide greater transparency of each EDU's annual allocation. A specific post-2020 EDU allocation may be a part of a 15-day comment period.

#### Allocation for Industrial Covered Entity Purchased Electricity

ARB currently provides product-based allowance allocation to industrial covered entities or opt-in covered entities. Allocation to industrial covered entities is calculated using product- and energy-based emissions efficiency benchmarks that account for onsite covered emissions plus emissions associated with purchased steam, minus emissions associated with sold steam and electricity. Starting with vintage 2021 allowance allocation, staff proposes to modify the product- and energy-based emissions efficiency benchmarks to include emissions associated with purchased electricity. This means that industrial covered entities will receive allowance allocation directly from ARB to help offset increased electricity costs from the Program. To prevent double-allocation of allowances for the same electricity-associated emissions, staff proposes to reduce allowance allocations to EDUs with industrial covered entity customers to reflect the increase in allowance allocation to the industrial entities for the carbon cost associated with purchased electricity. This adjustment would begin with vintage 2021 allowance allocation to EDUs to coincide with the increase in allocation to industrial covered entities.

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<sup>24</sup> Available at [http://energyalmanac.ca.gov/electricity/s-2\\_supply\\_forms\\_2015](http://energyalmanac.ca.gov/electricity/s-2_supply_forms_2015)

<sup>25</sup> One small electrical cooperative will continue to source some of its power from a coal power plant, with no known retirement date.

Currently, IOUs are required to consign their freely allocated allowances to auction. They are further required by the Regulation, SB 1018, and CPUC to use the proceeds from the sale of their allocated allowances for ratepayer benefit, including providing leakage protection to some industrial customers. The return of allowance value to IOU industrial customers is overseen by CPUC and is based on product- and energy-benchmarks for emissions costs in electricity purchased by industrial entities. POUs are not subject to CPUC oversight and have more discretion over the use of their freely allocated allowances. POUs may use these allowances directly for compliance, and they are not required to consign allowances to auction, but must use the value of those allowances for ratepayer benefit. EITE customers in POU territories can therefore face higher Program costs in the form of higher electricity costs compared to industrial customers in IOU territories because the IOU customers will receive compensation for carbon cost increases through the return of consigned allowance value that is overseen by CPUC.

To create a level playing field, industrial customers in POU territories should also be allocated allowances based on benchmarks that include purchased electricity. POUs may pass through GHG emissions costs to their customers in rates, as is required of IOUs, but POUs are not required to do so. By including electricity emissions in product- and energy-based benchmarks, industrial covered entities in POU service areas would receive allowances that would offset emissions costs that POUs choose to pass through in rates. Staff proposes to exclude the emissions associated with electricity sold to industrial covered entities from the calculation of each EDU's 2020 emissions cost burden, calculated using the average annual industrial covered entity purchased electricity from 2013 and 2014 data reported through MRR and an EDU-specific emission factor. These quantities are reduced by the cap decline factor for 2020, and then subtracted from the 2020 cost burden. The resulting total allocation is decreased on an annual basis with the cap adjustment factor.

#### Allocation for Increased Electrification

Staff is continuing to evaluate how increased electrification for the transportation sector for the post-2020 period should be accounted for in the allocation methodology for EDUs. It is important to ensure any method used to calculate any allocation for increased electrification is as accurate and verifiable as the methods used to allocate for industrial sectors for product-based allocation. Since there is a limited number of allowances, which gets smaller over time, it is critical that any freely allocated allowances are equitably provided to all covered entities for the purposes of leakage prevention and ratepayer benefit.

### **c. Natural Gas Suppliers Allocation**

#### *Natural Gas Supplier Use of Allocated Allowance Value*

Proposed changes to the Regulation would make several clarifications to the allowed uses of natural gas supplier allocated allowance values. The proposed amendments specify that auction proceeds from allocated allowances may not be used for costs of complying with MRR or the AB 32 Cost of Implementation Fee Regulation. Further, they clarify what is meant by the current Regulation when it states that use of allowance value must benefit ratepayers and be consistent with the goals of AB 32 by stating these proceeds may be returned to ratepayers or used to reduce GHG emissions. These proposed amendments are not substantive changes, but clarifications to the meaning of benefiting ratepayers and consistency with AB 32 goals.

The proposed amendments also create a deadline for spending allocated allowance auction proceeds to ensure that this value is put to use in a timely manner—that is, within 10 years of the vintage of the allowances. Because these allowances are allocated for ratepayer benefit and GHG emissions reductions, their value should be used within a reasonable period or returned to ratepayers. Staff considered a range of time periods and decided that ten years is sufficient time either to save proceeds for use on a capital project or to return the value to ratepayers.

Natural gas supplier reporting on use of allowance value would be amended to require the reporting of allocated allowance auction proceeds spent during the previous year, instead of requiring reporting of the previous vintage year's allocated allowance value, as under the current Regulation. The current reporting structure does not require the reporting of allocated allowance auction proceeds that are not spent in the year of their vintage; in other words, if natural gas suppliers bank proceeds, ARB may miss the complete picture of proceeds uses. For instance, natural gas suppliers that did not spend their vintage 2015 allocated allowance auction proceeds in 2015 are not required by the current Regulation to report those proceeds once they are expended. The proposed amendments would require them to report those proceeds the year after they are expended. Further, because ARB already knows the number of allowances that natural gas suppliers request ARB to deposit into their compliance account from the request itself, staff proposes to remove that reporting requirement from the Regulation. Staff will continue to release public reports on natural gas supplier use of allocated allowance value to ensure transparency.

All of these changes would be implemented beginning January 1, 2018, at the start of the third compliance period.

#### *Post-2020 Natural Gas Supplier Allocation*

Natural gas suppliers are covered under the Cap-and-Trade Program and required to consign allowances in order to encourage customer reductions in natural gas

consumption and resulting GHG emissions. Natural gas suppliers are currently required to consign a minimum percentage of their allocated allowances to auction each year, and this percentage increases by five percent each year, reaching 50 percent in 2020.

For post-2020, staff is evaluating an acceleration of the natural gas supplier consignment requirement to ensure a level playing field in terms of consignment for electricity and natural gas utilities. This change would ensure that a carbon cost is felt by all users of natural gas, whether those users are covered entities with a direct carbon cost or non-covered entities who face an indirect carbon cost. Ensuring that the cost signal is felt by all natural gas customers will further the policy desire to limit the amount of fugitive methane emissions from this sector, incentivizing efficiency or alternatives to the use of natural gas. Methane is considered a short-lived climate pollutant, which is a class of GHGs that includes powerful climate forcers and harmful air pollutants that have an outsized impact on climate change in the near term compared to longer-lived GHGs such as carbon dioxide. Ultimately, to eliminate fugitive methane emissions and move to a more sustainable future, the State needs to transition away from its use of oil and natural gas and promote renewable natural gas.

The inclusion of natural gas suppliers in the Program beginning in 2015 was supposed to bring equity between covered entities and entities indirectly covered by the Program through increased costs from natural gas suppliers that faced a direct cost of compliance. However, the ability of a natural gas supplier to deposit any percentage of allowances into its compliance account means that non-covered customers of natural gas suppliers are facing a carbon cost that is a fraction of the cost faced by covered entities, creating inequities among covered and non-covered entities. For instance, an electricity generator that is below the program inclusion of 25,000 MTCO<sub>2</sub>e/year threshold faces a carbon cost pass-through of 25 percent (i.e., equal to the consignment requirement of 25 percent of allocated allowance), whereas an electricity generator that is a covered entity will face a full (100 percent) carbon cost. An escalated rate of consignment means that full cost pass-through will be achieved, and the inequity rectified, sooner. Staff proposes to extend the limited exemption of emission from qualified thermal output for operators of cogeneration facilities and district heating facilities until natural gas suppliers would be required to consign all allowances to auction. Once full consignment of allocated allowances to auction is achieved, there will no longer be a need for the exemption.

Pursuant to the current Regulation, natural gas suppliers are prohibited from returning allowance value to customers in a volumetric manner. In combination with this prohibition, requiring consignment of allocated allowances ensures that a direct cost of Program compliance is passed through to all customers that are not directly covered by the Program. This cost incentivizes GHG emissions reductions for natural gas users that are too small to be covered directly by the Cap-and-Trade Program. The strength of this effect can be considered by examining estimates of natural gas price elasticity, the decrease in natural gas consumption in response to a price increase. The American Gas Association estimated of natural gas price elasticity to be -0.18 within one year

(Joutz and Trost 2007) and models used by the Energy Information Administration estimated a value of -0.41 after several years (Wade 2003).

#### **d. Legacy Contract Generator Allocation**

The proposed amendments move the deadline for legacy contract allocation applications from September 1 to June 1. This change will enable ARB to inform verifiers which entities are subject to the legacy contract reporting and verification requirements of MRR. For 2017 only, the legacy contract deadline for legacy contract generators with EDU counterparties would be October 15 so that it occurs after the proposed amendments take effect but before allowance allocation.

Staff also proposes amendments to the good-faith renegotiation provisions of the Regulation that specify that the renegotiation effort must have begun at least 60 days prior to the date the operator signs the attestation, and that the operator failed (instead of “was unable”) to renegotiate the contract.

#### **e. University, Public Service Facility, and Water Agency Allocation**

Currently, allowances are freely allocated to universities and public service facilities to provide transition assistance and to recognize early actions to reduce GHG emissions by investing in energy efficiency, combined heat and power, lower carbon energy sources, and renewable energy. In addition, universities have provided leadership in the research and development of technologies to reduce emissions and increase efficiency throughout the economy. To recognize these actions and ensure a smooth transition into the Cap-and-Trade Program, ARB provides allowance allocation for transition assistance to universities. The university and public service facility allocation methodology follows a modified version of the energy-based allocation approach for industrial sectors. A baseline allowance allocation is established using historic average emissions associated with energy use, and allowance allocations in subsequent years decline annually in proportion to the cap, similar to allocation for all other sectors in the Regulation.

For post-2020, staff is evaluating amendments that may continue to allocate allowances to universities and public service facilities after 2020 using the same methodology that currently applies to budget year 2016 to 2020 allocations. University and public service facilities that receive allowances would continue to be required to report to ARB on the use of the allowance value associated with their allocations.

For post-2020, staff is evaluating amendments that may continue to allocate to a public wholesale water agency in the post-2020 period using the same methodology used in the current Regulation. For post-2020 budget years, a public wholesale water agency's allocation may be calculated by multiplying the 2020 allocation by the appropriate cap decline factor.



## **f. General Allocation Changes**

Staff proposes the new term “initial allocation” to define the allowance allocation equation that is distributed in advance of a budget year for industry assistance for that budget year. This is different than “true-up allocation,” which is distributed to account for changes in production or allocation in prior years. No changes were made to the actual calculation of allowance allocation, only the terms used.

Staff proposes amendments to expand the application of negative allocation to direct corporate associates. Negative allocation occurs when a facility has a negative true-up allocation quantity or a legacy contract allocation reduction that is greater than its initial allocation. The current Regulation applies this negative value to the entity’s allocation in the subsequent year. Staff proposes to apply this negative amount by the current allocation deadline to any direct corporate associated entities that receive free allocation. This amendment sustains the integrity of the program by ensuring that negative allocation is managed in an appropriate and timely manner.

Staff also proposes clarifications to ensure that entities are only eligible to receive industrial allowance allocation when they perform an “activity” (a) listed in Table 8-1 or new Table 8-3 of the proposed Regulation. This is not a substantive change to the Regulation, but it provides clarity that allocation covered activities must be performed by covered entities in order to receive free allocation, and that if an entity will not be performing this activity in the coming year, that ARB cannot allocate allowances to that entity for that activity. For example, an entity that indicates that it will cease operations in the following year for an activity listed in Table 8-1 of the Regulation, but will have GHG emissions from other activities like electricity generation or boiler use, will not be eligible for allowance allocation for that activity in the following year. Staff also proposed language to clarify that if an entity receiving energy-based allocation does not perform activity “a” for part of a year because it has shut down, then it must return allowances allocated for that year to ARB in proportion to the fraction of time during the year that it was shut down.

Staff deleted the first compliance period refinery allocation. This allocation methodology is no longer used, and refineries now receive allowance allocation under a product-based methodology using the complexity weighted barrel (CWB) benchmark.

## **g. Return of Allowance Allocation for Entities Exiting the Program**

Staff proposes modifying the sections pertaining to the return of allowances by entities that were allocated free allowances and then subsequently did not incur a compliance obligation or applied to exit the Program. The intent of this section is to provide the appropriate amount of allowance allocation to entities in their final years in the program. Entities that do not incur a compliance obligation have no reason to receive free allowances. Staff proposes that entities must return allowance allocation for budget years or portions of budget years in which the entity did not incur a compliance

obligation, whether that was because of a facility shut-down or because the facility dropped below the Program inclusion threshold. In cases of facility shut-down for an entity receiving energy-based allocation, allowances for the period during which the entity was not performing activity “a” must be returned to ARB. Additionally, amendments state that entities must remain in the Program until all appropriate true-up allowance allocations using the data from its final years in the Program are completed. This will ensure that the final years of allowance allocation accurately reflect the entity’s activities prior to exiting the program.

## **7. Covered Sectors, Covered Entities, and Exempt Emissions**

Staff proposes to change some Regulation provisions that define which entities and emissions are covered by the Program. These changes generally aim to provide more equitable treatment of facilities and emissions that are covered by the Program and to enhance the environmental benefits of the Program.

### **a. Covered Entity for Imported Liquefied Petroleum Gas (LPG) Emissions**

The entity that incurs the compliance obligation for emissions associated with imported liquefied petroleum gas (LPG) is proposed to be changed from the consignee of the LPG to the importer of the LPG. This change makes the covered entity responsible for emissions associated with imported LPG in the Cap-and-Trade Program the same as the entity responsible for reporting the emissions associated with imported LPG under MRR. The current disparity between the Program covered entity and the MRR reporting entity for emissions associated with imported LPG may lead to inequitable treatment of LPG importers under the Program, and this change is intended to bring equal treatment to all LPG importers.

### **b. Limited Exemption for Emissions from Waste-to-Energy Facilities**

A limited exemption from a compliance obligation for emissions from the direct combustion of municipal solid waste in a waste-to-energy facility is added for the 2016 and 2017 data years. Emissions from waste-to-energy facilities were exempt from the Program from 2013 through 2015, and this change extends the exemption through the second compliance period. The limited exemption will be provided by allocating true-up allowances to compensate for any 2016 and 2017 compliance obligations that were incurred by waste-to-energy facilities. The waste-to-energy facilities will no longer be exempt beginning in 2018.

ARB, along with CalRecycle, continues to evaluate the treatment of end-of-life management options for municipal solid waste under the Program. End-of-life options for municipal solid waste include composting, recycling, landfilling, and generating energy. Emissions from the conversion of municipal solid waste-to-energy are the same as that would occur through decay of the solid waste in a landfill with no energy

production. Thus, energy production at waste-to-energy facilities does not lead to a net increase in GHG emissions to the atmosphere relative to landfilling. Each end-of-life option presents disparate environment and societal benefits and impacts with respect to emissions, land use, and natural resource consumption that are challenging to evaluate, and staff believes that it is appropriate to extend this limited exemption for two more years as these options are further assessed.

This exemption is also proposed to avoid any increases in landfill emissions due to reduced diversion if the waste-to-energy facilities had a compliance obligation under the Program. The Proposed Short Lived Climate Pollutant Reduction Strategy (ARB 2016a) calls for a regulation by 2018 to effectively eliminate organic disposal in landfills by 2025. As such, landfill emissions are not expected to increase due to lack of diversion.

### **c. Limited Exemption for Liquefied Natural Gas (LNG) Providers**

A limited exemption from a compliance obligation for emissions from supplied liquefied natural gas (LNG) is added for the second compliance period. There is a current disparity between the Cap-and-Trade Program covered entity and the MRR reporting entity for emissions associated with supplying LNG so that compliance obligations among LNG suppliers are not equally incurred during the second compliance period. The current MRR point of regulation for LNG importers is the consignee, and the current Regulation's point of regulation is the importer. ARB staff knows that some LNG importers are not consignees, and therefore are not required to report their emissions. Currently under MRR, some consignees of the imported fuels are receiving relatively small quantities of imported fuel annually and are falling below the reporting threshold resulting in inadequate reporting of total volumes of imported fuel.

Staff has determined that this disparity presents a leakage risk for LNG suppliers in the second compliance period. Staff proposes to resolve this inequity by harmonizing the Cap-and-Trade Regulation and MRR with respect to the entities responsible for emissions associated with supplying LNG; these changes would take effect in 2018, at the start of the third compliance period. Staff believes that a limited exemption of these emissions from the Program is appropriate during the second compliance period so that all LNG suppliers receive equal treatment under the Program. True-up allowance allocation to appropriate LNG suppliers is the best means to apply this limited exemption to the second compliance period, which is already underway.

### **d. Limited Exemption for Operator of Cogeneration and District Heating Facilities for Production of Qualified Thermal Output**

Staff proposes to extend the limited exemption of emissions from qualified thermal output for operators of cogeneration facilities and district heating facilities until natural gas suppliers are required to consign all allowances to auction. Once one hundred percent consignment of allowances is achieved there will no longer be a need for the

exemption because the covered facilities and non-covered facilities should face the same carbon cost.

**e. Removal of Exemption of Emissions from Natural Gas Hydrogen Fuel Cells and Low-Bleed Pneumatic Devices**

Emissions from natural gas hydrogen fuel cells are removed from the list of emissions without a compliance obligation; emissions from these sources would begin incurring a compliance obligation in 2018, at the start of the third compliance period. Natural gas hydrogen fuel cells generate electricity and GHG emissions from a fossil fuel source, natural gas. The GHG emissions from these sources have the same climate change impacts as emissions from other similar sources, and staff believes that it is appropriate for these emissions to be covered by the Program.

Emissions from high-bleed pneumatic devices are removed from the list of emissions without a compliance obligation; this exemption was already phased out in 2015, and emissions from these devices will continue to incur a compliance obligation. Staff proposes to phase out the emissions exemption for continuous low-bleed pneumatic devices beginning in 2019, when ARB's proposed Regulation for Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities would require the use of continuous pneumatic devices with a no-bleed rate. The emissions exemption for intermittent low-bleed pneumatic devices is added because these emissions cannot be quantified with the accuracy needed for inclusion in the Program.

**f. Opt-In Covered Entities**

Changes are proposed to the Regulation to allow a covered entity that is eligible to exit the Program owing to reduced annual emissions that were below the threshold for an entire compliance period to remain in the Program as an opt-in covered entity. The existing Regulation requires an entity seeking to opt in to the Program, whether previously a covered entity or not, to request approval to opt in by March 1 of the year before it wishes to incur a compliance obligation; these regulatory requirements are proposed to remain in the Regulation. A covered entity in the Program may not know if it will still be a covered entity in the next compliance period until the reporting deadline for the final year of the former compliance period, which is April 10 of the first year of the next compliance period; this is much later than the current Regulation's opt-in request deadline. ARB staff proposes to allow for two different pathways to become an opt-in covered entity. The first is the existing pathway, which allows an entity meeting the requirements of section 95813 of the Regulation to request approval by March 1 to opt into the Program for a compliance obligation beginning the next calendar year. The second is a new pathway that allows an entity that was a covered entity in the compliance period that ended the preceding year to request approval, by June 1 of the first year of the new compliance period, to be an opt-in covered entity starting with the year in which the request for approval is made.

## 8. Electricity Sector

### a. CAISO Expansion and Electricity Imbalance Market

The California Independent System Operator (CAISO) is an entity that coordinates and provides operational instructions to a large number of electric power plants in order to balance electricity, or equate supply and demand, for most of the electricity demand of residential, commercial, and industrial customers within California. In this capacity, CAISO serves as a balancing authority (BA) for most of California. This region, or balancing authority area (BAA), includes the service territories of many of California's utilities. As a part of its BA operations, CAISO facilitates a day-ahead market contracting power plant supply a day in advance to meet the majority of California's anticipated energy demand. CAISO also operates a real-time market to make up the difference between the day-ahead market energy supply contracts and day-of demand.<sup>26</sup>

The 2014 expansion of the real-time market to include out-of-State BAAs has resulted in an incomplete accounting of the GHG emissions associated with power that serves California's load. This expanded real-time market is called the energy imbalance market (EIM) and retains the functionality of the real-time market, while making real-time market services available to other regions (California Independent System Operator 2016). The EIM cost optimization model sometimes identifies zero-emissions power as dispatched to California before high-emitting resources are deemed dispatched to the State when there is a load imbalance. Clean out-of-State resources (e.g., hydropower), are "deemed delivered" to California, and the Cap-and-Trade Regulation assigns the scheduling coordinator for those resources with a compliance obligation. The model's "deemed delivered" result is treated as determining that resource as a source for a specified power import. However, in certain instances, the full transfers that support balancing load to California are not identified and accounted for in the Cap-and-Trade Program, resulting in emissions leakage. ARB staff confirmed their understanding of how the EIM cost optimization model works with CAISO. Emissions leakage occurs when it appears there has been a GHG emissions reduction through accounting for California program purposes, but the atmosphere did not actually experience that real GHG reduction.

The CAISO EIM model currently accounts for the cost associated with a California GHG compliance obligation for imported EIM energy by selecting the lowest cost out-of-State power plants willing to be "deemed delivered" to California to receive a Cap-and-Trade compliance obligation. Specifically, out-of-state power plants quote a megawatt-hour (MWh) quantity of energy for which they are willing to be assigned a compliance obligation, and a price per MWh at which they believe they can recoup the cost of this compliance obligation. Out-of-State megawatt-hours that are assigned a GHG award (to cover the cost of compliance with the Cap-and-Trade Program) within the EIM time

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<sup>26</sup> CAISO electricity market descriptions, accessed 6/7/2016:  
<http://www.caiso.com/market/Pages/MarketProcesses.aspx>

interval are termed “deemed-delivered.” “Deemed-delivery” in the terms of the algorithm is a distinct concept from whether or not the plant is producing energy in response to California load demand. Clean resources with a lower deemed-delivery bid price are selected for “deemed-delivery” to California, while higher-emitting power plants with a higher deemed-delivery bid may be the actual plants dispatching to serve California load. This accounting system is inconsistent with the requirement in AB 32 that ARB account for the total GHG emissions in the State, including all GHG emissions from the electricity delivered to and consumed in California, because the EIM cost optimization model may not in all cases report the full GHG burden experienced by the atmosphere as a consequence of the electricity consumed in California. Further, the current EIM accounting is in tension with the policy goals behind the specified source requirements of MRR.

To address these inconsistencies and ensure the Cap-and-Trade Regulation reflects the requirements of AB 32, ARB staff proposes to retain the current point of compliance of the CAISO participating resource scheduling coordinator, but to supplement that compliance obligation with a compliance obligation on entities that purchase from EIM (“EIM purchasers”) to serve load in California. The total supplemental compliance obligation for all EIM purchasers would be calculated based on the annual metric tons of CO<sub>2</sub>e from electricity that is experienced by the atmosphere to serve California load through CAISO’s EIM, but not otherwise accounted for by emissions reported by the EIM participating resource scheduling coordinators. Each EIM purchaser’s compliance obligation will be calculated as the ratio of their EIM purchases (MWh-basis) to total EIM load to serve California (also measured in MWh). This accounting would ensure that the full emissions associated with serving California are accounted for, and attributed entirely to entities that are engaged in serving California load.

ARB held a public workshop on this issue on June 24, 2016. At the workshop, CAISO and ARB staff presented the information above and shared options to address the issue of emissions leakage. The proposed regulatory amendments represent an initial option that was developed by CAISO. ARB and CAISO are coordinating with stakeholders to refine the proposed solution for the GHG accounting issue and are soliciting options for alternatives. The solutions discussed to date do not involve changes to the EIM model itself, although stakeholders raised the possibility that such changes might be able to better account for power serving California load more directly. However, both ARB and CAISO are open to alternatives to ensure full GHG accounting, which may potentially require such changes. ARB and CAISO staff will continue to coordinate with stakeholders to ensure ARB GHG accounting policy is accurately implemented to ensure only real GHG emissions changes are quantified and assessed for achieving progress towards the AB 32 goals, including the 2020 target, and a compliance obligation in the Cap-and-Trade Program. As staff considers comments to the proposed amendments, additional modifications may be proposed to address these issues.



## **b. RPS Adjustment**

Staff proposes to discontinue the RPS adjustment after 2020. The RPS adjustment was originally included in the Regulation to compensate for the compliance obligation incurred by electricity importers when procured RPS-eligible renewable generation, that is not directly delivered to California, is replaced by higher emitting electricity generation. This RPS adjustment is voluntary, and it is only applicable when the importer purchases both electricity and renewable energy credits (REC) together and can demonstrate that the electricity was not delivered to California. This provision of the Regulation was extremely difficult to track and enforce, in part because to avoid double counting the Regulation could only allow RPS adjustments to be taken in cases in which the electricity associated with the RECs was not directly delivered to California. It can be difficult for entities to know if the electricity was directly delivered, and there was also widespread misuse of the direct delivery requirement because of misinterpretations of the Regulation (e.g., that one could choose not to specify a source of imported electricity and then use the RECs associated with that electricity for an RPS adjustment). Further, when there are multiple purchasers of electricity and RECs from renewable resource, it is difficult to determine which RECs are associated with which electricity.

After 2020, staff proposes to modify the Regulation to provide each EDU with an allowance allocation that accounts for RPS-eligible electricity that is purchased together with RECs but cannot be directly delivered to California, and eliminate the RPS adjustment from the Regulation. This allowance allocation will serve the same purpose as the original RPS adjustment, but will alleviate the reporting and verification difficulties and the potential for double counting of zero emissions electricity.

## **c. Voluntary Renewable Electricity**

The VRE provisions of the Regulation make it possible for participants to request that ARB retire allowances for eligible renewable electricity generation to ensure that overall emissions reductions are achieved by voluntary renewable electricity generation. Before the Cap-and-Trade Program was in place, it was reasonable to assume that voluntary generation of renewable electricity would reduce emissions because it would replace electricity power purchased from a utility. With the economy-wide emissions cap under the Program, substitution of voluntary renewable electricity for power purchased from a utility results in emissions reductions only for the electric sector, but statewide emissions are not necessarily reduced. Instead, when the electric sector requires fewer allowances for compliance, allowances are freed up for use to meet compliance obligations in other sectors, and statewide emissions remain at the level of the cap. The VRE program enables participants to retire allowances and ensure that statewide capped emissions are reduced by the renewable generation. The quantity of allowances eligible for retirement is calculated by multiplying the amount of eligible electricity generated (MWh) by the default emission factor for unspecified electricity.

Currently, to be considered for allowance retirement, renewable generation must come from eligible generators. A generator must either be RPS-certified by the CEC, or must meet the CEC guidelines for California's Solar Initiative (CSI) Programs (California Energy Commission 2013). For the second type of generation, participants must document that the generator received a CSI incentive in order to be eligible. However, several EDUs have exhausted the funds available for providing CSI incentives, making it impossible for new solar generation projects to demonstrate that they received a CSI incentive. Staff proposes to modify the eligibility requirements for VRE participation to permit allowance retirement for electricity generation from solar installations interconnected with the distribution system of a California EDU, permit allowance retirement for RECs as long as they have not been used for compliance in any other program, and continue to permit allowance retirement for solar generation that has received an incentive under CSI. The proposed changes will allow solar systems that meet EDU installation requirements that are similar to the CSI requirements to be eligible for VRE participation.

Additional proposed modifications specify how allowance retirement will be allocated among VRE applicants during the year in which the VRE account is exhausted and clarify requirements for documentation of generator eligibility. Staff does not propose to allocate any additional allowances to the VRE Reserve Account because requests for VRE retirement have been much lower than anticipated. Finally, staff proposes several changes to provide greater clarity and eliminate language that is no longer necessary.

#### **d. Qualified Export Adjustment**

The qualified export (QE) adjustment to imported electricity is a deduction to a compliance obligation on a megawatt-hour-basis to electricity that is exported out of California in the same hour as electricity imported into the State by the same electric power entity. This provision was included in the original Regulation, and at that time staff indicated that it would monitor and analyze the effects of the QE adjustment to determine if gaming and emissions leakage were occurring (ARB 2011a). Over the first compliance period, there was a 50 percent increase in QE adjustments while imported electricity emissions decreased over the same period. The QE adjustment was developed in an effort to calculate a reduction in compliance obligation associated with simultaneous exchange agreements for electricity that did not actually serve California load; however, it has been more extensively used than expected. A broad methodology has been applied based on simply having an import and export in the same hour, with no determination of whether there was a simultaneous exchange agreement in place, and with no determination of whether the combined import and export reasonably represented a wheeling of electricity. Thus, the QE adjustment may simply reflect a change in scheduling and transaction procedures in order to lower GHG compliance obligations. Therefore, staff is proposing to remove the qualified export exemption in the third compliance period to ensure that emissions leakage is minimized to the extent feasible as required by AB 32.

## **9. Compliance Offset Credits**

Staff is proposing to clarify and modify aspects of offset program implementation. These amendments address offset project requirements, regulatory compliance, Authorized Project Designee requirements, offset project listing requirements, project transfer requirements, monitoring and reporting requirements, verification requirements, verification body requirements, offset credit issuance, forestry reversals, invalidation, and the early action program.

### **a. Modifications to Listing and Authorized Project Designee Requirements**

Staff is proposing modifications to the listing requirements to specify that all projects must list no later than one year after Offset Project Commencement. The Regulation currently requires projects that commence after January 1, 2015 to list within one year. The proposed amendment would take effect October 2017; by that time there would be no need for the current limitation because projects commencing before January 1, 2015 will have had sufficient time to list.

Staff is proposing to modify the requirements allowing offset projects to transfer from one Offset Project Registry to another. The proposed changes would also allow transferring of offset projects to and from ARB. ARB is clearly identified in the Regulation as being able to list offset projects, which ARB has chosen not to do at this point in time. But, in the future, if ARB does allow listing projects directly with ARB, projects should have a similar ability to transfer to and from ARB.

Staff is proposing a clarification to the listing requirements for forest offset projects to prevent relisting projects on the same land as a previous project. This limitation currently exists in the Compliance Offset Protocol U.S. Forest Projects (ARB 2015b), and staff believes the prohibition should be included in the Regulation's listing requirements as well.

Staff is proposing modifications to the Authorized Project Designee section to define which individuals from the Offset Project Operator may delegate responsibility to the Authorized Project Designee. The proposed changes require that a Director or Officer of the Offset Project Operator delegate the responsibility.

### **b. Modifications to Reporting Requirements**

Staff is proposing clarifications to the offset project reporting requirements. The Regulation currently requires continuous reporting and ARB has decided to more expressly identify the consequences of not reporting. Proposed changes clarify that a project would terminate if reporting is not continuous.

Similarly, the Regulation requires reporting within 24 months of listing but does not identify the consequence of not reporting. Proposed changes clarify that the offset project must relist under the most recent version of the applicable offset protocol if the reporting deadline is missed. Additional proposed modifications extend the initial reporting deadline to 28 months to allow for a 24 month Reporting Period and an additional four months to prepare the Offset Project Data Report.

Other changes clarify that the required attestations must be submitted with each and every version of the Offset Project Data Report, and that each report must have a version number and date so that ARB staff can easily understand the revision history.

Staff is also proposing modifications to the procedures for interim data collection. The proposed changes would recognize that more than gas and fuel data are used in the quantification of GHG emissions reduction and removal enhancements. The regulatory language limiting interim data collection to gas and fuel has been removed.

### **c. Modifications to Regulatory Compliance and Additionality Requirements**

Staff is proposing modifications to the requirement that offset projects may not receive ARB offset credits for the entire Reporting Period when they are out of regulatory compliance with any local, regional, and national environmental health and safety laws and regulation that apply to the offset project. The proposed amendments would limit the period of time livestock and mine methane capture offset projects are ineligible to receive ARB offset credits for not being in regulatory compliance to the time period the project was actually out of regulatory compliance, to the extent that time period can be substantiated by documentation. Therefore, documentation of the period the project was out of regulatory compliance will be required. Project-related activities for which regulatory compliance is evaluated are set forth in the proposed Appendix E of the Regulation. Other project types cannot be included in this proposal because there is no quantification mechanism within the applicable protocols to identify and remove crediting of partial Reporting Periods.

Staff is proposing clarification that if a law, regulation, or legally binding mandate to limit GHG emissions that directly applies to an offset project goes into effect during the crediting period of a project, then the project may continue to receive ARB offset credits for the remainder of their crediting period, but may not renew their crediting period. This is necessary to ensure that ARB offset credits achieve GHG emissions reductions that are additional to what is required by other laws, regulations, and mandates, while also ensuring that offset project developers are able to realize expected returns on their offset project investments.

#### **d. Modifications to Verification Requirements**

Staff is proposing modifications to the verification requirement for sequestration offset projects. The proposed changes recognize that, even after a crediting period ends for a sequestration project, the project may continue to sequester carbon, thus, increasing the assurance that at least the credited amount of carbon remains stored for the project life. For projects that significantly increase their stored carbon, the proposed changes would permit less-frequent verification.

Staff is proposing modifications to the verification requirements to clarify that, if a project is deferring verification for a Reporting Period, the Offset Verification Statement does not need to be submitted to ARB within eleven months of the end of the Reporting Period.

Staff is proposing modifications to the verification services requirements to simplify verifier and verification body rotation. The proposed modifications provide more flexibility by allowing a verifier or verification body to verify any six of nine consecutive Reporting Periods or, for ozone depleting substance projects, to verify any six of nine consecutive offset projects. Proposed modifications also define how consecutive projects are determined. Under the current Regulation, a verifier or verification body is ineligible to perform verification for a project for at least three Reporting Periods (or ODS Projects) if the verifier or verification body has verified a previous Reporting Period(s) (or ODS project(s)) before not verifying a Reporting Period or ODS project. This change simplifies the process of verifier rotation while still maintaining verifier rotation to avoid conflict of interest and complacency.

Further proposed modifications clarify that the Offset Project Data Report must be completed and submitted before verification of the Offset Project Data Report can occur. The modifications would also allow verification bodies to start verification services as soon as 10 days after submitting the Notice of Offset Verification Services instead of 30, while still allowing ARB staff 30 days to coordinate travel to site visits for verification body audits.

Additional proposed clarifications allow verifiers to conduct the required site visit at the Offset Project Operator's or Authorized Project Designee's office in the event the offset project is no longer active. Further modifications are proposed to provide verifiers additional flexibility about where verification activities must occur. Verifiers may choose which activities are necessary to conduct while on site and which activities may be completed during the desk review.

The proposed modifications also clarify that offset verification services are not complete until ARB offset credits have been issued for the Reporting Period, that the verification body has 15 calendar days to revise the offset verification report and the Offset Verification Statement in response to ARB request, and that the Offset Project Operator

or Authorized Project Designee are the only entities that may change the Offset Project Data Report.

Staff is proposing modifications to the verification body requirements to clarify that direct supervision of a technical expert is only needed during the site visit.

Staff is proposing modifications to the conflict of interest requirements. The proposed changes move the high conflict of interest for third party certification under the Montreal Protocol's Technology & Economic Assessment Panel (TEAP) standards to its own section in the Regulation because it is not a service the verifier is providing to the Offset Project Operator or Authorized Project Designee, but rather a service being provided to the destruction facility. The modification also adds evaluation of previous employment as a trigger for a medium conflict of interest.

#### **e. Modifications to Issuance Requirements**

Staff is proposing modifications to the issuance procedures for both registry and ARB offset credit to allow the Authorized Project Designee to request issuance of both registry and ARB offset credits to any authorized party.

Staff is proposing modifications to the issuance of ARB offset credits to clarify that ARB offset credits may only be issued for GHG emissions reductions or removal enhancements that occur during a Reporting Period, to clarify that ARB offset credits will not be issued if they would immediately be subject to invalidation, and to clarify that the GHG emissions reductions and removal enhancements must meet the requirements of the entire Regulation and the relevant Compliance Offset Protocol to be issued ARB offset credits.

The proposed changes limit the issuance of ARB offset credits to projects located in the United States or United States Territories. Offset projects in other countries, including Canada and Mexico, would have to be issued by those jurisdictional programs authorized via linkage. Practically, this change has no effect since all ARB protocols are currently limited geographically to the United States for technical reasons.

Further modifications are proposed to change the order registry offset credits are canceled during the ARB offset credit issuance process. Registry offset credits will be canceled after ARB offset credits have been issued, but prior to the transfer of ARB offset credits into holding accounts to assure no one has market-sensitive information prior to the public announcement.

#### **f. Modifications to Invalidation and Forest Reversal Requirements**

Staff is proposing modifications to forestry offset reversal requirements to allow additional time to provide a verified estimate of carbon stocks after an unintentional reversal to allow for salvage harvesting, reinventory, and verification. Additional



proposed modifications correct errors in the calculation of the number of ARB offset credits to retire or replace after a reversal. Reversals are not tied to a specific reporting period and all calculations should be done for all Reporting Periods in the project including previous crediting periods.

Staff is proposing several modifications to the invalidation requirements. Proposed changes clarify that correctable errors found during a second verification of an Offset Project Data Report cannot be fixed and should be noted in the Offset Verification Statement.

Further proposed modifications clarify that more than three early action reporting periods may have their invalidation timeframes shorted by a subsequent full offset verification. Proposed modifications also allow compliance offset projects to have the invalidation timeframe of the last three Reporting Periods, instead of just the final Reporting Period, in a non-renewed crediting period reduced by a reverification of the final Offset Project Data Report.

Additional proposed modifications quantify the number of ARB offset credits that must be removed from the ARB Forest Buffer Account after an invalidation and identify the current Offset Project Operator as the party responsible for replacing a portion of the invalidated ARB offset credits. Changes have also been proposed to the invalidation requirements to account for the proposed changes in the regulatory compliance requirements.

#### **g. Modifications to Early Action Requirements**

Staff is proposing modifications to the early action requirements. The proposed changes remove the majority of the requirements for recognition of early action offset credits because the last time early action offset credits may be issued is August 31, 2016. The only remaining section maintains the invalidation requirements for ARB offset credits previously issued to early action offset projects.

#### **h. Other Offset Modifications**

Throughout Subarticle 13, references to “annual” and “year” are modified to “Reporting Period,” which is the correct time period. Additionally, the references to section 95990 are removed or modified because this section has been substantially removed due to the end of the early action offset program. Various spelling, capitalization, and grammar errors are also fixed.

## **10. Registration in CITSS**

### **a. Account Application**

The existing Regulation requires covered entities to register in CITSS based on their physical location. Entities located in the United States register under the California Regulation, while entities located in Canada register under the Québec Regulation. Under the existing Regulation, an entity cannot have more than one entity account in CITSS—i.e., an entity is limited to a single CITSS registration in either California or Québec.

Staff is proposing an amendment to the Regulation that directs a covered entity to register in the jurisdiction in which the entity incurs a compliance obligation. Fuel and electricity importers that are subject to the California Regulation may be located in other states or countries, notably Canada or Mexico. The proposed change requires that such entities register in CITSS as California covered entities.

Moreover, it is possible that a fuel or electricity importer may have a compliance obligation in more than one jurisdiction—e.g., a firm located in Québec could be subject to the Québec regulation as a covered emitter and subject to the California Regulation as a fuel or electricity importer. To accommodate this type of situation, staff is proposing to amend the Regulation to allow an entity that incurs compliance obligations in more than one jurisdiction to have a CITSS entity account in each jurisdiction in which an obligation is incurred. The proposed amendment removes the restriction that a covered entity may only register in a single jurisdiction in CITSS for those entities that have obligations in more than one jurisdiction.

### **b. Change of Representatives**

Each entity in CITSS must designate registered individuals to be representatives with the authority to implement actions in CITSS on behalf of the entity. The Regulation allows individuals to be designated as a Primary Account Representative (PAR) or as an Alternate Account Representative (AAR). The entity account application process requires that individuals designated as a PAR or AAR attest to the same stipulations, and each role is granted the same authority in CITSS. When an entity wants to swap individuals between the PAR and AAR roles, the current Regulation requires signed attestations and accompanying forms to be re-submitted to supersede previous designations.

Staff is proposing an amendment to the Regulation to allow designated account representatives to be swapped at any time upon receipt of a designation of a PAR or AAR, rather than receipt of a superseding complete application for an account, by the accounts administrator. Requiring submittal of a superseding complete application for the change of an account representative is unnecessary, since the resubmittal of a complete application includes information that is not related to the account

representative status change. ARB staff is proposing this amendment to streamline the registration and re-designation process.

### **c. Ineligibility Due to a Felony Conviction**

The existing Regulation stipulates that individuals with a felony conviction in the last five years in the United States are ineligible for registration. The registrar receives user applications from individuals that reside outside of the United States, but the current Regulation does not identify any ineligibility criteria for convictions outside of the United States. Staff is proposing an amendment to the Regulation that would make an individual who has been convicted of a felony offense in the United States or outside of the United States ineligible for user registration.

### **d. Non- U.S. Bank Account**

Banks in the United States are required to verify the identity of their clients by conducting a “know-your-customer” (KYC) review of individual account holders. The existing Regulation requires that individuals submitting user registrations provide evidence of a U.S. bank account in the individual’s name as evidence of completion of that KYC process. Although banks outside the United States may not have the exact same level of review, various covered entities registered in the Cap-and-Trade Program are located outside of California and do not have employees that reside in the United States. For instance, some electricity importers and fuel suppliers can be located outside of the United States. To ensure that these entities are able to register and comply with the Regulation, staff is proposing to amend the Regulation to allow an individual who will be a representative of a covered entity located outside of the United States to submit evidence of an account at a bank outside of the United States. The user registration must be accompanied by an attestation from the covered entity that the individual will be a designated representative and that the covered entity does not have personnel located in the United States that could be designated as the representative(s).

### **e. Reorganization of Registration Requirements**

Staff is proposing to reorganize registration requirements. These requirements are currently contained in a number of sections. Staff is proposing to move the requirements for initial registration, account assignment, assignment of account representatives, corporate association disclosures, and know-your-customer requirements to sections 95830 through 95834, respectively. Provisions relating to changes in facility assignment to accounts, new facilities, changes in entity registration type, and requirements for leaving the Program are all consolidated in new section 95835.

#### **f. Disclosure of Corporate Associations**

Staff incorporated, and then modified, several corporate association disclosure requirements during rulemaking proceedings in 2013 and 2014. At that time staff made a commitment to continue to work with stakeholders to improve and streamline the requirements. Staff is proposing to make three major changes to the requirements in order to clarify and streamline these disclosure requirements.

In the first major change, the existing requirements related to disclosures involving corporate associations with registered entities, either directly or through a chain of associations with unregistered entities, have been grouped together and simplified. This includes the existing requirement to disclose the ultimate parent of a registered entity, even if that parent is not registered.

The second major change relates to the existing required disclosure of direct corporate associates outside of California and any jurisdiction to which California has linked Cap-and-Trade Programs pursuant to subarticle 12. The requirements allow entities to limit these disclosures to corporate associates participating in markets considered related to the California carbon market. These markets include those trading natural gas, oil, electricity, greenhouse gas emissions instruments; or any natural gas, oil, electricity, or greenhouse gas instrument derivatives or swap traded on an exchange.

ARB had required the disclosure of direct corporate associates outside of California or any linked jurisdiction to allow it to identify and address market disruptions that can cross over related markets. Stakeholders and staff have long voiced concern about the potential for “seams issues” in enforcement. These concerns originate from the fact that no one agency has enforcement authority over the market for California compliance instruments and the related markets. Consequently, in many cases, no one agency has the information to link events in one market with participants in another. The Federal Energy Regulatory Commission and Commodity Futures Trading Commission have responsibilities for these markets at the Federal level, and ARB has sole responsibility for the California carbon market, exclusive of derivatives on California compliance instruments. As described in previous rulemakings, ARB has held extensive consultations with these federal agencies which have focused on the ability to gather and share information should disruptions affect markets overseen by different oversight agencies. ARB is best positioned to identify the links between participants in the related markets and those transacting in California compliance instruments.

With experience implementing these disclosure requirements over recent years, staff has determined that, while the disclosure of direct corporate associates in related markets is are needed to ensure effective market monitoring and oversight, some provisions could be streamlined. As such, staff proposes a modification to the disclosure requirements for direct corporate associates in related markets that balances the need to have the information on-hand when related markets are disrupted with the effort needed to acquire and process the information. Staff is proposing to retain the

content of the required disclosures. However, instead of requiring that entities submit information about unregistered direct corporate associates when they register and then update it as needed, staff is proposing that entities only be required to complete these specific disclosures within 30 days of a request by the Executive Officer.

Staff expects that this proposal will greatly reduce registered entities' initial and ongoing workload related to corporate association disclosure. In addition, any request by the Executive Officer for the information would focus on the related markets that experience a disruption. Not every entity that participates in a related, disrupted market would necessarily be involved. Entities will likely need to conduct some preparations to be able to submit the information within the 30-day deadline. Staff believes that the as-needed disclosures will be timely enough to enable ARB to work with other agencies to conduct investigations into disruptions across related markets.

The third major change is to provide an exemption from the corporate association disclosures to entities registering as offset project operators if they intend to only hold offsets. This proposed amendment would require these entities to disclose their corporate associations before they could hold allowances.

To summarize the proposed changes, a registered entity would continue to always have to disclose (a) all direct and indirect corporate associations with other registered entities; (b) all parent entities up through the ultimate parent (even if those entities are not registered); and (c) all direct and indirect corporate associations between chains of registered entities that have a direct or indirect association. A registered entity would also have to disclose direct corporate associations with another registered entity if the two entities employ the same account representative or consultant, unless the entities have documented procedures to prevent the sharing of information. Outside of the above disclosures, a registered entity would only have to disclose direct corporate associations with unregistered entities (a) that operate in related markets and (b) within 30 calendar days upon request of the Executive Officer. Finally, a registered entity that intends to only hold offset credits would not have to disclose any corporate associations.

Table II-4 summarizes the triggers for disclosing corporate associations, the timing for the disclosures, and the disclosure requirements under the proposed amendments.

**Table II-4. Proposed Disclosure Triggers and Disclosure Requirements for Registered Entities.#**

Disclosure Trigger & Timing	Requirements for Disclosure
<p><b><u>Section 95833(a)(6)</u></b>                      Within 10 days of employing or contracting with an individual who has a shared role</p>	<p><b><u>Individuals with Shared Roles</u></b>                      Individuals with access to market positions of two or more registered entities are considered to have shared roles.</p> <p><b>Requirement:</b> The registered entity that hired or contracted an individual with a shared role must either:</p> <ul style="list-style-type: none"> <li>• Document that procedures and restrictions are in place to prevent transmitting respective market positions between entities and information on the development, transfer, and surrender of compliance instruments; or</li> <li>• Declare a direct corporation association and complete the corporate association disclosure requirement (unless the registered entity is in the Program solely to hold offsets).</li> </ul>
<p><b><u>Section 95830(e)</u></b>                      Within 30 days of a change to previously submitted information</p>	<p><b><u>Changes to Corporate Structure Information</u></b>                      An Entity's Director and Officers and Cap-and-Trade Consultants or Advisors must be disclosed.</p> <p><b>Requirement:</b> Entities registered in CITSS must disclose the information pursuant to section 95830(e).</p> <p><b><u>New and Amended Corporate Associations</u></b>                      Creation or changes to the type of corporate relationship requires disclosure of the following:</p> <p><i>Registered Entities:</i></p> <ul style="list-style-type: none"> <li>• All registered entities in CITSS that are direct and/or indirect corporate associates must be disclosed.</li> </ul> <p><i>Unregistered Entities:</i></p> <ul style="list-style-type: none"> <li>• Any unregistered parents with direct associations to the registered entity must be disclosed, and</li> <li>• Any unregistered entities involved in the line of direct or indirect corporate associations of two registered entities must be disclosed.</li> </ul> <p><b>Requirement:</b> Provide the disclosure of corporate associations pursuant to section 95833(d).</p>



Disclosure Trigger & Timing	Requirements for Disclosure
<p><b><u>Section 95833(b) and (d)</u></b>            Within 30 calendar days of a request by the Executive Officer</p>	<p><b><u>Changes to Unregistered Direct Corporate Associations within the U.S. or Canada and outside the U.S. or Canada</u></b>            Unless otherwise required to be disclosed under the sections referenced in this table above, registered entities must only disclose direct corporate associations with unregistered entities in related markets (or changes to such information) if they receive a request for disclosure from the Executive Officer.</p> <p><b>Requirement:</b> Provide the disclosure of corporate associations pursuant to section 95833(d) or submit forms already filed with the U.S. Federal Government.</p>
<p><b><u>Section 95833(e)</u></b>            Within one year of a change to previously submitted information</p>	<p><b><u>Changes to Corporate Structure Information</u></b>            Any changes to names of participants with voting rights and employees with knowledge of market position must be disclosed.</p> <p><b>Requirement:</b> Provide the disclosure of information pursuant to section 95830(e).</p>
<p><b><u>Section 95833(e)</u></b>            No later than 10 calendar days prior to the auction application deadline</p>	<p><b><u>Entities Applying for Auction</u></b>            Changes related to another registered entity in the Cap-and-Trade Program which includes all registered direct and indirect corporate associates.</p> <p><b>Requirement:</b> Provide the disclosure of corporate associations pursuant to section 95833(d).</p>
<p><b>Note:</b> Pursuant to section 95803(a), entities may submit corporate association disclosures through electronic forms, hardcopy forms, or other methods approved by the Executive Officer.</p>	

#Registered entities refers to those entities that are registering or have registered in CITSS.

## **11. Auction and Reserve Sale Administration**

Staff is proposing modifications to Regulation provisions that describe the administration and format of auctions and sales of allowances from the Allowance Price Containment Reserve (Reserve sales). The proposed modifications are largely to provide clarity, internal consistency, and improvements for implementation efficiency. All proposed changes are informed by staff experience gained through conducting jurisdiction-specific auctions, conducting joint auctions with Québec, and offering Reserve sales to date.

The proposed amendments would clarify general auction criteria to further describe the management of allowances and offsets withdrawn by the Executive Officer from accounts and allowances and offsets submitted to fulfill an untimely surrender obligation. The modifications address the full range of allowance types and offsets that can potentially be held by a California entity due to linkage with other jurisdictions.

Staff also proposes amendments to clarify the Executive Officer's authorization to delay, reschedule, or cancel a scheduled auction bidding window. In addition, the proposed amendments clarify and amend the actions taken by the auction administrator and the actions taken by the financial services administrator following an auction or Reserve sale.

Staff further proposes amendments to the auction format to identify a new source for the exchange rate established prior to a joint auction, since the noon daily buying rate that is currently used will no longer be published. Proposed changes to the Reserve sale will provide criteria under which the Executive Officer may determine in advance that certain Reserve sales each year will not be offered. The methodology for determining distribution of allowances in a Reserve sale is also clarified under the proposed amendments.

### **C. Summary and Rationale for Each Regulatory Provision**

#### **Subarticle 2: Purpose and Definitions**

##### **Section 95802. Definitions.**

###### Summary of Section 95802(a).

Paragraph numbers are eliminated for all definitions.

###### Rationale for Section 95802(a).

These changes simplify the process of modifying, deleting, and adding definitions in this section during the current amendment process and during future amendment processes. These changes do not affect the meaning of any definition in this section.

Summary of Section 95802(a) definition of “Almond.”

The definition of “Almond” is deleted.

Rationale for Section 95802(a) definition of “Almond.”

The definition of “Almond” is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of “Anhydrous Milkfat.”

A new definition of “Anhydrous Milkfat” is added.

Rationale for Section 95802(a) definition of “Anhydrous Milkfat.”

The definition of “Anhydrous Milkfat” is added because this product is being newly produced at some California facilities, and staff is considering a new product-based benchmark for this product.

Summary of Section 95802(a) definition of “ARB Offset Credit.”

The definition for “ARB Offset Credit” is amended to state that ARB offset credits will only be issued for GHG emission reductions and removal enhancements that occur during a Reporting Period.

Rationale for Section 95802(a) definition of “ARB Offset Credit.”

This change is necessary to clarify that only GHG emission reductions and removal enhancements that occur during a Reporting Period are eligible for crediting and to make the definition consistent with the existing definition of Reporting Period.

Summary of Section 95802(a) definition of “Aseptic tomato paste.”

The definition for “Aseptic Tomato Paste” is modified to correct the spelling of the word “aseptic.”

Rationale for Section 95802(a) definition of “Aseptic tomato paste.”

This change corrects a typographical error without changing any meaning.

Summary of Section 95802(a) definition of “Aseptic whole and diced tomatoes.”

The definition for “Aseptic whole and diced tomatoes” is modified to correct the spelling of the word “whole.”

Rationale for Section 95802(a) definition of “Aseptic whole and diced tomatoes.”

This change corrects a typographical error without changing any meaning.

Summary of Section 95802(a) definition of “Authorized Project Designee.”

The definition for “Authorized Project Designee” is amended to state that the Authorized Project Designee must be the Primary Account Representative or

an Alternate Account Representative on the Offset Project Operator's Holding Account.

Rationale for Section 95802(a) definition of "Authorized Project Designee."

This change is necessary to clarify that the Authorized Project Designee must be an authorized account representative on the Offset Project Operator's Holding Account and make the definition consistent with existing requirements in 95974(a)(2)(B).

Summary of Section 95802(a) definition of "Bathroom tissue."

The definition of "Bathroom tissue" is deleted.

Rationale for Section 95802(a) definition of "Bathroom tissue."

The definition of "Bathroom tissue" is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of "Biodiesel."

Sub-numbering of the paragraph and capitalization are eliminated so that the definition is a single uninterrupted sentence.

Rationale for Section 95802(a) definition of "Biodiesel."

These changes maintain consistency with the rest of section 95802(a), where paragraph numbering is eliminated to simplify the process of modifying, deleting, and adding definitions to the Regulation during amendment processes.

Summary of Section 95802(a) definition of "Blendstocks."

The definition of "Blendstocks" is deleted.

Rationale for Section 95802(a) definition of "Blendstocks."

This change is made because the term "Blendstocks" no longer appears in the Regulation.

Summary of Section 95802(a) definition of "Butter."

This change provides a notice that the definition of "Butter" may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of "Butter."

This change provides a notice that the definition of "Butter" may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to product-based benchmarks in Table 9-1 of the Regulation for the dairy product manufacturing sector, and changes to the benchmarks may require changes to product definitions. Staff does not yet

have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Butter” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Buttermilk powder.”

This change provides a notice that the definition of “Buttermilk powder” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Buttermilk powder.”

This change provides a notice that the definition of “Buttermilk powder” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to product-based benchmarks in Table 9-1 of the Regulation for the dairy product manufacturing sector, and changes to the benchmarks may require changes to product definitions. Staff does not yet have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Buttermilk powder” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Calcium Ammonium Nitrate Solution.”

This change provides a notice that the definition of “Calcium Ammonium Nitrate” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Calcium Ammonium Nitrate Solution.”

This change provides a notice that the definition of “Calcium Ammonium Nitrate Solution” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to product-based benchmarks in Table 9-1 of the Regulation for the nitrogenous fertilizer manufacturing sector, and changes to the benchmarks may require changes to product definitions. Staff does not yet have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Calcium Ammonium Nitrate Solution” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Calyx.”

This new section is added to provide a definition for “Calyx.”

Rationale for Section 95802(a) definition of “Calyx.”

This new definition is necessary to assist in defining “diced tomatoes.”

Summary of Section 95802(a) definition of “Carbon Dioxide Supplier” or “CO<sub>2</sub> Supplier.”

The definition is changed from including entities that supply carbon dioxide for commercial applications to including entities that supply carbon dioxide to any other entity.

Rationale for Section 95802(a) definition of “Carbon Dioxide Supplier” or “CO<sub>2</sub> Supplier.”

This change broadens the definition of “Carbon Dioxide Supplier” or “CO<sub>2</sub> Supplier” to include entities that supply any carbon dioxide, regardless of the application of the supplied carbon dioxide.

Summary of Section 95802(a) definition of “Complexity weighted barrel” or “CWB.”

The definition of “Complexity weighted barrel” or “CWB” is changed to eliminate the equation and data sources used to calculate the CWB value.

Rationale for Section 95802(a) definition of “Complexity weighted barrel” or “CWB.”

These changes make the definition of “Complexity weighted barrel” or “CWB” identical to the definition in MRR.

Summary of Section 95802(a) definition of “Compliance Account.”

The definition of “Compliance Account” is modified by changing the word “triennial” to “full compliance period.”

Rationale for Section 95802(a) definition of “Compliance Account.”

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95802(a) definition of “Concentrated milk.”

The definition of “Concentrated milk” is deleted.

Rationale for Section 95802(a) definition of “Concentrated milk.”

This change is made because the term “Concentrated milk” does not appear in the Regulation.

Summary of Section 95802(a) definition of “Condensed milk.”

The definition of “Condensed milk” is modified to broaden the fat content of condensed milk.

Rationale for Section 95802(a) definition of “Condensed milk.”



The definition of “Condensed milk” is modified to include the types of condensed milk produced in California.

Summary of Section 95802(a) definition of “Dairy product solids for animal feed.”

The definition of “Dairy product solids for animal feed” is deleted.

Rationale for Section 95802(a) definition of “Dairy product solids for animal feed.”

The definition of “Dairy product solids for animal feed” is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of “Dehydrated garlic.”

The definition of “Dehydrated garlic” is changed to remove the historical location of cultivation.

Rationale for Section 95802(a) definition of “Dehydrated garlic.”

This change removed an unnecessary section of the definition.

Summary of Section 95802(a) definition of “Delicate task wiper.”

The definition of “Delicate task wiper” is deleted.

Rationale for Section 95802(a) definition of “Delicate task wiper.”

The definition of “Delicate task wiper” is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of “Diced Tomatoes.”

The definition of “Diced Tomatoes” is changed to remove the specification that the product must be peeled and cored, and expands the definition such that crushed tomatoes are included.

Rationale for Section 95802(a) definition of “Diced Tomatoes.”

This change is made to ensure certain types of diced tomatoes that were neither cored nor peeled, but could be crushed, could be reported as diced tomatoes.

Summary of Section 95802(a) definition of “Distillate Fuel No. 4.”

The dependent clause “with a minimum flashpoint of 131 °F” is moved from the end of the definition to the middle.

Rationale for Section 95802(a) definition of “Distillate Fuel No. 4.”

This change clarifies that it is Distillate Fuel Oil No. 4 that has a minimum flashpoint of 131 °F, not residual fuel oil.

Summary of Section 95802(a) definition of “Ductile Iron Pipe.”

This definition is moved to be after the definition of “Dry Color Concentrate” and a spelling error is corrected.

Rationale for Section 95802(a) definition of “Ductile Iron Pipe.”

This change places this definition in correct alphabetical order and corrects the spelling of the word “spheroidal.”

Summary of Section 95802(a) definition of “Early Action Offset Credit.”

The definition of “Early Action Offset Credit” is modified to replace the reference to section 95990(c) with the “Program for Recognition of Early Action Offset Credits”.

Rationale for Section 95802(a) definition of “Early Action Offset Credit.”

This definition is modified to account for the deletion of section 95990(c). The definition of “Program for Recognition of Early Action Offset Credits” replaces previous sections 95990(a)-(k).

Summary of Section 95802(a) definition of “Early Action Offset Program.”

The definition of “Early Action Offset Program” is modified to replace the reference to section 95990(c) with the “Program for Recognition of Early Action Offset Credits”.

Rationale for Section 95802(a) definition of “Early Action Offset Program.”

This definition is modified to account for the deletion of section 95990(c). The definition of “Program for Recognition of Early Action Offset Credits” replaces previous sections 95990(a)-(k).

Summary of Section 95802(a) definition of “Early Action Verification Report.”

The definition of “Early Action Verification Report” is deleted.

Rationale for Section 95802(a) definition of “Early Action Verification Report.”

This definition is deleted because this term no longer appears in the proposed amended Regulation.

Summary of Section 95802(a) definition of “Electrical Distribution Utility(ies).”

The acronym “EDU” is added for electrical distribution utilities.

Rationale for Section 95802(a) definition of “Electrical Distribution Utility(ies).”

This acronym is defined to assist with brevity in the Regulation. No changes are made to the meaning of this definition.

Summary of Section 95802(a) definition of “Electricity Importers.”

An additional electricity importer is included for purchasers of electricity from CAISO's Electricity Imbalance Market (EIM).

Rationale for Section 95802(a) definition of "Electricity Importers."

The EIM Purchaser (a newly defined term) is included as an electricity importer to address changes to 95852(b)(1)(B) that account for emissions not fully accounted for by CAISO's EIM cost optimization model.

Summary of Section 95802(a) definition of "Energy Imbalance Market Purchaser."

A definition for "Energy Imbalance Market Purchaser" or "EIM Purchaser" is added.

Rationale for Section 95802(a) definition of "Energy Imbalance Market Purchaser."

The "EIM Purchaser" definition is included to clarify who holds the compliance obligation, pursuant to section 95852(b)(1)(b), for emissions not fully accounted for by CAISO's EIM cost optimization model.

Summary of Section 95802(a) definition of "Enterer."

A hyphen is added between the words "non exempt."

Rationale for Section 95802(a) definition of "Enterer."

This change corrects the spelling of the word "non-exempt" to make it consistent with the rest of the Regulation.

Summary of Section 95802(a) definition of "Evaporated milk."

The definition of "Evaporated milk" is deleted.

Rationale for Section 95802(a) definition of "Evaporated milk."

The definition of "Evaporated milk" is deleted to because the term is not used in the Regulation.

Summary of Section 95802(a) definition of "Facial Tissue."

The definition of "Facial Tissue" is deleted.

Rationale for Section 95802(a) definition of "Facial Tissue."

The definition of "Facial Tissue" is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of "Facility."

The modifications maintain the specific definitions of "Facility." With respect to onshore petroleum and natural gas production, the definition of "Facility" is modified to specify that onshore natural gas processing equipment that is

owned and/or operated by the facility owner/operator and located in the same basin, but not included as part of a separate gas processing facility, is considered “associated with a well pad.” A new definition of “Facility” with respect to onshore natural gas processing, is also added.

Rationale for Section 95802(a) definition of “Facility.”

This definition change with respect to onshore petroleum and natural gas production is needed to ensure that emissions from natural gas processing equipment within a basin are included with the emissions reported from an owner/operator’s petroleum and natural gas production facility, when the owner/operator of such equipment does not report the emissions from the processing equipment under a separate facility identification number to ensure completeness of emissions accounting. This definition is needed to align with a proposed definition change in MRR.

The new definition with respect to onshore natural gas processing is needed to clarify that each natural gas processing plant, including natural gas fractionating facilities, that processes an annual average of 25 MMscf of natural gas per day is a separate facility, and should not be included as part of an onshore production facility. This definition is added to align with a proposed new definition in MRR.

Summary of Section 95802(a) new definition of “Fluid Milk Product.”

A definition of “Fluid Milk Product” is added.

Rationale for Section 95802(a) new definition of “Fluid Milk Product.”

The definition of “Fluid Milk Product” is added because a new benchmark for “Fluid Milk Product” is added to Table 9-1. The new “Fluid Milk Benchmark” combines the previous benchmarks for “Milk, Buttermilk, Skim Milk, and Ultrafiltered Milk Processing” and “Cream Processing” into a single benchmark. The new definition for “Fluid Milk Product Processing” reflects the products that are now included in the benchmark for “Fluid Milk Product Processing.”

Summary of Section 95802(a) new definition of “Forest Offset Project”

A definition of “Forest Offset Project” is added.

Rationale for Section 95802(a) new definition of “Forest Offset Project”

The definition of “Forest Offset Project” is added because the term is used in the Regulation and the addition of the definition will help further clarify the meaning.

Summary of Section 95802(a) definition of “Freshwater diatomite filter aids.”

This change provides a notice that the definition of “Freshwater diatomite filter aids” may be modified during upcoming 15-day changes to the Regulation,

which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Freshwater diatomite filter aids.”

This change provides a notice that the definition of “Freshwater diatomite filter aids” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to the product-based benchmark in Table 9-1 of the Regulation for this activity, and changes to the benchmark may require changes to the product definition. Staff does not yet have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Freshwater diatomite filter aids” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Full Offset Verification.”

The term “Full Offset Verification” is added to the list of definitions and defined.

Rationale for Section 95802(a) definition of “Full Offset Verification.”

This new definition is needed to clearly define the term, which appears in the proposed amended Regulation.

Summary of Section 95802(a) definition of “Geologic Sequestration.”

The term “long-term” is changed to “permanent.”

Rationale for Section 95802(a) definition of “Geologic Sequestration.”

This change is made to conform to the language and requirements used in the rest of the Program and Regulation to describe the period over which sequestered emissions remain removed from the atmosphere—i.e., permanently.

Summary of Section 95802(a) definition of “Hydrogen.”

The definition of “Hydrogen” is changed to focus the definition on defining diatomic molecular hydrogen gas.

Rationale for Section 95802(a) definition of “Hydrogen.”

This modification is needed because to clarify that “Hydrogen” means diatomic molecular hydrogen, and not atomic hydrogen. These changes also make this definition identical to the definition in MRR.

Summary of Section 95802(a) definition of “Imported Electricity.”

The definition of “Imported Electricity” is amended to clarify that electricity imported through CAISO’s EIM will incur a compliance obligation for electricity emissions not otherwise covered by those data reported by EIM Participating Resource Scheduling Coordinators. It is also amended to clarify that imported electricity includes electricity delivered across balancing authority areas.

Rationale for Section 95802(a) definition of “Imported Electricity.”

The first change is proposed to align with the changes to 95852(b)(1)(b) that account for emissions not fully accounted for by CAISO’s EIM cost optimization model. The second change is proposed to align with MRR amendments that refine the imported electricity reporting requirements.

Summary of Section 95802(a) definition of “Importer of fuel.”

The new term “Importer of fuel” is defined.

Rationale for Section 95802(a) definition of “Importer of fuel.”

This term is added to align with a new definition in MRR.

Summary of Section 95802(a) definition of “Intentional Reversal.”

The definition for “Intentional Reversal” is amended to add reversals caused by errors as a result of model inaccuracies to the definition and identify the consequence of an adverse opinion.

Rationale for Section 95802(a) definition of “Intentional Reversal.”

This amendment is necessary to clarify that modeling errors that result in over issuance of ARB offset credits are classified as an intentional reversal and must be compensated for by the forest owner. Modeling errors should not be compensated for through the ARB Forest Buffer Account for unintentional reversals. Also, to ensure the permanence of GHG emission reductions or removal enhancements after the end of the final crediting period for the duration of the project life, two sequential adverse verification statements will trigger an intentional reversal necessitating a verified estimate of carbon stocks. If the verified estimate of carbon stocks indicates carbon stocks are higher than credited carbon stocks, it will not be necessary for the forest owner to submit compliance instruments. ARB still has the option to take enforcement action due to the adverse verification statements even if a reversal has not occurred.

Summary of Section 95802(a) definition of “Intermediate dairy ingredients.”

This change provides a notice that the definition of “Intermediate dairy ingredients” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Intermediate dairy ingredients.”

This change provides a notice that the definition of “Intermediate dairy ingredients” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to product-based benchmarks in Table 9-1 of the Regulation for the dairy product manufacturing sector, and changes to the benchmarks may require changes to product



definitions. Staff does not yet have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Intermediate dairy ingredients” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Intermittent-bleed pneumatic devices.”

The definition “Intermittent-bleed pneumatic devices” was added to the Regulation.

Rationale for Section 95802(a) definition of “Intermittent-bleed pneumatic devices.”

This definition was added because the term is added to the amended Regulation as a future covered source of emissions. This change incorporates the same definition that is included in MRR.

Summary of Section 95802(a) definition of “Joint Powers Agency(ies).”

The word “Agency(ies)” is changed to “Authority,” and the word “an” is changed to “a.”

Rationale for Section 95802(a) definition of “Joint Powers Agency(ies).”

This modification ensures that the definition matches the generally-accepted terminology of “Joint Power Agency” and corrects grammar.

Summary of Section 95802(a) definition of “Lead and lead alloys.”

This change provides a notice that the definition of “Lead and lead alloys” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Lead and lead alloys.”

This change provides a notice that the definition of “Lead and lead alloys” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to the product-based benchmark in Table 9-1 of the Regulation for the activity lead acid battery recycling, and changes to the benchmark may require changes to this definition. Staff does not yet have complete data to re-calculate this benchmark. No changes to the definition of “Lead and lead alloys” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Legacy Contract Counterparty.”

In two instances, the word “section” is added when making reference to section 95894.

Rationale for Section 95802(a) definition of “Legacy Contract Counterparty.”

This change is needed to make the format of these references consistent with other references in the Regulation.

Summary of Section 95802(a) definition of “Legacy Contract Emissions.”

The phrase mentioning a “legacy contract generator without an industrial counterparty” is removed from the Regulation.

Rationale for Section 95802(a) definition of “Legacy Contract Emissions.”

This change is made to remove a type of allocation that ends with the allocation of vintage 2017 allowances, after which time these proposed regulatory changes will be in effect.

Summary of Section 95802(a) definition of “Legacy Contract Generator without an Industrial Counterparty.”

This definition is removed from the Regulation.

Rationale for Section 95802(a) definition of “Legacy Contract Generator without an Industrial Counterparty.”

This change is made to remove a type of allocation that ends with the allocation of vintage 2017 allowances, after which time these proposed regulatory changes will be in effect.

Summary of Section 95802(a) definition of “Less Intensive Verification.”

The definition of “Less Intensive Verification” is amended to insert the word “offset” between “full” and “verifications.”

Rationale for Section 95802(a) definition of “Less Intensive Verification.”

This change is needed to clarify that the term “full verifications” is intended to mean “full offset verifications” as currently defined in Section 95802.

Summary of Section 95802(a) definition of “Limited Use Holding Account.”

This definition is amended to add natural gas suppliers, which receive allocation under section 95890(f).

Rationale for Section 95802(a) definition of “Limited Use Holding Account.”

This change will align this definition with the existing requirements in section 95893.

Summary of Section 95802(a) definition of “Liquid Color Concentrate.”

The definition of “Liquid Color Concentrate” is moved into proper alphabetical order. The text is also modified to correct typographical errors and clarify the definition of “Liquid Color Concentrate.”

Rationale for Section 95802(a) definition of “Liquid Color Concentrate.”

These changes place the definition of “Liquid Color Concentrate” in proper alphabetical order. Changes to the text are needed to correct spelling errors and to include fluid extracts from either fruits or vegetables in the definition.

Summary of Section 95802(a) definition of “Liquid Hydrogen.”

The definition of “Liquid Hydrogen” is moved into proper alphabetical order.

Rationale for Section 95802(a) definition of “Liquid Hydrogen.”

This change places the definition of “Liquid Hydrogen” in proper alphabetical order.

Summary of Section 95802(a) definition of “Listed Industrial Sector.”

The definition of “Listed Industrial Sector” is deleted.

Rationale for Section 95802(a) definition of “Listed Industrial Sector.”

This change is made because the term “Listed Industrial Sector” does not appear in the Regulation.

Summary of Section 95802(a) definition of “Low-bleed pneumatic devices.”

The definition “Low-bleed pneumatic devices” was added to the Regulation.

Rationale for Section 95802(a) definition of “Low-bleed pneumatic devices.”

This definition was added because the term is in the existing Regulation but not defined. This change incorporates the same definition that is included in MRR.

Summary of Section 95802(a) definition of “Milk Powder (high heat).”

The new term “Milk powder (high heat)” is defined.

Rationale for Section 95802(a) definition of “Milk Powder (high heat).”

The definition of “Milk Powder (high heat)” replaces the definition of “Nonfat dry milk and skimmed milk powder (high heat).” The new definition of “Milk Powder (high heat)” is broader than the previous definition of “Nonfat dry milk and skimmed milk powder (high heat)” because, under the new definition, the requirements to contain no more than 1.5 percent milkfat (by weight) and to be derived from cumulative heat treatment of skim milk at 88 °C for 30 minutes are removed.

Summary of Section 95802(a) definition of “Milk Powder (low heat).”

The new term “Milk Powder (low heat)” is defined.

Rationale for Section 95802(a) definition of “Milk Powder (low heat).”

The definition of “Milk Powder (low heat)” replaces the definition of “Nonfat dry milk and skimmed milk powder (low heat).” The new definition of “Milk Powder (low heat)” is broader than the previous definition of “Nonfat dry milk and skimmed milk powder (low heat)” because, under the new definition, the

requirements to contain no more than 1.5 percent milkfat (by weight) and to be derived from cumulative heat treatment of milk at 70 °C for 2 minutes are removed.

Summary of Section 95802(a) definition of “Milk Powder (medium heat).”  
The new term “Milk Powder (medium heat)” is defined.

Rationale for Section 95802(a) definition of “Milk Powder (medium heat).”  
The definition of “Milk Powder (medium heat)” replaces the definition of “Nonfat dry milk and skimmed milk powder (medium heat).” The new definition of “Milk Powder (medium heat)” is broader than the previous definition of “Nonfat dry milk and skimmed milk powder (medium heat)” because, under the new definition, the requirements to contain no more than 1.5 percent milkfat (by weight) and to be derived from cumulative heat treatment of skim milk at 78 °C for 20 minutes are removed.

Summary of Section 95802(a) definition of “Motor Gasoline (finished).”  
The definition of “Motor Gasoline (finished)” is deleted.

Rationale for Section 95802(a) definition of “Motor Gasoline (finished).”  
This change is made because the term “Motor Gasoline (finished)” does not appear in the amended Regulation.

Summary of Section 95802(a) definition of “Nitric Acid.”  
A notice is provided that the definition of “Nitric Acid” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Nitric Acid.”  
Notice that the definition of “Nitric Acid” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to product-based benchmarks in Table 9-1 of the Regulation for the nitrogenous fertilizer manufacturing sector, and changes to the benchmarks may require changes to product definitions. Staff does not yet have complete data to re-calculate benchmarks in this sector. No changes to the definition of “Nitric Acid” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (low heat).”  
The definition of “Nonfat dry milk and skimmed milk powder (low heat)” is deleted.

Rationale for Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (low heat).”

The definition of “Nonfat dry milk and skimmed milk powder (low heat)” is replaced by the definition of “Milk powder (low heat).”

Summary of Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (medium heat).”

The definition of “Nonfat dry milk and skimmed milk powder (medium heat)” is deleted.

Rationale for Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (medium heat).”

The definition of “Nonfat dry milk and skimmed milk powder (medium heat)” is replaced by the definition of “Milk powder (medium heat).”

Summary of Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (high heat).”

The definition of “Nonfat dry milk and skimmed milk powder (high heat)” is deleted.

Rationale for Section 95802(a) definition of “Nonfat dry milk and skimmed milk powder (high heat).”

The definition of “Nonfat dry milk and skimmed milk powder (high heat)” is replaced by the definition of “Milk powder (high heat).”

Summary of Section 95802(a) definition of “Offset Project Data Report.”

The definition of “Offset Project Data Report” is amended to state that the required attestations are part of the Offset Project Data Report and to replace the word “year” with “Reporting Period.”

Rationale for Section 95802(a) definition of “Offset Project Data Report.”

This change is needed to clarify that the required attestations must be submitted with the Offset Project Data Report in order for it to be valid. The replacement of the word “year” with “Reporting Period” is required for consistency with previous amendments clarifying that the program operates on a Reporting Period basis rather than a yearly basis.

Summary of Section 95802(a) definition of “Offset Project Listing” or “Listing.”  
A new definition is provided for the term “Offset Project Listing” or “Listing.”

Rationale for Section 95802(a) definition of “Offset Project Listing” or “Listing.”

This new definition is needed to clearly define the term, which appears in the proposed amended Regulation.

Summary of Section 95802(a) definition of “Offset Project Operator.”

The definition of “Offset Project Operator” is amended to specify that only authorized account representatives may sign attestations on behalf of the Offset Project Operator.

Rationale for Section 95802(a) definition of “Offset Project Operator.”

This change is needed to ensure that only authorized account representatives sign attestations on behalf of the Offset Project Operator so that ARB is certain that the person signing the documents has the legal authority to represent the Offset Project Operator. All account representatives have met the know-your-customer requirements in the Regulation.

Summary of Section 95802(a) definition of “Offset Verification Services.”

The definition of “Offset Verification Services” is amended to clarify that Offset Verification Services begin with the Planning Meeting and end with the issuance of ARB offset credits, and do not include preliminary planning activities.

Rationale for Section 95802(a) definition of “Offset Verification Services.”

This change is needed to clarify which activities are included as part of Offset Verification Services so verifiers know what they can do prior to the deadlines after submitting the Notice of Offset Verification Services.

Summary of Section 95802(a) definition of “Offset Verification Statement.”

The definition of “Offset Verification Statement,” is amended to state that the required attestations are part of the Offset Verification Statement.

Rationale for Section 95802(a) definition of “Offset Verification Statement.”

This change is needed to clarify that the required attestations are required to be submitted with the Offset Verification Report in order for it to be valid.

Summary of Section 95802(a) definition of “Paper Towel.”

The definition of “Paper Towel” is deleted.

Rationale for Section 95802(a) definition of “Paper towel.”

The definition of “Paper Towel” is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.

Summary of Section 95802(a) definition of “Pistachio.”

The definition of “Pistachio” is deleted.

Rationale for Section 95802(a) definition of “Pistachio.”

The definition of “Pistachio” is deleted to because the benchmark for this product is deleted from Table 9-1 and the term is no longer used in the Regulation.



Summary of Section 95802(a) definition of “Portable.”

Sub-numbering and capitalization are eliminated from the definition of “Portable.”

Rationale for Section 95802(a) definition of “Portable.”

These changes are made to be consistent with the general elimination of paragraph numbering in section 95802. This simplifies the process of modifying, deleting, and adding definitions in this section during the current amendment process and during future amendment processes. These changes do not affect the meaning of this definition.

Summary of Section 95802(a) definition of “Primary Refinery Product.”

The definition of “Primary Refinery Product” is deleted.

Rationale for Section 95802(a) definition of “Primary Refinery Product.”

This change is made because the term “Primary Refinery Product” no longer appears in the Regulation.

Summary of Section 95802(a) definition of “Program for Recognition of Early Action Offset Credits.”

A new definition is provided for “Program for Recognition of Early Action Offset Credits” that describes the former ARB program for recognition of early action offset credits that was in section 95990(a)-(k) of the amended Cap-and-Trade Regulation effective November 1, 2015, but that is now deleted.

Rationale for Section 95802(a) definition of “Program for Recognition of Early Action Offset Credits.”

This definition is needed to describe the former ARB program for recognition of early action offset credits and to be able to refer to that former program in the current Regulation. All early action offset projects that transitioned to a Compliance Offset Protocol were required to do so by either February 28, 2015, or February 28, 2016, depending on the offset project type. After August 31, 2016, ARB will no longer issue ARB offset credits to early action offset projects, so sections 95990(a)-(k) containing the early action offset credit requirements are deleted. The new definition of “Program for Recognition of Early Action Offset Credits” provides a means of easily referencing the early action offset credit requirements in sections 95990(a)-(k) of the amended Cap-and-Trade Regulation effective November 1, 2015, but that are deleted in the new version of the Regulation.

Summary of Section 95802(a) definition of “Project Area.”

The term “Project Area” is added to the list of definitions and defined.

Rationale for Section 95802(a) definition of “Project Area.”

This new definition is needed to define the term, which appears in the proposed amended Regulation. The definition is the same as found in the Compliance Offset Protocol U.S. Forest Projects.

Summary of Section 95802(a) definition of “Public Service Facility.”

Sub-numbering is eliminated from the definition of “Public Service Facility.”

Rationale for Section 95802(a) definition of “Public Service Facility.”

These changes are made to be consistent with the general elimination of paragraph numbering in section 95802. This simplifies the process of modifying, deleting, and adding definitions in this section during the current amendment process and during future amendment processes. These changes do not affect the meaning of this definition.

Summary of Section 95802(a) definition of “Qualified Export.”

The definition of “Qualified Export” is deleted.

Rationale for Section 95802(a) definition of “Qualified Export.”

This change is made because the term “Qualified Export” no longer appears in the amended Regulation.

Summary of Section 95802(a) definition of “Qualified Positive Offset Verification Statement.”

The definition of “Qualified Positive Offset Verification Statement” is amended to delete the phrase “the quantification, monitoring, or metering requirements.” The deleted phrase refers to categories of nonconformance with the Regulation which may lead to a Qualified Positive Offset Verification Statement.

Rationale for Section 95802(a) definition of “Qualified Positive Offset Verification Statement.”

This change is needed to clarify that any nonconformance with the Regulation may result in a Qualified Positive Offset Verification Statement as long as the nonconformance does not result in an offset material misstatement and does not include disregarding the explicit requirements of the Regulation or Compliance Offset Protocol. This is consistent with how the qualified positive verification statement is used in the Regulation for the Mandatory Reporting of Greenhouse Gases.

Summary of Section 95802(a) new definition of “Regulatory Compliance.”

A definition of “Regulatory Compliance” is added.

Rationale for Section 95802(a) new definition of “Regulatory Compliance.”

The definition of “Regulatory Compliance” is added because the term is used in the Regulation and while it should not be ambiguous, the addition of the definition will remove any uncertainty.

Summary of Section 95802(a) definition of “Renewable Diesel.”

Sub-numbering and capitalization are eliminated from the definition of “Renewable Diesel.”

Rationale for Section 95802(a) definition of “Renewable Diesel.”

These changes are made to be consistent with the general elimination of paragraph numbering in section 95802. This simplifies the process of modifying, deleting, and adding definitions in this section during the current amendment process and during future amendment processes. These changes do not affect the meaning of this definition.

Summary of Section 95802(a) definition of “Reporting Period.”

The definition of “Reporting Period” is amended to clarify where the Reporting Period is identified and to state that for projects developed using the Compliance Offset Protocol Rice Cultivation Projects, the Reporting Period must be approximately 12 months, but may be less than or exceed 12 months.

Rationale for Section 95802(a) definition of “Reporting Period.”

This change is needed to clarify that the Reporting Period is initially identified in the listing documents, but may be changed by notifying ARB and the OPR in writing, or by modifying the Reporting Period in the OPDR. The initial OPDR must be submitted within four months of the end of the reporting period as identified in the listing documents or before the four-month deadline has passed, as modified by notifying ARB and the OPR or by the OPDR. These amendments also identify the Reporting Period specific to rice cultivation offset projects, for consistency with the Compliance Offset Protocol Rice Cultivation Projects, which was approved by the Board on June 25, 2015.

Summary of Section 95802(a) definition of “Request for Issuance.”

The term “Request for Issuance” is added to the list of definitions and defined.

Rationale for Section 95802(a) definition of “Request for Issuance.”

This new definition is needed to clearly define the term, which appears in the proposed amended Regulation.

Summary of Section 95802(a) definition of “Reversal.”

The definition of “Reversal” is modified to consider an overestimation of carbon stocks by an ARB approved growth model a reversal.

Rationale for Section 95802(a) definition of “Reversal.”

This change is needed to clarify that an overestimation of carbon stocks that resulted in issuance of ARB offset credits will be reversed to ensure all ARB offset credits represent real GHG emission reductions or removal

enhancements. This change is also made to the definition of intentional reversal.

Summary of Section 95802(a) definition of “Seamless rolled ring.”

This change provides a notice that the definition of “Seamless rolled ring” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Seamless rolled ring.”

This change provides a notice that the definition of “Seamless rolled ring” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to the product-based benchmark in Table 9-1 of the Regulation for this activity, and changes to the benchmark may require changes to this definition. Staff does not yet have complete data to re-calculate the benchmark in this sector. No changes to the definition of “Seamless rolled ring” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Soda Ash Equivalent.”

This change provides a notice that the definition of “Soda Ash Equivalent” may be modified during upcoming 15-day changes to the Regulation, which will occur during this rulemaking and prior to final consideration of the amendments by the Board.

Rationale for Section 95802(a) definition of “Soda Ash Equivalent.”

This change provides a notice that the definition of “Soda Ash Equivalent” may be modified during the upcoming 15-day changes to the Regulation is provided because staff is considering changes to the product-based benchmark in Table 9-1 of the Regulation for the activity of mining and manufacturing of soda ash and related products, and changes to the benchmark may require changes to this definition. Staff does not yet have complete data to re-calculate this benchmark. No changes to the definition of “Soda Ash Equivalent” are currently proposed, but this notice permits future modifications to this definition during the 15-day changes if needed.

Summary of Section 95802(a) definition of “Solomon Energy Intensity Index®” or “Solomon EII” or “EII.”

The definition of the terms “Solomon Energy Intensity Index®,” “Solomon EII,” and “EII” is deleted.

Rationale for Section 95802(a) definition of “Solomon Energy Intensity Index®” or “Solomon EII” or “EII.”

This change is made because the terms “Solomon Energy Intensity Index®,” “Solomon EII,” and “EII” no longer appear in the Regulation.

Summary of Section 95802(a) definition of “Standing Live Carbon Stocks.”  
The definition of “Standing Live Carbon Stocks” is deleted.

Rationale for Section 95802(a) definition of “Standing Live Carbon Stocks.”  
This change is made because the term “Standing Live Carbon Stocks” no longer appears in the Regulation.

Summary of Section 95802(a) definition of “Sulfuric Acid Regeneration.”  
A new definition is added for “Sulfuric Acid Regeneration.”

Rationale for Section 95802(a) definition of “Sulfuric Acid Regeneration.”  
The new definition of “Sulfuric Acid Regeneration” is needed to clarify the activity covered by the new sulfuric acid regeneration benchmark in Table 9-1.

Summary of Section 95802(a) definition of “Tissue produced adjusted by water absorbency capacity.”  
The definition of “Tissue produced adjusted by water absorbency capacity” is deleted.

Rationale for Section 95802(a) definition of “Tissue produced adjusted by water absorbency capacity.”  
This change is made because the term “Tissue produced adjusted by water absorbency capacity” no longer appears in the Regulation.

Summary of Section 95802(a) definition of “Tomato Juice.”  
The definition of “Tomato Juice” is amended to reduce the TSS requirement from 5.0 to 4.0.

Rationale for Section 95802(a) definition of “Tomato Juice.”  
This change is made to ensure certain types of Tomato Juice produced between 4.0 and 5.0 TSS can be reported as covered product data. This change aligns this product with the data used to calculate the associated benchmark.

Summary of Section 95802(a) definition of “Tomato puree.”  
The text is modified to correct typographical error.

Rationale for Section 95802(a) definition of “Tomato puree.”  
This change is made to correct the error in referencing tomato paste rather than tomato puree.

Summary of Section 95802(a) definition of “Tomato soluble solids.”

The definition is modified to include the "Processing Tomato Advisory Board (PTAB) Inspection Procedures," which is incorporated by reference, as a method of measuring the TSS of incoming raw tomatoes and tomato products.

Rationale for Section 95802(a) definition of “Tomato soluble solids.”

This modification is necessary to cite the correct procedures taken to measuring the TSS value of incoming raw tomatoes. This change also gives the operator some flexibility in measuring tomato products where the “Official Methods of Analysis of the Association of Official Analytical Chemists” may not be adequate.

Summary of Section 95802(a) definition of “Transferred ARB Project.”

The definition of “Transferred ARB Project” is modified to clarify that offset projects can be transferred to and from ARB.

Rationale for Section 95802(a) definition of “Transferred ARB Project.”

This change is needed because the Regulation identifies that ARB may offer registry services, if ARB were to ever offer registry services.

Summary of Section 95802(a) definition of “True-up allowance amount.”

References to other sections of the Regulation are modified or eliminated.

Rationale for Section 95802(a) definition of “True-up allowance amount.”

These changes are needed to update references to other sections of the Regulation where section numbering has changed and where sections have been eliminated. These changes do not affect the meaning of this definition.

Summary of Section 95802(a) definition of “Unintentional Reversal.”

The definition of “Unintentional Reversal” is modified to clarify the quantification of unintentional reversals resulting from wildfires.

Rationale for Section 95802(a) definition of “Unintentional Reversal.”

This change is needed to clarify that there will only be one removal from the ARB Forest Buffer Account for each wildfire. All reversals will need to be accounted for immediately after the event, and trees that die in the future, even as a result of the fire, that were not identified as part of the reversal, will not be considered part of an unintentional reversal. Any wood from dead or dying trees that are removed immediately following the event needs to be properly accounted for in harvested wood products.

Summary of Section 95802(a) new definition of “Urban Forest Offset Project”

A definition of “Urban Forest Offset Project” is added.



Rationale for Section 95802(a) new definition of “Forest Offset Project”

The definition of “Urban Forest Offset Project” is added because the term is used in the Regulation and while it should not be ambiguous, the addition of the definition will remove any uncertainty.

Summary of Section 95802(a) definition of “Voluntary Renewable Electricity Aggregator” or “VRE Aggregator.”

The definition of the terms “Voluntary Renewable Electricity Aggregator” and “VRE Aggregator” is deleted.

Rationale for Section 95802(a) definition of “Voluntary Renewable Electricity Aggregator” or “VRE Aggregator.”

This definition is deleted because the terms no longer appear in the amended Regulation.

Summary of Section 95802(a) definition of “Voluntary Renewable Electricity Generator.”

The definition of “Voluntary Renewable Electricity Generator” is deleted.

Rationale for Section 95802(a) definition of “Voluntary Renewable Electricity Generator.”

This definition is deleted because the term “Voluntary Renewable Electricity Generator” no longer appears in the amended Regulation.

Summary of Section 95802(a) definition of “Water absorption capacity.”

The definition of “Water absorption capacity” is deleted.

Rationale for Section 95802(a) definition of “Water absorption capacity.”

This change is made because the term “Water absorption capacity” no longer appears in the Regulation.

Summary of Section 95802(a) definition of “Whole chicken and chicken parts.”

This definition is amended to include material sent to an on-site rendering plant, as long as it consists of edible parts, and to require that all material included in “whole chicken and chicken parts” be edible material.

Rationale for Section 95802(a) definition of “Whole chicken and chicken parts.”

This change allows for consistent allocation for on-site greenhouse gas emissions by enabling allocation for initial emissions due to the production of material which is later sent to an on-site rendering plant to become protein meal and fat. As a result, emissions from rendering this material into protein meal and fat, and from rendering other material produced off site into protein meal and fat, can be treated consistently. Restricting “whole chicken and chicken parts” to edible material keeps inedible material such as feathers from being included in this food product.

Summary of Section 95802(a) definition of “Whole Tomatoes.”

The definition of “Whole Tomatoes” is changed to remove the specification that the product must be peeled and cored.

Rationale for Section 95802(a) definition of “Whole Tomatoes.”

This change is made to ensure certain types of whole tomatoes that were neither cored nor peeled could be reported as whole tomatoes.

Summary of Section 95802(b)

Paragraph numbers are eliminated for all acronym definitions.

Rationale for Section 95802(b)

These changes simplify the process of modifying, deleting, and adding definitions in this section during the current amendment process and during future amendment processes. These changes do not affect the meaning of any definition in this section.

Summary of Section 95802(b) definition of “C.”

A period is added at the end of this definition.

Rationale for Section 95802(a) definition of “C.”

This change corrects a punctuation error.

Summary of Section 95802(b) definition of “CAR.”

The definition of “CAR” is eliminated.

Rationale for Section 95802(a) definition of “CAR.”

This change is made because the term “CAR” no longer appears in the Regulation.

Summary of Section 95802(b) definition of “EII.”

The definition of “EII” is eliminated.

Rationale for Section 95802(a) definition of “EII.”

This change is made because the term “EII” no longer appears in the Regulation.

Summary of Section 95802(b) definition of “ETS.”

A period is added at the end of this definition.

Rationale for Section 95802(a) definition of “ETS.”

This change corrects a punctuation error.

Summary of Section 95802(b) definition of “QE.”

The definition of “QE” is eliminated.

Rationale for Section 95802(a) definition of “QE.”

This change is made because the term “QE” no longer appears in the Regulation.

Summary of Section 95802(b) definition of “RPS.”

A period is added at the end of this definition.

Rationale for Section 95802(a) definition of “RPS.”

This change corrects a punctuation error.

**Section 95803. Submittal of Required Information.**

Summary of Section 95803.

New section 95803 is added to provide general requirements on the manner and timing for information submittal.

Rationale for Section 95803.

This new section is needed to ensure a consistent understanding of how to submit information and when to submit it. These general requirements clarify that unless otherwise specified in other sections of the regulation, the method and timing included in section 95803 must be followed.

Summary of Section 95803(a).

New section 95803(a) is added to specify that information may be submitted electronically, in hardcopy form, or in other means besides hardcopy form. This section also specifies that electronic submittal, including through electronic signatures, as well as any other non-hardcopy means, has the same legal effect as a hardcopy form certified by handwritten signature.

Rationale for Section 95803(a).

This new section is needed to ensure entities understand the options they have to submit required information, and that any submittal means used will have the same legal effect. This clarity is necessary because the current Regulation has required hardcopy submittal of documentation, with original signatures; however, many covered entities have expressed the desire to be able to save time and submit electronic copies, and many in fact submit both electronic versions and hardcopy versions. ARB staff is interested in streamlining information submittal and this section helps achieve that objective.

Summary of Section 95803(b).

New section 95803(b) is added to specify that unless otherwise stated in a specific provision of the Regulation, information requested by the Executive Officer, which would include any designee of the Executive Officer, must be submitted to ARB within 10 calendar days of the request.

Rationale for Section 95803(b).

This new section is needed to ensure all entities subject to the requirements of the regulation understand the timing of when information requested by the Executive Officer must be submitted. This section is necessary to clarify that when not otherwise stated in other provisions of the regulation, the 10 calendar timing applies.

**Subarticle 3: Applicability**

**Section 95811. Covered Entities.**

Summary of Section 95811(d).

Section 95811(d) is modified to clarify that enterers that import RBOB and distillate fuel oils are covered entities in the Program only if the imports are outside of the bulk transfer/terminal system.

Rationale for Section 95811(d).

This change is needed to harmonize with MRR and ensure consistent applicability criteria between the Cap-and-Trade Program and MRR for enterers of fuels.

Summary of Section 95811(e)(1).

The word “liquid” is changed to “liquefied.”

Rationale for Section 95811(e)(1).

This change is made to make the usage of “liquefied petroleum gas” consistent with other sections of the Regulation.

Summary of Section 95811(e)(2).

The word “liquid” is changed to “liquefied.”

Rationale for Section 95811(e)(2).

This change is made to make the usage of “liquefied petroleum gas” consistent with other sections of the Regulation.

Summary of Section 95811(e)(3).

The covered entity responsible for emissions associated with imported liquefied petroleum gas (LPG) is changed from the consignee of the LPG to the importer of the LPG.

Rationale for Section 95811(e)(3).

This change harmonizes the Cap-and-Trade Regulation with MRR. It makes the covered entity responsible for emissions associated with imported LPG in the Cap-and-Trade Program the same as the entity responsible for reporting the emissions associated with imported LPG under MRR. The current disparity

between the Cap-and-Trade Program covered entity and the MRR reporting entity for emissions associated with imported LPG may lead to inequitable treatment of LPG importers under the Cap-and-Trade Program, and this change is intended to bring equal treatment to all LPG importers.

Summary of Section 95811(g).

The heading of this section is modified to indicate that it applies to suppliers of compressed natural gas in addition to suppliers of liquefied natural gas.

Rationale for Section 95811(g).

This change harmonizes the list of regulated entities between the Cap-and-Trade Regulation and MRR. This is not a substantive change to the Regulation since compressed natural gas suppliers were already covered entities under section 95811(c) (Suppliers of Natural Gas). Sections 95101(c)(5) and 95101(c)(10) of MRR require reporting by importers of compressed natural gas (CNG) and by facilities that make CNG products by compressing natural gas received from interstate pipelines.

Summary of Section 95811(g)(1).

Facilities that make compressed natural gas from natural gas received from interstate pipelines are included in the list of covered entities.

Rationale for Section 95811(g)(1).

Facilities that make compressed natural gas from natural gas received from interstate pipelines are included in the list of covered entities so that these facilities are treated in the same manner as similar facilities that make liquefied natural gas from natural gas received from interstate pipelines.

Summary of Section 95811(g)(2).

Importers of compressed natural gas are explicitly included in the list of covered entities.

Rationale for Section 95811(g)(2).

This change harmonizes the list of regulated entities between the Cap-and-Trade Regulation and MRR. This is not a substantive change to the Regulation since compressed natural gas suppliers were already covered entities under the 95811(c) (Suppliers of Natural Gas). Section 95101(c)(5) of MRR explicitly includes importers of compressed natural gas as regulated entities.

**Section 95812. Inclusion Thresholds for Covered Entities.**

Summary of Section 95812(b).

The text is modified to change a section reference. The text referred to is moved to proposed new section 95835(c).

Rationale for Section 95812(b).

The change is needed to reflect the reorganization of this article.

Summary of Section 95812(c)(4).

The word “is” has been added.

Rationale for Section 95812(c)(4).

This change is needed to correct for an inadvertently omitted word.

Summary of Section 95812(d)(1).

Minor edits are made to the text.

Rationale for Section 95812(d)(1).

This change clarifies the text without changing any meaning.

Summary of Section 95812(e).

The section has been deleted and its contents moved to proposed new section 95835 and modified.

Rationale for Section 95812(e).

The changes are needed so that all provisions related to changes in entity registration that may result from reduced entity emissions are contained in a single section. This will provide registered entities with a clear pathway to follow when they decide to change their registration or leave the program.

Summary of Section 95812(f).

The section has been deleted and its contents moved to proposed new section 95835 and modified.

Rationale for Section 95812(f).

The changes are needed so that all provisions related to changes in entity registration due to an entity “shutting down” are contained in a single section. This will provide registered entities with a clear pathway to follow when they decide to change their registration or leave the program.

Summary of Section 95812(g).

The section has been deleted and its contents moved to proposed new section 95835 and modified.

Rationale for Section 95812(g).

The changes are needed so that all provisions related to changes in entity registration due to an entity desiring to change its entity type are contained in a single section. This will provide registered entities with a clear pathway to follow when they decide to change their registration or leave the program.



## **Section 95813. Opt-In Covered Entities.**

### Summary of Section 95813(b).

This section is modified to remove the reference to section 95830(c) (Registration), to require that entities must inform the Executive Officer which year is the first year that the entity is requesting that its emissions be subject to a compliance obligation, and to clarify that the Executive Officer, in responding to the entity's request to be an opt-in covered entity, will specify which year approved opt-in covered entities will be subject to a compliance obligation.

### Rationale for Section 95813(b).

The reference to section 95830(c) is removed because requests to opt into the Cap-and-Trade Program are not submitted/approved pursuant to section 95830(c).

The requirement that entities inform the Executive Officer which is the first year for which the entity requests that its emissions be subject to a compliance obligation is added to ensure that there is no ambiguity about when the entity's emissions will start to incur a compliance obligation. This section also ensures that there is no confusion about the first year in which an entity is subject to a compliance obligation, by proposing that the Executive Officer, in approving applicants as opt-in covered entities, shall specify what will be the first year the entity is subject to a compliance obligation.

### Summary of Section 95813(c).

Text is modified so that an entity that opts in to the Program pursuant to section 95813(h) may rescind its request to opt in to the Program by October 1 of the same calendar year in which it requests approval to be an opt-in covered entity.

### Rationale for Section 95813(c).

This change allows an entity that voluntarily elects to participate in the Program pursuant to section 95813 the opportunity to rescind its opt in request after completing the process of reporting and verifying emissions for the previous calendar year. After the September 1 verification deadline, such an entity will have more information about its compliance obligation associated with opting in to the Program, and this change provides the entity sufficient time to reconsider its opt in request after assessing this information.

### Summary of Section 95813(d).

A requirement to register with the Cap-and-Trade Program is added to the list of requirements for opt-in covered entities. Also, the text is modified to clarify that entities that opt in to the Program pursuant to new section 95813(h) must continue to report and verify all data required by MRR.

Rationale for Section 95813(d).

The requirement to register with the Program is added to the list of requirements for opt-in covered entities to clarify that opt-in covered entities must meet the registration requirements in the same manner as all other covered entities. The current Regulation states that an opt-in covered entity's first reporting and verification year shall be the calendar year immediately preceding the first year in which it voluntarily elects to be subject to a compliance obligation pursuant to this section. New section 95813(h) allows for a covered entity that drops below the inclusion threshold for an entire compliance period to remain in the Program by opting in. New text requires that such an opt-in covered entity continue to report and verify all data required by MRR; the first reporting and verification year for such an opt-in covered entity would not be the calendar year immediately preceding the first year in which it voluntarily elects to be subject to a compliance obligation.

Summary of Section 95813(g).

Minor edits are made to the text.

Rationale for Section 95813(g).

This change clarifies the text without changing any meaning.

Summary of Section 95813(h).

New section 95813(h) is added to allow an entity that was previously a covered entity in the Program, but whose emissions drop below Program inclusion thresholds for a compliance period, to opt into the Program. To opt-in under these circumstances, the entity must submit a request to opt-in by June 1 of the first year of the compliance period that immediately follows the compliance period in which the entity's emissions dropped below the threshold. If this request is approved, the entity will be an opt-in covered entity starting in the first year of the compliance period in which the entity applied to become an opt-in covered entity.

Rationale for Section 95813(h).

The existing regulation may not allow an entity that has emissions that have dropped below the inclusion thresholds to continue in the Cap-and-Trade Program as an opt-in covered entity because section 95813(b) requires that entities request permission to opt-in in advance of the year in which they will incur the compliance obligation. Entities that will cease to be covered entities may not know that their emissions will be below the inclusion threshold until after this deadline. When opt-in covered entity provisions were first written in 2010 and amended in 2013, staff did not envision that such provisions would be needed, but, after one compliance period cycle, it has become apparent that entities are interested in the ability to continue as opt-in entities.

## **Section 95814. Voluntarily Associated Entities and Other Registered Participants.**

### Summary of Section 95814(a)(1).

The proposed changes add clarity to the sentence to specify that the section relates to types of eligible entities.

### Rationale for Section 95814(a)(1).

The change is needed for clarity.

### Summary of Section 95814(a)(1)(B).

The proposed text creates an option for entities that intend to register to operate offset projects. They can apply to be a voluntarily associated entity that only holds offsets. They can also apply to be a voluntarily associated entity that can also hold allowances if, when they register pursuant to subarticle 5, they also complete the corporate association disclosure requirements required by section 95830(c)(1)(G).

### Rationale for Section 95814(a)(1)(B).

The amendment is necessary to streamline the registration process for voluntarily associated entities that do not intend to hold allowances. Staff recognizes that a significant portion of voluntarily associated entities, such as offset project operators, are registered in the tracking system and intend to only hold offset credits and not allowances. Staff believes that these voluntarily associated entities that hold only offset credits may be excluded from the corporate association disclosure requirement since there is already an established limit on the number of offset credits that an entity can use to meet its compliance obligation. In essence, the eight percent limit on the amount of offsets that an individual covered entity can use for compliance already serves as a mechanism to prevent market manipulation. Staff has learned from experience that corporate association information collected on voluntarily associated entities places an unnecessary burden on registering voluntarily associated entities, and is not necessary to prevent market manipulation. This amendment creates the option for voluntarily associated entities to only be required to disclose pursuant to section 95830(c)(1)(G) if they intend to hold allowances.

### Summary of Section 95814(a)(2)

The proposed text adds a requirement that an entity registering as a voluntarily associated entity must have at least one active account representative with a primary residence in the United States.

### Rationale for Section 95814(a)(2)

The change is needed to ensure that the entity has a presence in the United States to allow proper enforcement of the regulation.

Summary of Section 95814(a)(3)

This section is amended to require voluntarily associated entities that are individuals providing consultancy services, as defined in section 95923, to disclose to the Executive Officer the entities to which they are providing consultancy services.

Rationale for Section 95814(a)(3).

The modification is needed to reflect the reorganization of the section and to provide clarity on what needs to be disclosed to ARB. This disclosure is necessary to assist in market monitoring efforts by ARB.

Summary of Section 95814(a)(3)(A)

The proposed new text specifies that the disclosure of consulting services must be made when the individual registers as a voluntarily associated entity or within three months of initiating the consulting services if the individual is already registered.

Rationale for Section 95814(a)(3)(A)

The new text is needed to establish a clear deadline for disclosing required information.

Summary of Section 95814(a)(3)(B)

The proposed text contains an expanded version of the current requirement that an individual supplying consulting and advisory services that becomes aware of the client entity's market position must submit a notarized letter from the entity that it is aware of the individual's activities and has in place adequate policies and procedures to prevent the improper sharing of market position information. It also requires the same disclosure timing as in section 95814(a)(3)(A). The text clarifies the previous requirement, and deletes the previous language.

Rationale for Section 95814(a)(3)(B)

The change is needed for clarity and to ensure consequences of failing to disclose pursuant to the deadline are understood. The change is also necessary to ensure that a clear distinction is made (and understood) by a consulting company and any employees of the company who is registered as a voluntarily associated entity.

Summary of Section 95814(a)(4)

This provision has been changed to specify that if an individual is registered in the tracking system and intends to act as a Cap-and-Trade consultant or advisor for other registered entities, that person must disclose the proposed consultancy relationship to the Executive Officer and comply with the new requirements in section 95814(a)(3)(B). This provision is in addition to the requirements in section 95814(a)(3) because that provision relates to existing

consultancy relationships, rather than prospective. The provision is also changed to remove the notarized letter requirement, since that has been included in section 95814(a)(3)(B).

Rationale for Section 95814(a)(4)

The changes are necessary to ensure that ARB has information about upcoming consultancy services provided by registered individuals, which will assist in market monitoring activities. The change is also needed to reflect the reorganization of the section.

Summary of Section 95814(a)(6)

References to section 95830(c)(1) are renumbered.

Rationale for Section 95814(a)(6)

This change is needed because new text is added to section 95830(c)(1) that required renumbering of subsequent sections. These changes maintain references to the proper sections.

Summary of Section 95814(a)(7)

The text is modified to replace the term “employed by” with “who is an employee of” an entity.

Rationale for Section 95814(a)(7)

The change is needed to clarify the requirement applies to the employee and does not include a consultant or advisor who may be “employed by” an entity.

Summary of Section 95814(c).

This provision has been moved to section 95921(g)(3)(A).

Rationale for Section 95814(c).

The change is needed to place the requirement in a section that deals with account revocation and suspension.

## **Subarticle 5: Registration and Accounts**

### **Section 95830. Registration with ARB.**

Summary of Section 95830(a).

Section 95830(a) is modified to provide a new title: General Provisions.

Rationale for Section 95830(a).

The title addition for this section is necessary to clarify that the purpose of this section is to provide general requirements that apply to all entities intending to register for a tracking system with ARB.

Summary of Section 95830(a)(1).

Section 95830(a) is renumbered to section 95830(a)(1). The text remains the same. This requirement applies to all account registrations.

Rationale for Section 95830(a)(1).

This amendment is needed to renumber the section.

Summary of new Section 95830(a)(2).

New section 95830(a)(2) is added to specify that entities qualified to register with ARB can only apply for one set of accounts in the tracking system, unless they have a compliance obligation in more than one jurisdiction to apply for separate accounts. This section allows for an entity that is registered with California to also register directly with the jurisdiction in which it has a compliance obligation. This requirement applies to all account registrations.

Rationale for new Section 95830(a)(2).

This new section is necessary to ensure that entities that have a compliance obligation in more than one jurisdiction are able to comply with the requirements in all jurisdictions in which they have compliance obligations. This section is necessary to clarify that those entities that need to apply for more than one set of accounts in the tracking system must separately register in each jurisdiction in which they have a compliance obligation so that the entity may submit the required compliance instruments to the appropriate jurisdictions.

Summary of new Section 95830(a)(3).

Former section 95830(b)(3) has been moved and renumbered as new section 95830(a)(3). The text remains the same. This requirement applies to all account registrations. The section specifies that an entity cannot hold a compliance instrument until its registration has been approved by ARB and it has an account in the tracking system.

Rationale for new Section 95830(a)(3).

The move of former section 95830(b)(3) to its new placement as section 95830(a)(3) is needed to improve readability of the section and of the general requirements that apply to all account registrations. The section is necessary to clarify when entities can hold compliance instruments.

Summary of Section 95830(b).

The title of section 95830(b) is changed to Entities Eligible for Registration.

Rationale for Section 95830(b).

This amendment is needed to clearly specify that this section contains eligibility requirements for entities qualifying for registration in the tracking system.



#### Summary of Section 95830(b)(1).

Section 95830(b)(1) is modified to identify the entity types as defined in the references to sections 95811, 95813, and 95814. Modifications were made to section 95830(b)(1) to move text regarding entities eligible pursuant to section 95811 or 95813 and as identified in section 95101(a)(1) of MRR as a new section 95830(b)(2). Modifications were also made to move requirements for creating consolidated accounts to new section 95830(b)(3).

#### Rationale for Section 95830(b)(1).

Amendments to section 95830(b)(1) are made to improve clarity of the overall section and to move some provisions to other sections of the regulation for increased clarity. These amendments are needed to further define references to sections 95811, 95813, and 95814. The second sentence in Section 95830(b)(1) is another eligibility requirement that has been moved to its own section 95830(b)(2) to improve readability in this section.

The third sentence for an entity choosing to consolidate accounts has been removed as there is a new section 95830(b)(3), "Entities Eligible For Initial Registration in a Consolidated Account," that has been added.

#### Summary of Section 95830(b)(2).

Former section 95830(b)(2) is modified to move the provisions regarding application for more than one registration in the tracking system into the new section 95830(a)(2). Section 95830(b)(2) is further modified by moving text from former section 95830(b)(1) specifying that entities that qualify for registration pursuant to sections 95811 and 95812, then the entity must register with section 95830 and meet all requirements of the Cap-and-Trade Regulation.

#### Rationale for Section 95830(b)(2).

Amendments to section 95830(b)(2) are made to improve clarity of the overall section and to move some provisions to other sections of the regulation for increased clarity. This section was modified to improve readability in section 95830 as a whole, and to reflect new requirements made in section 95830(a)(2) as it is possible for an entity that owes a compliance obligation to more than one jurisdiction to be eligible to apply for more than one registration in the tracking system.

#### Summary of Section 95830(b)(3).

Former section 95830(b)(3) is modified to move the provisions that an entity cannot hold a compliance instrument until the entity's registration with ARB has been approved, and the entity has an account in the tracking system into modified section 95830(a)(3). Section 95830(b)(3) is further modified to include the title Entities Eligible for Initial Registration in a Consolidated Account.

Rationale for Section 95830(b)(3).

These changes are needed to improve clarity of the section requirements, and to further clarify that section 95830(b)(3) applies to eligibility for account consolidation during initial registration.

Summary for Section 95830(b)(3)(A).

New section 95830(b)(3)(A) has been added to specify that entities applying for initial registration may choose to register for a single consolidated account on behalf of some or all of the members of a direct corporate association.

Rationale for Section 95830(b)(3)(A).

New section 95830(b)(3)(A) is needed to ensure entities understand that they may request to create a consolidated account during initial registration. This section is added from text that has been removed from former section 95830(b)(1).

Summary for Section 95830(b)(3)(B).

New section 95830(b)(3)(B) includes the requirement for a controlling entity of a direct corporate association to apply for registration of a consolidated account as staff believes that the directors/officers of the controlling entity are those individuals with the appropriate authority to designate account representatives that may act on behalf of some or all of the members of the direct corporate association.

Rationale for Section 95830(b)(3)(B).

New section 95830(b)(3)(B) modifies the existing registration process for members of a direct corporate association group. Staff believes that allowing only a single entity or controlling entity to complete all requirements and disclosures for each entity to be included within the consolidated account is necessary to streamline the registration process, as only one registration would be submitted in the tracking system. This new section is needed to help eliminate extra paperwork since members of a direct corporate association group that wish to belong to a consolidated account would not need to separately apply to register for an account in the tracking system and then request consolidation.

Summary of Section 95830(c).

Section 95830(c) is modified to build in language previously included in section 95830(e) to provide clarification on the registration process. The registration process is complete when the Executive Officer approves the registration and informs the entity of the decision. Additionally, staff has removed the reference of a notification to the accounts administrator as that has no bearing on the status of the registration.

Rationale for Section 95830(c).

The requirement for completion of registration has already been part of the regulation, and was included in existing section 95830(e). The amendment is needed to improve clarity of the overall registration provisions. The registration process includes the process for staff to conduct due diligence to verify the information submitted by an entity, and to confirm that all regulatory requirements have been met. Staff frequently works with the registering entity to request additional documentation so the registration process is only considered complete when the Executive Officer approves the registration and the entity is informed of the decision. Additionally, staff has removed the reference of a notification to the accounts administrator as that has no bearing on the status of the registration.

Summary of Section 95830(c)(1).

Section 95830(c)(1) is modified to specify the submission of information required to complete an application to register for an entity account in the tracking system. This application must include all information contained in section 95830(c)(1).

Rationale for Section 95830(c)(1).

The amendment is needed to improve clarity of the provision. Specifically, the application for an account in the tracking system includes information specified in sections (c)(1)(A)-(L), and not all of that information is submitted through the tracking system. As such, the amendment is needed to ensure a clear understanding of how to apply for an account and which information to submit.

Summary of Section 95830(c)(1)(A).

Section 95830(c)(1)(A) is modified to include the ID number assigned by the incorporating agency as a required field for entity identification.

Rationale for Section 95830(c)(1)(A).

The amendment is necessary to ensure that the ID number assigned by the incorporating agency is provided during the registration process. This information is needed to assist staff in conducting monitoring efforts during registration.

Summary of Section 95830(c)(1)(B).

Section 95830(c)(1)(B) is modified to include the disclosure of partners with over 10 percent of control over a partnership in the submission of entity information during the account registration process.

Rationale for Section 95830(c)(1)(B).

This new disclosure requirement is needed to explain how ARB will determine when entities have a corporate association. Staff is concerned that partnerships could be created to mask associations. The new disclosure

criteria are necessary to aid in market monitoring by requiring disclosure of any partner with considerable control over the partnership, which includes any partner with over 10 percent of control.

Summary of Section 95830(c)(1)(E).

Section 95830(c)(1)(E) is modified to explicitly allow an applicant to provide a government issued taxpayer or employer identification number. The reference to the U.S. Federal Tax Employer Identification Number has been removed since applicants may include entities that are based outside of the United States and who may not be assigned a U.S. Federal Tax Employer Identification Number.

Rationale for Section 95830(c)(1)(E).

The registration process includes the identification of a government issued taxpayer number for an entity regardless of where the entity is located. The modification is necessary to enable all entities to be able to identify a government issued identification number, which is necessary to enable effective monitoring by staff.

Summary of Section 95830(c)(1)(F).

Former section 95830(c)(1)(F) has been deleted as it is no longer needed during registration. It has been combined with section 95830(c)(1)(G).

Rationale for Section 95830(c)(1)(F).

The Data Universal Numbering System (DUNS) number is not assigned to all entities, as not all entities registering for an account in the tracking system are tracked by Dun and Bradstreet, a private business information firm. Since not all entities are assigned a DUNS Number, staff has determined that DUNS is not a critical field for verifying entity information or corporate family trees. As such, the amendment is needed to remove a provision that is no longer necessary for registration. Staff is able to determine corporate associations through other required disclosures pursuant to section 95833.

Summary of Section 95830(c)(1)(G) [New Section 95830(c)(1)(F)].

Since former section 95830(c)(1)(F) has been deleted, section 95830(c)(1)(G) is renumbered to be section 95830(c)(1)(F). The “and” was removed at the end of the sentence because it is not needed. No changes were made to the requirements specified in this section.

Rationale for Section 95830(c)(1)(G) [New Section 95830(c)(1)(F)].

These amendments are necessary to ensure correct numbering of the provisions in section 95830(c)(1). The requirements for registration continue through section 95830(c)(1)(A) to section 95830(c)(1)(L) so the “and” has been removed to enhance clarity of the section.

Summary of Section 95830(c)(1)(H) [New Section 95830(c)(1)(G)].

Former section 95830(c)(1)(H) is renumbered to be new Section 95830(c)(1)(G). Clarification is provided for the identification of an entity's corporate associations as entities must provide this information through disclosure to ARB. New text was added to this section to specify that voluntarily associated entities are required to complete the corporate association and structure disclosures pursuant to section 958339(d) only if they intend to hold allowances. The existing text in Section 95830(c)(1)(G) describing the limited disclosure option for unregistered direct corporate associated entities is deleted because it has been moved to section 95833.

Rationale for Section 95830(c)(1)(H) [New Section 95830(c)(1)(G)].

The renumbering of requirements is necessary to ensure correct number of section 95830(c)(1) based on the amendments. This renumbering does not change the requirement to disclose corporate association information. The amendment regarding voluntarily associated entities is necessary to streamline the registration process for voluntarily associated entities that do not intend to hold allowances. Staff recognizes that a significant portion of voluntarily associated entities, such as offset project operators, are registered in the tracking system and intend to only hold offset credits and not allowances. Staff believes that these voluntarily associated entities that hold only offset credits may be excluded from the corporate associations disclosure requirement since there is already an established limit on the number of offset credits that an entity can use to meet its compliance obligation. In essence, the eight percent limit on the amount of offsets that an individual covered entity can use for compliance already serves as a mechanism to prevent market manipulation. Staff has learned from experience that corporate association information collected on voluntarily associated entities is extraneous, requires unnecessary work of registering voluntarily associated entities, and is not necessary to prevent market manipulation.

No changes have been made to the disclosure requirements for direct and indirect corporate associations. The existing text describing the corporate association disclosure requirements, including the limited disclosure option for unregistered direct corporate associated entities, has been consolidated into one section (section 95833) and is still necessary to enable staff to monitor and effectively prevent market manipulation. Staff believes that this change will improve the clarity and readability on the disclosure requirements for corporate associations and structure data.

Summary of New Section 95830(c)(1)(H).

New section 95830(c)(1)(H) is added to further define an existing registration process for consolidated entity accounts by explicitly stating that an entity in a direct corporate association may apply for a consolidated entity account on behalf of its member entities. The applicant must be an entity that has

controlling ownership or authority to act on behalf of the associated entities within the direct corporate association. The added language specifies that to apply for a consolidated entity account, the applicant must identify each associated entity that will be added to the account, and that each associated entity that seeks to be added to the consolidated entity account must provide an attestation signed by one of its own officers or directors.

Rationale for New Section 95830(c)(1)(H).

New section 95830(c)(1)(H) is needed to describe the existing registration process for an entity in a direct corporate association applying for a consolidated entity account. Registered or unregistered entities are currently able to consolidate or opt-out of consolidation once a year, provided that the entity applying for consolidation has the authority to represent or act on behalf of the other members of the direct corporate association. Staff currently verifies the applicant's information regarding corporate associations and structure during the registration process to ensure that the applicant has the authority to take action on behalf of all associated entities within the direct corporate association. This modified section is necessary to ensure a clear understanding of the consolidation process within the registration requirements of the regulation.

In the scenario where an entity is applying for a consolidated entity account to include unregistered associated entities within the direct corporate association, staff are adding the requirement that associated entities provide an attestation signed by the entity's director or officer to confirm that all entities acknowledge this action. This additional requirement is necessary to ensure that the appropriate entity of a direct corporate association is registered within the tracking system to ensure that all associated entities within the account have provided the necessary legal authorization to join the entity account and to subject each member of the consolidated account to the requirements of the Cap-and-Trade Regulation.

Summary of Section 95830(c)(1)(H)1.

Former section 95830(c)(1)(H)1., allowing for an alternative mechanism to disclose unregistered direct corporate associations, has been deleted from this provision of the regulation and moved to section 95833.

Rationale for Section 95830(c)(1)(H)1.

This change is needed to consolidate all provisions related to corporate association requirements and updates to this information into one section (section 95833). Staff believes that this change will improve the clarity and readability for the timing requirements on updating corporate associations and structure data.



Summary of New Section 95830(c)(1)(I).

New section 95830(c)(1)(I) is added to explicitly clarify the existing requirements for entities registered in the tracking system that are in a direct corporate association, but are not in a consolidated account. These registered direct corporate associates that have opted-out of consolidation must provide an allocation of holding and purchase limit shares that equal 100 percent.

Rationale for New Section 95830(c)(1)(I).

The new text is necessary to clarify an existing requirement, which requires that an applicant include in its initial registration an identification of corporate association and structure information; and, if applicable, purchase limit and holding limit shares for registered direct corporate associates. New section 95830(c)(1)(I) is needed to make the cross-reference with the corporate association requirements of section 95833 more explicit.

Summary of Section 95830(c)(1)(I) [New Section 95830(c)(1)(J)].

Former section 95830(c)(1)(I) is renumbered to be section 95830(c)(1)(J). The text remains the same.

Rationale for Section 95830(c)(1)(I) [New Section 95830(c)(1)(J)].

This change is necessary to support a new numbering structure due to the addition of new section 95830(c)(1)(I).

Summary of Section 95830(c)(1)(J) [New Section 95830(c)(1)(L)].

This section is renumbered to be section 95830(c)(1)(L). The text remains the same.

Rationale for Section 95830(c)(1)(J) [New Section 95830(c)(1)(L)].

This change is necessary to support a new numbering structure due to the addition of new section 95830(c)(1)(K).

Summary of New Section 95830(c)(1)(K).

New section 95830(c)(1)(K) requires that an entity applying to register as an opt-in covered entity must identify during initial registration the first year for which the Executive Officer approved the entity to be an opt-in covered entity.

Rationale for New Section 95830(c)(1)(K).

New section 95830(c)(1)(K) is necessary to ensure opt-in covered entities understand that they must identify their starting year of having a compliance obligation. This is necessary to ensure the entities and ARB have a clear understanding of when regulatory requirements take effect.

Summary of Section 95830(c)(2).

Section 95830(c)(2) is modified to specify that applicants with a direct corporate association with an entity registered in another jurisdiction's GHG emissions

trading system to which California has linked its program pursuant to section 95943 may not apply to consolidate the entity's account. The entity is required to opt-out of consolidation. This is not a new requirement, and was formerly included in section 95830(h)(1). The text regarding factors by which an applicant may be denied registration in the tracking system has been deleted.

Rationale for Section 95830(c)(2).

The amendments to section 95830(c)(2) are necessary to clarify the eligibility criteria for an entity registering to apply for a consolidated entity account. Staff has modified this section to provide additional clarity to the existing registration requirements applicable to linking that is currently stated as section 95830(h)(1). The deleted text was removed because it is redundant to the requirements already captured in existing section 95830(c)(8).

Summary of Section 95830(c)(3).

Section 95830(c)(3) is modified to describe the account consolidation process for a direct corporate association that elects to register for a consolidated entity account. This is not a new requirement, as it was formerly included in section 95833(f)(5). The text regarding requirements for individuals to gain access to the tracking system has been deleted.

Rationale for Section 95830(c)(3).

Section 95830(c)(3) describes the account consolidation process contained in section 95833(f)(5). Moving that provision into section 95830(c)(3) is necessary to enable staff to consolidate all registration requirements into section 95830, in order to improve the clarity and readability of all registration requirements for entities applying for a tracking system account. The deleted text is removed because it is redundant to the requirements already captured in existing section 95834.

Summary of Section 95830(c)(4).

Section 95830(c)(4) is modified to remove an unnecessary comma, add in the word "and," and add commas to help clarify the existing requirement that an entity must designate a primary account representative and at least one (and up to four) alternate account representatives. This modification does not change any existing requirement.

Rationale for Section 95830(c)(4).

This change is necessary to improve clarity in the section. This change ensures entities understand the account representatives they must, and can, designate.

Summary of Section 95830(c)(8).

Section 95830(c)(8) is modified to explicitly refer to both entity or individual applicants that may be denied registration. The requirement remains the same.

Rationale for Section 95830(c)(8).

The modification to section 95830(c)(8) is necessary to improve clarity on the type of applicant that may be denied registration since the registration process is two-fold, and requires that individuals apply for user accounts, before the individual may apply for an entity account. Staff believes that the changes will improve clarity on the separate application processes.

Summary of Section 95830(c)(8)(B).

Section 95830(c)(8)(B) is modified to refer to applicants rather than individuals. The requirement remains the same.

Rationale for Section 95830(c)(8)(B).

The terminology used in section 95830(c)(8)(B) is modified to provide clarity that an applicant may pertain to either an individual application or entity application, and as such the entity or individual applicant may be denied registration.

Summary of Section 95830(c)(8)(C).

Section 95830(c)(8)(C) is modified to refer to applicants rather than individuals, and to refer to the registration rather than the individual's registration. The requirement remains the same.

Rationale for Section 95830(c)(8)(C).

The modification to Section 95830(c)(8)(C) is necessary to improve clarity in the section; specifically, that an applicant may pertain to either an individual application or entity application, and as such the entity or individual applicant may be denied registration.

Summary of Section 95830(c)(8)(E).

Section 95830(c)(8)(E) is modified to include a grammatical correction.

Rationale for Section 95830(c)(8)(E).

The modification to section 95830(c)(8)(E) is necessary to correct a grammatical error, in order to refer generally to an individual applicant.

Summary of Section 95830(d)(1).

Section 95830(d)(1) is modified to include a registration deadline of December 31 of the year in which an entity meets or exceeds the inclusion threshold in section 95812. All references to past deadlines in 2012 and 2013 have been removed.

Rationale for Section 95830(d)(1).

The addition of a registration deadline that is applicable to all entities meeting or exceeding the inclusion thresholds in section 95812 is necessary to ensure all registering entities understand the registration deadline. This is not a new

requirement and is consistent with the deadline for surrender of annual compliance obligations for covered entities pursuant to section 95856(d). Staff is removing references to past deadlines for clean-up and readability of text, as those references are no longer necessary.

Summary of New Section 95830(d)(2).

Section 95830(d)(2) is modified to provide a new deadline for registration for an opt-in covered entity of October 1 of the year before the entity is approved to have a compliance obligation.

Rationale for New Section 95830(d)(2).

The delineation of a new section 95830(d)(2) is necessary to clarify the specific registration requirements that apply to all opt-in covered entities applying for an account in the tracking system. The registration must be complete in the same year the entity was approved to become an opt-in covered entity but in the year before it begins to acquire a compliance obligation. This deadline will ensure that the entity is registered before allocation occurs on October 24, and after the deadline (September 1) by which they can rescind their request to be an opt-in covered entity.

Summary of New Section 95830(d)(3).

New section 95830(d)(3) is added to explicitly state that voluntarily associated entities may register for an account in the tracking system at any time.

Rationale for New Section 95830(d)(3).

This new section is necessary to clarify that voluntarily associated entities may register for an account in the tracking system at any time. This change is needed to ensure clarity in the regulatory timing and the registration process.

Summary of Section 95830(e).

Section 95830(e) is deleted. The text for section 95830(e) has been moved to section 95830(c).

Rationale for Section 95830(e).

This deletion and removal to section 95830(c) is necessary to improve clarity of the registration process by consolidating registration requirements closer within the section.

Summary of Section 95830(f) [New Section 95830(e)].

Section 95830(f) is renumbered to be new section 95830(e).

Rationale for Section 95830(f) [New Section 95830(e)].

This change is needed to ensure correct numbering. The text remains the same.

Summary of Section 95830(f)(1) [New Section 95830(e)(1)].

Section 95830(e)(1) (formerly (f)(1)) is modified to streamline the requirements for which changes to initial registration information submitted by entities must be made within 30 calendar days of the change. This includes disclosing changes or updates to the entity's identification information, directors and officers, partners with over 10 percent of control over the partnership, the business number assigned by a California state agency, changes to a government issued taxpayer or employer identification number, or changes to purchase and holding limits within 30 calendar days of the change. This section is also modified to clarify the existing requirement of updating information regarding employees with knowledge of market position within one year of any change. There is no change to the current requirements for disclosure timing as described in the existing section 95830(e).

All other changes to a registrant's corporate association and structure information must be disclosed pursuant to section 95833(e). Requirements related to entities not registered in the Cap-and-Trade Program, or involved in the line of corporate associations between two registered entities has been deleted and consolidated to section 95833.

Rationale for Section 95830(f)(1) [New Section 95830(e)(1)].

This change is needed to clarify the timing for updating registration information for registered entities. Staff has learned from experience over the past four years that general entity information and certain corporate association and structure information used for the determination of direct corporate associations must be updated within 30 calendar days of the change to ensure adequate market monitoring. Staff is keeping the current disclosure timing requirements and considers the frequency of updates to be reasonable and necessary to ensure adequate market monitoring activities.

The text added to Section 95830(e)(1) is necessary to specify that entity changes to specific registration information pursuant to section 95830(c)(1)(A) through (E), and (I) shall be disclosed within 30 calendar days. Changes to information pursuant to section 95830(c)(1)(J) shall be disclosed within 1 year. All other changes to an entity's corporate associations and structure data should be disclosed pursuant to section 95833(e).

Staff believes that these changes to section 95830 will improve the clarity and readability for the timing requirements on updating general registration information, including updates to corporate associations and structure data.

Summary of Section 95830(e)(2).

The section contains an existing requirement that entities update their corporate disclosures on the schedule now contained in section 95833(e). New text has been added to address entities that registered as voluntarily

associated entities to operate offset projects. These entities do not have to make corporate association disclosures until they make the decision to hold allowances. Deleted text is no longer needed.

Rationale for New Section 95830(e)(2).

The change is needed to provide a link to updating requirements and to allow voluntarily associated entities (e.g., offset project operators) the option of filing the corporate association disclosures only if they decide they want to hold allowances. The deleted text is no longer needed.

Summary of Section 95830(e)(3).

Section 95830(e)(3) is modified to add the reference to the timing disclosure requirements for Cap-and-Trade Consultants or Advisors as described in existing section 95923(c). This is not a new requirement. The text for when a registration may be revoked or suspended is moved to new section 95830(e)(4).

Rationale for Section 95830(e)(3).

The changes to section 95830(e)(3) are needed to clearly cross-reference new section 95830(c)(1)(L) and existing section 95923(c) to provide clarity on the timing for updating registration information as it pertains to Cap-and-Trade Consultants or Advisors. Staff believes that these changes to section 95830 will improve the clarity and readability for the timing requirements on updating general registration information, including updates to corporate associations and structure data. The deleted text has been moved to new section 95830(e)(4) to improve overall clarity of section 95830(e).

Summary of New Section 95830(e)(4).

Staff has added a new section 95830(e)(4) to explicitly state that if an entity does not meet the registration update requirements, then the entity account may be restricted or suspended. This is not a new requirement and is text moved from the existing section 95830(e)(3).

Rationale for New Section 95830(e)(4).

New section 95830(e)(4) is necessary to ensure consistency with the new numbering format and to clearly identify the consequences for an entity that does not update its registration information by the applicable deadlines.

Summary of Section 95830(g) [New Section 95830(f)].

Section 95830(g) is renumbered to be new section 95830(f), and a comma is added after “enforcement.”



Rationale for Section 95830(g)(1) [New Section 95830(f)].

New section 95830(f) is renumbered to be consistent with the new numbering format. The text remains the same, except for the addition of a comma after “enforcement” to improve readability.

Summary of Section 95830(g)(1) [New Section 95830(f)(1)].

Section 95830(f)(1) is modified to retain the existing requirements while reflecting the reorganization of the section. The requirements are designed to protect information that is gathered on individuals.

Rationale for Section 95830(g)(1) [New section 95830(f)(1)].

The change is needed to reflect the reorganization of the section as a whole.

Summary of Section 95830(h) [New Section 95830(g)].

This section 95830(h) is renumbered to be new section 95830(g). The text for describing registration for entities registered to an external GHG ETS system linked to California is the basis for the more detailed requirements added to new sections 95830(g)(1) through (5).

Rationale for Section 95830(h) [New Section 95830(g)].

New section 95830(g) is renumbered from 95830(h) to be consistent with the new numbering format. The registration requirements for entities registered to an external GHG ETS system linked to California have been modified to address entities that may have compliance obligations in other linked jurisdictions.

Summary of Section 95830(h)(1) [New Section 95830(g)(1)].

The text is modified to retain the specific requirement that an entity located in California must register with California.

Rationale for Section 95830(h)(1) [New Section 95830(g)(1)].

The change is needed to ensure that entities located in California register with California.

Summary of Section 95830(h)(2) [New Section 95830(g)(2), (A) and (B)].

The proposed text modifies the registration requirement for entities located in the United States. These entities may only register in California, except under those circumstances where these entities do not qualify as a covered entity in California and where they have a compliance obligation with a linked jurisdiction. If both of those conditions are met, an entity would register with the jurisdiction in which it has a compliance obligation, rather than with California.

Rationale for Section 95830(h)(2) [New Section 95830(g)(2), (A) and (B)].

The change is needed to ensure that entities in the United States register with California unless their only compliance obligation is with another linked jurisdiction.

Summary of New Section 95830(h)(3) [New Section 95830(g)(3)].

Section 95830(g)(3) is modified to specify that an entity that is located outside the United States and that is not located within a jurisdiction with which California has linked may register with a jurisdiction in which it qualifies as a covered or opt-in covered entity. An example of this type of entity would be an importer of electricity that delivers electricity to California but is located in a Canadian Province that is not linked to California's Program. This type of entity would register with California.

Rationale for New Section 95830(g)(3).

The change is needed to address the situation in which an entity that otherwise is not located in California or a jurisdiction to which California has linked to register with a jurisdiction where it has emissions that are covered by the jurisdiction's regulations.

Summary of New Section 95830(g)(4), (A) and (B).

The proposed new section is added to address situations in which an entity has a compliance obligation in more than one jurisdiction. The newly added provisions allow such an entity to register into each jurisdiction where it has an obligation and to use a streamlined registration process where appropriate by partially relying on the registration it has made with California (under subparagraph (A)), or the linked jurisdiction (subparagraph (B)). This addition clarifies that the entity must still comply with other rules that may vary between jurisdictions.

Rationale for New Section 95830(g)(4), (A) and (B).

The change is needed to address situations in which entities have a compliance obligation in more than one linked jurisdiction and to ensure that all jurisdiction-specific requirements are still met. This is necessary because the entity must surrender compliance instruments to each jurisdiction and comply with other rules that may vary between jurisdictions. One such difference is the existence of several California-specific attestations. The proposed text requires the entity to comply with California-specific requirements even if California can access some of the registration information through the tracking system or other means.

Summary of Section 95830(h)(4) [New Section 95830(g)(5)].

The section is renumbered to be consistent with the new numbering format. The text is identical to text for prior section 95830(h)(3).

Rationale for Section 95830(h)(4) [New Section 95830(g)(5)].

No changes to the text are made. The change is necessary to ensure consistent section numbering.

**Section 95831. Account Types.**

Summary of New Section 95831(a)(3).

Text is added to reference allocation to natural gas suppliers.

Rationale for New Section 95831(a)(3).

This section specified all types of entities that receive a limited use holding account. EDUs and natural gas supplier receive such an account because they are required to consign allocated allowances to auction.

Summary of New Section 95831(a)(5).

The text is updated to reference to the voluntarily associated entity section.

Rationale for New Section 95831(a)(5).

This change is necessary to ensure accurate cross-reference to the voluntarily associated entity section.

Summary of New Section 95831(a)(6).

Section 95831(a)(6) is modified to reference all entities that receive direct allocation by referencing the full subarticle 9, rather than just section 95870.

Rationale for New Section 95831(a)(6).

The change is necessary to specify all direct allocation methodologies, located in subarticle 9, rather than all types of disposition of allowances.

Summary of New Section 95831(a)(6)(D)-(F).

Section 95831(a)(6)(D)-(F) are modified to explicitly reference the name of the allocation methodology referred to which in each section. This includes allocation for publicly owned electric utilities and electrical cooperatives ((a)(6)(D)), natural gas suppliers ((a)(6)(E)), and industrial entities, universities, public service facilities, and legacy contract generators ((a)(6)(F)).

Rationale for New Section 95831(a)(6)(D)-(F).

These changes are necessary to provide improve clarity within and among these sections. The meaning of the sections is not changed.

Summary of New Section 95831(a)(6)(G).

This section is added to address the transfer of allowances from public wholesale water agencies' allowance allocation holding account to each entity's compliance account.

Rationale for New Section 95831(a)(6)(G).

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Public water agencies are allocated all allowances into their allowance allocation holding account. All allowances in the allowance allocation holding account are transferred by the Executive Officer to the entity's compliance account on January 1 of the vintage allowances in the account. This section is necessary to ensure clarity on which account will receive an allocation transfer for public water agencies.

Summary of New Section 95831(a)(6)(H).

This section is added to address the transfer of allowances from each waste-to-energy facility's allowance allocation holding account to each entity's compliance account.

Rationale for New Section 95831(a)(6)(H).

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Waste-to-energy facilities are allocated all allowances into their allowance allocation holding account. All allowances in the allowance allocation holding account are transferred by the Executive Officer to the entity's compliance account on January 1 of the vintage allowances in the account. This section is necessary to ensure clarity on which account will receive an allocation transfer for waste-to-energy facilities.

Summary of New Section 95831(a)(6)(I).

This section is added to address the transfer of allowances from each suppliers of liquefied natural gas allowance allocation holding account to each entity's compliance account.

Rationale for New Section 95831(a)(6)(I).

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Suppliers of liquefied natural gas are allocated all allowances into their allowance allocation holding account. Allowances in the allowance allocation holding account are transferred by the Executive Officer to either the entity's compliance account or holding account (pursuant to section 95852(l)(1) on January 1 of the vintage year of the allocated allowances. This section is necessary to ensure clarity on which account will receive an allocation transfer for liquefied natural gas suppliers.

Summary of Section 95831(b)(7), (A) through (D).

The proposed text creates a new type of account under the control of the Executive Officer. The account, called the External GHG Program Holding Account, will function as part of a retirement-only linkage that ARB negotiates with an external GHG Program pursuant to section 95945. (The approved linkage would be listed pursuant to a Board approved rulemaking specific to the jurisdiction or jurisdictions with which ARB has entered into a Retirement-Only

Agreement in section 95943(d).) Under the agreement, ARB would allow entities registered into the linked program to purchase California compliance instruments for the purpose of having them retired by ARB. ARB would then inform the linked program of the retirements, and the linked program would grant the retiring entities credit in their program for the retirements. The account will serve two functions. First, the California entity will transfer the instruments to be retired to the account. The transfer request will include an identifier for the entity that is registered into the linked program. This gives ARB the opportunity to determine if the transfer is being conducted in accordance with the linkage agreement. If it is not, ARB can determine that the transfer is part of an improper “unilateral linkage” and refuse the request. Second, transfers into this account, and subsequently to the Retirement Account, will be recorded into CITSS. When the external program needs an accounting of the retirements made in California by its entities the data are easily downloaded from CITSS.

Rationale for Section 95831(b)(7), (A) Through (D).

The proposed text is needed to create a pathway for ARB to link its Cap-and-Trade Program with other external GHG Programs. (“Program” is, for purposes here, a broad term that encompasses GHG ETS as well as programs that are designed to reduce emissions, but may not include trading mechanisms.) Without the creation of the account, ARB would not have a clear pathway to permit qualifying “unilateral linkages,” nor would it have an efficient mechanism to promote linkages between GHG programs that were not bilateral linkages similar to the one with Québec.

Summary of Section 95831(c)(1)-(4).

The existing text is deleted. The existing requirements have been moved to section 95835(c) and expanded.

Rationale for Section 95831(c)(1)-(4).

The change is needed as part of an effort to ensure that all requirements pertaining to changes to registration are moved to section 95835. Section 95835 has been added to provide registered entities with a clear pathway to changing their registration status, including leaving the program.

Summary of Section 95831(d) [New Section 95831(c)].

This section is renumbered to be new section 95831(c).

Rationale for Section 95831(d) [New Section 95831(c)].

The change is needed to reflect the reorganization of the section.

**Section 95832. Designation of Representatives and Agents.**

Summary of Section 95832(a).

The text is modified to add in two commas in the first sentence.

Rationale for Section 95832(a).

Although minor, these changes are necessary to improve clarity in the section to ensure entities understand they must designate one primary and at least one (and up to four) alternate account representatives.

Summary of Section 95832(a)(1).

The text is modified to remove an unnecessary comma.

Rationale for Section 95832(a)(1).

This change, although minor, is necessary to improve clarity in the section.

Summary of Section 95832(a)(3).

The text is amended to refer to new section 95803(a). Section 95803(a) allows electronic submission of the attestation and signature. A period was also added at the end of the attestation.

Rationale for Section 95832(a)(3).

The amended text refers to a new section that allows electronic submission of the attestation and signature. Staff believes that electronic submission of information required by the Regulation will be less burdensome for CITSS account holders and will streamline the process for account holders and ARB. The addition of a period at the end of the attestation language is necessary to ensure proper punctuation.

Summary of Section 95832(a)(4).

The text is amended to add the term “who” at the end of the sentence to help clarify that the officer signing the attestation must be one of the officers disclosed pursuant to section 95830(c)(1)(B).

Rationale for Section 95832(a)(4).

The amendment is necessary to ensure clarity in understanding who must sign the attestation.

Summary of Section 95832(d).

The text is amended to refer to new section 95803(a). Section 95803(a) allows electronic submission of the attestation and signature. In addition, an extraneous quotation mark is removed from the attestation language.

Rationale for Section 95832(d).

The amended text refers to a new section that allows electronic submission of the attestation and signature. Staff believes that electronic submission of information required by the Regulation will be less burdensome for CITSS account holders and will streamline the process for account holders and ARB.



The removal of the quotation mark is necessary to ensure the attestation is grammatically correct and clear.

Summary of Section 95832(f)(1).

The existing regulation allows the primary account representative to be changed at any time upon receipt by the accounts administrator of a superseding complete application for an account under section 95830(c). Section 95832(f)(1) is modified to allow designated primary account representatives to be changed at any time upon receipt by the accounts administrator of a superseding designation of a primary account representative, rather than a superseding complete application for an account under section 95830(c).

Rationale for Sections 95832(f)(1).

Requiring submittal of a superseding complete application for the change of an account representative is unnecessarily burdensome on users as a complete application would include application information potentially not related to the account representative. Application information potentially not related to the account representative would include names and addresses of the entity's directors and officers, names and contact information for persons controlling over 10 percent of voting rights, and identification of all other entities with whom the entity has a direct corporate association. If this application information has not changed, then it is not necessary to be resubmitted to change an account representative. The changes are necessary to streamline the process to change account representatives without losing any information necessary for efficient and timely market monitoring and operations.

Summary of Section 95832(f)(2).

The existing regulation allows the alternate account representative to be changed at any time upon receipt by the accounts administrator of a superseding complete application for an account under section 95830(c). Section 95832(f)(2) is modified to allow designated alternate account representatives to be changed at any time upon receipt by the accounts administrator of a superseding designation of an alternate account representative, rather than a superseding complete application for an account under section 95830(c).

Rationale for Section 95832(f)(2).

Requiring submittal of a superseding complete application for the change of an account representative is unnecessarily burdensome on users as a complete application would include application information potentially not related to the account representative. Application information potentially not related to the account representative would include names and addresses of the entity's directors and officers, names and contact information for persons controlling over 10 percent of voting rights, and identification of all other entities with whom

the entity has a direct corporate association. If this application information has not changed, then it is not necessary to be resubmitted to change an account representative. The changes are necessary to streamline the process to change account representatives without losing any information necessary for efficient and timely market monitoring and operations.

Summary of New Section 95832(f)(3)(A)-(C).

The existing regulation requires representatives to submit an updated attestation and signature of an officer of the entity when switching roles from a Primary Account Representative to an Alternate Account Representative (PAR/AAR Swap). Section 95832(f)(3) is added to allow designated account representatives to swap roles (PAR/AAR Swap) without submittal of a subsequent attestation or officer of the entity signature. Subparagraph (A) is added to specify that existing signatures and designations will remain applicable. Subparagraph (B) is added to specify that a new attestation by the account representative that previously submitted an attestation is not required. Subparagraph (C) is added specifies that a new officer signature is not required if a signature was previously submitted to designate the account representative.

Rational for New Section 95832(f)(3)(A)-(C).

The Primary Account Representative and Alternate Account Representative roles have the same authority in CITSS and the attestations to be designated to either role are identical. Representatives frequently request role changes. The existing process is unnecessarily burdensome on users. The proposed modifications streamline the process to perform a role swap by designated account representatives of the same account. Subparagraphs (A)-(C) are necessary to specify when existing signatures are valid and the circumstances in which new signatures are not required.

Summary of New Section 95832(f)(4)(A)-(C).

The text in this section is similar to the prior section, with one important difference: a swap of the primary account representative and an alternate account representative can be effected on the receipt of a designation if both representatives have active status on the account at the time of the request. If the proposed primary or alternate account representative has been an account representative for the account at an earlier date but does not have active status on the account at the time of the request, a complete application is required. Subparagraph (A) is added to specify that existing attestations and signatures will remain applicable as long as the designated representative remains designated as either a PAR or AAR. Subparagraph (B) is added to specify that a new attestation by the account representative that previously submitted an attestation is not required. Subparagraph (C) is added specifies that a new officer signature is not required if a signature was previously submitted to designate the account representative.

Rationale for New Section 95832(f)(4).

An account representative may have not have been on an account for some time. The requirement for a complete application ensures that information on the proposed account representative is up to date. Subparagraphs (A)-(C) are necessary to specify when existing attestations and signatures are valid and the circumstances in which new signatures or attestations are not required.

**Section 95833. Disclosure of Corporate Associations.**

Summary of Section 95833(a)(1).

The proposed text provides a clearer explanation of what constitutes a corporate association; namely, when an entity has ownership or control over another entity.

Rationale for Section 95833(a)(1).

The existing text contains only a list of criteria and indicia that determine for regulatory purposes what qualifies as a corporate association. The new text is needed to provide an explanation that the measures are designed to determine the level of ownership or control by one entity over another.

Summary of Section 95833(a)(1)(A) through (F).

Section 95833(a)(1)(A)-(F) is modified to remove specific percentage levels from the text in (A), (B), (C), (D), and (F). The summary and rationale for section 95833(a)(1)(E) are discussed below.

Rationale for Section 95833(a)(1)(A) through (F).

Staff is proposing the change to convert the section to a list of indicia that can be applied to evaluating any type of corporate association, whether it is an indirect corporate association or direct corporate association.

Summary of Section 95833(a)(1)(E).

Section 95833(a)(1)(E) is also modified to clarify that control over the general partner can mean direct control or control over the right to select the general partner.

Rationale for Section 95833(a)(1)(E).

The change is needed to clarify the application of the indicia of control when applied to limited partnerships, including both ownership and voting rights control.

Summary of Section 95833(a)(2).

Section 95833(a)(2) is modified to streamline the description of when direct corporate association exists, meaning whenever the indicia of control specified in modified section 95833(a)(1) exceeds 50 percent.

Rationale for Section 95833(a)(2).

The change is needed to reflect the revisions to section 95833(a)(1) which now contain explanations of all of the measures of ownership and control. The change is also needed to enhance clarity and streamline the regulatory determinations of when a direct corporate association exists.

Summary of Section 95833(a)(2)(A)-(F).

Sections 95833(a)(2)(A)-(F) are deleted.

Rationale for Section 95833(a)(2)(A)-(F).

These sections are no longer needed as revised section 95833(a)(1) now includes a list of all of the measures of ownership and control. The deleted sections would duplicate the meaning of the revised 95833(a)(1) and (a)(2).

Summary of Section 95833(a)(3).

Section 95833(a)(3) is modified to clarify another type of direct corporate association; when two registered entities are connected through a line of more than one direct corporate association. The modification also removes text that is unnecessary.

Rationale for Section 95833(a)(3).

The change is needed to clarify that an entity can have a direct corporate association with another entity through a line of more than one direct corporate association. The deleted text was removed because the determination of direct corporate associations does not necessitate both entities to be registered.

Summary of Section 95833(a)(3)(A).

Section 95833(a)(3)(A) is modified to remove irrelevant text.

Rationale for Section 95833(a)(3)(A).

The change is needed to clarify that an entity can have a direct corporate association with another entity through having a common parent. The deleted text was removed because the determination of direct corporate associations does not depend on whether both entities are registered.

Summary of Section 95833(a)(3)(B).

Section 95833(a)(3)(B) is modified to remove any reference to registered entities.

Rationale for Section 95833(a)(3)(B).

The change is needed because the determination of direct corporate associations does not depend on whether both entities are registered.

Summary of Section 95833(a)(4).

Section 95833(a)(4) is modified to remove any reference to registered entities.

Rationale for Section 95833(a)(4).

The change is needed because the determination of indirect corporate associations does not depend on whether both entities are registered. Previously, this provision more closely limited the disclosure of indirect corporate associations. Proposed modifications to section 95833(b) now more clearly define when and how any disclosure of indirect corporate associations must be made, whereas revised section 95833(a)(4) merely clarifies whether an indirect corporate association exists.

Summary of Section 95833(a)(4)(B).

Section 95833(a)(4)(B) is modified to delete references to sections 95833(a)(1)(A) through (F), which have been deleted. New text is added to explain that an indirect corporate association exists when the measures of ownership and control in section 95833(a)(1) are evaluated to be at a level greater than 20 percent but less than or equal to 50 percent. The new text also clarifies the procedure for evaluating a line of indirect corporate associations.

Rationale for Section 95833(a)(4)(B).

The revisions are needed to clarify the process for evaluating indirect corporate associations given the reorganization of section 95833(a). As with all changes to section 95833, these changes are intended to further streamline and clarify the determination and any required disclosure of corporate associations.

Summary of Section 95833(a)(4)(C).

Section 95833(a)(4)(C) is deleted.

Rationale for Section 95833(a)(4)(C).

The change is needed to reflect the deletion of section 95833(a)(2)(E) to which the deleted text refers. In addition, the revisions to section 95833(a)(3) render the deleted text unnecessary.

Summary of New Section 95833(a)(6).

New section 95833(a)(6) is added to identify a class of individuals that has access to the market position of more than one entity, and to identify that such individuals may cause the entities they represent to result in a direct corporate association. Such individuals are defined to have “shared roles” for those entities. Account Representatives, Account Viewing Agents, Bidding Advisors, and all individuals disclosed pursuant to section 95830(c)(1)(J) are defined as having access to market positions. The proposed text provides that a registered entity employing a Cap-and-Trade Consultant or Advisor pursuant to section 95923 must determine whether that individual has access to market positions. The proposed text requires that entities that employ individuals that qualify as having shared roles for more than one entity must undertake specified actions when that entity first registers or within 10 calendar days of employing or contracting with such an individual.

Rationale for New Section 95833(a)(6).

The change is needed to identify individuals who qualify as having shared roles as these individuals could potentially transfer information on registered entities' market positions to other entities they represent. The section would require the entity employing such individuals to take actions described in sections 95833(a)(6)(A) and (B).

Summary of New Section 95833(a)(6)(A).

New section 95833(a)(6)(A) is added to require that entities employing individuals identified as having shared roles for multiple entities document that they have in place policies and procedures to prevent the individuals from transferring information on market positions between entities in lieu of declaring the entities have a direct corporate association pursuant to section 95833(d).

Rationale for New Section 95833(a)(6)(A).

The change is needed to create an affirmative responsibility on the part of the entity employing individuals with shared roles to prevent the inappropriate sharing of market position information and avoid having to disclose as direct corporate associates pursuant to section 95833(d).

Summary of New Section 95833(a)(6)(B).

Section 95833(a)(6)(B) is added to create an alternate compliance method for the entity employing individuals with shared roles. If an entity cannot meet the requirements of section 95833(a)(6)(A), the alternate compliance method is to declare that they and other entities also employing the same individual with a shared role have a direct corporate association. This requirement is analogous to the existing requirement contained in existing section 95833(f)(7), which was specifically limited to account representatives. The new language includes any employee or consultant that may have access to market position information. That section has been deleted.

Rationale for New Section 95833(a)(6)(B).

The change is needed to broaden an existing requirement to a wider range of individuals that employed in a capacity that gives them information on market position by more than one entity. In the existing text, when entities employ individuals with shared roles the declaration of a direct corporate association is required. The addition of section 95833(a)(6)(A) is meant to create a less burdensome approach to preventing the sharing of market position information. The existing requirement is retained in section 95833(a)(6)(B) to provide a way of dealing with entities that are unable to take the appropriate measures to ensure those individuals do not share information.

Summary of Section 95833(b).

The existing text of section 95833(b) is deleted and replaced with a higher-level descriptive title of "Disclosure of Corporate Associations." The existing text,

which applies to disclosures of direct and indirect corporate associations with entities in GHG ETS to which California has linked, is moved to several new subsections of 95833(b).

Rationale for Section 95833(b).

The change is needed to introduce a list of specific instances in which corporate associations must be disclosed. This reordering of the paragraph is intended to improve the clarity of the disclosure requirements.

Summary of New Section 95833(b)(1).

Section 95833(b)(1) is added to require entities to disclose their direct and indirect corporate associations with entities registered into California or linked GHG ETS. This is an expanded version of the existing requirement in section 95833(d).

Rationale for New Section 95833(b)(1).

The change is needed to make the existing disclosure requirement clearer.

Summary of New Section 95833(b)(2).

Section 95833(b)(2) is added to modify the existing requirement in section 95833(a)(3) to disclose direct corporate associations with entities that control them, i.e., their parent entities, whether they are registered or not.

Rationale for New Section 95833(b)(2).

The change is needed to make clear an existing disclosure requirement regarding parent entities.

Summary of New Section 95833(b)(3).

Section 95833(b)(3) is added to ensure the maintenance of the existing requirement to disclose direct and indirect corporate associations with each registered or unregistered entity in the line of corporate associations between them. The existing requirements were in sections 95833(a)(3) and (4).

Rationale for New Section 95833(b)(3).

The change is needed to make clear an existing disclosure requirement and to consolidate the disclosure requirements into a new, streamlined section.

Summary of New Section 95833(b)(4).

Section 95833(b)(4) is added to streamline the existing requirement found in existing section 95830(c)(1)(H) (proposed for modification through this rulemaking) that gave entities the option of limiting the disclosure of direct corporate associations with unregistered entities to those entities in markets related to the Cap-and-Trade Program. New section 95833(b)(4) applies to corporate associates inside the United States or Canada but outside California and Québec. Staff is proposing to modify the requirements related to



disclosures of direct corporate associates outside of California and linked jurisdictions. Specifically, the new provision would maintain the disclosure requirement, but modify it to only require disclosure upon a request from the Executive Officer. They will have 30 days to provide the documentation.

This provision does not apply, however, to any disclosures required elsewhere in 95833. For example, if an entity has a parent company in Europe, that must be disclosed at the time of registration.

Rationale for New Section 95833(b)(4).

The change is needed to balance the need to have the corporate association information available to investigate disruptions in related markets with the work of implementing the disclosures. As ARB staff has implemented the corporate associations requirements, staff has developed experience with the types of information that are needed upfront during registration to ensure due diligence and market monitoring from registration onward, and which information may be more important at a later time but not necessary at the time of registration. The intent of this new provision is to streamline the disclosure requirements and ensure greater ease in implementation.

Summary of New Section 95833(b)(4)(A).

Section 95833(b)(4)(A) is added to specify a list of markets considered related to the Cap-and-Trade Program. The list is a modified version of the list of markets considered related to the Cap-and-Trade Program that is contained in existing section 95830(c)(1)(H)1., which staff is proposing to delete.

Rationale for New Section 95833(b)(4)(A).

The change is needed to retain the list of markets considered related to the Cap-and-Trade Program. The list of related markets clarifies the corporate associates that an entity may be called upon to disclose upon request of the Executive Officer. As described in previous rulemakings, this information is necessary to ensure ARB is able to monitor the primary Cap-and-Trade market, as well as other markets that may have a direct relationship to the operations of California's program or that California's program may have on other markets.

Summary of New Section 95833(b)(4)(B).

Section 95833(b)(4)(B) is added to maintain the alternate means of disclosure that was previously contained in section 95830(c)(1)(H)1., which staff is proposing to delete in order to better structure the corporate associations provisions.

Rationale for New Section 95833(b)(4)(B).

The change is needed to maintain a current method by which entities reporting direct corporate associations outside of California and Québec may use other documents they already submit to an agency of the U.S. federal government.

The new placement in section 95833(b)(4)(B) is needed to fit within the restructuring of the corporate associations provisions to enhance clarity and streamline the requirements.

Summary of New Section 95833(b)(5).

Section 95833(b)(5) is added to streamline and reorder an existing requirement currently contained in existing section 95830(c)(1)(H), which gives entities the option of limiting the disclosure of direct corporate associations with unregistered entities to those entities in markets related to the Cap-and-Trade Program. These entities include corporate associates outside the United States and Canada. Staff is proposing to modify the requirements related to disclosures of direct corporate associates outside of Canada and the United States. Staff is proposing that the disclosure requirement be retained, but that entities do not have to submit the documentation until they receive a request from the Executive Officer. They will have 30 days to provide the documentation.

This provision does not apply, however, to any disclosures required elsewhere in 95833. For example, if an entity has a parent company in Europe, that must be disclosed at the time of registration.

Rationale for New Section 95833(b)(5).

The change is needed to balance the need to have the corporate association information available to investigate disruptions in related markets with the work of implementing the disclosures. As ARB staff has implemented the corporate associations requirements, staff has developed experience with the types of information that are needed upfront during registration to ensure due diligence and market monitoring from registration onward, and which information may be more important at a later time but not necessary at the time of registration. The intent of this new provision is to streamline the disclosure requirements and ensure greater ease in implementation.

Summary of New Section 95833(b)(5)(A).

Section 95833(b)(5)(A) is added to specify a list of markets considered related to the Cap-and-Trade Program. The list is a modified version of the list of markets considered related to the Cap-and-Trade Program that is contained in existing section 95830(c)(1)(H)1., which staff is proposing to delete.

Rationale for New Section 95833(b)(5)(A).

The change is needed to retain the list of markets considered related to the Cap-and-Trade Program. The list of related markets clarifies the corporate associates that an entity may be called upon to disclose upon request of the Executive Officer. As described in previous rulemakings, this information is necessary to ensure ARB is able to monitor the primary Cap-and-Trade market,

as well as other markets that may have a direct relationship to the operations of California's program or that California's program may have on other markets.

Summary of New Section 95833(b)(5)(B).

Section 95833(b)(5)(B) is added to maintain the alternate means of disclosure that was previously contained in section 95830(c)(1)(H)1., which staff is proposing to delete in order to better structure the corporate associations provisions.

Rationale for Section 95833(b)(5)(B).

The change is needed to maintain a current method by which entities reporting direct corporate associations outside of the United States and Canada may use other documents they already submit to an agency of the U.S. federal government. The new placement in section 95833(b)(5)(B) is needed to fit within the restructuring of the corporate associations provisions to enhance clarity and streamline the requirements.

Summary of Section 95833(c).

Section 95833(c) has been modified to include a title to specify that the section relates to exemptions from disclosure. Existing text is maintained, but renumbered as (c)(1).

Rationale for Section 95833(c).

The change is needed to reflect the reorganization of the section.

Summary of Section 95833(c)(1).

The proposed section contains existing text that has been renumbered.

Rationale for Section 95833(c)(1).

The change is needed to reflect the reorganization of the section.

Summary of New Section 95833(c)(2).

Section 95833(c)(2) is added to provide an exemption from corporate association disclosures for an entity that registers as a voluntarily associated entity as an offset project operator that will only hold offsets.

Rationale for New Section 95833(c)(2).

The change is needed to provide an exemption from corporate disclosure requirements for an entity that will only hold offsets. Staff believes offset project operators that agree not to hold allowances do not need to meet the same level of corporate association disclosure, as their activities are limited to a portion of the program that is further limited to the eight percent quantitative usage limit by offset users and is therefore less apt to market manipulation.

Summary of Section 95833(d).

Section 95833(d) is revised to delete existing text and replace it with a title that captures the nature of the provision – disclosure requirements. The existing text introducing a list of required disclosure fields is moved to existing section 95833(d)(1).

Rationale for Section 95833(d).

The change is needed to reflect the reorganization of the section.

Summary of Section 95833(d)(1).

Section 95833(d)(1) is modified to include text originally contained in section 95833(d) that indicates which entities must disclose information contained in sections 95833(d)(1)(A)-(E).

Rationale for Section 95833(d)(1).

The change is needed to reflect the reorganization of the section. The list in this section is composed of factual information. The broader disclosures on types of relationships remain in section 95833(d)(2).

Summary of Section 95833(d)(1)(B).

The existing text is deleted.

Rationale for Section 95833(d)(1)(B).

The requirement is no longer needed since staff is proposing related changes in section 95833(d)(2).

Summary of Section 95833(d)(1)(C) [now Section 95833(d)(1)(B)].

The requirement to disclose the holding account number of the associated entity is replaced with a requirement to disclose a tracking system entity identification, if applicable, and it is renumbered as (d)(1)(B).

Rationale for Section 95833(d)(1)(C) [now Section 95833(d)(1)(B)].

The change is needed to reflect that CITSS holding account numbers are not visible, but entity Identification code is. The change is also needed to reflect the reorganization of the section.

Summary of Section 95833(d)(1)(D).

The requirement to disclose primary account representative is deleted.

Rationale for Section 95833(d)(1)(D).

The requirement is no longer needed as the functionality has been built into CITSS.

Summary of Section 95833(d)(1)(E).

The requirement to submit a Data Universal Numbering System (DUNS) number ID deleted.

Rationale for Section 95833(d)(1)(E).

The change is needed because staff has observed that the number is assigned less frequently than expected.

Summary of Section 95833(d)(1)(F) [now Section 95833(d)(1)(C)].

Section 95833(d)(1)(F) is renumbered to (d)(1)(C) and the option to submit a government-issued Taxpayer Identification Number is added. Submission of an Employer identification number is no longer restricted to one issued by the U.S.

Rationale for Section 95833(d)(1)(F) [now Section 95833(d)(1)(C)].

The change is needed to broaden the available government-issued identification numbers that may be disclosed. This has become more important due to the number of non-U.S. entities that register in California.

Summary of Section 95833(d)(1)(G) [now Section 95833(d)(1)(D)].

The section is renumbered (d)(1)(D).

Rationale for Section 95833(d)(1)(G) [now Section 95833(d)(1)(D)].

The change is needed to reflect the reorganization of the section.

Summary of New Section 95833(d)(1)(E).

Section 95833(d)(1)(E) is added to retain the requirement currently in sections 95833(f)(3)(C) that entities with a direct corporate association with registered entities must provide a distribution of the holding limit and purchase limit assigned to any associated entity opting out of account consolidation.

Rationale for New Section 95833(d)(1)(E).

The change is needed to retain the existing requirement in section 95833(f)(3)(C) which is being deleted. The distribution of purchase and holding limits among corporate associations is essential to preventing market manipulation and ensuring effective market monitoring.

Summary of Section 95833(d)(2).

Section 95833(d)(2) is modified to delete the existing requirement to disclose the type of corporate association, a brief description of the association, and the entity's evaluation of the indicia of control, is deleted. The provision is modified to replace that requirement with a requirement to identify the associations being disclosed as either direct or indirect. The other requirements of the existing text are moved to new section 95833(d)(2)(A) and (B).

Rationale for Section 95833(d)(2).

The changes are needed to allow a more detailed explanation of the requirements.

Summary of New Section 95833(d)(2)(A).

Section 95833(d)(2)(A) is added to maintain text originally included in section 95833(d)(2) and to modify it to apply only to indirect corporate associations.

Rationale for Section 95833(d)(2)(A).

The change is needed to reflect the reorganization of the section and to help streamline the corporate association requirements.

Summary of New Section 95833(d)(2)(B).

Section 95833(d)(2)(B) is added to retain text originally included in section 95833(d)(2), and modifies it to apply only to direct corporate associations. This provision requires the entity to identify associates as parent, subsidiary, or an entity with a common parent, but does not require the entity to evaluate the indicia of control.

Rationale for Section 95833(d)(2)(B).

The change is needed to reflect the reorganization of the section. Removing the need to evaluate the indicia of control is intended to reduce the effort required to satisfy this provision.

Summary of Section 95833(d)(3).

Section 95833(d)(3) is added to reference new section 95803(a), which explains the acceptable methods for submitting information to ARB.

Rationale for Section 95833(d)(3).

The change is needed to provide flexibility in the submission of information, such as through electronic submission.

Summary of Section 95833(e).

Section 95833(e) is changed to insert a title and to remove a reference to the Executive Officer.

Rationale for Section 95833(e).

The change is needed to allow submission of the information to staff and not involve the Executive Officer.

Summary of Section 95833(e)(1).

Section 95833(e)(1) is modified to more explicitly relate the provision to the time of registering.

Rationale for Section 95833(e)(1).

The change is needed to clarify when entities must disclose the information required pursuant to section 95833(d)—at the time of registration.

Summary of Section 95833(e)(2).

The existing text requires disclosure of a corporate association when it is “created or exists.” The proposed changes replace this with a requirement to disclose within 30 calendar days the creation of or change in the type of corporate association. The section also adds references to the disclosure requirements involved.

Rationale for Section 95833(e)(2).

The change is needed to impose a clear deadline and provides specific references to what must be reported.

Summary of Section 95833(e)(3).

Section 95833(e)(3) is modified to specify that information related to unregistered entities disclosed pursuant to sections 95833(b)(4) and (5) must only be updated within one year of any changes. Text regarding now substantially modified section 95830(f)(1) has been deleted.

Rationale for Section 95833(e)(3).

This modification is necessary to clarify when information disclosed pursuant to sections 95833(b)(4) and (5) must be updated, and to remove a requirement that is no longer needed due to the addition of the requirements in 95833(b)(4) and (5), which allow the data to be requested by the Executive Officer.

Summary of Section 95833(e)(4).

Section 95833(e)(4) is modified to specify that disclosure prior to auction must be completed ten days before the auction application deadline instead of by the auction application deadline. In addition, the deadline applies only if the changes that must be disclosed apply to registered entities and the disclosing entity intends to participate in the auction.

Rationale for Section 95833(e)(4).

The change is needed to ensure that ARB has timely information on corporate associations when processing auction applications. This change is also needed to align with the similar timing requirement in Québec’s Cap-and-Trade System. This process does not require information on entities that are not participating in the auction.

Summary of New Section 95833(e)(5).

Section 95833(e)(5) is added to specify that all other changes not specified in previous paragraphs must be updated within one year of any changes. This section contains the requirement originally contained in section 95833(e)(3).



Rationale for New Section 95833(e)(5).

The change is needed to preserve an existing requirement, to reflect the addition of other specific disclosure requirements, and to reflect the reorganization of the section.

Summary of Section 95833(f)(1) through (6).

The sections are deleted, modified, and moved to section 95830 to provide better consolidation of similar requirements.

Rationale for Section 95833(f).

The change is needed to ensure that all requirements related to registration and updating of registration information are contained in section 95830.

**Section 95834. Know-Your Customer Requirements.**

Summary of Section 95834(a)(4).

This modification updates a Know Your Customer (KYC) requirement for account representatives that reside outside of the United States but represent California covered entities. The regulation stipulates that individuals with a felony criminal conviction in the last 5 years in the United States are ineligible for registration. Section 95834(a)(4) is modified to additionally specify that individuals with a criminal conviction in any jurisdiction that would constitute the equivalent of a felony if it were committed in the United States under U.S. federal law or California law would be ineligible for registration.

Rational for Section 95834(a)(4).

This modification is necessary because some entities registered in the program, which can include fuel importers and other entities, are located outside of the United States, and may not have employees residing in the United States. The modification is needed to ensure equivalent assessment of conviction status for all individuals (not just those living in the United States) who apply for a user profile in the tracking system.

Summary for Section 95834(b)(2)(A)-(C).

The existing regulation allows submission of a valid identity card issued by a U.S. state as an acceptable form of KYC. Section 95834(b)(2)(A) is modified to allow submission of a valid identity card issued by a recognized government body as an acceptable form of KYC. Subsection (B) is deleted and subsection (C) is re-lettered as (B).

Rational for Section 95834(b)(2)(A)-(C).

These modifications are necessary to clarify that valid government-issued identity cards or other documentation does not have to be issued by a U.S. State. This is necessary because some entities that are subject to the California regulation may be located outside of the United States, and may not

have employees that reside in the United States. The modification to subsection (A) updates a KYC requirement for account representatives that reside outside of the United States but represent California covered entities and allows them to submit government-issued identification from the jurisdiction in which they reside. Subsection (B) is redundant given the amended text in (A) and therefore no longer necessary. Subsection (C) is retained but renumbered given the deletion of (B).

Summary of Section 95834(b)(4).

Section 95834(b)(4), requiring the provision of employer information, is deleted.

Rationale for Section 95834(b)(4).

The modification is made because staff has determined through the implementation of the KYC requirements over the last several years that this information is not as useful as other required information in establishing an applicant's identity, and that it can therefore be removed.

Summary of Section 95834(b)(5).

Section 95834(b)(5), requiring a passport number or driver's license number, is deleted.

Rationale for Section 95834(b)(5).

As applicants already submit a government-issued identification document, usually a driver's license or a passport as photographic evidence of identity, this separate requirement is redundant and no longer needed.

Summary of Section 95834(b)(6) [New Section 95834(b)(4)].

Section 95834(b)(6) is renumbered and expanded to allow for proof of an open bank account for applicants representing an entity outside the United States.

Rationale for Section 95834(b)(6) [New Section 95834(b)(4)].

Other amendments to the Regulation allow entities outside the United States to register for California's Cap-and-Trade Program if they have a compliance obligation with California. Such entities may not have employees that reside in the United States and may not be able to show proof of an open U.S. bank account. As such, the modifications to this section are necessary to provide consistency within the Regulation and to ensure those employees can register and represent their entities.

Summary of New Section 95834(b)(4)(A).

New section 95834(b)(4)(A) maintains the requirement for proof of an open bank account in the United States. New text requires applicants to submit a recent bank statement with the applicant's name on the account and the bank name and address. Proof of an open bank account in the United States

ensures that the individual has already undergone a level of know-your-customer checks with the bank, pursuant to U.S. banking laws.

Rationale for Section 95834(b)(4)(A).

This requirement is necessary to clarify for applicants what they must submit to demonstrate they have an open bank account in the United States. The intention of this existing requirement is to provide an extra level of security for users registering in the tracking system and allows ARB to benefit from any Patriot Act requirements that had to be demonstrated when the bank account was established.

Summary of Section 95834(b)(4)(B).

New section 95834(b)(4)(B) is added to allow applicants to provide evidence of a bank account outside of the United States when the applicant represents a covered entities outside the United States, along with an attestation from an officer of the entity that the applicant will be representing that entity and that the entity has no U.S. employees. The individual must still undergo know-your-customer checks pursuant to the jurisdiction in which the bank account exists.

Rationale for Section 95834(b)(4)(B).

This provision is necessary to ensure that entities subject to the California regulation that are located outside of the United States (e.g., some fuel suppliers) who do not have employees that reside in the United States, are still able to meet the registration and user requirements of the regulation. This modification updates a KYC requirement for account representatives that reside outside of the United States but represent California covered entities.

Summary of Section 95834(b)(7) [New Section 95834(b)(5)].

Section 95834(b)(7) is renumbered 95834(b)(5) given the reordering changes in this section overall. The provision is amended to add the requirement that applicants must declare not only existing employment relationships with registered entities, but also whether they will be employed by a registered entity if not currently employed.

Rationale for Section 95834(b)(7) [New Section 95834(b)(5)].

The amendment is necessary to provide ARB with information during the user registration process as to which entity account the user will be associated. This is needed to clarify that applicants that will be listed on a registered entity's account at some future date must identify their status as an employee of that entity.

Summary of Section 95834(b)(8)(A) [New Section 95834(b)(6)(A)].

Section 95834(b)(8) is amended to renumber the section as 95834(b)(6). Section 95834(b)(8)(A) is amended to specify that photographic evidence of

identity can be demonstrated by applicants with the submission of a government issued identity card or driver's license.

Rationale for Section 95834(b)(8)(A) [New Section 95834(b)(6)(A)].

The renumbering amendment to section 95834(b)(8) is necessary to fit within the restructuring of the section as a whole. The amendment to section 95834(b)(6)(A) is necessary for consistency with amended text in section 95834(b)(2) allowing applicants living outside the United States that represent California covered entities to submit either a government issued identity card or a driver's license, including such documents issued by government bodies outside the United States.

Summary of Section 95834(b)(9) [New Section 95834(b)(7)].

Section 95834(b)(9) is renumbered section 95834(b)(7). It is amended to require applicants to disclose a felony conviction or its equivalent, regardless of the jurisdiction in which the felony occurred.

Rationale for Section 95834(b)(9) [New Section 95834(b)(7)].

The renumbering change is necessary to fit within the restructuring of the section as a whole. The amended text in this section is necessary to cover applicants living outside the United States that represent California covered entities.

Summary of New Section 95834(c).

New Section 95834(c) is added to allow applicants to submit the documentation required in section 95834(b) to their employer instead of ARB.

Rationale for New Section 95834(c).

Stakeholders have requested this option in preference of submitting the required documentation to ARB. This has been accommodated through the KYC Option 2 process that currently exists, and is being explicitly allowed through the addition of this section.

Summary of New Section 95834(c)(1)-(3).

Sections 95834(c)(1)-(3) are added to implement employer retention of the documentation required in section 95834(b). Employers are required to verify the individual's identity and ensure the individual has no felony convictions in any jurisdiction in the last five years, in the same manner as if the individual submitted registration information directly to ARB. The employer must designate an authorized representative who will attest to the accuracy of the documentation submitted to them by the applicant. This section specifies that ARB retains the authority to review the documentation kept by the entity, and a review would be initiated upon request from the Executive Officer and the entity is required to provide the documentation within 5 days of the request.

Rationale for New Section 95834(c)(1)-(3).

Sections 95834(c)(1)-(3) are necessary to list the criteria that must be met in order to take advantage of the employer-retention of document registration option. Employers can accept and review documentation provided to them by applicants subject to three requirements. These sections are provided to clarify what those requirements are and to ensure that individuals that represent an entity, regardless of whether documentation is submitted to ARB or kept by their employer, are subject to the same requirements for documentation and review. Employers designate a representative to be responsible for the documentation and review, just as ARB does via the CITSS Registrar. Finally, subparagraph (3) is necessary because ARB must have the ability to review documentation kept by employers to determine if the documentation is accurate and review by the employer has been sufficient.

Summary of Section 95834(c) [New Section 95834(d)(1)-(4)].

Section 95834(c) has been renumbered section 95834(d)(1)-(4). The amendments are added to provide additional clarity on the requirements for notarization of documents submitted pursuant to section 95834(b). New text is added in section 95834(d)(2) to require information found on a notary public seal, i.e., notary name, notary's place of business and commission expiration date, to be legible. New text is added in section 95834(d)(3) to require an apostille for notarized documents submitted from a non-U.S. jurisdiction. Finally, section 95834(d)(2) is renumbered to section 95834(d)(4) as required by the addition of the other paragraphs, and it is amended to clarify that the Executive Officer does not have to wait for two years to re-verify required documentation.

Rationale for Section 95834(c) [New Section 95834(d)(1)-(4)].

The changes are needed to provide additional clarity on the notary requirements. This includes the necessity of accommodating individuals that live outside the United States to submit applicant documentation pursuant to section 95834(b). The changes are also necessary to ensure that notary information is able to be reviewed by ARB staff during the monitoring of user applications and ensure the provisions of the regulation are met. The change to former section 95834(d)(2) (now (d)(4)) is needed to clarify that the Executive Officer may re-verify submitted documentation on a more frequent basis than every two years.

**Section 95835. Changes to Entity Registration Type and Reassignment of Facilities Already Registered to Different Entity Accounts.**

Summary of Section 95835.

New section 95835 is added to the regulation to consolidate all previous provisions related to changes of entity registration type (e.g., emissions thresholds triggers, opt-in status, voluntary entity types). The section is added

to clarify and streamline the provisions for changing registration type, including for entities that qualify to no longer be covered by the Cap-and-Trade Program.

Rationale for Section 95835.

This section is necessary to improve clarity of change of ownership, change of facility ownership, change of entity registration type, and cessation requirements that were previously included in different sections throughout the regulation. The section is intended to improve understanding and readability of how to change registration type and how to exit the program if eligible.

Summary of Section 95835(a).

Section 95835(a) is added to specify the requirements for assigning facilities to entity accounts.

Rationale for section 95835(a).

This section is necessary to clearly spell out the requirements for assigning facilities to entity accounts.

Summary of Section 95835(a)(1).

The proposed text introduces a list of requirements that would apply to facilities that are currently registered and wish to change their registration type.

Rationale for Section 95835(a)(1).

The change is needed to explain how registered facilities may change their registration.

Summary of Section 95835(a)(1)(A).

The proposed text prohibits a facility from subdividing unless it can demonstrate a change in ownership and control to one or more of its units.

Rationale for Section 95835(a)(1)(A).

The change is needed to prevent units from arbitrarily splitting into smaller entities to evade the emissions threshold.

Summary of Section 95835(a)(1)(B).

The proposed text requires that subdividing units must comply with all MRR requirements before they can be reassigned from their current tracking system accounts

Rationale for Section 95835(a)(1)(B).

The change is needed because MRR defines the reporting facilities based on criteria applying to the underlying units composing the facility. Any subdivision would have to conform to those rules.

Summary of Section 95835(a)(1)(C).

The proposed text requires the subdivided units to complete the disclosure process contained in section 95835(b), which is the process governing change of ownership.

Rationale for Section 95835(a)(1)(C).

The change is needed for ARB to verify the change in ownership and to obtain the approvals needed from the entities' management to establish a new account structure.

Summary of Section 95835(a)(1)(D).

The proposed text requires the entity seeking the subdivision to indicate the existing accounts to which the facility will be added or arrange for a new account or closure, if applicable.

Rationale for Section 95835(a)(1)(D).

The change is needed for ARB to obtain the approvals needed to establish a new account structure.

Summary of Section 95835(a)(2).

The proposed text requires a new facility that has received an MRR facility ID but has not yet been assigned to an account to register pursuant to section 95830 and request either a new account or assignment to an existing account.

Rationale for Section 95835(a)(2).

The proposed text is needed to construct a pathway for a new facility to enter the tracking system.

Summary of Section 95835(a)(3).

The proposed text applies to facilities that are members of a direct corporate association. Members of a direct corporate association have the opportunity to consolidate more than one facility into an account or to have separate accounts for individual facilities or groups of facilities.

The proposed text would limit the ability of the members of the direct corporate association to change the distribution of their facilities within their set of accounts to once per compliance period. If the request is made by June 30 of the last year of a compliance period it will become effective by the beginning of the next compliance period.

Rationale for Section 95835(a)(3).

The proposed text is needed to provide a mechanism for members of a direct corporate association to adjust their account structure. It replaces the procedure contained in existing section 95833(f). It also changes the limit on frequency of changes to the account structure from once per year to once per



compliance period. This is necessary to streamline the process for requesting changes, and to ensure it tracks with the changes to compliance period timing staff is proposing related to the CPP.

Summary of Section 95835(b)(1)-(8).

The proposed text introduces a list of requirements governing the change of facility ownership. It also retains a requirement to report the change of ownership to ARB within 30 days of finalization of a change in ownership that was previously contained in section 95830(i). There are additional minor edits for clarity and changes in references to reflect the reorganization of Subarticle 5. The requirements in this section were moved to this location from section 95830(i) as part of a staff effort to locate provisions related to changes to registration in one section. Existing section 95830(i) has been deleted. Information that must be submitted to ARB to reflect changes includes: (1) the date of acquisition and effective date of change of ownership, (2) information about the selling entity, (3) information about the purchasing entity, (4) written direction about how the facility will be consolidated or not by the purchasing entity, (5) signed documentation from the purchasing entity, (6) corporate association changes, (7) direction regarding compliance instrument distribution, and (8) a requirement to transfer compliance instruments.

Rationale for Section 95835(b)(1)-(8).

The changes are needed to reorganize the requirements into a single section that contains all of the requirements related to changes in registration. This is necessary to improve the clarity of these requirements. Minor changes have been made for clarity and references changed to reflect the reorganization of Subarticle 5.

Summary of Section 95835(c).

Section 95835(c) is added to specify the eligibility criteria for changing registration type.

Rationale for Section 95835(c).

This change is necessary to provide clarity as to which entities are eligible to change their registration type, when this may occur, and how it may occur.

Summary of Section 95835(c)(1).

The new section introduces a list of conditions under which entities may become eligible for changes in registration.

Rationale for Section 95835(c)(1).

The proposed text is needed to reflect the reorganization of Subarticle 5. Staff is proposing to put those provisions related to the change in registration type in new section 95835.

Summary of Section 95835(c)(1)(A).

The proposed text would provide an opt-in covered entity the option to leave the Program or change its registration type to become a voluntarily associated entity after the completion of a compliance period, as long as its emissions would not require it to register as a covered entity.

Rationale for Section 95835(c)(1)(A).

This section contains some existing provisions currently located in sections 95812(g) that are being relocated to this section to provide a single list of cases in which an opt-in covered entity may change its registration type. This change is necessary to maintain the requirements and to improve clarity by consolidating these provisions into a single section.

Summary of Section 95835(c)(1)(B).

The proposed text would provide an opt-in covered entity the option to leave the Program if it has ceased operating and has followed the requirements of cessation pursuant to MRR. This section contains some existing provisions currently located in sections 95812(f) that are being relocated to this section to provide a single list of cases in which an opt-in covered entity may change its registration type.

Rationale for Section 95835(c)(1)(B).

This section contains some existing provisions currently located in sections 95812(f) that are being relocated to this section to provide a single list of cases in which an opt-in covered entity may change its registration type. The change is necessary to maintain existing requirements and to improve clarity by consolidating them into a single section.

Summary of Section 95835(c)(2).

The proposed text introduces a list of conditions under which a covered entity or opt-in covered may be eligible to change its registration.

Rationale for Section 95835(c)(2).

The text is needed to put in one location two existing provisions now contained in section 95812.

Summary of Section 95835(c)(2)(A).

The proposed text would allow a covered entity whose emissions drop below the Cap-and-Trade Regulation's coverage threshold for an entire compliance period and who does not request approval to be an opt-in covered entity pursuant to section 95113 to apply to change its registration to become a voluntarily associated entity or leave the Program. This is a clarified version of the requirements contained in existing sections 95812(e) and (g).

Rationale for Section 95835(c)(2)(A).

The proposed text is needed to give a clear definition of when a covered entity is eligible to change its registration status. This change is necessary to maintain an existing requirement, and to improve clarity by consolidating these requirements into a single section.

Summary of Section 95835(c)(2)(B).

The proposed text would allow a covered entity or opt-in covered entity that has ceased emitting and reporting and has fully met the cessation requirements of MRR to close its account and leave the Program. This is a clarified version of the requirements contained in existing section 95812(f).

Rationale for Section 95835(c)(2)(B).

The proposed text is needed to give a clear definition of when a covered entity or opt-in covered entity is eligible to change its registration status and leave the Program. This change is necessary to maintain an existing requirement and to improve clarity by consolidating these requirements into a single section.

Summary of Section 95835(c)(3).

The proposed text allows a voluntarily associated entity to request to leave the Program at any time.

Rationale for Section 95835(c)(3).

The text is needed to clarify when a voluntarily associated entity may apply to change its registration and exit the Program.

Summary of Section 95835(c)(4).

The proposed text allows the Executive Officer to close the account of a voluntarily associated entity if no compliance instruments are transferred in or out of an account for two years. The text is moved from existing section 95831(c)(2) which is proposed for deletion. The length of time before which an account can be closed as dormant is shortened to two years.

Rationale for Section 95835(c)(4).

The text is needed to allow the Executive Officer to close dormant accounts that are no longer active or needed in the administration of the tracking system and to ensure that ARB has a mechanism to treat compliance instruments in these accounts. The change to two years reflects a concern for the possibility of dormant accounts being used to effect a "unilateral linkage." This change is necessary to maintain an existing requirement and to improve clarity by consolidating these requirements into a single section.

Summary of Section 95835(d).

The proposed text introduces a list of options that entities qualifying for a change of registration may choose based on their initial entity type.

Rationale for Section 95835(d).

The change is needed to give a clear menu of choices for change of registration for entities eligible to apply for changes. The text is also needed to explain which choice is available to each current registration type. This change is necessary to maintain an existing requirement and to improve clarity by consolidating these requirements into a single section.

Summary of Section 95835(d)(1).

The proposed text would allow a covered entity to remain in the Program as an opt-in covered entity if it meets the requirements of section 95813.

Rationale for Section 95835(d)(1).

The change is needed to allow entities that qualify as opt-in covered entities to apply for that entity registration type.

Summary of Section 95835(d)(2).

The proposed text would allow a covered or opt-in covered entity to remain in the Program as a voluntarily associated entity if it meets the requirements of section 95814.

Rationale for Section 95835(d)(2).

The change is needed to allow an entity that qualifies as a voluntarily associated entity to apply for that entity type.

Summary of Section 95835(d)(3).

The proposed text would allow an entity to leave the Program if it is eligible for exit the program pursuant to section 95835(f).

Rationale for Section 95835(d)(3).

The change is needed to explain that any entity eligible to change its registration may apply to leave the Program pursuant to section 95835(f).

Summary of Section 95835(e).

The proposed text introduces a list of requirements that a covered or opt-in covered entity that qualifies for a change in entity type must complete when applying for a change of registration.

Rationale for Section 95835(e).

The change is needed to introduce the list of requirements.

Summary of Section 95835(e)(1).

The proposed text introduces the first set of requirements, which match deadlines to each of the ways in which a covered or opt-in covered entity may change its registration.

Rationale for Section 95835(e)(1).

The change is needed to reflect the reorganization to Subarticle 5 and to give entities clear deadlines based on their current registration type and planned change in type.

Summary of Section 95835(e)(1)(A).

The proposed text requires an entity requesting a change in registration type following a reduction in emissions pursuant to section 95835(c)(2)(A) to make the request by September 30 of the first calendar year after the end of a compliance period.

Rationale for Section 95835(e)(1)(A).

This change is necessary to provide an adequate deadline for entities to make a request to the Executive Officer to change their entity registration type.

Summary of Section 95835(e)(1)(B).

The proposed text requires an entity requesting a change in registration status following a cessation of reporting pursuant to section 95835(c)(2)(B) to make the request within 30 days from completion of the cessation requirements in MRR to remain in the Program.

Rationale for Section 95835(e)(1)(B).

The proposed text is necessary to set a deadline for covered or opt-in covered entities requesting a change in registration type based on MRR cessation to apply to remain in the program. The text is needed to retain requirements in existing section 95812(f) that are modified to fit the new change of registration process.

Summary of Section 95835(e)(1)(C).

The proposed text requires an entity requesting a change in registration type following a reduction in emissions pursuant to section 95835(c)(2)(A) to make the request to remain in the Program as an opt-in covered entity by September 30 of the first calendar year after the end of a compliance period.

Rationale for Section 95835(e)(1)(C).

The proposed text is necessary to set a deadline for covered entity requesting a change in registration to opt-in covered entity. The text is needed to retain requirements in existing section 95812(f) that are modified to fit the new change of registration process and to provide a path for a covered entity to become an opt-in covered entity.

Summary of Section 95835(e)(1)(D).

The proposed text sets a deadline for an opt-in covered entity requesting to leave the program (pursuant to section 95113) to request a change in registration type by September 30 of the last year of a compliance period.

Rationale for Section 95835(e)(1)(D).

The change is needed to give a clear deadline by which an opt-in covered entity that intends to leave the Program must request a change in registration type.

Summary of Section 95835(e)(2).

The proposed change introduces a list of registration change options that is available to a covered or opt-in covered entity once it has completed its final compliance obligations.

Rationale for Section 95835(e)(2).

The proposed text is needed to explain the options available to a covered or opt-in covered entity that qualifies for a change in registration type.

Summary of Section 95835(e)(2)(A).

The proposed text would allow a qualifying entity to remain in the system as a voluntarily associated entity.

Rationale for Section 95835(e)(2)(A).

The proposed text is needed to explain the options available to a covered or opt-in covered entity that qualifies for a change in registration type.

Summary of Section 95835(e)(2)(B).

The proposed text would allow a qualifying entity to remain in the system by consolidating its account with another entity with which it has a direct corporate association enabling it to consolidate the accounts.

Rationale for Section 95835(e)(2)(B).

The proposed text is needed to explain the options available to a covered or opt-in covered entity that qualifies for a change in registration type.

Summary of Section 95835(e)(2)(C).

The proposed text would allow a qualifying entity to leave the program by requesting closure of its accounts following compliance with the cessation requirements of MRR.

Rationale for Section 95835(e)(2)(C).

The proposed text is needed to explain the options available to a covered or opt-in covered entity that qualifies for a change in registration type.

Summary of Section 95835(f).

Section 95835(f) is added to consolidate requirements for closing accounts for entities eligible to do so. The proposed section includes a list of requirements that will apply to any entity that is eligible to close its account and leave the program.

Rationale for Section 95835(f).

The previous subsections clarified eligibility requirements and options available to entities to change their registration type and remain in the Program, and the deadlines they must meet to file a request. The proposed new section is needed to explain the requirements for any entity that requests to leave the Program. Even when an entity is eligible for a change in registration type, that change is not automatic. There must be a process by which the Executive Officer can approve the steps taken by the entity and make the appropriate change in the tracking system.

Summary of Section 95835(f)(1).

The text is added to provide requirements for the return of allowances and potential true-up allocation pending the facility's eligibility for direct allocation.

Rationale for Section 95835(f)(1).

This section is necessary to describe the requirements of true-up allocation and potential to ensure that entities are only allocated for years that the entity incurs a compliance obligation. This is necessary because allowances are distributed in advance of the calendar year to which they apply and the allocation is trueed up only after data from the year the entity incurred the compliance obligation are reported to ARB; reporting occurs the year after emissions and production occur.

Summary of Section 95835(f)(1)(A).

The text is added to require entities to return any direct allocation of a budget year that the facility does not have a compliance obligation.

Rationale for Section 95835(f)(1)(A).

This addition is necessary because allowances are distributed in advance of the calendar year to which they apply. This requirement corrects the situation in which an entity may receive allocation in advance of a year that the entity is no longer covered.

Summary of Section 95835(f)(1)(B).

The text is added to describe the true-up allocation distributed to an entity for its final years in the Program.

Rationale for Section 95835(f)(1)(B).

True-up allocation is used to correct previous years' allowance allocation due to changes in production, benchmarks, or allocation methodology. This will ensure that previous allocation for the entity's final years in the program correctly matches that facility's production. In the situation that an entity stops production of activity in Table 9-1 during a year, the true-up mechanism effectively prorates allocation to match the correct production. The proposed



addition of this section is necessary to clarify the steps for true-up that must occur prior to an entity being able to close its account.

Summary of Section 95835(f)(1)(C).

The text is added to require that any negative allocation is settled prior to exiting the Program.

Rationale for Section 95835(f)(1)(C).

The section is necessary to ensure the integrity of the Program for entities that may have incurred a negative allocation by requiring the return of those allowances before an entity's account may be closed.

Summary of Section 95835(f)(1)(D).

This section is added to specify how the allowances must be returned, and the legal result of a failure to comply with this requirement. The section references ARB's authority to take enforcement action in the case that an entity does not satisfy a negative allocation by returning allowances.

Rationale for Section 95835(f)(1)(D).

This section is necessary to provide entities with clarity as to the steps that will occur to return allowances, and the enforcement result if those allowances are not returned. ARB enforcement action against entities that do not return free allowance allocation when required to do so is an important, necessary incentive for entities to appropriately return allowances to ARB when required to do so.

Summary of Section 95835(f)(2)(A)-(B).

The proposed text requires that an entity requesting closure of its accounts must transfer all instruments from its holding account before it can be closed. The proposed text also includes provisions to deal with compliance instruments in a compliance account. Since an entity cannot move instruments out of its compliance account, the proposed addition specifies that the entity may request ARB to transfer the allowances to its holding account or to the compliance account of another registered entity.

Rationale for Section 95835(f)(2)(A)-(B).

The changes are needed to clearly describe the requirement to transfer compliance instruments and the options available to entities with instruments still in their compliance accounts. This change is needed to ensure the accounts of an entity may be closed only upon transferring out all allowances.

Summary of Section 95835(f)(3).

The proposed text would authorize the closure of an account when it no longer contains compliance instruments. It also authorizes the consignment sale of

any instruments remaining in the accounts more than 30 days after the request to close the accounts is approved.

Rationale for Section 95835(f)(3).

The change is needed to ensure that once an entity has met all the requirements for approval to leave the program its accounts may be closed in a timely manner. The change is also necessary to ensure that even if an entity does not transfer its instruments out, ARB may still close the account after consigning the allowances to auction for sale.

**Subarticle 6: California Greenhouse Gas Allowance Budgets**

**Section 95840. Compliance Periods.**

Summary of Section 95840(d).

New text is added that specifies the start and end dates for Cap-and-Trade Program compliance periods after 2020 if U.S. EPA approves California's plan for compliance with the Clean Power Plan.

Rationale for Section 95840(d).

These changes are needed to establish the duration of compliance periods in the post-2020 Cap-and-Trade Program if U.S. EPA approves California's plan for compliance with the Clean Power Plan. The compliance period start and end dates were chosen to align Cap-and-Trade Program compliance periods with the compliance periods in the federal Clean Power Plan (CPP) to the extent feasible.

The third Cap-and-Trade Program compliance period ends December 31, 2020, and the first CPP compliance period begins January 1, 2022 and ends December 31, 2024, so precise alignment of compliance periods is not possible beginning January 1, 2022 without a single-year compliance period. ARB staff believes that a single-year compliance period in the Program would provide insufficient buffering against annual fluctuations in compliance obligations, so two two-year bridge compliance periods over the years 2021-2022 and 2023-2024 are established that do not exactly match the first compliance period for CPP. The sixth Cap-and-Trade Program compliance periods matches the second CPP compliance period beginning January 1, 2025, and all subsequent compliance periods are aligned between the two programs, sharing the same start and end dates.

Summary of Section 95840(e).

New text is added that specifies the duration of Cap-and-Trade Program compliance periods after 2020 if U.S. EPA does not approve California's plan for compliance with the Clean Power Plan. The compliance period start and

end dates continue 3-year compliance periods for the Cap-and-Trade Program beyond 2020.

Rationale for Section 95840(e).

These changes are needed to establish the duration of compliance periods in the post-2020 Cap-and-Trade Program if U.S. EPA does not approve California's plan for compliance with the Clean Power Plan (CPP). If U.S. EPA does not approve the California plan for compliance with CPP, then there is no need to align Cap-and-Trade Program compliance periods with CPP compliance periods. In this case, the compliance period start and end dates are selected so that future compliance periods for the Cap-and-Trade Program have a duration of three years. Three-year compliance periods provide flexibility for addressing the market challenges that can be posed by annual variability in the economy and annual availability of certain types of power (hydro).

**Section 95841. Annual Allowance Budgets for Calendar Years 2013-2050.**

Summary of Section 95841 (Title).

The title "Annual Allowances for Calendar Years 2013-2020" is amended to "Annual Allowances for Calendar Years 2013-2050."

Rationale for Section 95841 (Title).

This change is required to extend the annual allowance budgets through 2050. This section is included to recognize the continuation of the Program and staff expects that the actual annual budgets for a post-2030 program would be revisited in the context of updates to the Scoping Plan, which must occur at least once every five years.

Summary of Section 95841(a).

New text is added that references the new Table 6-2, which establishes the annual California GHG allowance budgets for the years 2021 to 2031.

Rationale for Section 95841(a).

This new text is needed to establish annual California GHG allowance budgets for the years 2021 to 2031.

Summary of Section 95841(b).

New text is added to establish the annual California GHG allowance budgets for the years 2032 through 2050.

Rationale for Section 95841(b).

This new text is needed to establish annual California GHG allowance budgets for the years 2032 through 2050. The allowance budget for 2050 is set to meet the goal established by Executive Order S-3-05 of reducing

statewide GHG emissions to 80 percent below the 1990 level by 2050. A linear emissions decrease is established for the years between 2030 and 2050 so that continuous progress in reducing emissions toward the 2050 target will be made each year. This section is included to recognize the continuation of the Program and staff expects that the actual annual budgets for a post-2030 program would be revisited in the context of updates to the Scoping Plan, which must occur at least once every five years.

Summary of Section 95841, Table 6-1.

The date range “2013-2020” is added to the title of Table 6-1. Also minor text changes are made to the labels of some columns and rows in the table to make the formatting consistent with the new Table 6-2.

Rationale for Section 95841, Table 6-1.

The date range “2013-2020” is added to the title of Table 6-1 to distinguish the allowance budgets presented in this table from those presented in the new Table 6-2 for the years 2021 through 2031. No substantive changes are proposed for this table.

Summary of Section 95841, New Table 6-2.

New Table 6-2, which establishes the annual California GHG allowance budgets for the years 2021 to 2031, is added.

Rationale for Section 95841, New Table 6-2.

New Table 6-2 is needed to establish annual California GHG allowance budgets for the years 2021 to 2031. The allowance budget for 2030 is set to meet the goal established by Executive Order B-30-15 of reducing statewide GHG emissions to 40 percent below the 1990 level by 2030. A linear emissions decrease is established for the years between 2020 and 2030 so that continuous progress in reducing emissions toward the 2030 target will be made each year.

**Section 95841.1. Voluntary Renewable Electricity.**

Summary of Section 95841.1(a).

Section 95841.1(a) is modified to clarify that all allowances available in the account are available for potential VRE retirement, and to describe how allowance retirement will be allocated amongst VRE participants during the year in which allowances are exhausted.

Rationale for Section 95841.1(a).

The first change is to provide greater clarity in response to past stakeholder questions about the scope of allowances available for potential VRE retirement. The second change removes an incentive for applicants to apply separately for each generator to avoid having the VRE account run out of allowances.

Summary of Section 95841.1(a)(1).

New text lists generator eligibility criteria for the VRE program.

Rationale for Section 95841.1(a)(1).

This new text replaces the eligibility criteria that was previously in section 95841.1(b), but which is now deleted. Under the existing Regulation, renewable generation must come from eligible generators to be considered for allowance retirement under the VRE Program. A generator must either be RPS-certified by the California Energy Commission (CEC), or must meet the CEC guidelines for California's Solar Initiative (CSI) Programs. For the second type of generation, participants must document that the generator received a CSI incentive in order to be eligible. However, several electrical distribution utilities have exhausted the funds available for providing CSI incentives, which makes it impossible for new solar generation projects to demonstrate that they received a CSI incentive. Staff proposes to modify the eligibility requirements for VRE participation. The changes would permit allowance retirement for electricity generation from solar installations interconnected with the distribution system of a California electrical distribution utility (EDU) or for renewable energy credits (REC), as long as the RECs have not been used for compliance in any other program, such as the RPS program, and continue to permit allowance retirement for solar generation that has received an incentive under the CSI. The proposed changes will allow solar systems that meet EDU installation requirements that are similar to the CSI requirements to be eligible for VRE participation.

Summary of Section 95841.1(a)(1)(A).

New section 95841.1(a)(1)(A) makes generators that are certified as RPS eligible by CEC eligible for the VRE program.

Rationale for Section 95841.1(a)(1)(A).

This section replaces previous eligibility requirements in section 95841.1(b) that were equivalent. CEC RPS certification means that the generator meets State renewable energy requirements for the RPS, including all legal requirements for RPS generators.

Summary of Section 95841.1(a)(1)(B).

New section 95841.1(a)(1) makes generators that have received an incentive under CSI eligible for the VRE program.

Rationale for Section 95841.1(a)(1)(B).

This section replaces a previous eligibility requirement in section 95841.1(b). Instead of requiring that generators meet various editions of CEC guidelines, generators now only need to document that they have received a CSI incentive. A generator can only receive the CSI incentive if it has met the CEC guidelines.

Summary of Section 95841.1(a)(1)(C).

New section 95841.1(a)(1)(C) makes generators that are interconnected to an EDU distribution system eligible for the VRE program.

Rationale for Section 95841.1(a)(1)(C).

Because for certain investor owned utilities the funds for CSI incentives have been exhausted, this section is necessary to allow solar installations similar to those that received incentives to participate in the VRE program. The California Public Utilities Commission and EDUs require that solar installations use only high quality equipment listed on the CEC's verified equipment list for the Go Solar California program.

Summary of Section 95841.1(b)(1).

Section 95841.1(b)(1) is modified to clarify that all required documentation for the VRE program must be received by ARB by July 1.

Rationale for Section 95841.1(b)(1).

This change is needed to ensure that all VRE participants are aware that all required supporting documentation is due on the same date as the application.

Summary of Section 95841.1(b)(1)(A).

Section 95841.1(b)(1)(A) is modified to clarify that VRE participants must report quantities of MWh or RECs designated for VRE allowance retirement from each generator, and the total quantity.

Rationale for Section 95841.1(b)(1)(A).

This change is needed to ensure that all VRE applicants report all data needed to support a VRE application.

Summary of Section 95841.1(b)(1)(B).

New section 95841.1(b)(1)(B) replaces the deleted earlier version, modifies requirements for documenting generator eligibility, and consolidates requirements that were previously repeated in different parts of section 95841.1(b).

Rationale for Section 95841.1(b)(1)(B).

These changes are needed to document the generator eligibility requirements of section 95841.1(a)(1). The second change allows VRE participants to provide either a document of incentive payment or an approval of incentive payment to demonstrate that the generator was approved under California's Solar Electric Incentive Program. The third change allows a VRE participant to use an EDU interconnection approval document to show that the generator meets the criteria of section 95841.1(a)(1)(c).

Summary of Section 95841.1(b)(1)(C).

The prior version of section 95841.1(b)(1)(C) is deleted and replaced by the existing requirement requiring a Western Renewable Energy Generation Information System (WREGIS) REC retirement report, and an added requirement to provide the WREGIS identification number.

Rationale for Section 95841.1(b)(1)(C).

The prior version of the section is not needed because a similar and more specific requirement is now included in section 95841.1(b)(1)(B). New section 95841.1(b)(1)(C) consolidates requirements previously in section 95841.1(b)(1)(D) and (E), and it requires participants to provide WREGIS identification numbers to ensure that generators meet eligibility requirements.

Summary of Section 95841.1(b)(1)(D).

New section 95841.1(b)(1)(D) replaces previous section 95841.1(b)(1)(E), and clarifies that, when a tracking system other than WREGIS is used to document that RECs were not used in any other program, the tracking system must document the month and year of generation.

Rationale for Section 95841.1(b)(1)(D).

These changes are needed to clarify tracking system requirements and ensure that staff can verify that MWh claimed by participants have not been used in another program.

Summary of Section 95841.1(b)(1)(E).

This text is deleted.

Rationale for Section 95841.1(b)(1)(E).

This section is no longer needed because other requirements in section 95841.1(b) are sufficient to determine eligibility for the VRE program.

Summary of Sections 95841.1(b)(2)-(3).

This text is deleted.

Rationale for Section 95841.1(b)(2)-(3).

These sections are no longer needed because their requirements are now included in section 95841.1(b)(1). The requirements had previously been separated into those for generating facilities less than or equal to 200 KW and those greater than 200 KW in nameplate capacity. Experience implementing the VRE program shows that it is not necessary to treat generators differently based on their size.

Summary of Section 95841.1(c).

Section 95841.1(c) is modified to improve clarity and conform with usage in other equations in the regulation. The only substantial change in the equation is



to specify how rounding (down to the nearest metric ton) is performed for retired allowances.

Rationale for Section 95841.1(c).

These changes improve clarity and consistency with other equations. These changes do not change the actual calculations for the number of retired allowances except to specify how rounding is performed. The rounding convention aligns with other rounding conventions in the Regulation.

Summary of Section 95841.1(d).

This section is deleted.

Rationale for Section 95841.1(d).

This section is not needed because ARB does not plan to develop a voluntary renewable electricity tracking system.

## **Subarticle 7: Compliance Requirements for Covered Entities**

### **Section 95851. Phase-in of Compliance Obligation for Covered Entities.**

Summary of Section 95851(b).

Compressed natural gas is added to the list of fuels that have a compliance obligation beginning with the second compliance period.

Rationale for Section 95851(b).

Compressed natural gas (CNG) is added to the list of fuels that have a compliance obligation beginning with the second compliance period so that emissions from the combustion of this fuel are treated in the same way under the Program as other fuel combustion emissions. This change is needed to maintain consistency with the changes in section 95811, which clarify that importers of CNG and facilities that make CNG from natural gas received from interstate pipelines are included in the list of covered entities.

Summary of Section 95851(c).

The word “and” is added, and new language is added to clarify that facilities will be eligible for the listed limited exemption until the first year in which natural gas suppliers are required to consign all allowances to auction.

Rationale for Section 95851(c).

The first change corrects a typographical error without changing any meaning. The second change extends the limited exemption to the year that natural gas suppliers must consign all allowances to auction, because prior to that year there will not be full pass-through of carbon costs in natural gas rates, creating a disadvantage to those facilities that chose to produce both electricity and

thermal output on-site. Once full consignment is achieved and there will be full pass-through of the costs of compliance with the Program, there will be no reason for the exemption and it will cease to be allowed by the Regulation.

Summary of Section 95851(d).

The phase-in of a compliance obligation for emissions from waste-to-energy facilities is delayed from 2016 to 2018.

Rationale for Section 95851(d).

This change extends a limited exemption from a compliance obligation for emissions from waste-to-energy facilities for two additional years. One initial reason for this exemption was to avoid any increases in landfill emissions due to reduced diversion if the waste-to-energy facilities had a compliance obligation under the Program. The Draft Short Lived Climate Pollutant Plan calls for a regulation by 2018 to effectively eliminate organic disposal in landfills by 2025. As such, landfill emissions are not expected to increase due to lack of diversion. Staff believes that it is appropriate to extend this limited exemption for two more years.

**Section 95852. Emission Categories Used to Calculate Compliance Obligations.**

Summary of Section 95852(a)(2).

“Liquefied petroleum gas” is substituted for “natural gas liquids” in the list of fuels not included when calculating an operator’s compliance obligation beginning in 2015.

Rationale for Section 95852(a)(2).

This change is needed because under the current Regulation “natural gas liquids” includes substances, such as butane, that have neither a fuel supplier compliance obligation upstream nor a compliance obligation from combustion at a covered entity. “Liquefied petroleum gas” is the only natural gas liquid that is covered by the upstream fuel supplier and should therefore be excluded from an operator’s compliance obligation for combustion.

Summary of Section 95852(b)(1)(B).

This section is modified to include an Energy Imbalance Market (EIM) adjustment term in the equation for calculating emissions with a compliance obligation for electricity importers, and to provide an additional equation to specify the calculation of the EIM adjustment term. The modification also includes definitions of the terms used in the EIM adjustment term equation. The section is also modified to remove the qualified export (QE) adjustment from the imported electricity complication obligation equation and definitions. Finally, an extra “covered” is deleted from the definition of the variable “CO<sub>2</sub>e<sub>covered</sub>.”

Rationale for Section 95852(b)(1)(B).

The inclusion of an EIM adjustment is necessary to ensure that all emissions associated with electricity dispatched to serve California load through CAISO's EIM are included as part of an electricity importer's compliance obligation. The proposed text corrects a situation in which dispatches to serve retail load in California as determined through CAISO's cost optimization model do not fully account for emissions from electricity that serves California load. The QE adjustment is removed from the imported electricity compliance obligation equation because data reported pursuant to MRR show that the QE adjustment appears to reflect a change in scheduling and transaction procedures in order to lower GHG compliance obligations, resulting in emissions leakage. The last change corrects a typographical error without changing any meaning.

Summary of Section 95852(b)(2)(A)2.

The phrase "public utilities code" is capitalized to ""Public Utilities Code."

Rationale for Section 95852(b)(2)(A)2.

This change corrects a typographical error without changing any meaning.

Summary of Section 95852(b)(2)(A)10.

This section is amended to remove the resource shuffling exemption for economic bids or self-schedules that clear the CAISO real-time market.

Rationale for Section 95852(b)(2)(A)10.

This change provides notice that ARB will continue to work with CAISO and stakeholders to ensure any final accounting method for emissions associated with load imported to serve California through EIM transactions does not pose a conflict with prohibitions to resource shuffling, which would result in the possibility of emissions leakage. AB 32 requires ARB to minimize emissions leakage to the extent feasible. The final text will be made available through 15-day changes prior to final board action on the proposed amendments.

Summary of Section 95852(b)(2)(B)2.

The words "directly above" are deleted.

Rationale for Section 95852(b)(2)(B)2.

This change eliminates unnecessary words without changing any meaning.

Summary of Section 95852(b)(3)(B).

The word "and" is added to the end of the sentence.

Rationale for Section 95852(b)(3)(B).

This change preserves the proper flow of the Regulation text after section 95852(b)(3)(D) is deleted.

Summary of Section 95852(b)(3)(C).

The word “and” is deleted from the end of the sentence.

Rationale for Section 95852(b)(3)(C).

This change preserves the proper flow of the text after section 95852(b)(3)(D) is deleted.

Summary of Section 95852(b)(3)(D).

This paragraph is deleted.

Rationale for Section 95852(b)(3)(D).

This change removes the requirement that electricity importers report REC serial numbers and have them verified in order to claim a compliance obligation for delivered electricity based on a specified source emission factor. This provision was not meant to be a requirement that must be met to claim a specific source, but was meant as a requirement that sources reporting specified sources (as required by MRR) report RECs to provide greater transparency of REC use. Removal of this section aligns specified source reporting requirements with MRR.

Summary of Section 95852(b)(4)(C).

Minor changes are made to clarify the text without altering any meaning.

Rationale for Section 95852(b)(4)(C).

Minor text changes are made to make the reference to section 95852(b)(4) consistent with other references in the Regulation.

Summary of New Section 95852(b)(4)(E).

This change disallows use of the RPS adjustment after 2020.

Rationale for New Section 95852(b)(4)(E).

This change is necessary to discontinue the RPS adjustment after 2020. The RPS adjustment was originally included in the Regulation to compensate for the compliance obligation incurred by electricity importers when procured RPS-eligible renewable generation that is not directly delivered to California is replaced by higher emitting electricity generation. This RPS adjustment is voluntary, and it is only applicable when the importer purchases both electricity and renewable energy credits (REC) together and can demonstrate that the electricity was not delivered to California. This provision of the Regulation was extremely difficult to enforce, in part because the Regulation requires that RPS adjustments could only be taken in cases in which the electricity associated with the RECs was not directly delivered to California. This requirement of no direct delivery was necessary to avoid double counting of zero-emissions electricity imported into California. It can be difficult for entities to know if the electricity was directly delivered, and there was also widespread misuse of the

direct delivery requirement because of misinterpretations of the Regulation (e.g., that one could choose not to specify a source of imported electricity and then use the RECs associated with that electricity for an RPS adjustment). Further, when there are multiple purchasers of electricity and RECs from renewable resource, it is difficult to determine which RECs are associated with which electricity.

Summary of Sections 95852(b)(4)(E)-(F) [New Sections 95852(b)(4)(F)-(G)].  
These paragraphs are renumbered.

Rationale for Sections 95852(b)(4)(E)-(F) [New Sections 95852(b)(4)(F)-(G)].  
This change is needed because new paragraph 95852(b)(E) is added, so the subsequent sections must be renumbered.

Summary of New Section 95852(b)(5).  
This change removes the qualified export (QE) adjustment.

Rationale for New Section 95852(b)(5).  
The QE adjustment is removed from the imported electricity compliance obligation equation because data reported pursuant to MRR show that the QE adjustment appears to reflect a change in scheduling and transaction procedures in order to lower GHG compliance obligations, resulting in emissions leakage. This adjustment applies to an imported electricity compliance obligation on a megawatt-hour-basis to electricity that is exported out of California in the same hour as electricity imported into the State by the same electric power entity. This provision was included in the initial Regulation in 2010, but staff indicated at that time that it would monitor and analyze the effects of the QE adjustment to determine if gaming and emissions leakage were occurring. Over the first compliance period, there was a 50 percent increase in QE adjustments while imported electricity emissions decreased over the same period. The QE adjustment was developed in an effort to calculate a reduction in compliance obligation associated with simultaneous exchange agreements for electricity that did not actually serve California load; however, it has been more extensively used than expected and intended. A broad methodology has been applied based on simply having an import and export in the same hour, with no determination of whether there was a simultaneous exchange agreement in place, and with no determination of whether the combined import and export reasonably represented a wheeling of electricity. Thus, the QE adjustment may simply reflect a change in scheduling and transaction procedures in order to lower GHG compliance obligations. Therefore, staff is proposing to remove the qualified export exemption in the third compliance period to ensure that emissions leakage is minimized to the extent feasible as required by AB 32.

Summary of Section 95852(c)(2).

Text is added to clarify that reconciled reported deliveries of natural gas will be used to calculate natural gas supplier emissions.

Rationale for Section 95852(c)(2).

This change is needed to clarify that natural gas received data from customers may be used to calculate natural gas supplier emissions when appropriate.

Summary of Section 95852(e)(2).

The entity that incurs the compliance obligation for emissions associated with imported liquefied petroleum gas (LPG) is changed from the consignee of the LPG to the importer of the LPG.

Rationale for Section 95852(e)(2).

This change harmonizes the Cap-and-Trade Regulation with MRR. It makes the covered entity responsible for emissions associated with imported LPG in the Cap-and-Trade Program the same as the entity responsible for reporting the emissions associated with imported LPG under MRR. The current disparity between the Cap-and-Trade Program covered entity and the MRR reporting entity for emissions associated with imported LPG may lead to inequitable treatment of LPG importers under the Cap-and-Trade Program, and this change is intended to bring equal treatment to all LPG importers.

Summary of Section 95852(g).

A missing quotation mark is added, and text is added to clarify that the referenced carbon capture and geological sequestration quantification methodology (CCGS QM) must be added to the Cap-and-Trade Regulation before a CO<sub>2</sub> supplier's compliance obligation can be reduced by geologic sequestration.

Rationale for Section 95852(g).

The quotation mark change corrects a typographical error without changing any meaning. The clarification about the CCGS QM is required to ensure that the changes to the Regulation are made to align the QM with Cap-and-Trade Program-specific policy issues like emissions releases before the CCGS QM is able to be used to reduce a compliance obligation under the Regulation.

Summary of Section 95852(j).

The limited exemption of emissions from the production of qualified thermal output is extended from the first three compliance periods until the last year before which natural gas suppliers are required to consign all allocated allowances to auction.

Rationale for Section 95852(j).

This change extends the limited exemption to the year that natural gas suppliers must consign all allowances to auction because, prior to that year, there will not be full pass-through of carbon costs in natural gas rates, creating a disadvantage to those facilities that chose to produce both electricity and thermal output on-site. Once full consignment is achieved and there will be full pass-through of the costs of compliance with the Program, there will be no reason for the exemption and it will cease to be allowed by the Regulation. These changes align with the changes in section 95851(c).

Summary of Section 95852(k).

The limited exemption from a compliance obligation for emissions from the direct combustion of municipal solid waste in a waste-to-energy facility is extended through the second compliance period. Text is added so that ARB can provide true-up allowance allocation to waste-to-energy facilities in order to implement the limited exemption.

Rationale for Section 95852(k).

This change extends a limited exemption from a compliance obligation for emissions from waste-to-energy facilities for two additional years. One initial reason for this exemption was to avoid any increases in landfill emissions due to reduced diversion if the waste-to-energy facilities had a compliance obligation under the Program. The Draft Short Lived Climate Pollutant Plan calls for a regulation by 2018 to effectively eliminate organic disposal in landfills by 2025. As such, landfill emissions are not expected to increase due to lack of diversion. Staff believes that it is appropriate to extend this limited exemption for two more years.

Summary of Section 95852(k)(1).

Capitalization is removed from the phrase "Waste-to-Energy Facilities."

Rationale for Section 95852(k)(1).

This change corrects a typographical error without changing any meaning.

Summary of Section 95852(k)(5).

This paragraph is deleted.

Rationale for Section 95852(k)(5).

This paragraph describes the allocation of true-up allowances to waste-to-energy facilities in years prior to 2017. Because this paragraph only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95852(l).

The word "on" is changed to "of" to correct a typographical error. The proposed text is also modified to clarify that this section applies to suppliers of



compressed natural gas (CNG), which are currently mentioned in the existing requirements in one instance, but not others. Changes also clarify that the compliance obligation for these suppliers includes emissions from the in-State production of liquefied natural gas (LNG) and CNG from natural gas obtained from an intrastate pipeline, and excludes emissions from fuel supplied out-of-State; and clarifies that, when LNG is supplied to a covered entity, the supplier has no compliance obligation.

Rationale for Section 95852(l).

The first change corrects a typographical error without changing the meaning of any text. All other changes clarify that this section is meant to include compressed natural gas suppliers throughout, and aligns LNG and CNG fuel supplier reporting with reporting required of other fuel suppliers.

Summary of New Section 95852(l)(1).

New text is added to provide a limited exemption from a compliance obligation for emissions from supplied liquefied natural gas (LNG) during the second compliance period. The limited exemption is provided through allocation of true-up allowances in an amount equal to the second compliance period emissions from supplying LNG.

Rationale for New Section 95852(l)(1).

Because of a disparity between the Cap-and-Trade Program covered entity and the MRR reporting entity for emissions associated with supplying LNG, compliance obligations among LNG suppliers are not equally incurred during the second compliance period. This change eliminates the second compliance period compliance obligation associated with supplying LNG. The limited exemption is provided by allocating true-up allowances to reimburse for any second compliance period compliance obligations that were incurred owing to emissions from supplying LNG.

Summary of Section 95852(l)(1)(A)-(C).

New text in these paragraphs establishes the minimum requirements for LNG suppliers to receive true-up allowances that are intended to meet the supplier's compliance obligation in the second compliance period. To receive these true-up allowances, it is required that an entity be registered in the tracking system, report and verify emissions, and, during the second compliance period, be the California consignee for imported LNG and also be the operator of an LNG production facility that makes LNG products by liquefying natural gas received from interstate pipelines.

Rationale for Section 95852(l)(1)(A)-(C).

ARB staff has determined that there is leakage risk for LNG suppliers in the second compliance period, and that a limited exemption of these emissions from the Program is appropriate. True-up allowance allocation to appropriate

LNG suppliers is the best means to apply this limited exemption to the second compliance period, which is already underway.

### **Section 95852.1. Compliance Obligations for Biomass-Derived Fuels.**

#### Summary of Section 95852.1(b).

The text is modified to clarify that the resource shuffling prohibitions in section 95852.1.1 only apply to fuels sources from outside of California.

#### Rationale for Section 95852.1(b).

Although the requirements for resource shuffling seem self-explanatory, this change is necessary because a limited number of stakeholders have expressed confusion about the applicability of the biomass-derived fuel resource shuffling prohibitions found in section 95852.1.1 of the Regulation. As is the case with electricity, no potential exists for shuffling within the State.

### **Section 95852.2. Emissions without a Compliance Obligation.**

#### Summary of Section 95852.2(b)(2).

This paragraph is deleted.

#### Rationale for Section 95852.2(b)(2).

This change removes emissions from natural gas hydrogen fuel cells from the list of emissions without a compliance obligation. The GHG emissions from natural gas hydrogen fuel cells have the same climate change impacts as emissions from other electricity generation methods, and all of these generation methods should be treated equally under the Program. Emissions from natural gas hydrogen fuel cells will begin incurring a compliance obligation in the third compliance period.

#### Summary of Section 95852.2(b)(3)-(13) [New Section 95852.2(b)(2)-(12)].

These paragraphs are renumbered.

#### Rationale for Section 95852.2(b)(3)-(13) [New Section 95852.2(b)(2)-(12)].

This change is needed because paragraphs 95852.2(b)(2) is deleted, so the subsequent sections must be renumbered.

#### Summary of Section 95852.2(b)(7) [New Section 95852.2(b)(5)].

This paragraph is changed to remove emissions from low-bleed pneumatic devices from the list of emissions without a compliance obligation beginning in 2019.

#### Rationale for Section 95852.2(b)(7) [New Section 95852.2(b)(5)].

The original exemption for low-bleed pneumatic devices was put in place to incentivize their use over high-bleed pneumatic devices. ARB's Regulation for

Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (Oil and Gas Regulation), if and when it is adopted, will require the use of no-bleed pneumatic devices, and it will allow low-bleed devices that were installed before January 1, 2015 to recognize the investment made in response to the Cap-and-Trade Program exemption. The requirement to use no-bleed devices by the Oil and Gas Regulation obviates the need to incentivize low-bleed devices.

Summary of Section 95852.2(b)(8) [New Section 95852.2(b)(6)].

This change removes emissions from high-bleed pneumatic devices from the list of emissions without a compliance obligation. It also adds emissions from intermittent-bleed pneumatic devices to the list of emissions without a compliance obligation beginning January 1, 2019.

Rationale for Section 95852.2(b)(8) [New Section 95852.2(b)(6)].

Emissions from high-bleed pneumatic devices began incurring a compliance obligation at the start of the second compliance period, and these emissions will continue to incur a compliance obligation in future compliance periods. Emissions from continuous low-bleed pneumatic devices will incur a compliance obligation beginning 2019. The emissions exemption for intermediate low-bleed pneumatic devices is added because these emissions cannot be quantified with the accuracy needed for inclusion in the Program.

Summary of New Section 95852.2(b)(12).

Emissions of carbon dioxide from fermentation during the production of food and beverages are added to the list of emissions without a compliance obligation.

Rationale for New Section 95852.2(b)(12).

This new paragraph clarifies that carbon dioxide produced by fermentation during the production of food and beverages does not incur a compliance obligation, as those emissions are considered to be biogenic.

**Section 95853. Calculation of Covered Entity’s Triennial Compliance Obligation.**

Summary of Section 95853.

The word “triennial” is changed to “full compliance period” in the heading of this section.

Rationale for Section 95853.

This change is needed because some future compliance periods may have durations that are different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95853(a).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95853(a).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95853(b).

Text that refers to three-year compliance period is made more general in order to accommodate compliance periods that are not triennial.

Rationale for Section 95853(b).

These changes are needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95853(c).

The word “triennial” is changed to “full compliance period.” Text is further modified to accommodate compliance periods with durations different than three years.

Rationale for Section 95853(c).

These changes is needed because some future and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95853(d).

Existing text referring only to the first compliance period is removed. A reference to the third year of a compliance period is changed to refer to the final year of a compliance period. In two instances, the word “triennial” is changed to “full compliance period.”

Rationale for Section 95853(d).

Existing text referring to the first compliance period is outdated and is removed for clarity. The change from “third” to “final” is needed to preserve the existing treatment of new emitters given the change to variable compliance period length.

The changes from “triennial” to “full compliance period” are needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95853(e).

This section is deleted.

Rationale for Section 95853(e).

This section only deals with allocation prior to 2017, so it is no longer needed.

**Section 95856. Timely Surrender of Compliance Instruments by a Covered Entity.**

Summary of Section 95856(a).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(a).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(b)(2).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(b)(2).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(b)(2)(A).

The list of allowances exempt from the vintage restriction on the use of allowances for compliance is modified to include non-vintage compliance instruments from California or by any external GHG ETS to which California has linked pursuant to subarticle 12. The specific list replaces in part a reference to section 95821(a).

Rationale for Section 95856(b)(2)(A).

The changes are needed to clarify the list of instruments to which the vintage restriction does not apply, especially when additional such instruments are available due to linkage. Replacing the reference to section 95821(a) with an explicit list should clarify the application of the vintage restriction.

Summary of Section 95856(d)(3).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(d)(3).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(e).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(e).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(e)(1).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(1)(1).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(f).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(f).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(f)(1).

In two instances, the word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(f)(1).

These changes are needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(f)(2).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(f)(2).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(f)(3).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(f)(3).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(g)(1).

In two instances, the word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(g)(1).

These changes are needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(h).

The word “Triennial” is changed to “Full Compliance Period.”

Rationale for Section 95856(h).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(h)(1)(A).

The reference to “section 95855” is changed to “section 95854.”

Rationale for Section 95856(h)(1)(A).

This change is made because the previous reference was incorrect. Section 95854 describes the usage limits for offset credits.

Summary of Section 95856(h)(1)(D).

References to other sections of the Regulation are modified or eliminated.



Rationale for Section 95856(h)(1)(D).

This change is needed because sections 95891(c)(2), 95891(d), 95891(e)(1), and 95894(d) have been deleted, so references to these sections must be eliminated. Sections subsequent to the deleted sections must be renumbered, so references to those subsequent sections must be updated.

Summary of Section 95856(h)(2).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95856(h)(2).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95856(h)(2)(D).

The word “triennial” is changed to “full compliance period.” Also, references to other sections of the Regulation are modified or eliminated.

Rationale for Section 95856(h)(2)(D).

The word “triennial” is changed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan. References to other sections of the Regulation are modified because sections 95891(c)(2), 95891(d), 95891(e)(1), and 95894(d) have been deleted, so references to these sections must be eliminated. Sections subsequent to the deleted sections must be renumbered, so references to those subsequent sections must be updated.

Summary of Section 95856(h)(3).

References to other sections of the Regulation are modified or eliminated.

Rationale for Section 95856(h)(3).

This change is needed because sections 95891(c)(2), 95891(d), 95891(e)(1), and 95894(d) have been deleted, so references to these sections must be eliminated. Sections subsequent to the deleted sections must be renumbered, so references to those subsequent sections must be updated.

**Section 95857. Untimely Surrender of Compliance Instruments by a Covered Entity.**

Summary of Section 95857(a)(1).

The word “triennial” is changed to “full compliance period.”

Rationale for Section 95857(a)(1).

This change is needed because some future compliance periods may have durations different than three years in order to align compliance period start and end dates in the Cap-and-Trade Program with those established in the federal Clean Power Plan.

Summary of Section 95857(b).

New text provides a definition of the untimely surrender obligation and explains that the untimely surrender obligation replaces any unfulfilled part of the entity's annual or full compliance period obligations.

Rationale for Section 95857(b).

The change is needed because section 95857(b) provided a method of calculating the untimely surrender obligation, but it did not provide an explanation of the process.

Summary of Section 95857(b)(5).

Existing text explaining the application of the offset use limit to the untimely surrender obligation is eliminated. The proposed text gives an explanation of how the use limit is calculated when there is an untimely surrender obligation. The proposed text requires that the sum of the offsets submitted prior to the original compliance deadline, plus any offsets submitted as part of the untimely surrender obligation, must be less than or equal to the number of offsets that can be submitted when the limit is applied to the entity's compliance period obligation.

Rationale for Section 95857(b)(5).

The change is needed to clarify that the offset use limit is calculated based on the entity's compliance period obligation but applies to all offsets submitted for the timely and untimely surrender obligations.

Summary of Section 95857(c)(3).

The proposed change removes the explanation that an untimely surrender obligation only applies once for each untimely surrender occurrence.

Rationale for Section 95857(c)(3).

The change is needed to be consistent with the calculation of a new untimely surrender obligation in section 95857(c)(2). After that calculation no further untimely surrender obligation is made.

**Section 95858. Compliance Obligation for Under-Reporting in a Previous Compliance Period.**

Summary of Section 95858.

The proposed change broadens the meaning of the section. The existing text appears to make section 95858 apply only after the entity surrenders compliance instruments pursuant to section 95856, which governs timely surrender. The proposed change would make section 95858 apply after the requirements of section 95856 or section 95857 are completed.

Rationale for Section 95858.

The change is needed to determine the timing for application of the provisions for under-reporting.

Summary of Section 95858(a).

Two references to section 95855 are added.

Rationale for Section 95858(a).

The change is needed to clarify that the provisions on under-reporting emissions apply to both the annual and compliance period obligations.

Summary of Section 95858(b).

Two references to section 95855 are added. Single quotation marks around the defined variables are replaced with double quotation marks.

Rationale for Section 95858(b).

The added reference to section 95855 is needed to clarify that the provisions on under-reporting apply to both the annual and compliance period obligations. The quotation marks are changed so the formatting of these variable definitions is consistent with the formatting in other sections of the Regulation.

Summary of Section 95858(c).

The proposed modification changes the deadline by which an entity must surrender additional compliance instruments after it has been notified that it has under-reported. The existing deadline is six months after the entity has been notified by the Executive Officer of the deficiency. The proposed text would require the additional compliance instruments to be surrendered at the next scheduled compliance event, and that the provisions of section 95857 and 96014 governing noncompliance would not apply until after that date.

In addition, the compliance instruments surrendered would be governed under the existing rules that determine which types and vintages of instruments may be surrendered at the event.

The proposed change would remove the ability of an entity to apply any future vintage allowances towards its compliance obligation. However, since the entity can now use compliance instruments valid at the surrender event, the entity could use compliance instruments from a vintage later than the years

during which it created the compliance obligation. These vintages would not have been allowed if the entity had reported correctly. This would allow the entity to use the allowances sold at the Current Auction in the year when the under-reporting obligation is due.

Rationale for Section 95858(c).

The modification would allow the additional surrender obligation to be achieved the next time the activity is scheduled to occur in CITSS, rather than add an extra event. The change is also needed to clarify which compliance instruments can be surrendered by applying the provisions of section 95856. Finally, the use of any future vintage for compliance with an under-reporting obligation should be dropped because it constitutes a form of borrowing. The replacement provision, which allows the use of allowances available to the entity at the Current Auction, should provide a reasonable supply without constituting borrowing.

Summary of Section 95858(d).

The proposed modification would remove a reference to compliance periods from the determination of under-reported emissions. The effect of the change is to extend the provisions to under-reporting of emissions that count towards the annual compliance obligation.

Rationale for Section 95858(d).

The change is needed to clarify that the under-reporting provision applies to annual as well as full compliance period obligations.

**Section 95859. Federal Clean Power Plan Requirements.**

Summary of New Section 95859.

This new section establishes new requirements for electricity generating units so that the Cap-and-Trade Program can serve as the mechanism for the State's compliance with the federal Clean Power Plan (CPP).

Rationale New for Section 95859.

California proposes to use a "State measures" approach with mass-based emissions limits on electricity generating units affected by CPP (affected EGUs) to demonstrate the State's compliance with CPP. New section 95859 meets the requirements of CPP by making clear that Cap-and-Trade Program compliance is required for affected EGUs, including compliance with relevant reporting and verification requirements, setting an emissions glidepath for aggregate CPP EGU emissions, and establishing a federally enforceable backstop.

Summary of New Section 95859(a).

This new paragraph defines the federal Clean Power Plan (CPP) and provides the reference to CPP in the Code of Federal Regulations.

Rationale for New Section 95859(a).

This paragraph provides reference to CPP, which establishes all of the requirements placed on the State by the federal Clean Power Plan. Among other requirements, CPP defines affected EGUs, establishes a statewide aggregate emissions target for all affected EGUs for the eight-year period 2022 through 2029, establishes a statewide aggregate emissions target for all affected EGUs for the two-year period 2030 through 2031 and for each two-year period thereafter, and defines the requirements that states must meet to comply with CPP.

Summary of New Section 95859(b).

This new paragraph defines the general requirements for affected EGUs located in California. By January 1, 2021, all affected EGUs must register in the Cap-and-Trade Program, report and verify emissions, and meet their compliance obligations in the Program by the timely surrender of sufficient allowances.

Rationale for New Section 95859(b).

Compliance with the Cap-and-Trade Program is the standard that must be met by affected EGUs in California under CPP. Affected EGUs with emissions below the Cap-and-Trade Program applicability threshold of 25,000 MMTCO<sub>2e</sub> must register and participate in the Program.

Summary of New Section 95859(c).

This new paragraph requires the Executive Officer to compare aggregate emissions for all affected EGUs for a compliance period to the established backstop trigger threshold for the compliance period and to notify U.S. EPA if the aggregate emissions exceed the backstop trigger. The comparison and notification must be done within six months of the end of the compliance period.

Rationale for New Section 95859(c).

This new paragraph satisfies the requirements of 40 C.F.R. section 60.5870(b) of CPP that, no later than July 1 of the year following a compliance period, each State provide a report to U.S. EPA that includes a comparison of the actual affected EGU emission performance to the emission goal for the compliance period that is identified in the State plan.

Summary of New Section 95859(d).

This new paragraph describes a triggering event that activates a backstop provision for affected EGUs if aggregate emissions for all affected EGUs for a

compliance period exceed the interim emission target identified in the State plan more than ten percent.

Rationale for New Section 95859(d).

This new paragraph satisfies the requirement of 40 C.F.R. section 60.5740(a)(3)(i) of CPP that a CPP compliance plan relying on a “State measures” approach include a federally enforceable backstop with emission standards consistent with CPP target levels for affected EGUs that includes a trigger that initiates the backstop going into effect.

Summary of New Section 95859(e).

This new section establishes a backstop provision with emissions standards for affected EGUs if aggregate emissions for all affected EGUs for a compliance period exceed the interim emission target identified in the State plan more than ten percent.

Rationale for New Section 95859(e).

This new paragraph satisfies the requirement of 40 C.F.R. section 60.5740(a)(3) of CPP that a CPP compliance plan relying on a “State measures” approach include a federally enforceable backstop with emission standards for affected EGUs that will be put in place if aggregate affected EGU emissions exceed the interim emission target identified in the State plan more than ten percent.

Summary of New Section 95859(e)(1).

This new paragraph establishes a new holding account, the Clean Power Plan Backstop (CPPB) Account, under the control of the Executive Officer, and it provides authority to transfer CPP allowances to and from the account as needed.

Rationale for New Section 95859(e)(1).

The new CPPB Account is needed to execute the CPP backstop in the event that the backstop is triggered. It is a holding account under the control of the Executive Officer that is only created if the CPP backstop is triggered. Only CPPB allowances may be held in the CPPB Account.

Summary of New Section 95859(e)(2).

This new paragraph allows the Executive Officer to create CPP allowances that are needed to execute the CPP backstop in the event that the backstop is triggered. CPP allowance availability is limited to entities with at least one affected EGU located in California.

Rationale for New Section 95859(e)(2).

The newly created CPP allowances are compliance instruments that are only created if the CPP backstop is activated for a compliance period. CPP

allowances are available only to entities with at least one affected EGU located in California because these are the only entities that are subject to CPP and potentially subject to the CPP backstop.

Summary of New Section 95859(e)(3).

This new paragraph establishes a compliance obligation for each metric ton of emissions from each affected EGU during a backstop compliance period, which is a compliance period immediately following a triggering compliance period in which the aggregate affected EGU sector emissions exceeded the CPP backstop trigger.

Rationale for New Section 95859(e)(3).

The new CPPB backstop compliance obligations are needed to execute the CPP backstop in the event that the backstop is triggered. The CPP backstop compliance obligation applies only to affected EGUs, and it is separate and distinct from the compliance obligation established by California's Cap-and-Trade Program.

Summary of New Section 95859(e)(4).

This new paragraph provides equations that establish the quantity of CPP allowances to be created by the Executive Officer for the backstop compliance period if the CPP backstop is activated by a triggering compliance period. The quantity of CPP allowances created is set equal to the original interim target for the backstop compliance period that is identified in the State plan minus the amount by which aggregate emissions exceeded the original target in the triggering compliance period. The CPP allowances are created by October 24 of the year following the triggering compliance period.

Rationale for New Section 95859(e)(4).

The quantity of CPP allowances created establishes the level of the CPP backstop; this is the emission standard that is put in place if the CPP backstop is triggered. The quantity of CPP allowances is set at a level that ensures aggregate emissions from affected EGUs during the backstop compliance period will be below the interim emission target identified in the State plan by an amount that is equal to the emission exceedance in the triggering compliance period. The quantity is set at this level to meet the CPP 40 C.F.R. section 60.5740(a)(3) requirement that affected EGU emissions standards be restored to federal target levels, as adjusted to make up for prior emissions performance shortfalls. The quantity of CPP allowances created is set so that the emissions performance shortfall during the triggering compliance is entirely made up in the backstop compliance period in order to meet the CPP 40 C.F.R. section 60.5740(a)(3) requirement that the shortfall be restored with 18 months of the July 1 notification to U.S. EPA that the aggregate emissions exceed the backstop trigger in the triggering compliance period. The CPP allowances are



created by October 24 of the year following the triggering compliance period so that they are available for allocation to affected EGUs by that date.

Summary of New Section 95859(e)(5).

This new paragraph provides the equation used to calculate the number of CPP allowances allocated to each affected EGU for the backstop compliance period. The CPP allowance allocation to each affected EGU is directly proportional to the emissions level of that affected EGU during the triggering compliance period. Allocation of CPP allowances occurs by October 24 of the year following the triggering compliance period.

Rationale for New Section 95859(e)(5).

The level of CPP allowance allocation to each affected EGU is directly proportional to the emissions level of that affected EGU during the triggering compliance period to ensure that the level of CPP allowances provided to each affected EGU are sufficient to reflect operating conditions at the time of allocation, based on previous years' performance. The CPP allowances are allocated to each affected EGU by October 24 of the year following the triggering compliance period, a date that is at least two years prior to the deadline for timely surrender of the CPP allowances in order to meet the CPP backstop compliance obligation.

Summary of New Section 95859(e)(6).

This new paragraph allows for the trading of CPP allowances among entities that own or operate affected EGUs located in California and that are registered in the Program. Trading of CPP allowances is subject to the same requirements and restrictions as the trading of compliance instruments in California's Cap-and-Trade Program.

Rationale for New Section 95859(e)(6).

Trading of CPP allowances among affected EGUs provides these entities some flexibility in meeting their CPP backstop compliance obligations and recognizes that the need to dispatch EGUs to address electricity demand may lead future performance to diverge from past unit behavior. Affected EGUs that are able to reduce emissions during the backstop compliance period will require less CPP allowances to meet their CPP backstop compliance obligation, and they may sell CPP allowances to affected EGUs that are less able to reduce emissions. Trading of CPP allowances is restricted to affected EGUs because CPP allowances are only available to entities that own or operate affected EGUs located in California. The same requirements and restrictions for the trading of compliance instruments in California's Cap-and-Trade Program are applied to the trading of CPP allowances because these rules have proven to provide for a fair and well-functioning market for trading allowances in the Cap-and-Trade Program.

#### Summary of New Section 95859(e)(7).

This new paragraph establishes the requirements for each entity that owns or operates at least one affected EGU to meet its CPP backstop compliance obligation by surrendering CPP allowances to its compliance account. One CPP allowance must be surrendered for each metric ton of emissions in the backstop compliance period. The CPP allowances must be surrendered by November 1 of the calendar year following the final year of the backstop compliance period.

#### Rationale for New Section 95859(e)(7).

By requiring one CPP allowance must be surrendered for each metric ton of emissions in the backstop compliance period, this requirement connects the number of CPP allowances created for the backstop compliance period to the aggregate emissions from affected EGUs in the backstop compliance period. Activation of the CPP backstop will reduce aggregate emissions from affected EGUs in the backstop compliance period to a level that is sufficiently below the interim emissions target so that the prior emissions performance shortfall will be completely made up in the backstop compliance period. The compliance deadline of November 1 in the calendar year following the final year of the backstop compliance period aligns with the deadline for meeting full compliance period compliance obligations in the Cap-and-Trade Program.

#### Summary of New Section 95859(e)(8).

This new paragraph gives the Executive Officer the authority to retire any CPP allowances that are not used by affected EGUs to meet a CPP backstop compliance obligation after the deadline for compliance has passed.

#### Rationale for New Section 95859(e)(8).

This new paragraph is needed to provide a mechanism for retiring unused CPP allowances in the event that the actual aggregate emissions from affected EGUs during the backstop compliance period are less than the number of allowances transferred to the CPPB Account for the backstop compliance period. And, ARB does not intend for unused CPP allowances to be available for trading or banking as these allowances are to serve a specific purpose and are not a necessary part of the economy-wide Cap-and-Trade Program.

### **Subarticle 8: Disposition of Allowances**

#### **Section 95870. Disposition of Allowances.**

##### Summary of Section 95870.

The heading of this section is changed to indicate that this section applies to only the years 2013 through 2020.

Rationale for Section 95870.

New section 95871 will cover the disposition of vintage 2021-2031 allowances, so the heading of this section needs to be changed to distinguish this section and to indicate that it applies only to vintage 2013-2020 allowances.

Summary of Section 95870(d)(1).

The text is changed to allow the Executive Officer to allocate allowances to electrical distribution utilities on or before October 24 of each year, and not only on October 24. The phrase “or the first business day thereafter” is deleted. The text is modified to specify to which accounts the Executive Officer transfers allowances and references the appropriate section of the EDU allocation.

Rationale for Section 95870(d)(1).

These changes provide greater flexibility in the date on which allowance allocation to electrical distribution utilities can occur, and to align with the timing of almost all other types of allocation. The phrase “or the first business day thereafter” is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code.

In general, all allocated allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Investor owned utilities receive all allocated allowances into their limited use holding account. Publicly owned electric utilities and electrical cooperatives receive all allocated allowances into their allowance allocation holding account and/or limited use holding account. All allowances in the allowance allocation holding account are transferred to the entity’s compliance account by the Executive Officer on January 1 of the vintage year of the allowances. Each publicly owned electric utility and electrical cooperative must inform the Executive Officer by September 1 of the accounts into which the Executive Officer shall allocate allowances, or by default the allowances are transferred to their limited use holding account.

Summary of Section 95870(d)(2).

Some text is changed from “on or before” to “by,” and the phrase “or the first business day thereafter” is deleted. The text is also modified to state that the Executive Officer shall allocate allowance into the entity’s annual allocation holding account.

Rationale for Section 95870(d)(2).

The first change simplifies the language without changing the meaning. The phrase “or the first business day thereafter” is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code.

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Public wholesale water agencies receive all allocated allowances into their allowance allocation holding account. All allowances in the allowance allocation holding account are transferred to the entity's compliance account by the Executive Officer on January 1 of the vintage year of the allowances.

Summary of Section 95870(e)(1).

Some text is changed from "on or before" to "by," and the phrase "or the first business day thereafter" is deleted. Also some redundant text is deleted.

Rationale for Section 95870(e)(1).

The first change simplifies the language without changing the meaning. The phrase "or the first business day thereafter" is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code. Some text is deleted because it inadvertently appears twice in the same sentence and is redundant.

Summary of Section 95870(e)(2)(A).

A reference to new Table 8-3 is added.

Rationale for Section 95870(e)(2)(A).

New Table 8-3 lists the industrial activities that are eligible for free industrial allowance allocation after 2020. New Table 8-3 will also provide the assistance factors used to calculate allowance allocation for these industrial activities after 2020. New Table 8-3 will provide industrial activities and assistance factors for allowance allocation in the post-2020 Program in the same way that Table 8-1 provides that information for the years 2013 through 2020.

Summary of Section 95870(e)(2)(A).

This paragraph is deleted.

Rationale for Section 95870(e)(2)(A).

This paragraph describes allowance allocation to the refining sector in the first compliance period. Because this paragraph only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95870(e)(2)(B).

This paragraph is deleted.

Rationale for Section 95870(e)(2)(B).

This text can be deleted because it is redundant. Allowance allocation to the refining sector in the second and third compliance periods is covered by paragraph 95870(e)(2), which specifies that sectors with an industrial activity

listed in Table 8-1 use the methodology set forth in section 95891. This is the same general approach as for all other industrial sector listed in Table 8-1.

Summary of Section 95870(e)(3).

The text is modified to include references to university covered entities and public service facilities allocation and to natural gas supplier allocation in sections 95870(f) and (h).

Rationale for Section 95870(e)(3).

Total industrial allowance allocation shall not exceed the available allowances remaining after allowance allocations for ratepayer benefit are distributed. Allocation to university covered entities and public service facilities and to natural gas suppliers were inadvertently omitted from the list of other allowance allocations that should be considered when evaluating the available amount of allowances. The new text aligns the Regulation with the intent that allocation that is distributed for ratepayer benefit shall occur first, and if not enough allowances are available to allocate to the full extent of industrial allocation calculated pursuant to section 95891, industrial allowance allocation shall be prorated.

Summary of Section 95870(e)(4).

The reference to section 95891(f) is changed to section 95891(e).

Rationale for Section 95870(e)(4).

This change is needed because section 95891(d) has been deleted, and the subsequent sections have been renumbered.

Summary of Section 95870(e)(5).

This paragraph is deleted.

Rationale for Section 95870(e)(5).

The deleted text describes true-up allowance allocation to producers of qualified thermal output in the first compliance period. Text only dealing with allocation in the past is no longer needed and can be eliminated. Text dealing with true-up allowance allocation for the second and third compliance periods is covered by text in section 95852(j).

Summary of Section 95870(e)(6).

This paragraph is deleted.

Rationale for Section 95870(e)(6).

This paragraph describes true-up allowance allocation producers of qualified thermal output in the first compliance period. Because this text only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95870(f).

Text describing true-up allowance allocation to university covered entities and public service facilities in the first compliance period is deleted. Some text is changed from “on or before” to “by,” and the phrase “or the first business day thereafter” is deleted. The reference to section 95891(f) is changed to section 95891(e). Also, the hyphen is removed from the word “publicly-owned.”

Rationale for Section 95870(f).

Text that describes true-up allowance allocation to university covered entities and public service facilities in the first compliance period only deals with allocation in the past, so it is no longer needed and can be eliminated. The change of “on or before” to “by” simplifies the language without changing the meaning. The phrase “or the first business day thereafter” is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code. The change in the reference to section 95891(f) is needed because section 95891(d) has been deleted, and the subsequent sections have been renumbered. The hyphen is removed from the word “publicly-owned” to make it consistent with other usage in the Regulation.

Summary of Section 95870(g)(1).

This paragraph is deleted.

Rationale for Section 95870(g)(1).

This paragraph describes true-up allowance allocation to legacy contract generators prior to 2017. Because this text only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95870(g)(2) [New Section 95870(g)].

Words that were unintentionally omitted in the previous version of the Regulation are inserted into the text.

Rationale for Section 95870(g)(2) [New Section 95870(g)].

This change is needed to correct typographical errors without changing the meaning of the text.

Summary of Section 95870(h).

The text is changed to allow the Executive Officer to allocate allowances to natural gas suppliers on or before October 24 of each year, and not only on October 24. The phrase “or the first business day thereafter” is deleted. The text is modified to specify to which accounts the Executive Officer transfers allowances and references the appropriate section of the natural gas supplier allocation.

Rationale for Section 95870(h).

These changes provide greater flexibility in the date on which allowance allocation to natural gas suppliers can occur, and aligns this date for natural gas supplier allocation with almost all other allocation dates. The phrase “or the first business day thereafter” is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code.

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Natural gas suppliers receive all allocated allowances into their allowance allocation holding account and/or limited use holding account. All allowances in the allowance allocation holding account are transferred to the entity’s compliance account by the Executive Officer on January 1 of the vintage year of the allowances. Each natural gas supplier must inform the Executive Officer by September 1 of the accounts into which the Executive Officer shall allocate allowances, or by default they are all placed into their limited use holding account.

Summary of Section 95870(j).

This paragraph is deleted and moved to section 95890.

Rationale for Section 95870(j).

This section is moved to section 95890 because that is a more appropriate part of the Regulation to discuss negative allocation.

Summary of Section 95870, Table 8-1.

The activities “Other Food Crops Grown Under Cover” (NAICS code 111419), “Wet Corn Milling” (NAICS code (311221), “Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing” (NAICS code 325194), and “Automobile Manufacturing” (NAICS code 336111) are added to Table 8-1. Assistance factors for new manufacturing activities (i.e., have NAICS codes that start with a “3”) are set equal to 100 percent for the first and second compliance periods. Assistance factors for all new non-manufacturing activities are listed as “tbd” for the first two compliance periods. In the absence of complete information on leakage risk, the newly added activities are listed without a leakage risk category, and the third compliance period assistance factors for these activities are listed as “tbd.” A footnote is added to the table that states that staff may propose a change to leakage risk classification and assistance factors listed as “tbd” as part of this rulemaking process, and that any change that is proposed will be circulated for a 15-day public comment period.

The title of Table 8-1 is changed to include the dates 2013-2020, and the word “Industry” is deleted from the heading of the final columns.



Rationale for Section 95870, Table 8-1.

New activities are added to Table 8-1 because facilities that are newly covered by the Program operate in these sectors, and assistance factors are needed to provide allowance allocation to covered sectors which are at risk of emissions leakage. Assistance factors for the new manufacturing activities (i.e., have NAICS codes that start with a “3”) are assigned assistance factors equal to 100 percent for the first and second compliance periods in accordance with other industrial sectors. First and second compliance period assistance factors for “Other Food Crops Grown Under Cover” (NAICS code 111419) are not proposed because this sector is not clearly industrial and an emissions leakage risk assessment is needed before staff can determine if allowance allocation is necessary. The “td” entries in Table 8-1 indicate that leakage risk classifications and assistance factors for these sectors are yet to be determined; when complete information is available, staff will follow the leakage assessment method described in Appendix K to the 2010 Regulation (ARB 2010c) to determine the assistance factors for these sectors. Any proposed revision will be circulated for a 15-day comment period during this rulemaking and prior to final consideration of the amendments by the Board.

The title of Table 8-1 is changed to distinguish it from new Table 8-3. Table 8-1 provides assistance factors by industrial activity for the years 2013 through 2020, and new Table 8-3 will provide the same information for the post-2020 Program.

**New Section 95871. Disposition of Vintage 2021-2031 Allowances.**

Summary of New Section 95871(a).

New text establishes the number of the allowances from budget years 2021-2031 that will be allocated the Allowance Price Containment Reserve (APCR). New Table 8-2 specifies the number of allowances allocated to the APCR for each budget year from 2021 through 2031.

Rationale for New Section 95871(a).

The APCR is extended for the post-2020 Program. The amount of allowances placed into the APCR for each budget year is set at a level that aims to be large enough to provide effective cost-containment and small enough to avoid constraining the availability of allowances in the market

Summary of New Section 95871(b)(1)-(3).

New text continues current provisions to make ten percent of allowances from each budget year available for advance auction for budget years 2021-2031, and describes how auctions not sold at the Advance Auction will be auctioned. New text also continues current provisions that require the proceeds from the sale of these allowances in advance auctions will be deposited into the Greenhouse Gas Reduction Fund.

Rationale for New Section 95871(b)(1)-(3).

This new text continues the advanced auction provisions that are in place for budget years through 2020 to the future budget years 2021-2031. Staff does not have a compelling reason to change these provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(c)(1).

New text continues current general provisions that describe the account types and dates for annual allowance allocation to electrical distribution utilities for the budget year 2021 and beyond.

Rationale for New Section 95871(c)(1).

This new text continues provisions for the annual allocation of allowances to electrical distribution utilities that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(c)(2).

New text continues current provisions for annual allocation of allowances to public wholesale water agency for the budget year 2021 and beyond.

Rationale for New Section 95871(c)(2).

This new text continues provisions for the annual allocation of allowances to public wholesale water agencies that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(d)(1)-(4).

New text continues current provisions for annual allocation of allowances to industrial covered entities for the budget year 2021 and beyond.

Rationale for New Section 95871(d)(1)-(4).

This new text continues the general provisions for the annual allocation of allowances to industrial covered entities that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these general provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(e).

New text continues current provisions for annual allocation of allowances to university covered entities and public service facilities for the budget year 2021 and beyond.

Rationale for New Section 95871(e).

This new text continues the general provisions for the annual allocation of allowances to university covered entities and public service facilities that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these general provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(f).

New text continues current and proposed provisions for annual allocation of allowances to legacy contract generators for the budget year 2021 and beyond.

Rationale for New Section 95871(f).

This new text continues the general and newly proposed provisions for the annual allocation of allowances to legacy contract generators that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these general provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(g).

New text continues current provisions for annual allocation of allowances to natural gas suppliers for the budget year 2021 and beyond.

Rationale for New Section 95871(g).

This new text continues the general provisions for the annual allocation of allowances to natural gas suppliers that are in place for budget years through 2020 to future budget years after 2020. Staff does not have a compelling reason to change these general provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871(h)(1).

New text continues the current provision that ten percent of allowances from each budget year that remain after allocation of allowances to the APCR are eligible to be sold at a specified Reserve sale if the number of accepted bids exceeds the number of allowances in the Reserve.

Rationale for New Section 95871(h)(1).

This new text continues the provision that is in place for budget years 2013-2020 that some allowances that remain after allocation to the APCR is complete for a budget year are eligible to be sold in a specified Reserve sale pursuant to section 95913(f)(5). Staff does not have a compelling reason to change this general provision for future budget years, so the provision remains the same.

Summary of New Section 95871(h)(2).

New text continues the current provisions that are in place for budget years 2013-2020 that all remaining allowances not allocated for specified uses are designated for sale at auction and that the proceeds from the sale of these allowances are deposited into the Greenhouse Gas Reduction Fund.

Rationale for New Section 95871(h)(2).

This new text continues the current provisions that are in place for budget years 2013-2020 for the designation of allowances for sale at auction and the designation of auction proceeds to future budget years after 2020. Staff does not have a compelling reason to change these general provisions for future budget years, so the provisions remain the same.

Summary of New Section 95871, New Table 8-2.

New Table 8-2 sets the number of allowances allocated to the Allowance Price Containment Reserve (APCR) for budget years 2021 to 2031.

Rationale for New Section 95871, New Table 8-2.

The number of allowances allocated to the APCR from each budget year from 2021 to 2030 is calculated as the difference between the annual budgets for that year set by two different linear paths to the 2030 cap of 200.5 MMTCO<sub>2</sub>e. The first emissions path charts a linear decline from 334.2 MMTCO<sub>2</sub>e in 2020; this is the path of the allowance budgets in Table 6-2 of the Regulation. The second emissions path charts a linear decline from 322.6 MMTCO<sub>2</sub>e in 2020. The annual number of allowances allocated to the APCR decreases each year from 2021 to 2030, and no allowances are allocated to the APCR as the linear paths meet at 200.5 MMTCO<sub>2</sub>e in 2030. No allowances are allocated to the APCR from the 2031 budget year.

A total of 54.5 million allowances are proposed to be allocated to the APCR from 2021 to 2031. Staff expects the APCR to hold over 120 million allowances from the first three compliance periods at the start of 2021, and staff believes that this quantity, along with the additional 54.5 million allowances allocated to the APCR from 2021 to 2031, is sufficient to meet the cost containment needs of the Program over this time.

Summary of New Section 95871, New Table 8-3.

New Table 8-3 is added to establish the industrial activities that are eligible to receive allowance allocation for industrial leakage protection in the post-2020 Program. Specific assistance factors for each activity are not currently proposed, but notice is given that staff may propose assistance factors at a later time as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for New Section 95871, New Table 8-3.

The activities listed in new Table 8-3 are needed to define the industrial activities that facilities must conduct in order to be eligible for industrial allowance allocation in the post-2020 Program. The activities listed in Table 8-3 for the post-2020 Program are the same as the activities listed in Table 8-1 for the years 2013 through 2020.

The assistance factors in Table 8-3 will be needed to calculate industrial allowance allocation for the post-2020 Program. The notice that staff may propose assistance factors at a later time as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period permits future modifications to these assistance factors when complete information becomes available during 15-day regulatory changes.

**Subarticle 9: Direct Allocations of California GHG Allowances**

**Section 95890. General Provisions for Direct Allocations.**

Summary of Section 95890(a).

A reference to the new Table 8-3 is added.

Rationale for Section 95890(a).

To be eligible for industrial allowance allocation under the current Regulation, a covered entity must conduct an activity listed in Table 8-1. This change extends the existing eligibility requirements to the post-2020 Program by requiring that a covered entity must conduct an activity listed in Table 8-3 in order to be eligible for industrial allowance allocation after 2020.

Summary of Section 95890(c).

References to Table 9-3A and new Table 9-4 are added.

Rationale for Section 95890(c).

These changes are needed to continue the current requirements for electrical distribution utilities to receive allowance allocation both for the period 2016-2020 (Table 9-3A) and the post-2020 period (Table 9-A).

Summary of Section 95890(d).

The term "University Covered Entity" is changed to "university covered entity." The text that specifies eligibility is modified, and its location is moved.

Rationale for Section 95890(d).

Unnecessary capitalization is removed without changing the meaning of the paragraph. The text is also modified for clarity without changing any requirements.

Summary of Section 95890(e).

This section is amended to remove provisions relating to legacy contract generators without industrial counterparties.

Rationale for Section 95890(e).

Provisions relating to other legacy contract generators without industrial counterparties are no longer needed since they addressed allowance allocation for budget years 2017 and earlier.

Summary of Section 95890(h).

This section is amended to prevent a facility from receiving allocation both as a university or public service facility and as a legacy contract generator for post-2020 allocation.

Rationale for Section 95890(h).

This change extends the current prohibition on receiving allowance allocation as both a university or public service facility and a legacy contract transition assistance past 2020.

Summary of Section 95890(i).

This section is amended to add a reference to section 95871.

Rationale for Section 95890(i).

This change extends the existing provisions to allocations in 2021 and beyond, as described in section 95871.

Summary of Section 95890(j).

This paragraph is deleted from section 95870 and added here. The original text from section 95870 is also modified to include corporate associated entities in the application of a negative allocation to entity.

Rationale for Section 95890(j).

This section is moved from section 95870 and added here because section 95890 is a more appropriate part of the Regulation to discuss negative allocation. This modification also allows ARB to deduct allowances from a direct corporate associated entity if an entity's allowance allocation is negative. Treating entities that have a direct corporate association as one unit is consistent with the treatment of direct corporate associations elsewhere in the regulation. For instance, entities with direct corporate associations must share auction purchase limits and compliance instrument holding limits with each other. Similar to how these provisions treat direct corporate associated entities as a single unit, allowance deduction is also shared across direct corporate associations. ARB considers these provisions appropriate because the level of control associated with direct corporate associations is high enough that ARB presumes the entities coordinate market activities.

## **Section 95891. Allocation for Industry Assistance.**

### Summary of Section 95891(a).

This paragraph is amended to add a reference to the new Table 8-3 in two places.

### Rationale for Section 95891(a).

This change extends the existing provisions for determining industrial allowance allocation to 2021 and beyond. Table 8-3 lists eligible industrial activities and assistance factors for the post-2020 Program. Table 8-3 includes the same industrial activities as listed in Table 8-1 for the third compliance period, but Table 8-1 only applies to the years 2013 through 2020.

### Summary of Section 95891(a)(1).

This paragraph is deleted.

### Rationale for Section 95891(a)(1).

This paragraph describes allowance allocation to the refining sector in the first compliance period. Because this paragraph only deals with allocation in the past, it is no longer needed and can be eliminated.

### Summary of Section 95891(a)(2).

This paragraph is deleted.

### Rationale for Section 95891(a)(2).

This paragraph can be deleted because it is redundant and not needed. Petroleum refining appears in both Table 8-1 and Table 9-1, so allowance allocation to the refining sector in the second and third compliance periods (and subsequent compliance periods) is calculated by the product-based allocation methodology in section 95891(b).

### Summary of Section 95891(a)(3) [New Section 95891(a)(1)].

This paragraph is amended to remove the requirement that emissions be below the threshold prior to 2012. References to Table 8-3 are added and the reference to 95891(c)(3) is change to 95891(c)(2). The leakage risk classification described is changed from low to the lowest assistance factor above zero.

### Rationale for Section 95891(a)(3) [New Section 95891(a)(1)].

The requirement that emissions be below the threshold prior to 2012 is removed so that this section can fill the need to define a leakage risk category for new entrants that do not meet that requirement. References to Table 8-3 extend the existing provisions to 2021 and beyond. Changing the reference to 95891(c)(2) is necessary to update the reference to the new entrant energy-based allocation methodology. Changing the leakage risk classification is



necessary to accommodate changes to the leakage risk definitions, which no longer includes the category of “low.”

Summary of Section 95891(b).

Changes are made to clarify the overall product-based allowance allocation methodology without changing the methodology or calculation except for adding references to Table 8-3 and Table 9-2. Minor changes are made to clarify text and to correct typographical errors. A reference to the first compliance period refinery allowance allocation calculation in section 95891(d) is deleted from the definition of the variable “true-up<sub>t</sub>”. The proposed amendments also clarify that entities must plan to perform activity “a” in the budget year for which they are being allocated to be eligible for allocation from that budget year.

Rationale for Section 95891(b).

The variable “InitialAllocation<sub>t</sub>” is added and defined to clarify the overall product-based allowance allocation equation. Explicitly defining the initial allocation is not a substantive change; it only clarifies the portion of industrial allowance allocation that is provided in advance of the budget year and simplifies the overall product-based allowance allocation equation. References to Table 8-3 and Table 9-2 are needed to extend the product-based allowance allocation methodology to the post-2020 Program.

Because the first compliance period allowance allocation calculation for refineries is deleted from the Regulation, the reference to this section is deleted from the definition of the variable “true-up<sub>t</sub>.”

Clarification of the use of activity “a” in the InitialAllocation<sub>t</sub> equation is needed to ensure that, if an entity will not be performing an activity listed in Table 8-1 or 8-3 (as applicable) in year “t,” ARB cannot allocate allowances. This is because industrial allocation is distributed for leakage protection on the basis of performance of the listed activities.

Summary of Section 95891(b), Table 9-1.

Several changes to the product-based benchmarks in Table 9-1 are proposed. Some benchmarks are deleted from Table-9-1, some are being considered for re-calculation, some are consolidated, and one is added.

Product-based benchmarks are eliminated from Table 9-1 for the following industrial activities:

- Cream Processing (NAICS code 31151)
- Dairy Product Solids for Animal Feed Processing (NAICS code 31151)
- Pistachio Processing (NAICS code 311911)
- Almond Processing (NAICS code 311911)
- Bathroom Tissue Manufacturing (NAICS code 322121)

- Facial Tissue Manufacturing (NAICS code 322121)
- Delicate Task Wipers Manufacturing (NAICS code 322121)
- Paper Towel Manufacturing (NAICS code 322121)

Product-based benchmarks in Table 9-1 are being considered for re-calculation for the following industrial activities:

- Mining and Manufacturing of Soda Ash and Related Products (NAICS code 212391)
- Freshwater Diatomite Filter Aids Manufacturing (NAICS code 212399)
- Butter Processing (NAICS code 31151)
- Condensed Milk Processing (NAICS code 31151)
- Nonfat Dry Milk and Skimmed Milk Powder (Low Heat) Processing (NAICS code 31151)
- Nonfat Dry Milk and Skimmed Milk Powder (Medium Heat and High Heat) Processing (NAICS code 31151)
- Buttermilk Powder Processing (NAICS code 31151)
- Intermediate Dairy Ingredients Processing (NAICS code 31151)
- Nitric Acid Production (NAICS code 325311)
- Calcium Ammonium Nitrate Solution Production (NAICS code 325311)
- Lead Acid Battery Recycling (NAICS code 331492)
- Seamless Rolled Ring (NAICS code 332122)

Staff is reviewing the benchmarks for the products listed in Table 9-1 and may propose revisions to these benchmarks as a result. Any proposed revision would be circulated for a 15-day comment period during this rulemaking and prior to final consideration of the amendments by the Board.

The benchmarks for Milk, Buttermilk, Skim Milk, and Ultrafiltered Milk Processing and Cream Processing that are under NAICS code 31151 will be consolidated into a single benchmark for Fluid Milk Product Processing.

Also, new entries are added to Table 9-1 for the activity sulfuric acid regeneration under NAICS code 325188, and the activity anhydrous milkfat processing under NAICS code 31151.

Rationale for Section 95891(b), Table 9-1.

The benchmarks for dairy product manufacturing (NAICS code 31151) are eliminated, consolidated, and under consideration for re-calculation in order to streamline product data reporting and verification in this sector and to simplify the allocation process. Staff is working with industry to structure these benchmarks in a way that better reflects the emissions and production at California facilities. The fluid milk sector has also asked staff to calculate a benchmark for production of anhydrous milkfat.

The benchmarks for pistachio production and almond production are eliminated because emissions per unit of product are highly variable. The 311911 NAICS code benchmarks are proposed to be eliminated because the water content of the roasted nuts varies so greatly year-to-year, and the resultant energy required to roast the nuts varies so greatly, that staff are not able to calculate product benchmarks that accurately reflect the energy required to process the nuts. Requiring the nuts processors to calculate the initial water content of their processed nuts would administratively burdensome. Further, there are no longer any covered entities that conduct this activity. In the future, covered entities that conduct this activity will receive allowance allocation under the energy-based methodology.

The benchmarks for bathroom tissue manufacturing, facial tissue manufacturing, delicate task wipers manufacturing, and paper towel manufacturing are being proposed for elimination because of technical challenges to developing product-based benchmarks. In this context, staff believes that an energy-based benchmark is preferable because of challenges in the continued validation of the relationship between the water absorbency factors in the current Regulation and the amount of product per use using available data specific to the products manufactured by California covered entities. Allowance allocation for the entities conducting these activities will be calculated under the energy-based allocation methodology beginning in the third compliance period.

The benchmarks for calcium ammonium nitrate solution and nitric acid production are considered for re-calculation because emissions are highly variable for these processes and staff questions the reliability and accuracy of the data used to calculate the current benchmarks.

The benchmarks for seamless rolled ring and lead acid battery recycling are considered for re-calculation to reflect changes in the facility makeup of these sectors.

In general, several proposed amendments note that benchmarks may be modified later during the rulemaking process. Staff is considering changes to these benchmarks, but staff does not yet have complete data to re-calculate and propose new benchmarks for these sectors. The proposed amendments flag these benchmarks for possible 15-day changes if needed.

The new sulfuric acid regeneration benchmark is added because some non-refineries perform this activity and receive allowance allocation using an energy-based methodology, and refineries performing this same activity receive allowance allocation using a product-based methodology with the CWB benchmark for petroleum refining. The new sulfuric acid regeneration benchmark is set so that it provides the same level of allowance allocation to

non-refineries operating under NAICS Code 325188 as would be provided under the CWB benchmark for petroleum refining (i.e., it is set equal to the product of the CWB factor for sulfuric acid regeneration (0.0378 CWB per short ton of sulfuric acid produced) and the CWB benchmark for petroleum refining (3.89 allowances per CWB)).

Summary of Section 95891(c).

A reference to the new Table 8-3 is added.

Rationale for Section 95891(c).

This change provides for using assistance factors from Table 8-3 to calculate energy-based allowance allocation. This change effectively extends the current energy-based allowance allocation method to the post-2020 Program because Table 8-3 lists eligible industrial activities and will list assistance factors for the post-2020 Program. Table 8-3 includes the same industrial activities as listed in the updated Table 8-1, but Table 8-1 only applies to the years 2013 through 2020.

Summary of Section 95891(c)(2).

This paragraph is deleted.

Rationale for Section 95891(c)(2).

This section is removed because it presents a restriction for a situation that could not occur.

Summary of Section 95891(c)(3) [New Section 95891(c)(2)].

Section 95891(c)(3) is renumbered to section 95891(2). Also, the new entrant energy-based allocation methodology is redefined.

Rationale for Section 95891(c)(3) [New Section 95891(c)(2)].

This change is necessary to clarify the situations in which an entity would receive new entrant energy-based allocation methodology. This methodology is only used for facilities eligible to received energy-based allocation. Furthermore, two situations exist in which an entity receives energy-based allowance allocation under this methodology: (1) the entity was not allocated any initial allocation in the previous year, or (2) the entity was allocated using this methodology in the previous year.

Section 95891(c)(3) is renumbered to section 95891(2) because the previous section 95891(c)(2) is deleted.

Summary of Section 95891(c)(3)(A) [New Section 95891(c)(2)(A)].

The variable " $B_{elect}$ " is changed to " $B_{electricity}$ " in the allocation equation for opt-in covered entities with no historical emissions data. A reference to the new Table 8-3 is added. The phrase "a given facility" is changed to "the facility."

Rationale for Section 95891(c)(3)(A) [New Section 95891(c)(2)(A)].

The variable " $B_{elect}$ " in the allocation equation for opt-in covered entities with no historical emissions data is changed to " $B_{electricity}$ " so that it agrees with the variable that is later defined in the paragraph. The reference to Table 8-3 effectively extends the current new entrant energy-based allowance allocation method to the post-2020 Program because Table 8-3 lists eligible industrial activities and assistance factors for the post-2020 Program. Table 8-3 includes the same industrial activities as listed in Table 8-1 for the third compliance period, but Table 8-1 only applies to the years 2013 through 2020. The phrase "a given facility" is changed to "the facility" to clarify that the fuel information used in the equation must be from the facility for which the allocation is being calculated.

Summary of Section 95891(c)(3)(B) [New Section 95891(c)(2)(B)].

The overall allowance allocation equation for new entrants with transitional emissions data is clarified and simplified without making any changes to the calculation except for adding references to Table 8-3. The new variable "InitialAllocation<sub>t</sub>" is added and defined. Minor changes are made to clarify the text and to correct typographical errors. The reference to section 95891(c)(3)(D) is changed to section 95891(c)(2)(D). The subscript "t-2" is added to the definition of "F," and the definition clarified to state that the fuel combustion used in the equation shall be from year t-2. A minor change is made to the capitalization of "trueup<sub>t</sub>" as noted in its definition. The phrase "a given facility" is changed to "the facility."

Rationale for Section 95891(c)(3)(B) [New Section 95891(c)(2)(B)].

The variable "InitialAllocation<sub>t</sub>" is added and defined to clarify the overall allowance allocation equation for new entrants with transitional emissions. Explicitly defining the initial allocation is not a substantive change; it only clarifies the portion of industrial allowance allocation that is provided in advance of the budget year and simplifies the overall product-based allowance allocation equation. References to Table 8-3 are needed to extend the allowance allocation methodology to the post-2020 Program. The reference to section 95891(c)(3)(D) is needed because that section is renumbered. The subscript "t-2" is added to the definition of "F," and the definition clarified to state that the fuel combustion used in the equation shall be from year t-2; both changes align the definition with the variable used in the equation. A minor change is made to the capitalization of "trueup<sub>t</sub>" in its definition to match the capitalization utilized in the equation in which it is used. The phrase "a given facility" is changed to "the facility" to clarify that the fuel information used in the equation must be from the facility for which the allocation is being calculated.

Summary of Section 95891(c)(3)(C) [New Section 95891(c)(2)(C)].

The reference to 95891(c)(3) is changed to 95891(c)(2).

Rationale for Section 95891(c)(3)(C) [New Section 95891(c)(2)(C)].

This change is necessary to update the reference to the new entrant energy-based allocation methodology.

Summary of Section 95891(c)(3)(C)(1) [New Section 95891(c)(2)(C)(1)].

The paragraph number is changed from “(1)” to “1.”

Rationale for Section 95891(c)(3)(C)(1) [New Section 95891(c)(2)(C)(1)].

The paragraph number is changed from “(1)” to “1.” to be consistent with the numbering format in the rest of the Regulation.

Summary of Section 95891(c)(3)(D) [New Section 95891(c)(2)(D)].

This section is modified to state that the baseline annual greenhouse gas emissions data should be zero if the facility was not covered for that reporting year. The phrase “in year ‘t’” is added to the definition of variable “ $F_t$ .” The phrase “a given facility” is changed to “the facility.”

Rationale for Section 95891(c)(3)(D) [New Section 95891(c)(2)(D)].

This change is necessary to explicitly define the intent of this methodology, which is to only use Mandatory Reporting Regulation data for which the entity was covered for that reporting year.

The phrase “in year ‘t’” is added to the definition of variable “ $F_t$ ” to clearly define the subscript “t” and to maintain consistency with definitions of other variables in the baseline annual emissions equation.

The phrase “a given facility” is changed to “the facility” to clarify that the fuel information used in the equation must be from the facility for which the allocation is being calculated.

Summary of Section 95891(c)(4).

This paragraph is deleted.

Rationale for Section 95891(c)(4).

This paragraph is no longer needed because treatment of facilities that are no longer subject to the Cap-and-Trade Program due to reduced emissions or facility closure is covered by new text in new section 95835 of the Regulation.

Summary of New Section 95891(c)(3).

This paragraph defines return of allowances upon the shutdown of a facility that received allowance allocation pursuant to section 95891(c).

Rationale for Section 95891(c)(3).

Allowance allocation provided under the energy-based allocation methodology in section 95891(c) is for the purposes of transition assistance and leakage

prevention, and is provided on the basis of the operation under a specific activity “a” listed in Table 8-1 or Table 8-3. If a facility has shut down, it no longer needs allowances for these purposes, and allowances must be returned in proportion to the part of the year for which the entity is no longer operating under activity “a.”

Summary of Section 95891(d).

This section is deleted.

Rationale for Section 95891(d).

This section describes allowance allocation to the refining sector in the first compliance period. Because this paragraph only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95891(e) [New Section 95891(d)].

Section 95891(e) is renumbered to section 95891(d). The term “University” is changed to “university covered entity,” and the term “formulas” is changed to “methods.”

Rationale for Section 95891(e) [New Section 95891(d)].

This change is needed because section 95891(d) has been deleted, so the subsequent sections must be renumbered. The term “University” is changed to “university covered entity” to maintain terminology that is consistent with other Regulation text. The term “formulas” is changed to “methods” because not all requirements in subsections of 95891(e) are formulas.

Summary of Section 95891(e)(1).

This paragraph is deleted.

Rationale for Section 95891(e)(1).

This section describes allowance allocation to university covered entities and public service facilities for budget year 2015. Because this paragraph only deals with allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95891(e)(2) [New Section 95891(d)(1)].

Section 95891(e)(2) is renumbered to section 95891(d)(1). The definitions for “ $F_{\text{consumed}}$ ,” “ $B_{\text{Fuel}}$ ,” “ $Q_{\text{purchased}}$ ,” “ $Q_{\text{sold}}$ ,” “ $e_{\text{sold}}$ ,” “ $B_{\text{Electricity}}$ ,” and “ $C_t$ ” are copied from deleted section 95891(e), and the allocation equation is modified to add steam purchases.

Rationale for Section 95891(e)(2) [New Section 95891(d)(1)].

This section is renumbered because sections 95891(d) and 95891(e)(1) have been deleted, so the subsequent sections must be renumbered. The definitions for “ $F_{\text{consumed}}$ ,” “ $B_{\text{Fuel}}$ ,” “ $Q_{\text{purchased}}$ ,” “ $Q_{\text{sold}}$ ,” “ $e_{\text{sold}}$ ,” “ $B_{\text{Electricity}}$ ,” and “ $c_t$ ” are copied from deleted section 95891(e) to this section to ensure that the



appropriate definitions are still included in the university and public service facility part of the Regulation. Emissions associated with steam purchases are moved from the previous definition for “ $F_{\text{consumed}}$ ” to the allocation equation to provide more transparency in the allocation equation; this change does not change for university and public service facility allocation is calculated.

Summary of New Section 95891(d)(2).

New section 95891(d)(2) is added as a placeholder for potential regulatory text covering annual allowance allocation to university covered entities and public service facilities for budget years after 2020. Notice is provided that staff may propose post-2020 allocation as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for New Section 95891(d)(2).

This change is needed to permit the future inclusion of regulatory text covering allowance allocation to university covered entities and public service facilities after budget year 2020.

Summary of Section 95891(f) [New Section 95891(e)].

Section 95891(f) is renumbered to section 95891(e). In four instances, the text “sections 95891(b) through 95891(d)” is changed to “sections 95891(b) or (c).”

Rationale for Section 95891(f) [New Section 95891(e)].

This change is needed because sections 95891(d) and 95891(e)(1) have been deleted, so the subsequent sections must be renumbered. The text “sections 95891(b) through 95891(d)” is changed to “sections 95891(b) or (c)” because section 95891(d) has been deleted, so the internal references need to be changed to be consistent.

Summary of Section 95891(f)(1).

This paragraph is deleted.

Rationale for Section 95891(f)(1).

This section describes allowance allocation adjustment to legacy contract generators with an industrial counterparty in the first compliance period. Because this paragraph only deals with allowance allocation in the past, it is no longer needed and can be eliminated.

Summary of Section 95891(f)(2) [New Section 95891(e)(1)].

Section 95891(f)(2) is renumbered to section 95891(e)(1). Also, an extraneous comma is deleted from the equation “ $Adj_{,t} = A_{lc,t}$ .” A couple non-substantive changes are included.

Rationale for Section 95891(f)(2) [New Section 95891(e)(1)].

This change is needed because sections 95891(d) and 95891(f)(1) have been deleted, so the subsequent sections must be renumbered. Deletion of the comma is done to correct a typographical error and to make the variable in the equation consistent with the variable that is defined in the text. The text is also modified for clarity without changing any requirements.

Summary of Section 95891(f)(3) [New Section 95891(e)(2)].

Section 95891(f)(3) is renumbered to section 95891(e)(2). This section was amended to clarify the language on how a legacy contract counterparty or its corporate associates will receive a negative allowance allocation.

Rationale for Section 95891(f)(3) [New Section 95891(e)(2)].

The section numbering change is needed because sections 95891(d) and 95891(f)(1) have been deleted, so subsequent sections must be renumbered. Other changes simplify the language on negative allocation and allowance accounting.

Summary of Section 95891, Table 9-2.

Table 9-2 is modified to add placeholders for cap adjustment factors for the years 2021 through 2030. Notice is provided that staff may propose cap adjustment factors for 2021 to 2030 as part of this rulemaking process, and that any proposed change will be circulated for a 15-day public comment period.

Rationale for Section 95891, Table 9-2.

The 2021-2030 cap adjustment factors will be needed so that allowance allocation for various facilities can be calculated for those budget years. This change is needed to permit the future inclusion of cap adjustment factors for budget years after 2020.

**Section 95892. Allocation to Electrical Distribution Utilities for Protection of Electricity Ratepayers.**

Summary of New Section 95892(a)(1).

Section 95892(a)(1) is modified to clarify the budget years (i.e., 2013-2020) covered by Table 9-3 and Table 9-3A for allowance allocation to EDUs. Text on the allowed use of allocated allowance value is deleted.

Rationale for New Section 95892(a)(1).

The first change clarifies the budget years (i.e, first three compliance periods) covered by Table 9-3 and Table 9-3A for allowance allocation to EDUs. Text on the allowed use of allocated allowance value is deleted because use of allowance value requirements are already specified in section 95892(d).

Summary of New Section 95892(a)(2).

New section 95892(a)(2) specifies that the amount of allowances allocated to each EDU from budget years 2021-2026 shall be the amount shown in new Table 9-4.

Rationale for New Section 95892(a)(2).

This section is needed to specify allowance allocations to individual EDUs from budget years 2021-2026. A description of the calculations that staff proposes to use to determine these allocation amounts is found in Chapter II of this Staff Report. Notice is provided that staff may propose the amount of allowances allocated to each EDU from budget years 2021 to 2026 in Table 9-4 as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Summary of New Section 95892(a)(3).

New section 95892(a)(3) is added as a placeholder for potential regulatory text covering annual allowance allocation to each individual EDU from budget year 2027 and subsequent years. Notice is provided that staff may propose such regulatory text as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for New Section 95892(a)(3).

This change is needed to permit the future inclusion of regulatory text covering allowance allocation to each individual EDU from budget year 2027 and subsequent years.

Summary of Section 95892(b)(2).

The phrase "into the accounts below" is added.

Rationale for Section 95892(b)(2).

This changes helps to clarify the meaning of the section.

Summary of Section 95892(b)(2)(A).

Text is added to clarify the accounts between which the Executive Officer shall transfer allowances.

Rationale for Section 95892(b)(2)(A).

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Publicly owned electric utilities and electrical cooperatives receive all allowances into their allowance allocation holding account and/or limited use holding account. All allowances in the allowance allocation holding account are transferred to the entity's compliance account by the Executive Officer on January 1 of the vintage year of the allowances. Each publicly owned electric utility and electrical cooperative must inform the Executive Officer by September 1 of the accounts into which the

Executive Officer shall allocate allowances, or by default the allowances are transferred to the limited use holding account.

Summary of Section 95892(b)(3).

The phrase “or the first business day thereafter” is deleted.

Rationale for Section 95892(b)(3).

The phrase “or the first business day thereafter” is deleted because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code.

Summary of Section 95892(c)(1).

This paragraph is deleted.

Rationale for Section 95892(c)(1).

This section addresses the treatment of allowances placed in the limited use holding account of electrical distribution utilities in 2012 for sale at the auction scheduled for 2012. Because this paragraph only deals with the sale of allowance at the 2012 auction, it is no longer needed and can be eliminated.

Summary of Section 95892(c)(2) [New Section 95892(c)].

Section 95892(c)(2) is renumbered to section 95892(c). Also, the phrase “after 2012” is deleted.

Rationale for Section 95892(c)(2) [New Section 95892(c)].

Section 95892(c)(1) is deleted, so the content in section 95892(c)(2) is merged into 95892(c) without changing any meaning. The phrase “after 2012” is deleted because it is not needed.

Summary of Section 95892(c)(2)(A) [New Section 95892(c)(1)].

Section 95892(c)(2)(A) is renumbered to section 95892(c)(1).

Rationale for Section 95892(c)(2)(A) [New Section 95892(c)(1)].

This change is needed because sections 95891(c)(1) is deleted and section 95891(c)(2) is merged into section 95892(c), so the subsequent sections must be renumbered.

Summary of Section 95892(c)(2)(B) [New Section 95892(c)(2)].

Section 95892(c)(2)(B) is renumbered to section 95892(c)(2).

Rationale for Section 95892(c)(2)(B) [New Section 95892(c)(2)].

This change is needed because sections 95891(c)(1) is deleted and section 95891(c)(2) is merged into section 95892(c), so the subsequent sections must be renumbered.

Summary of Section 95892(d)(1).

The reference to “sections 95892(d)(3-5)” is changed to “sections 95892(d)(3)-(5).”

Rationale for Section 95892(d)(1).

This change makes the formatting of this reference consistent with the formatting of other references in the Regulation.

Summary of Section 95892(d)(2).

The reference to “sections 95892(d)(3-5)” is changed to “sections 95892(d)(3)-(5).”

Rationale for Section 95892(d)(2).

This change makes the formatting of this reference consistent with the formatting of other references in the Regulation.

Summary of Section 95892(d)(3).

This section was amended to specify that EDUs may use auction proceeds from allocated allowances to reduce greenhouse gas emissions or return them to ratepayers, and that any revenue returned to ratepayers must be done in a non-volumetric manner.

Rationale for Section 95892(d)(3).

This change reduces ambiguity regarding allowed uses of allowances allocated to EDUs and increases consistency with allowed uses of allowances allocated to natural gas suppliers. The specified allowed uses are consistent with the purposes of this allocation, which are to support retail ratepayers and further the goals of AB 32. The requirement that any allocated allowance auction proceeds must be returned to ratepayers in a non-volumetric manner makes it such that there is equal treatment of allocated allowance value for EDUs and natural gas suppliers (natural gas suppliers are already prohibited from returning allocated allowance value in a non-volumetric manner), and also ensures equal carbon cost impacts for electricity and natural gas customers.

Summary of Section 95892(d)(5).

This section was amended to specify that EDUs are prohibited from using allowance proceeds for activities that increase greenhouse gas emissions and for costs of complying with the Mandatory Reporting and AB 32 Cost of Implementation Fee Regulations. Returning allowance value to ratepayers in a volumetric manner—that is, in proportion to KWh of consumption during a period of time—is prohibited.

Rationale for Section 95892(d)(5).

This change reduces ambiguity regarding allowed uses of allowances allocated to EDUs. The specified prohibitions are consistent with the purposes of the

allocation, which are to support retail ratepayers and further the goals of AB 32. If not furthering these purposes, allowance allocation is not meant to pay for regulatory costs. GHG verification and reporting and Cost of Implementation fees are examples of regulatory costs which allowance allocation is not intended to counteract. Similarly, volumetric revenue return is prohibited because it counteracts the price signal created by the Cap-and-Trade Program.

Summary of New Section 95892(d)(6).

This section is added to require that EDUs spend allocated allowance auction proceeds within ten years after the vintage year of the allocated allowance value, or the proceeds must be returned to ratepayers in a non-volumetric manner by the end of the 11<sup>th</sup> year.

Rationale for New Section 95892(d)(6).

The proposed amendments create a deadline for spending allocated allowance auction proceeds to ensure that this value is put to use in a timely manner—that is, within ten years of the vintage of the allowances. Because these allowances are allocated for ratepayer benefit and GHG emissions reductions, they should be used within a reasonable period or returned to ratepayers. In drafting this amendment, staff considered several periods by which EDUs must have used the allocated allowance auction proceeds, and decided that ten years was sufficient time to have either saved up proceeds to use for a capital project, or return the value to ratepayers.

Summary of Section 95892(e).

This section was amended to specify that EDUs must report on allocated allowance auction proceeds spent during the previous calendar year, rather than allowance value received in the previous budget year.

Rationale for Section 95892(e).

This change will enable ARB to track the use of all allowances allocated to EDUs, while avoiding redundant reporting that currently occurs when an EDU reports on how many allowances each EDU deposits into its compliance account, which ARB already knows because it allocates allowances to EDUs' allowance allocation holding accounts and then to the EDUs' compliance accounts. The reporting change to focus on allocated allowance auction proceeds spent during the previous year, instead of requiring (as is done under the current Regulation) reporting of the previous vintage year's allocated allowance value, will ensure that staff has a complete picture of uses of all allocated allowance value. The current reporting structure does not require the reporting of allocated allowance auction proceeds that are not spent in the year of their vintage, which means that if EDUs are banking proceeds, ARB may be missing the complete picture of proceeds uses.

Summary of Section 95892(e)(1)

This section was amended to apply to auction proceeds for allowances of the previous year's vintage and any other allocated allowance auction proceeds not previously reported as spent.

Rationale for Section 95892(e)(1)

This change causes the reporting in a given year to cover all allocated allowance auction proceeds spent in that year.

Summary of Section 95892(e)(2)

This section was amended to refer to allocated allowance auction proceeds spent during the previous calendar year, rather than "such auction proceeds."

Rationale for Section 95892(e)(2)

This change clarifies which expenditures are covered by this section, consistent with amendments to section 95892(e)(1).

Summary of Section 95892(e)(3)

This paragraph is deleted.

Rationale for Section 95892(e)(3)

The reporting required by this section is unnecessary because ARB already has all information that is required to be reported by this section.

Summary of Section 95892(e)(4)

This paragraph is deleted.

Rationale for Section 95892(e)(4)

The reporting formerly required by this section is unnecessary because it does not provide ARB with any allowance disposition information that ARB will not already have or that is not already required by section 95892(e)(2).

Summary of New Section 95892(e)(3)

This section requires EDUs to report on the use of any allocated allowance auction proceeds spent prior to December 31, 2016 and not previously reported to ARB as spent.

Rationale for New Section 95892(e)(3)

This requirement provides ARB with information covering the disposition of EDU allocated allowance auction proceeds, which was not previously provided to ARB because the proceeds were unspent by earlier applicable reporting deadlines. This information will enable ARB to have a complete picture of all EDU allocated allowance auction proceeds spent to date.



Summary of Section 95892, Table 9-3.

Table 9-3 is modified delete the percentage of allowances allocated to Hercules and increase the percentage allocated to PG&E by the same percentage. Minor changes are made to the table heading and the main column heading in the table.

Rationale for Section 95892, Table 9-3.

The City of Hercules sold its electrical distribution system to PG&E. PG&E now has the emissions cost burden for supplying electricity to customers previously supplied by Hercules. This change is necessary to ensure that the EDU allocation remains equitable. Changes to the table heading and the main column heading are made to clarify the contents of Table 9-3.

Summary of Section 95892, Table 9-3A.

In the Table 9-3A title, the misspelled word "Uiltiy" is corrected to "Utility." Also a footnote is added to the table that defines the acronym "POU."

Rationale for Section 95892, Table 9-3A.

These change correct a typographical error and add a missing footnote.

Summary of Section 95892, New Table 9-4.

New Table 9-4 is added as a placeholder where the amount of allowances allocated to each EDU from budget years 2021 to 2026 will be specified. Notice is provided that staff may propose the amount of allowances allocated to each EDU from budget years 2021 to 2026 as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for Section 95892, New Table 9-4.

New Table 9-4 will be needed to specify the amount of allowances allocated to each EDU from budget years 2021 to 2026.

**Section 95893. Allocation to Natural Gas Suppliers for Protection of Natural Gas Ratepayers.**

Summary of Section 95893(a).

In two instances, the subscript "a" is removed from the variable " $c_{a,t}$ ." The phrase "for natural gas suppliers" is added to the definition of the variable " $c_t$ ." Also the word "and" is moved so that it is appropriately placed.

Rationale for Section 95893(a).

The text changes clarify that the variable " $c_t$ " is the cap adjustment factor that is listed in Table 9-2 for standard activities. The subscript "a" is removed because natural gas supplier allocation is not provided for any industrial activity.

Summary of Section 95893(b)(1)(A).

This section was amended to add a reference to Tables 9-5 and 9-6, which contain minimum percentage consignment requirements for allowances allocated to natural gas suppliers.

Rationale for Section 95893(b)(1)(A).

This change accommodates the minimum consignment requirements for allocated allowances for natural gas suppliers in the post-2020 Program, and updated the table number (9-5) for 2015-2020 allocation consignment because of the addition of Table 9-4.

Summary of Section 95893(b)(1)(B).

Text is added to clarify the accounts between which the Executive Officer shall transfer allowances.

Rationale for Section 95893(b)(1)(B).

Natural gas suppliers receive all allowances in their allowance allocation holding account and/or limited use holding account. All allowances in the allowance allocation holding account are transferred to the entity's compliance account by the Executive Officer on January 1 of the vintage year of the allowances.

Summary of Section 95893(d)(3).

This section was amended to specify that natural gas suppliers may use auction proceeds and allowance value from allocated allowances to reduce greenhouse gas emissions or return them to ratepayers. Other text was changed to clarify that the prohibition on volumetric revenue return applies only to allocated allowance auction proceeds.

Rationale for Section 95893(d)(3).

This change reduces ambiguity regarding allowed uses of allowances allocated to natural gas suppliers. The specified allowed uses are consistent with the purposes of this allocation, which are to support retail ratepayers and further the goals of AB 32. The clarification regarding revenue return reduces possible confusion about whether the prohibition against volumetric revenue return would apply to allowances deposited into compliance accounts.

Summary of Section 95893(d)(5).

This section was amended to specify that natural gas suppliers are prohibited from using allowance proceeds for costs of complying with the Mandatory Reporting and AB 32 Cost of Implementation Fee Regulations. GHG reporting and verification costs and payment of AB 32 Cost of Implementation fees are among the prohibited uses for costs of complying with regulations. The prohibition that is already included in section 95893(d)(3) was also added to this section.

Rationale for Section 95893(d)(5).

This change reduces ambiguity regarding allowed uses of allowances allocated to natural gas suppliers. The specified prohibitions are consistent with the purposes of the allocation, which are to support retail ratepayers and further the goals of AB 32. If not furthering these purposes, allowance allocation is not meant to pay for regulatory costs. GHG verification and reporting and Cost of Implementation fees are examples of regulatory costs which allowance allocation is not intended to counteract. The prohibition of using allocated allowance auction proceeds for non-volumetric return of value to ratepayers was included in this section because it belongs with other prohibited uses of allocation allowance auction proceeds.

Summary of New Section 95893(d)(6).

This section is added to require that natural gas suppliers spend allocated allowance auction proceeds within ten years after the vintage year of the allocated allowances, or the proceeds must be returned to ratepayers in a non-volumetric manner by the end of the 11<sup>th</sup> year.

Rationale for New Section 95893(d)(6).

The proposed amendments create a deadline for spending allocated allowance auction proceeds to ensure that this value is put to use in a timely manner—that is, within ten years of the vintage of the allowances. Because these allowances are allocated for ratepayer benefit and GHG emissions reductions, they should be used within a reasonable period or returned to ratepayers. In drafting this amendment, staff considered several periods by which natural gas suppliers must have used the allocated allowance auction proceeds, and decided that ten years was sufficient time to have either saved up proceeds to use for a capital project, or return the value to ratepayers.

Summary of Section 95893(e).

This section was amended to specify that natural gas suppliers must report on allocated allowance auction proceeds spent during the previous calendar year, rather than allowance value received in the previous budget year.

Rationale for Section 95893(e).

This change will enable ARB to track the use of all allowances allocated to natural gas suppliers, while avoiding redundant reporting that currently occurs when a natural gas suppliers reports on how many allowances each EDU deposits into its compliance account, which ARB already knows because it allocates allowances to natural gas suppliers' allowance allocation holding accounts and then to the natural gas suppliers' compliance accounts. The reporting change to focus on allocated allowance auction proceeds spent during the previous year, instead of requiring (as is done under the current Regulation) reporting of the previous vintage year's allocated allowance value, will ensure that staff has a complete picture of uses of all allocated allowance

value. The current reporting structure does not require the reporting of allocated allowance auction proceeds that are not spent in the year of their vintage, which means that if natural gas suppliers are banking proceeds, ARB may be missing the complete picture of proceeds uses.

Summary of Section 95893(e)(1).

This section was amended to apply to auction proceeds for allowances of the previous year's vintage and any other allocated allowance auction proceeds not previously reported as spent.

This section was also amended to remove the requirement to use the average market clearing price of the four auctions held in the allowances' budget year when calculating the value of natural gas supplier allocated allowances. As a result, the monetary value of auction proceeds received by the natural gas supplier must be reported as such.

Rationale for Section 95893(e)(1).

The first change causes the reporting in a given year to cover all allocated allowance auction proceeds spent in that year, and any proceeds remaining from previous years.

The second change increases reporting accuracy by requiring that the amount reported match the amount received by the natural gas supplier. By using the same phrasing already applied to EDU reporting, it increases consistency between the reporting requirements for natural gas suppliers and for EDUs and avoids confusion about how any difference between actual and calculated proceeds should be reported.

Summary of Section 95893(e)(2).

This section was amended to refer to allocated allowance auction proceeds spent during the previous calendar year, rather than "such auction proceeds."

Rationale for Section 95893(e)(2).

This change clarifies which expenditures are covered by this section, consistent with amendments to section 95893(e).

Summary of Section 95893(e)(3).

This paragraph is deleted.

Rationale for Section 95893(e)(3).

The reporting formerly required by this section is unnecessary because ARB already has all information that is required to be reported by the section.

Summary of Section 95893(e)(4).

This paragraph is deleted.

Rationale for Section 95893(e)(4).

The reporting formerly required by this section is unnecessary because it does not provide ARB with any allowance disposition information which ARB will not already have or which is not already required by section 95893(e)(2).

Summary of New Section 95893(e)(3).

This section requires natural gas suppliers to report on the use of any allocated allowance auction proceeds spent prior to December 31, 2016 and not previously reported as spent.

Rationale for New Section 95893(e)(3).

This requirement provides ARB with information covering the disposition of natural gas supplier allocated allowance auction proceeds, which was not previously provided to ARB because the proceeds were unspent by earlier applicable reporting deadlines. This information will enable ARB to have a complete picture of all natural gas supplier allocated allowance auction proceeds spent to date.

Summary of Section 95893, Table 9-4 [New Table 9-5].

The title and row headings of the table are modified.

Rationale for Section 95893, Table 9-4 [New Table 9-5].

The table title is changed to distinguish this table, which applies to budget years 2015 through 2020, from new Table 9-6, which applies to budget years 2021 through 2030. The row heading is changed to clarify that the values in the table are minimum percentage consignment requirements, and row designating the compliance period is eliminated because it is not needed.

Summary of Section 95893, New Table 9-6.

This table will provide natural gas supplier minimum consignment requirements for allowances allocated from budget years 2021 to 2030. Notice is provided that staff may propose natural gas supplier minimum consignment requirements for allowances allocated from budget years 2021 to 2030 as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for Section 95893, New Table 9-6.

This change is needed to permit the future inclusion of natural gas supplier minimum consignment requirements for allowances allocated from budget years 2021 to 2030.

**Section 95894. Allocation to Legacy Contract Generators for Transition Assistance.**

Summary of Section 95894(a).

This section was amended to change the deadline for legacy contract transition assistance applications from September 1 to June 1 and to remove the mention of a legacy contract generator without an industrial counterparty.

Rationale for Section 95894(a).

The September 2 to June 1 deadline change will make the legacy contract transition assistance application deadline several months earlier than the Mandatory Reporting Regulation verification deadline. This change will enable ARB to inform verifiers which entities are subject to the legacy contract reporting and verification requirements of MRR. The term “legacy contract generator without an industrial counterparty” is removed from the Regulation because this allocation type ends with the allocation of vintage 2017 allowances, which will have occurred before this proposed Regulation is in effect.

Summary of Section 95894(a)(1)(A).

The word “and” is deleted.

Rationale for Section 95894(a)(1)(A).

With the removal of section 95894(a)(1)(B), the word “and” is no longer needed.

Summary of Section 95894(a)(1)(B).

This paragraph is deleted.

Rationale for Section 95894(a)(1)(B).

The information required by this paragraph is no longer needed because it was used only for legacy contract transition assistance, which was allocated for legacy contract applicants without industrial counterparties, which will no longer be eligible for allocation starting at the end of 2017.

Summary of Section 95894(a)(3)(B).

The word “and” is added.

Rationale for Section 95894(a)(3)(B).

The word “and” is added to preserve the flow of the text.

Summary of Section 95894(a)(3)(C).

The term “legacy contract generator without an industrial counterparty” is removed from the Regulation.

The proposed text changes “unable to renegotiate” to “failed to renegotiate” and establishes a time period in which renegotiations must begin—within a year of attestation but not later than 60 days before attestation—to qualify for legacy contract transition assistance.

Rationale for Section 95894(a)(3)(C).

The term “legacy contract generator without an industrial counterparty” is removed from the Regulation because this allocation type ends with the allocation of vintage 2017 allowances, which will have occurred before this proposed Regulation is in effect.

The change from “unable to renegotiate” to “failed to renegotiate” is necessary to clarify that ongoing efforts to renegotiate after the attestation date do not meet this section’s requirements. The amendment providing that renegotiations must begin within a year of the attestation date, but no later than 60 days before the attestation date, is necessary to provide a clear timetable to applicants for when renegotiations must begin. Sixty days was chosen as a reasonable period to align with the California Public Utilities Commission’s “Decision on System Track I and Rules Track III of the Long-Term Procurement Plan Proceeding and Approving Settlement” (California Public Utilities Commission 2012), which found that period to be an appropriate minimum timeline for contract renegotiation.

Summary of Section 95894(b).

This section is amended to remove the reference to 95894(d).

Rationale for Section 95894(b).

Section 95894(d) is deleted, so the reference to section 95894(d) is removed.

Summary of Section 95894(c).

This section is amended to specify that industrial counterparties are limited to those conducting an activity listed in either Table 8-1 or Table 8-3.

Rationale for Section 95894(c).

This change updates the tables that define which entities may receive allocation as an industrial entity based on the relevant compliance period. New Table 8-3 lists the industrial activities that are eligible to receive allowance allocation for industrial leakage protection in the post-2020 Program.

Summary of Section 95894(c)(1).

This section is amended to clarify definitions of the variables used to calculate legacy contract transition assistance. This section is also amended to require that a legacy contract generator be a covered entity during the relevant budget year rather than during the second compliance period.

A reference to section 94894(a) is changed to section 95894(a). Text describing allowance allocation prior to 2016 is deleted.

Rationale for Section 95894(c)(1).

The change in the requirement that a legacy contract generator be a covered entity during the relevant period rather than during the second compliance period is needed to make the allocation equation more generally applicable to time periods other than the second compliance period. As noted in the current Regulation, the time period for which legacy contract transition assistance to a legacy contract generator with an industrial counterparty extends beyond the second compliance period. New text clarifies the meaning of the subscript “a” in the cap adjustment factor. This clarification aligns with the definition of “a” as presented in section 95891.

The change in the reference from section 94894(a) to section 95894(a) corrects a typographical error. Text describing allowance allocation prior to 2016 was removed because it only describes allocation in the past is no longer needed.

Summary of Section 95894(c)(2).

Text describing allowance allocation prior to 2016 is deleted. This section is also amended to require that a legacy contract generator be a covered entity during the relevant budget year rather than only during the second compliance period. Minor changes are made to preserve the flow of the text.

Rationale for Section 95894(c)(2).

The change in the requirement that a legacy contract generator be a covered entity during the relevant period rather than during the second compliance period is needed to make the allocation equation more generally applicable to time periods other than the second compliance period. As noted in the current Regulation, the time period for which legacy contract transition assistance to a legacy contract generator with an industrial counterparty extends beyond the second compliance period.

Text describing allowance allocation prior to 2016 was removed because it only describes allocation in the past is no longer needed. Minor changes are made to preserve the flow of the text without changing its meaning.

Summary of Section 95894(d).

This section is deleted.

Rationale for Section 95894(d).

This section is no longer needed since it describes allowance allocation for 2017 and earlier.

Summary of Section 95894(e) [New Section 95894(d)].

Section 95894(e) is renumbered to section 95894(d). This section is also amended to remove a reference to paragraph 95894(d) and to remove the mention of a “legacy contract generator without an industrial counterparty.”



Rationale for Section 95894(e) [New Section 95894(d)].

This section is renumbered because existing section 95894(d) is deleted, so the subsequent sections must be renumbered. References to legacy contract generators without industrial counterparties and the earlier version of 95894(d) are no longer needed since they only addressed allowance allocation for 2017 and earlier.

Summary of Section 95894(f) [New Section 95894(e)].

Section 95894(f) is renumbered to section 95892(e), and the mention of a “legacy contract generator without an industrial counterparty” is removed.

Rationale for Section 95894(f) [New Section 95894(e)].

The renumbering change is needed because section 95894(d) is deleted, so the subsequent sections must be renumbered. Reference to legacy contract generators without industrial counterparties is no longer needed since these entities are no longer eligible for allowance allocation starting in 2017.

**Section 95895. Allocation to Public Wholesale Water Agencies for Protection of Water Ratepayers.**

Summary of Section 95895(a).

The reference to “Table 9-5” is changed to “Table 9-7.” Text is added to clarify the accounts into and between which the Executive Officer shall transfer allowances.

Rationale for Section 95895(a).

This change is needed because new tables were added to previous sections in Subarticle 9, so the subsequent tables must be renumbered.

In general, all allowances are transferred to either limited use holding accounts or allowance allocation holding accounts. Public wholesale water agencies are allocated all allowances into their allowance allocation holding account. All allowances in the allowance allocation holding account are transferred by the Executive Officer to the entity’s compliance account on January 1 of the vintage allowances in the account.

Summary of New Section 95895(b).

New section 95891(d)(2) is added as a placeholder for potential regulatory text covering annual allowance allocation to each public wholesale water agency for budget years after 2020. Notice is provided that staff may propose post-2020 allocation as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period.

Rationale for New Section 95894(b).

This change is needed to permit the future inclusion of regulatory text covering allowance allocation to each public wholesale water agency after budget year 2020.

Summary of Section 95894, Table 9-5 [New Table 9-7].

Table 9-5 is renumbered to be Table 9-7.

Rationale for Section 95894, Table 9-5. [New Table 9-7].

This change is needed because new tables were added to previous sections in Subarticle 9, so the subsequent tables must be renumbered.

**Subarticle 10: Auction and Sale of California Greenhouse Gas Allowances**

**Section 95910. Auction of California GHG Allowances.**

Summary of Section 95910(a).

Section 95910(a) is modified to remove provisions that are no longer applicable. All auctions are now scheduled according to Appendix C of the Regulation.

Rationale for Section 95910(a).

The change is needed to remove earlier dates specified in the existing text that are no longer relevant. Staff concluded that rather than a general explanation of how dates are set, the modifications are necessary to clarify that the dates are in Appendix C of the Regulation.

Summary of Section 95910(b) and (b)(1).

Section 95910(b) and (b)(1) are modified to remove a title, and to remove a provision that is no longer necessary.

Rationale for Section 95910(b) and (b)(1).

The deleted text is no longer needed as section 95910(c) has been modified to specify how allowances from a number of sources will be sent to auction.

Summary of Section 95910(b)(2).

Section 95910(b)(2) is retained and subsumed into the higher level section 95910(b).

Rationale for Section 95910(b)(2).

The change is needed to reflect the reorganization of the section.

Summary of Section 95910(c)(1)(B).

Section 95910(c)(1)(B) is modified to delete an outdated date reference and to remove a reference to section 95911(f)(3)(D).

Rationale for Section 95910(c)(1)(B).

The change is needed for clarity and to remove a reference that is no longer needed. The provision now clearly states that each auction will include one quarter of the allowances allocated from the current calendar year's budget.

Summary of Section 95910(c)(1)(C).

Section 95910(c)(1)(C) is modified to explain that the Current Auction may include allowances consigned to auction pursuant to section 95910(d) only when their vintages are equal to or prior to vintage sold at the Current Auction.

Rationale for Section 95910(c)(1)(C).

The change is needed to account for allowances that may be consigned from closed accounts. These may include future vintages that cannot be sold at the Current Auction until they match the Current Auction vintage.

Summary of Section 95910(c)(1)(D).

Section 95910(c)(1)(D) is modified to remove a phrase that is not needed. The section is already clear that current and previous budget year allowances unsold at previous auctions would be offered for sale at the Current Auction.

Rationale for Section 95910(c)(1)(D).

The change is needed for clarity and to remove an unnecessary introductory phrase.

Summary of Section 95910(c)(2)(B).

Section 95910(c)(2)(B) is modified to remove outdated text referring to a 2012 auction.

Rationale for Section 95910(c)(2)(B).

The change is needed to remove outdated text.

Summary of Section 95910(c)(2)(C).

Section 95910(c)(2)(C) is modified to remove outdated text and is renumbered as section 95910(c)(2)(B).

Rationale for Section 95910(c)(2)(C).

The change is needed to remove outdated text and to reflect the reorganization of the section.

Summary of Section 95910(c)(2)(D).

Section 95910(c)(2)(D) is modified to change the word "will" to "may" and the text is renumbered as section 95910(c)(2)(C).

Rationale for Section 95910(c)(2)(D).

The change from “will” to “may” is necessary to reflect the fact that the presence of previously unsold allowances at the Advance Auction is not certain. The change is also needed to reflect the reorganization of the section.

Summary of Section 95910(d)(2).

Section 95910(d) is modified to further clarify the actions that will be taken with allowances withdrawn from accounts closed pursuant to new section 95835, accounts containing allowances in excess of the holding limit pursuant to section 95920(b)(5), and allowances from accounts that were suspended or revoked pursuant to section 95921(g)(3). The reference to 95835 is modified to reflect the reorganization of Subarticle 5.

Rationale for Section 95910(d)(2).

These changes are needed to clarify the management of allowances and offsets withdrawn by the Executive Officer from accounts as provided for in other regulatory sections. The change addresses the full range of allowance types and offsets that can potentially be held by a California entity due to linkage with other jurisdictions. This change is consistent with the requirements for auction of allowances. The change is also needed to reflect the reorganization of Subarticle 5.

Summary of Section 95910(d)(2)(A).

Section 95910(d)(2)(A) is modified to clarify that allowances sent to auction pursuant to section 95910(b) will only go to the next current auction if their vintage is equal to or prior to the vintage sold at the Current Auction.

Rationale for Section 95910(d)(2)(A).

The change is needed to clarify which allowances will go to the next Current Auction.

Summary of Section 95910(d)(2)(B).

Section 95910(d)(2)(B) is modified to expand the current provision to specify that offsets withdrawn from accounts would include any that come from a GHG ETS to which California has linked pursuant to Subarticle 12. Since the linking agreements specify that ARB will accept offsets from linked jurisdictions, these offsets will be processed in the same manner as offsets issued by ARB. The proposed text also contains edits for to more clearly describe the process by which these offsets will be retired, and allowances in the Auction Holding Account of the current budget year vintage will be consigned at the next Current Auction.

Rationale for Section 95910(d)(2)(B).

The change is needed to explain that offsets issued by linked jurisdiction will be treated like ARB-issued offsets. The change is also needed to improve the clarity of how replacement allowances will be processed.

Summary of Section 95910(d)(2)(C).

Section 95910(d)(2)(C) is modified to create a procedure to retire vintageless allowances withdrawn from accounts, whether ARB issued or issued by a linked jurisdiction, and to consign current vintage allowances from the Auction Holding Account in their place the next Current Auction. Since this would otherwise create a delay in payment for the consigned allowances, ARB will offer a similar number of current vintage allowances at the next Current Auction.

Rationale for Section 95910(d)(2)(C).

The change is needed to ensure that the process of consigning allowances on behalf of entities from whose accounts they are retired is clear for vintageless allowances. The change is needed to ensure that prompt payment can be made when consigned allowances are sold in a timely manner. This also prevents the withdrawal of allowances from tightening the market.

Summary of Section 95910(d)(2)(D).

Section 95910(d)(2)(D) is modified to create a process for dealing with future vintage allowances that are withdrawn from accounts. These will be held in the Auction Holding Account until their vintage equals the current vintage. Since this would otherwise create a delay in payment for the consigned allowances, ARB will offer a similar number of current vintage allowances at the next Current Auction.

Rationale for Section 95910(d)(2)(D).

The change is needed to ensure that the process of consigning allowances on behalf of entities from whose accounts they are retired is clear for future vintage allowances. The change is needed to ensure that prompt payment can be made when consigned allowances are sold in a timely manner. This also prevents the withdrawal of allowances from tightening the market.

Summary of Section 95910(d)(4)(A)-(C).

Section 95910(d)(4)(A) through (C) is modified to delete sections (A) and (B) which contain outdated requirements. In addition, section (C) is renumbered to be part of 95910(d)(4).

Rationale for Section 95910(d)(4)(A)-(C).

The changes are needed to remove outdated requirements and to reflect the reorganization of the section.

Summary of Section 95910(e).

Section 95910(e) is modified to introduce a process by which ARB can auction allowances used to fulfill an untimely surrender organization after the Executive Officer transfers them to the Auction Holding Account.

Rationale for Section 95910(e).

The proposed text is needed to create a process to sell these types of allowances at auction and to ensure the process is clear. The regulation already specifies that these allowances will be sold at auction. However, there was not a specific process defined by which this would happen.

Summary of Section 95910(e)(1).

Section 95910(e)(1) is added to clarify an existing requirement that designates current vintage allowances that were surrendered as part of an untimely surrender obligation to the Current Auction.

Rationale for Section 95910(e)(1).

The text is needed to ensure ARB can immediately auction allowances already eligible for auction and thereby avoids having the untimely surrender obligation unnecessarily tighten the market.

Summary of Section 95910(e)(2).

Section 95910(e)(2) is added to describe that allowances with a vintage three years subsequent to the current budget year that were surrendered as part of an untimely surrender obligation will be designated to the Advance Auction.

Rationale for Section 95910(e)(2).

The text is needed to ensure ARB can immediately auction allowances already eligible for auction and thereby avoids having the untimely surrender obligation unnecessarily tighten the market.

Summary of Section 95910(e)(3).

Section 95910(e)(3) is modified to designate future vintage allowances with a vintage less than three years subsequent to the current budget year that were surrendered as part of an untimely surrender obligation to be held until they may be sold in the Current Auction.

Rationale for Section 95910(e)(3).

The text is needed to provide a pathway to consign future vintage allowances with a vintage less than three years subsequent to the current budget year that were surrendered as part of an untimely surrender obligation to auction.

Summary of Section 95910(e)(4).

Section 95910(e)(4) is added to specify that the Executive Officer will retire allowances that were surrendered as part of an untimely surrender obligation that have no vintage.

Rationale for Section 95910(e)(4).

The proposed text is needed because ARB has no way to send this type of allowance to auction.

**Section 95911. Format for Auction of California GHG Allowances.**

Summary of Section 95911(c)(3)(C).

Section 95911(c)(3)(C) is amended to use the closing exchange rate posted by the Bank of Canada as the auction exchange rate rather than the noon daily buying rate.

Rationale for Section 95911(c)(3)(C).

This change is necessary because the Bank of Canada has announced that it will cease publication of the noon daily buying rate in early 2017, but will continue to publish the closing exchange rate. Thus, the section must be amended to use the rate that the Bank of Canada will continue to publish.

Summary of Section 95911(c)(4).

Section 95911(c)(4) is amended to delete language regarding the delay or pause of an auction bidding window due to technical systems failures. This language is proposed to be moved to a new section 95911(h), and expanded to provide authority to delay, reschedule, or cancel a scheduled auction bidding window due to technical system failures.

Rationale for Section 95911(c)(4).

The conduct of auctions is dependent on fully functioning and secure online systems. The current language addresses only one option that is available to jurisdictions to address a failure in technical systems. Based on experience in the conduct of auctions to date, if technical issues develop, jurisdictions require additional options to reschedule or cancel an auction. Additional detail in the new Section 95911(h) will provide clarity to program participants regarding these options. Since the provision is being moved to section 95911(h), it is no longer needed in section 95911(c).

Summary of Section 95911(d).

Section 95911(d) is amended to improve the clarity of the auction purchase limit requirements.

Rationale for Section 95911(d).

The changes are needed to remove outdated text and enhance overall clarity of how purchase limits apply.

Summary of Section 95911(d)(1).

Section 95911(d)(1) is modified to replace the word “auction” with “Current and Advance Auction” and the phrase “pursuant to section 95833” is deleted.

Rationale for Section 95911(d)(1).

The changes are necessary to clarify that the requirements apply to both auctions, meaning there is a purchase limit for the Current Auction and a purchase limit for the Advance Auction. The deleted text is not necessary to the clarity of the provision.

Summary of Section 95911(d)(2).

Former sections 95911(d)(2) and (3) have been deleted. New sections 95911(d)(2)(A) and (B) is added to specify that the purchase limits in effect for Current and Advance Auctions since 2015 are retained in the amended regulation. Voluntary entities retain their purchase limit of 4 percent in the Current Auction and are being granted a larger purchase limit in the Advance Auction, from 4 percent to 25 percent.

Rationale for Section 95911(d)(2).

Earlier calendar years specified in the existing text are no longer relevant, thus those sections are deleted and replaced with new text that retains the same provisions with respect to the amount of the purchase limit. The change to increase the Advance Auction purchase limit for voluntarily associated entities that provide market liquidity an opportunity to acquire more future vintage allowances if they are so inclined. At the same time, given that at most 10 percent of an annual allowance budget is sent to Advance Auction, the voluntarily associated entities could still only purchase at the Advance Auction the equivalent of 2.5 percent of the supply. This is still less than what they can access through the Current Auction under the 4 percent limit.

Summary of Section 95911(d)(3)(A).

Former section 95911(d)(3) has been deleted, and new section 95911(d)(3)(A) is added to retain the existing requirement that entities that are part of a direct corporate association must allocate among themselves shares of the purchase limit. The text is moved from existing section 95914(d)(2) and edited for clarity.

Rationale for Section 95911(d)(3)(A).

The change is necessary to consolidate related participation rules into a single section. It is also intended to improve clarity of the purchase limit requirements applicable to direct corporate associations.



Summary of Section 95911(d)(3)(B).

Section 95911(d)(3)(B) is added to maintain an existing requirement that for entities that are part of a direct corporate association that is composed of multiple entity types, including voluntarily associated entities, then the voluntarily associated entities in the group must collectively have a purchase limit of no more than four percent for the Current Auction. The text is moved from existing section 95914(d)(2) and edited for clarity.

Rationale for Section 95911(d)(3)(B).

The change is necessary to consolidate related participation rules into a single section. It is also intended to improve clarity of the purchase limit requirements applicable to direct corporate associations which have voluntarily associated entities in the group.

Summary of Sections 95911(d)(4)-(6).

Sections 95911(d)(4)-(6) have been deleted.

Rationale for Sections 95911(d)(4)-(6).

The amendments made to clarify and consolidate purchase limit requirements into sections 95911(d)(1)-(3) maintain the requirements formerly contained in subparagraphs (4)-(6). As such, these sections are no longer needed.

Summary of Section 95911(f)(1).

Section 95911(f)(1)(C) and (D) are modified to change the order of in which different allowance consignment and designation types will be sold to winning bids in the event of an undersubscribed auction. Allowances previously designated by ARB for auction that remain unsold from previous auctions will be last in line for fulfilling winning bids.

Rationale for Section 95911(f)(1).

These changes are necessary to correspond to new section 95911(g). That section would move allowances designated pursuant to section 95911(f)(3) that remain unsold at auction for more than 24 months to the Allowance Price Containment Reserve.

Summary of Section 95911(f)(2).

Section 95911(f)(2) is modified to replace the term “operator” with “administrator” and to tie into new sub-requirements.

Rationale for Section 95911(f)(2).

This change is necessary to reflect a term in use throughout the Regulation and to improve clarity by adding a more specific process by which the provision will be carried out.

Summary of New Sections 95911(f)(2)(A)-(B)

Sections 95911(f)(2)(A)-(B) are added to explain the determination of the sale of allowances sold on behalf of each consigning entity when an auction is undersubscribed and not all consigned allowances are sold. These new sections specify that the auction administrator will calculate the number sold proportionately, rounding down to the nearest whole number and to utilize a mechanism similar to the tie-breaker provisions for any remaining allowances sold left after the initial proportional calculation.

Rationale for New Sections 95911(f)(2)(A)-(B).

These new sections are necessary to provide clarity to consignors about the method used to sell consigned allowances when an auction is undersubscribed.

Summary of Section 95911(f)(4).

Section 95911(f)(4) is modified to delete the text referring to the “next auction” and to substitute “sold” in its place.

Rationale for Section 95911(f)(4).

The change is needed to clarify that consigned allowances not sold at the auction where initially designated for sale will be held in the auction account until sold. This clarifies that these allowances will be made available at each subsequent auction until sold.

Summary of Section 95911(g).

New section 95911(g) is added to allow ARB to transfer unsold allowances from the Current auction, if unsold for 24 months after their initial sale date, to be transferred to the Allowance Price Containment Reserve and made available via a Reserve sale. This process would come into effect on January 1, 2018. The new section clarifies that it does not apply to allowances consigned to auction pursuant to section 95910(d).

Rationale for Section 95911(g).

This new section is necessary to allow ARB to remove allowances that remain unsold after 2 years from immediate availability and to supplement the Allowance Price Containment Reserve when the market is depressed for a lengthy period of time. Staff views this as a potentially valuable way to improve cost containment provisions in the Regulation.

Summary of Section 95911(h)(1)-(3).

Section 95911(h) is added to move language currently in subsection(c)(4) and expand the description of options to delay (subparagraph (1)), reschedule (subparagraph (2)), or cancel a scheduled auction bidding window due to technical system failures (subparagraph (3)).

Rationale for Section 95911(h)(1)-(3).

The conduct of auctions is dependent on fully functioning and secure online systems. Any technical service is subject to error or malfunction. In addition, as services rely on internet accessibility, issues which impact internet access can limit entities' ability to participate in a scheduled three-hour auction bidding window. This section is necessary to provide additional clarity as to which options the Executive Officer has available to address any system or access issue to ensure that all eligible parties have equal ability to participate in an auction while ensuring that all requirements for proper conduct of an auction, including the ability to draw on a bid guarantee in a form other than cash, are maintained.

**Section 95912. Auction Administration and Participant Application.**

Summary of Section 95912(d)(4)(D).

Section 95912(d)(4)(D) is modified with the addition of the word "and."

Rationale for Section 95912(d)(4)(D).

The change is needed because the section contains a list that does not end with section 95912(d)(4)(D).

Summary of Section 95912(d)(4)(E).

Section 95912(d)(4)(E) is modified to remove the attestation requirement as it would relate to indirect corporate associations and to only apply it to those entities with whom the applicant has a direct corporate association.

Rationale for Section 95912(d)(4)(E).

Staff experience to date with attestations shows the most valuable information provided in the attestation is either for the applicant or direct corporate associates. The modification is needed to streamline the attestation requirement.

Summary of Section 95912(d)(4)(F).

Section 95912(d)(4)(F) is deleted.

Rationale for Section 95912(d)(4)(F).

ARB is in the process of integrating some tracking system capabilities and no longer needs to have the applicant provide this information.

Summary of Section 95912(j)(1).

Section 95912(j)(1) is modified to make minor corrections to the forms of bid guarantee, which can be submitted for an auction. Subsection (1)(D) is being deleted, as experience in the conduct of auctions has shown that surety bonds are not a feasible form of bid guarantee for this purpose as they are not

commonly available with an ability to meet the requirement to be payable within three business days of payment request.

Rationale for Section 95912(j)(1).

This change is needed to clarify the forms of bid guarantee that may be submitted by an applicant for an auction. The change reduces confusion for participants and allows the financial services administrator supporting auction and reserve sale services to efficiently design, budget, and implement services.

Summary of Section 95912(j)(10).

Section 95912(j)(10) is modified to make minor corrections to clarify that an auction applicant submits one bid guarantee that will be applied first to bids submitted in the Current Auction and any remaining balance will be applied to bids submitted in the Advance Auction.

Rationale for Section 95912(j)(10).

The modification to section 95912(j) clarifies language and removes any conflict with related requirements described in section 95912(j)(5)(C). The modification provides clarity for auction participants.

Summary of Section 95912(k)(2)-(3).

Section 95912(k) is modified to make minor additions to the actions taken following an auction. The modifications clarify that the Executive Officer directs the auction administrator to complete specific actions and the financial services administrator to complete specific actions. Section 95912(k) is renumbered to incorporate additional language. Section 95912(k)(2) is modified to move existing language into the higher-level paragraph. Section 95912(k)(3) is added to further clarify steps the financial services administrator will take. Subparagraphs (B)-(F) are renumbered (A)-(E) to reflect this restructuring. New sections 95912(k)(2)(F)-(G) are added to distinguish return procedures for cash bid guarantees and bid guarantees in a form other than cash, and to remove the requirement that a bid guarantee in a form other than cash must be returned after each auction. This modification will allow an entity, if it chooses, to submit a bid guarantee in a form other than cash to the financial services administrator that will be held and available for use as a bid guarantee in multiple auctions. Sections 95912(k)(3)-(5) are renumbered (4)-(6) to correspond to the overall restructuring of the section.

Rationale for Section 95912(k).

The changes make minor corrections to the actions taken following an auction. The modifications are necessary to improve clarity of the section and to designate the appropriate service provider that is responsible for providing entity specific results to bidders after an auction and the appropriate service provider that is responsible for completing financial settlement including accepting cash payment, using bid guarantees to cover payment by entities

that fail to make cash payment, returning bid guarantees, and distributing auction proceeds. New language in section 95912(k)(2)(F)-(G) is necessary to respond to numerous stakeholder requests to allow bid guarantees in a form other than cash to remain with the financial services administrator for multiple auctions, which increases efficiency and security, and will reduce the risk of entities missing the deadline for submitting a bid guarantee. Numbering changes are necessary to reflect the overall restructuring of the section.

### **Section 95913. Sale of Allowances from the Allowance Price Containment Reserve.**

#### Summary of Section 95913(c)(1)-(2).

Sections 95913(c)(1)-(2) are modified to delete two requirements and add a new requirement that relate to information that must be supplied by account representatives intending to bid at a Reserve sale. The original requirements were written before the tracking system was developed. An individual must now meet these requirements before becoming an account representative. The second is rewritten to require the account representatives to supply additional information required by the financial services administrator.

#### Rationale for Section 95913(c)(1)-(2).

The two requirements in sections 95913(c)(1) and (2) are deleted because an individual must now complete them within the tracking system before becoming an account representative. As such, these requirements are no longer necessary in this section. The new provision requires the account representatives to supply information required by the financial services administrator but not already required by the process of becoming an account representative.

#### Summary of Section 95913(d).

Sections 95913(d)(1), 95913(d)(2), 95913(d)(5) and 95913(d)(6) that discuss the scheduling of Reserve sales are deleted. Reserve sales are scheduled, going forward, as shown in Appendix C of the Regulation. Section 95913(d)(1) to retain the reference to Appendix C.

#### Rationale for Section 95913(d).

The calendar years referenced in these sections are no longer relevant as the schedule is included in Appendix C of the Regulation.

#### Summary of Section 95913(d)(3) [New Section 95913(d)(1)].

Section 95913(d)(3) is modified to renumber it as section 95913(d)(1) and subparagraph (1)(A) is added to provide clear, understandable criteria under which the Executive Officer may determine in advance that a Reserve sale will not be offered. The criteria are based on the settlement price of the auction held in the prior quarter, to reflect whether current market conditions indicate

need for a Reserve sale. If the settlement price is high enough to equal 60 percent of the lowest Reserve tier price, then the Reserve sale will be held. To ensure stakeholders always have access to allowances in the Allowance Price Containment Reserve, regardless of market conditions, the Reserve sale scheduled immediately prior to a compliance deadline will always be conducted.

Rationale for Section 95913(d)(3) [New Section 95913(d)(1)].

Reserve sales provide a cost containment strategy and access to the Allowance Price Containment Reserve allowances for covered entities. Requiring that all scheduled Reserve sales be conducted has been inefficient as market conditions currently do not result in a need for Reserve sales to be regularly held. No Reserve sales to date have been held as there have been no qualified applicants. However, all of the infrastructure and preparation must be in place as if the Reserve sales were going to occur. Providing a market indication that will require Reserve sales to be held only in the quarters in which there is more likely demand, while providing at least annual access to obtain Allowance Price Containment Reserve allowances achieves, the intent of the cost containment elements of the Regulation while providing resource efficiencies for staff and Contractors.

Summary of Section 95913(d)(4) [New Section 95913(d)(2)].

Section 95913(d)(4) has been renumbered section 95913(d)(2). The existing language is modified to make minor corrections for consistency with changes in new section 95913(d)(1). This section reflects the requirements for providing Notice of only those Reserve sales which will be offered based on the criteria in section 95913(d)(1).

Rationale for Section 95913(d)(4) [New Section 95913(d)(2)].

Consistent with new section 95913(d)(1), the requirements to provide information to eligible participants prior to a Reserve sale is modified to reflect that information will be provided only for those Reserve sales which will be offered.

Summary of Sections 95913(d)(5)-(6).

Sections 95913(d)(5)-(6) are deleted.

Rationale for Sections 95913(d)(5)-(6).

These sections are no longer needed, given the changes made to section 95913(d) as a whole.

Summary of Section 95913(e)(1) and (2).

Sections 95913(e)(1)-(2) are modified to delete obsolete eligibility requirements. The numbering is removed so as to retain the intent to bid notification requirement.

Rationale for Section 95913(e)(1) and (2)).

The requirements that an entity must be registered to participate in the Reserve sale is obsolete. It was written before the tracking system was created. An entity cannot be registered without being in the tracking system. The information ARB needs to verify the entity's status is now located in the tracking system, such that subparagraph (e)(2) is no longer needed.

Summary of Section 95913(f).

Section 95913(f) is modified to amend the title to clarify that this section relates to Reserve tiers in the years 2013-2020. New section 95913(k) has been added clarify the creation and operational requirements of the Reserve after 2020.

Rationale for Section 95913(f).

This change is needed to clearly delineate the Reserve tiers through 2020 from the new section 95913(k) that addresses Reserve sales after 2020.

Summary of Section 95913(f)(1).

Section 95913(f)(1) is modified to add language that specifies allowances that were unsold at previous auctions would be transferred to the Reserve, pursuant to section 95911(g), and that these would be offered at the highest priced tier.

Rationale for Section 95913(f)(1).

The modification is necessary to clarify which tier allowances moved to the Reserve pursuant to section 95911(g) will be sold at. Unsold allowances transferred to the Reserve are intended to be the last backstop in the Reserve. This transfer to the highest price tier is consistent with ARB's other cost containment provision of making additional allowances available, pursuant to section 95870(a), at the highest price tier at the Reserve sale prior to the compliance deadline.

Summary of Section 95913(f)(5).

Section 95913(f)(5) is modified to specify that the same process for pre-2020 allowances to be made available at the highest price tier of the Allowance Price Containment Reserve if the amount of accepted bids at the highest price tier exceeds the number of allowances would also apply post-2020, pursuant to new section 95871(h)(1).

Rationale for Section 95913(f)(5).

This change is needed to continue making allowances available for specific Reserve sales in budget years after 2020.

Summary of Section 95913(f)(5)(A)-(F).

Sections 95913(f)(5)(A)-(F) is modified to remove outdated dates in former subparagraph (A), and to renumber the other paragraphs to reflect this deletion.

Rationale for Section 95913(f)(5)(A)-(F).

The changes were necessary because the calendar year referenced in section 95913(f)(5)(A) is no longer relevant.

Summary of Section 95913(g)(2)(D).

Section 95913(g)(2)(D) is modified to make minor corrections to the forms of bid guarantee which can be submitted for a reserve sale, consistent with proposed changes to the forms of bid guarantee which can be submitted for an auction. Subsection (2)(D) is being deleted as it is not a feasible form of physical guarantee for this purpose as they are not commonly available with an ability to meet the requirement to be payable within three business days of payment request.

Rationale for Section 95913(g)(2)(D).

This change is needed to clarify the forms of bid guarantee that may be submitted by an applicant for a reserve sale. The change reduces confusion for participants and allows the financial services administrator supporting auction and reserve sale services to efficiently design, budget, and implement services.

Summary of Section 95913(h)(1)(A).

Section 95913(h)(1)(A) is added to include the sale of unsold Current Auction allowances made available pursuant to section 95911(g), as well as post-2020 allowance price containment reserve allowances pursuant to new section 95871(a).

Rationale for Section 95913(h)(1)(A).

This change is necessary to clarify which additional allowances are available in the Reserve sale.

Summary of Section 95913(h)(5).

Section 95913(h)(5) is updated to add in the title "Filling Accepted Bids." Section 95913(h)(5)(C) is added to further describe the methodology for determining distribution of allowances when the sum of bids accepted by the reserve sale administrator for a tier is greater than the number of allowances in the tier. This addition addresses the distribution of any allowances that may remain as a result of rounding when the reserve sale administrator determines the number of allowances to distribute to each bidding entity using the entity's share of total bids. The calculation using a random number allocation is consistent with the tiebreaker methodology used in auctions and described in Section 95911(e)(5)(C).

Rationale for Section 95913(h)(5).

The addition of the title is necessary to improve clarity of the overall section. The addition of section 95913(h)(5)(C) is necessary to provide clarity in the



methodology used to determine distribution of allowances when the sum of bids accepted by the reserve sale administrator for a tier is greater than the number of allowances in the tier. If, due to rounding, there are remaining allowances when determinations are made, Section 95913(h)(5) provides that a random number allocation similar to that used in auction settlement will be employed. The addition addresses a scenario not previously described.

#### Summary of Section 95913(i).

Section 95913(i) is modified to make minor corrections and additions to the actions taken following a reserve sale. Section 95913(i)(2) is modified to specify that the Executive Officer directs the reserve sale administrator to complete specific actions and the financial services administrator to complete specific actions. Section 95913(i)(3) is added to further clarify the separate steps that the financial services administrator will be directed to take, and subparagraphs are renumbered to reflect this new structure. New sections 95913(i)(3)(D) and (E) are added to distinguish return procedures for cash bid guarantees and bid guarantees in a form other than cash, and to remove the requirement that a bid guarantee in a form other than cash must be returned after each auction or reserve sale. This modification will allow an entity, if they choose, to submit a bid guarantee in a form other than cash to the financial services administrator that will be held and available for use as a bid guarantee in multiple auctions and/or reserve sales.

#### Rationale for Section 95913(i).

The changes are necessary to improve clarity on the actions taken following a reserve sale. The modifications clarify the appropriate service provider that is responsible for providing entity specific results to bidders after a reserve sale and the appropriate service provider that is responsible for completing financial settlement including accepting cash payment, using bid guarantees to cover payment by entities that fail to make cash payment, returning bid guarantees, and distributing proceeds. New language in section 95913(i)(3)(E) is necessary to address numerous stakeholder requests to allow bid guarantees in a form other than cash to remain with the financial services administrator for multiple auctions or reserve sales, which increases efficiency and security, and will reduce the risk of entities missing the deadline for submitting a bid guarantee. The modifications to renumber provisions are needed to reflect the restructuring of the section.

#### Summary of New Section 95913(k).

Section 95913(k) is added to outline the operation of the Allowance Price Containment Reserve after 2020. The two new provisions of this section are section 95913(k)(1) and section 95913(k)(2).

Rationale for New Section 95913(k).

The addition of section 95913(k) is necessary to ensure that the Allowance Price Containment Reserve continues beyond 2020 and to ensure clarity in the requirements of the Allowance Price Containment Reserve.

Summary of New Section 95913(k)(1).

Section 95913(k)(1) is added to specify that allowances remaining in the Reserve after 2020 are carried over to 2021 and collapsed into a single tier.

Rationale for New Section 95913(k)(1).

This new section is needed to provide certainty that allowances remaining in the Reserve after 2020 will be carried over into the post-2020 Reserve. This section is also needed to specify that the Reserve will be collapsed into a single tier. The change to a single tier is necessary to A post 2020 single tier Reserve is expected to make the administrative operation of Reserve sales and determining how many allowances to award to entities simpler for ARB and its contractors, as well as making it easier for Reserve sale participants to formulate a bidding strategy.

Summary of New Section 95913(k)(2)(A)-(C).

Sections 95913(k)(2)(A)-(C) are added to specify how a Reserve Sale Price for the single tier is determined. The Reserve Sale Price would be set equal to the 2021 auction reserve price plus \$60 and that Reserve Sale Price would escalate thereafter at the Consumer Price Index for all Urban Consumers. In addition, Canadian jurisdictions that have linked with California would convert their Reserve Sale Price using the most recently available (prior to the Reserve sale) Bank of Canada daily closing exchange rate. The Reserve price used in California's Reserve Sale Price will be the higher of the California Reserve Sale Price and the Canadian jurisdiction price(s).

Rationale for Section 95913(k)(2).

These additions are necessary to ensure a clear understanding of how the Reserve Sale Price is determined. This approach is intended to ensure that the Reserve Sale Price escalates somewhat more slowly than the California auction reserve price, narrowing the difference between the two prices. The Emissions Market Advisory Committee suggested this concept because it will reduce the economic incentives and the payoff to entities that are accumulating allowances beyond what they need for compliance, with an objective of withholding allowances from the market and driving market prices upwards. In addition, this change is needed to more closely align the California Reserve Sale Price with Canadian jurisdictions' Reserve Sale Prices, which may be escalate faster or slower than California's due to differences in the rate of inflation in Canada and the United States. The jurisdictions will maintain separate Reserve sales for their registered entities but that leaves open the possibility of arbitrage between California registered entities and Canadian

registered entities following a Reserve sale in one or both jurisdictions. Using the higher of the California Reserve price or the Canadian Reserve price (in U.S. dollars) limits the benefits of arbitrage, as all jurisdictions will be using the same Reserve Sale Price if Reserve sales are held on approximately the same date.

Summary of New Section 95913(k)(3).

New section 95913(k)(3) is added to specify that previous procedures for the pre-2020 Allowance Price Containment Reserve in sections 95913(f), (g), and (h) will be replaced by new procedures specified in sections 95913(l), (m), and (n) starting on January 1, 2021.

Rationale for New Section 95913(k)(3).

This new section is needed to clarify that previously used procedures will be replaced starting in 2021.

Summary of New Section 95913(l).

New section 95913(l) is added to closely follow the Reserve sale provisions in section 95913(f). The new section only applies to the Reserve sale immediately preceding the surrender deadline of November 1. Allowances will be made available pursuant to section 95871(h)(1) if the accepted bids exceed the amount of allowances in the Reserve.

Rationale for New Section 95913(l).

This new section is necessary to treat post 2020 allowances and the Reserve sale preceding the November 1 surrender deadline in the same manner as pre-2020 allowances.

Summary of New Section 95913(l)(1).

New section 95913(l)(1) specifies that if the total amount of allowances allocated to the APCR is equal to or greater than the quantity of accepted bids, then all the accepted bids will be filled.

Rationale for New Section 95913(l)(1).

This new section is necessary to clarify the circumstances in which all accepted bids would be filled.

Summary of New Section 95913(l)(2).

New section 95913(l)(2) specifies that if accepted bids exceed allowances available for sale then allowances sold will follow the process in section 95913(n)(3).

Rationale for New Section 95913(l)(2).

The new section is necessary to clarify the process in which allowances will be sold when bids exceed available allowances supply. Section 95913(n)(3)

includes a clear set of steps and a process to cover any potential bids to allowances scenario.

Summary of New Section 95913(l)(3).

New section 95913(l)(3) is added to specify the first allowances that will be used to fill accepted bids.

Rationale for New Section 95913(l)(3).

This new section is necessary to clarify the order to be used to fill accepted bids.

Summary of New Section 95913(l)(4).

New section 95913(l)(4) is added to specify the order in which allowances available for sale pursuant to sections 95870(i)(1) and 95871(h)(1) are sold, from latest to earliest vintage.

Rationale for New Section 95913(l)(4).

This new section is needed to further clarify the order in which allowances sold at a Reserve sale are to be sold.

Summary of New Section 95913(l)(5).

New section 95913(l)(5) is added to specify that any allowances sold in a Reserve sale immediately preceding a November 1 surrender deadline may be used to satisfy the November 1 compliance obligation, regardless of vintage.

Rationale for New Section 95913(l)(5).

This new section is needed to make clear that an entity that purchases allowances at the Reserve sale immediately preceding a November 1 surrender deadline may use those allowances (regardless of their actual vintage) immediately to meet any compliance obligation. This is important to ensure that the cost-containment purpose of the Reserve sale, and the timing of the Reserve sale, allows entities who need to access those allowances to immediately meet a surrender deadline may do so.

Summary of New Section 95913(m)(1)-(7).

New section 95913(m) is added to specify the requirements for participating in a Reserve sale. Entities intending to participate would have to submit a bid guarantee to the financial services administrator to cover the sum of the maximum bids submitted by the entity. Section 95913(m)(1) specifies that the maximum value would be the quantity of bids multiplied by the Reserve Sale Price. Section 95913(m)(2) specifies the acceptable forms of bid guarantee, including (A) cash in the form of a wire transfer, (B) an irrevocable letter of credit, and (C), a bond from a financial institution. Sections 95913(m)(3)-(5) further specify requirements for these bid guarantees, such that they must be payable to the financial services administrator and they can expire no sooner

than 26 days after a sale. Sections 95913(m)(6) specifies that the financial services administrator will evaluate the bid guarantee and inform the Reserve sale administrator of the value. Section 95913(m)(7) allows the Executive Officer to revise the timing of a Reserve sale notification requirements and bid guarantee submittal requirements to ensure a minimum of four business days is available between the notice and submittal due dates.

Rationale for New Section 95913(m)(1)-(7).

These changes are necessary to ensure consistent treatment of bid guarantee submittal requirements pre- and post-2020. The requirements are needed to set clear timing requirements, specify the acceptable bid guarantee forms, and ensure the Executive Officer has a window of flexibility to ensure Reserve sales can occur. These provisions, along with the change to a single tier, are necessary to clarify and simplify the Reserve sale post-2020.

Summary of New Section 95913(n)(1)-(3).

New section 95913(n) is added to clearly specify how Reserve sales will operate starting January 1, 2021. These requirements mirror those for pre-2021 sales. Subparagraph (1) specifies the Reserve sale bid window, which would be a three-hour window in which bids of allowances in multiples of 1,000 would be submitted. Subparagraph (2) specifies that only bids in multiples of 1,000 will be accepted if the acceptance of the bid would not violate the holding limit or if acceptable would not result in acceptance of total bids that exceed an entity's bid guarantee. Subparagraph (3) clarifies the process for filling accepted bids. This would include (A) for Reserve sales not immediately preceding the November 1 surrender deadline, continuing the Reserve sale until all allowances available are sold, or all accepted bids are filled; (B) for the sale immediately preceding the November 1 surrender deadline, continuing the Reserve sale until all bids are filled or allowances available pursuant to sections 95870(a) and 95870(i)(1) are sold; and (C) a tie-breaker process to sell allowances proportionately if accepted bids exceed allowances in the Reserve.

Rationale for New Section 95913(n)(1)-(3).

These changes are necessary to ensure consistent treatment of bid guarantee submittal requirements pre- and post-2020 between sections 95913(h) and 95913(n). The primary difference is results from the collapse of the three tier structure into a single tier, so allowances won are not accumulated across tiers, at different prices, and no roll-down procedure is required from a higher tier to the next lower tier when sales in a tier are undersubscribed. This revised structure is necessary to clarify and simplify the Reserve sale post-2020.

**Section 95914. Auction Participation and Limitations.**

Summary of Section 95914(c).

Section 95914(c) is amended to change the title of the section to better describe what the overall section addresses.

Rationale for Section 95914(c).

This change is necessary to clarify that the section is not solely about non-disclosure of bidding information, but also about other disclosure rules.

Summary of Section 95914(c)(1).

Section 95914(c)(1) is amended to replace the “or” before consultants with “and” and to correct capitalization.

Rationale for Section 95914(c)(1).

These changes are necessary to improve the clarity of the section as to the list of entities and individuals that must not disclose information on auction or Reserve sale participation.

Summary of Section 95914(c)(1)(A).

Section 95914(c)(1)(A) is amended to remove the phrase “maintenance of continued auction approval.”

Rationale for Section 95914(c)(1)(A).

The modification is necessary to remove text that is not necessary for the understanding of the prohibition. Entities are prohibited from disclosing their intent to participate or not at auction, as well as their auction approval status. This prohibition is intended to avoid disclosures about past, current, and future auction approval status and participation so as to avoid creating expectations of specific entity participation patterns. ARB releases an auction results report with a list of qualified bidders list that provides information for market participants about past auctions. This list does not indicate whether an entity was actually in an auction; merely that the entities on the list qualified for participation.

Summary of Section 95914(c)(1)(B).

Section 95914(c)(1)(B) is modified to provide a more detailed explanation of an existing prohibition on the disclosure of bidding strategy. The prohibition would apply to past as well as future auctions. The modification extends the meaning of bidding strategy to include specifying an auction settlement price or range of prices at which an entity is willing to buy or sell allowances. Entities doing this could signal their bidding strategy at auction or arrange for proxy bidding. This prohibition does not apply to frequently-observed contracts in which entities agree to pay an auction settlement price (or other price index) plus a margin.

Rationale for Section 95914(c)(1)(B).

The change is needed to provide a more detailed explanation of the requirement. Staff intends the requirement to apply to all auctions because a discussion of past auction bid strategy could inform other participants of the entity's ongoing strategy.

The change involving specifying an auction settlement price at which an entity is willing to purchase allowances is needed to reduce the opportunities for collusion. Without the prohibition, entities could use contracts with that specification to signal the price at which they intend to bid at auction or to arrange for proxy bidding at an auction. Staff has explained this to stakeholders in the past that the existing prohibition covered this instance and the addition of the language clarifies that interpretation in regulation.

Summary of Section 95914(c)(1)(C).

Section 95914(c)(1)(C) is modified to specify the prohibition applies to future and past auctions.

Rationale for Section 95914(c)(1)(C).

The change is needed to clarify the application of an existing requirement.

Summary of Section 95914(c)(1)(D).

Section 95914(c)(1)(D) is modified to specify the prohibition applies to the amount of a bid guarantee submitted by a participant.

Rationale for Section 95914(c)(1)(D).

The change is needed to clarify the application of an existing requirement. The prohibition prevents disclosures of the amount of an entity's bid guarantee. If other participants were aware of the amount they may be able to estimate the entity's bidding strategy. The original text would also have prohibited discussion of the type of guarantee submitted, disclosure of which does not pose the same level of risk.

Summary of Section 95914(c)(2)(D).

Section 95914(c)(2)(D) is modified to add the provision that in the event of a disclosure of auction information by a private utility to a regulatory agency with jurisdiction over that utility, the private utility must provide ARB with the statutory or regulatory reference governing such disclosure only upon request by ARB's Executive Officer. This modifies the previous requirement that the entity had to automatically submit the disclosure to ARB within 10 business days of the disclosure.

Rationale for Section 95914(c)(2)(D).

This modification is necessary to simplify the disclosure requirement. Private utilities must provide the statutory or regulatory reference for certain disclosures

only in response to a request by ARB's Executive Officer. Changing from the automatic disclosure that is currently required to a requirement to disclose only upon request is expected to simplify the disclosure requirement and reduce workload.

Summary of Section 95914(c)(3)(A).

Section 95914(c)(3)(A) is amended to indicate that entities are to ensure that consultants and advisors employed by the entity are to avoid disclosure of the entity's auction information, in addition to not coordinating bidding strategy among participants.

Rationale for Section 95914(c)(3)(A).

The amended text is necessary to clarify that the entity is responsible for prohibiting disclosures by consultants and advisors only of the entity's auction participation information.

Summary for Section 95914(c)(3)(D).

Section 95914(c)(3)(D) is modified to remove the term "physically."

Rationale for Section 95914(c)(3)(D).

This change is needed to correspond to new section 95803(a), which allows for submittal of required information electronically, in hardcopy form, or in another means other than hardcopy, approved by the Executive Officer. This would allow entities and Cap-and-Trade Consultants or Advisors to electronically submit the required information to ARB by the deadline specified in the section.

Summary of Section 95914(d).

Section 95914(d) is removed in its entirety, since auction purchase limits for corporate associations are already covered in section 95911(d).

Rationale for Section 95914(d).

Auction purchase limits for corporate associations are covered in section 95911(d), and thus the text in this section is duplicative and unnecessary.

## **Subarticle 11: Trading and Banking**

### **Section 95920. Trading.**

Summary of Section 95920(b)(3).

The section is modified to clarify that the holding limit will not be calculated to include allowances held in Annual Allocation Holding Accounts. Text related to Exchange Clearing Holding Accounts has been deleted.



Rationale for Section 95920(b)(3).

The change is needed to clarify application of the holding limit and to remove text that is no longer needed. The Exchange Clearing Holding Account language is no longer needed because allowances transferred out of an Exchange Clearing Holding Account to an entity's general holding account already count toward the Holding Limit.

Summary of Section 95920(b)(5).

The section is modified to clarify what constitutes a violation of the holding limit when an exceedance of the holding limit is not discovered until after a transfer is recorded into the tracking system or when the exceedance occurs at the beginning of a new calendar year. The existing text provided a five-day grace period for the correction of holding limit violations at any time other than the start of a new calendar because the original tracking system implementation did not allow for the detection of holding limit violations. Staff had no way of stopping the transfer before it was recorded. The existing regulation therefore had a grace period to correct violations after the transfer was recorded.

The current version of the tracking system can determine if a transfer would violate the holding limit before a transfer is completed. It informs the destination account of the problem and will not complete the transfer until the problem is corrected, so there can be no inadvertent completion of a transfer that violates the holding limit. Since any potential violation would be detected before the transfer is recorded into the system, no one would qualify for the grace period. There is no longer a need for the grace period in this case and staff is proposing to eliminate it.

The modified text retains and clarifies the grace period available at the start of a new calendar year. The holding limit calculation for current vintage allowances is based on the calendar year. Prior to the start of a new calendar year, allowances with a vintage equal to the next calendar year are classified as "future vintages." A separate holding limit is calculated for holdings of each future vintage. When a new calendar year starts, the allowances that have the same vintage as the new calendar year are reclassified as "current vintage," and are included in the calculation of the current vintage holding limit.

Rationale for Section 95920(b)(5).

The modifications are needed in part to reflect development of the tracking system functionality. Since CITSS can detect and flag potential violations of the holding limit before a transfer is completed and warn the account representative of the destination account, the account representative can take the appropriate steps to avoid a holding limit violation prior to taking delivery of the transfer. Since there is an instant warning, account representatives can clean up mathematical or typographical errors. There would be no chance for

inadvertent errors to become violations. There is therefore no longer a need for a general grace period.

Staff is proposing to retain the 5 business day grace period at the beginning of a calendar year because the original rationale for the grace period still exists. Staff's original concern was that entities may not have sufficiently reviewed their holdings to prevent an inadvertent violation of the holding limit. Staff has modified the text to make it clear that to qualify for the grace period, the entity must be in compliance with the holding limit on December 31 of each year, and that it is only the reclassification of current vintages that causes the violation.

Summary of Section 95920(b)(5)(A).

Staff is proposing a minor modification to clarify that an entity would receive notification of any potential holding limit exceedance due to the reclassification of future vintage allowances as current vintage allowances on January 1.

Rationale for Section 95920(b)(5)(A).

The change is needed to clarify whether a holding limit exceedance has occurred.

Summary of Section 95920(b)(5)(B).

The section is modified to clarify that an entity qualifying for the grace period is not yet in violation of the holding limit. In addition, text describing actions taken by the Executive Officer after expiration of the grace period is moved to proposed new section 95920(b)(6) which covers penalties for holding limit violations.

Rationale for Section 95920(b)(5)(B).

The changes are needed for clarity and to reflect the repurposing of the section.

Summary of Section 95920(b)(6).

Staff proposes to modify this section to further clarify existing provisions applying penalties for two cases resulting in holding limit violations. Existing text is deleted to reflect the changes in definition of holding limit violations contained in section 95920(b)(5).

Rationale for Section 95920(b)(6).

The changes are needed for clarity and to reflect the reorganization of the section.

Summary of Section 95920(b)(6)(A).

This section replaces the original text in section 95920(b)(6) and clarifies the application for penalties (1) applying at the expiration of the five-day grace period contained in section 95920(b)(5)(B), and (2) applying at all other times.

Rationale for Section 95920(b)(6)(A).

The changes are needed for clarity and to reflect the reorganization of the section. The changes are necessary to ensure entities understand there are penalties that can result for exceeding the holding limit.

Summary of Section 95920(b)(6)(B).

Staff is proposing new text that would maintain the application of penalties for situations in which a violation of the holding limit is discovered after a transfer is recorded into the tracking system.

Rationale for Section 95920(b)(6)(B).

The change is needed to reflect improvements to the tracking system. In the new version of CITSS it is not possible for an account representative to accidentally violate the holding limit because CITSS provides warnings to the account representative of the destination account on the transfer request. The only way there can be a discovery, after recording, of a transfer request that violates the holding limit is when some other violation has occurred.

For example, suppose an entity fails to disclose the existence of a direct corporate association with other registered entities. CITSS applies the holding limit jointly to all members of a direct corporate association, so if they make a proper disclosure they could not inadvertently exceed the limit. If the members of a direct corporate association fail to make the proper disclosure, then CITSS cannot prevent a violation of the holding limit. Staff could not detect the violation until staff uncovers the correct direct corporate association.

Summary of Section 95920(c)(1).

Staff proposes to add a title introductory text specifying that the first category is for current vintage allowances.

Rationale for Section 95920(c)(1).

The change is proposed for clarity and to reflect the reorganization of the section.

Summary of Section 95920(c)(2).

Staff proposes to add a title introductory text specifying that the first category is for future vintage allowances. The existing text defining a future vintage allowance is deleted and placed in new section 95920(c)(2)(A).

Rationale for Section 95920(c)(2).

The change is proposed for clarity and to reflect the reorganization of the section.

Summary of Section 95920(c)(2)(A).

This proposed section contains text moved from existing section 95920(c)(2).

Rationale for Section 95920(c)(2)(A).

The change is proposed to clarify and to reflect the reorganization of the section.

Summary of Section 95920(c)(2)(B).

This section adds allowances with a vintage year greater than the current calendar year that were obtained through allocation true-up to the category of future vintage allowance.

Rationale for Section 95920(c)(2)(B).

The change is needed so that allowances obtained through allocation true-up will be properly included in holding limit calculations.

Summary of Section 95920(d)(2)(A).

Staff is proposing to modify the text and add a clarification that the limited exemption is available to covered and opt-in covered entities but not to voluntarily associated entities.

Rationale for Section 95920(d)(2)(A).

The change is needed to clarify when allowances may be covered by the limited exemption and to clarify the types of entities that can use the limited exemption.

Summary of Section 95920(d)(2)(B).

The section is modified to set the limited exemption for covered or opt-in covered entities that are registered as of January 1, 2017. The value of the limited exemption is set as the sum of the three most recent annual emissions data reports received by ARB that have received a positive or qualified positive emissions data verification statement for emissions that generated a compliance obligation pursuant to section 95851.

If the entity has not filed three reports because it is a newer emitter, or if the entity was not a covered or opt-in covered entity all three years so it does not have three reports that generated a compliance obligation, then the limited exemption would be calculated on fewer than three reports. If an entity has only filed two reports then the most recent report is counted twice. If an entity has only filed one such report the emissions contained in the report will be tripled.

The section is also modified to remove outdated text.

Rationale for Section 95920(d)(2)(B).

The existing text determining the value of the limited exemption contained past dates that are no longer relevant. The new text eliminates these by specifying the value of the limited exemption on January 1, 2017. The design of the

limited exemption has always required that an entity that has been an emitter throughout a compliance period would enter the third year of a compliance period with a limited exemption equal to three years' worth of emissions. This would allow the entity to include within its limited exemption the allowances accumulated for the first two years of the compliance period as well as the allowances it would accumulate in 2017 for the third year of the compliance period. The new text maintains this approach.

For example, consider an entity that has its initial compliance obligation for its 2015 emissions. ARB will receive the verified report for these emissions in 2016 and the entity will be required to register as a covered entity that year. On January 1, 2017, the entity's limited exemption will equal three times the emissions contained in the report ARB received in 2016.

An entity that was an emitter in the first compliance period would have its limited exemption calculated on three years' worth of actual reported data.

Summary of Section 95920(d)(2)(C).

Existing text is deleted. The replacement text defines the method of calculating the limited exemption for entities registering after January 1, 2017. Covered entities are required to register in the same year as ARB receives their first verified emissions data report. This report covers emissions from the previous year. By the time these entities register they are in the middle of their second year of accumulating a compliance obligation. Since the limited exemption is designed to allow covered entities to accumulate the allowances they need in the same year as they emit, the limited exemption must cover two years of emissions. Since ARB will have only one report at the time of registration, the reported covered emissions contained in the report must be doubled.

Rationale for Section 95920(d)(2)(C).

The change is needed because the original text is outdated. The replacement text is needed to provide a calculation of the limited exemption of entities that register after January 1, 2017.

Summary of Section 95920(d)(2)(D).

The text is modified to remove a past date.

Rationale for Section 95920(d)(2)(D).

The modification is needed for clarity.

Summary of Section 95920(d)(2)(E).

The text is modified to remove the capitalization from the term "limited exemption."

Rationale for Section 95920(d)(2)(E).  
The modification is needed for clarity.

Summary of Section 95920(d)(2)(F).

In addition to the removal of a past date, the text is modified to change the method by which the limited exemption is reduced following a compliance event.

The limited exemption is increased each year to allow for the accumulation of additional allowances to cover another year's emissions. The limited exemption is reduced when an entity completes an end-of-compliance period surrender event. In the existing text this reduction is set equal to the number of compliance instruments surrendered.

In the proposed text, the reduction would be accomplished by reducing the limited exemption by the amount of emissions contained in the oldest annual emissions reports used to calculate the limited exemption. The number of report years' worth of reports removed would equal the number of years in the compliance period. For example, consider an entity that first registered in 2013. When the entity enters 2018, the year of the compliance event for the second compliance period, the entity's limited exemption will be based on emissions data reports received from 2013 through 2016. After the surrender event, the limited exemption would be reduced by the amount of covered emissions contained in the 2013, 2014 and 2015 reports. It would then be increased by the amount of the covered emissions in the report received in 2018. Since 2018 is the first year of the next compliance period, the entity will enter the second year of the compliance period with a limited exemption based on two years' worth of reported emissions.

Staff is also proposing to adopt the compliance period definitions contained in the U.S. EPA's Clean Power Plan. The proposed calculation of the limited exemption also reflects the variable number of years in the CPP's compliance periods. The number of years of emissions to be removed from the limited exemption calculation will be the lesser of the number of years in the compliance period just concluded for which the entity had a compliance obligation and the number of years in the compliance period.

Rationale for Section 95920(d)(2)(F).

The change is needed to ensure the calculation of the limited exemption reflects the changing level of an entity's emissions over time. The existing calculation method reduced the limited exemption by the amount of the entity's compliance period emissions. This had the effect of determining each post-surrender calculation entirely from the entity's oldest emissions reports. This would be a constant over time. This method was chosen because the value would be known in advance, which would help the entity plan its future

holdings. The new method would reflect an entity's actual emissions over time, which may increase or decrease.

The change is also needed to reflect the proposed variable number of years in future compliance periods and the fact that an entity may not have a compliance obligation for every year in the compliance period.

Summary of Section 95920(f).

The text is modified to clarify a title, by removing the words "the" and "disclosure."

Rationale for Section 95920(f).

The modification is needed to clarify that the entire subparagraph (f)(2) relates to direct corporate associations.

Summary of Section 95920(f)(2).

The existing text is deleted and replaced with a title, Calculation of Limited Exemption for a Direct Corporate Association. The existing text is moved to proposed section 95920(f)(2)(A).

Rationale for Section 95920(f)(2).

The modification is needed to reflect reorganization of the section.

Summary of Section 95920(f)(2)(A).

The proposed text contains existing text moved from section 95920(f)(2).

Rationale for Section 95920(f)(2)(A).

The modification is needed for clarity to reflect reorganization of the limited exemption section.

Summary of Section 95920(f)(2)(B).

The proposed section clarifies that when multiple entities are included into a consolidated entity account, the limited exemption for the account is calculated as the sum of the limited exemption calculation for the entities in the account.

Rationale for Section 95920(f)(2)(B).

The modification is needed to explain how to calculate the limited exemption for a consolidated entity account that contains multiple emitters.

Summary of Section 95920(f)(3).

The existing text is modified to correct a reference that has changed and to clarify that the distribution of the holding limit among members of a direct corporate association that are not part of a consolidated entity account must sum to one hundred percent.

Rationale for Section 95920(f)(3).

The modification is needed to reflect the reorganization of subarticle 5 and to clarify an existing calculation.

**Section 95921. Conduct of Trade.**

Summary of Section 95921(a)(3).

The existing text is deleted. Existing section 95921(a)(4) is renumbered to 95921(a)(3).

Rationale for Section 95921(a)(3).

The modification removes outdated text.

Summary of Section 95921(a)(4).

The section is renumbered 95921(a)(3) and an outdated date reference is removed.

Rationale for Section 95921(a)(4).

The change is needed to remove outdated text and to reflect the reorganization of the section.

Summary of Section 95921(a)(5).

The section is renumbered. The existing requirement that a transfer request cannot be submitted without an existing oral or written contract is modified to allow an exemption for transfers between members of a disclosed direct corporate association.

Rationale for Section 95921(a)(5).

The change is needed to allow members of a direct corporate association to use their existing procedures to distribute compliance instruments among themselves without requiring additional procedures or documentation.

Summary of Section 95921(b).

An existing requirement that parties to a transfer request agree to submit documentation on the transaction agreement underlying the transfer request upon request of the Executive Officer is deleted.

Rationale for Section 95921(b).

The text is no longer needed because the requirement has been moved to section 95921(c) and expanded.

Summary of Section 95921(b)(4)(G).

The current text requires entities to provide a description of the pricing method used in the transaction agreement if it does not match any of the other options listed in sections 95921(b)(4)(A) through (F). The modification clarifies the



requirement, and adds the requirement that the account representative enter the resulting price.

Rationale for Section 95921(b)(4)(G).

The change is needed to clarify that in addition to a description of the method for determining the price the account representative must enter the resulting price as well.

Summary of Section 95921(b)(6)(F).

The text is modified to clarify that the account representative may enter a price of zero into a transfer request when the underlying transfer agreement specifies a total cost for deliveries of multiple products but does not include a price or cost basis specifically for transfers of compliance instruments.

Rationale for Section 95921(b)(6)(F).

Section 95921(b)(6) contains a list of instances in which an account representative may enter a zero into the price field of the transfer request. These exemptions reflect the wide variety of transaction agreements currently in use. In some cases, the transaction agreements involve other products than just compliance instruments. Sometimes these agreements include prices specific to the compliance instruments. The revision addresses the case in which multiple products are involved, but there is no specific price attached to the compliance instruments.

The general idea behind section 95921(b)(6) is to recognize that while the account representative must enter a price when one exists or can be calculated, there are cases when that is not possible and an exemption must be granted. To qualify for an exemption, the account representative must identify the exact reason a price cannot be determined.

Summary of Section 95921(c).

There are two paragraphs numbered 95921(c). The second paragraph numbered 95921(c) is deleted.

In addition, the existing text in the first paragraph (c) is modified to remove an outdated time reference and to remove text that introduced a list of requirements that is no longer needed. It requires that documentation requested by the Executive Officer for the transaction agreement that underlies a transfer must be submitted within five days of a request.

Rationale for Section 95921(c).

The deleted paragraph is not needed and can be deleted.

Staff has been relying on ARB's statutory authority to enforce a five-day deadline for the submission of documents related to transfer requests. The change makes this explicit.

The remaining changes are needed for clarity and to reflect the reorganization of the section.

Summary of Section 95921(c)(1).

The existing text is deleted as it was part of the list of requirements that would be dropped as of January 1, 2015.

The proposed section clarifies that the documentation submitted by the parties about the transaction agreement must contain the information needed by staff to verify the information submitted in the transfer request.

Rationale for Section 95921(c)(1).

The deletion is necessary to remove outdated requirements.

The proposed text is needed because account representatives must be able to identify the documents to submit in response to a request by the Executive Officer. In some cases, there is a simple sales contract that contains all of the information entered into the transfer request. In some cases, the transactions agreements are more complicated, and the documentation may include not just an initial agreement but letters confirming transfers or other documentation specific to individual transfers made under a master agreement. The account representative has the responsibility to ensure that each entry made in the transfer request is documented in the materials sent to ARB on request.

Summary of Section 95921(c)(2).

The existing text is deleted as it was part of the list of requirements that would be dropped as of January 1, 2015.

The proposed text contains a requirement that the Executive Officer will treat documentation on transactions agreements that is supplied by the account representative as confidential business information to the extent permitted by law.

Rationale for Section 95921(c)(2).

The deletion is necessary to remove outdated requirements.

The text is needed to ensure that information provided by account representatives on the transaction agreements is protected from release to the extent possible under law. Staff has developed internal procedures to prevent accidental releases and ARB has authority to collect and hold such information.

Summary of Sections 95921(c)(3) Through Section 95921(c)(6).

The existing text is deleted as it was part of the list of requirements that would be dropped as of January 1, 2015.

Rationale for Section 95921(c)(3) Through Section 95921(c)(6).

The deletion is necessary to remove outdated requirements.

Summary of Section 95921(d)(3).

The proposed text imposes the requirement that transfers from an exchange clearing holding account require the same confirmation from an account representative of the destination account as do regular transfers.

Rationale for Section 95921(d)(3).

The change is needed so that all transfers between registered entities are completed only by having the approval of an account representative from the destination account. Staff expects this requirement to have minimal impact because these types of accounts are not actively transferring.

Summary of Section 95921(d)(4).

The existing text is deleted.

Rationale for Section 95921(d)(4).

The existing text is no longer needed as the modifications to section 95920(d)(3) replace it.

Summary of Section 95921(e)(3).

The proposed text clarifies the provision requiring the Executive Officer to protect data on compliance instruments held in holding accounts as confidential refers to information on holdings in individual entity holding accounts.

Rationale for Section 95921(e)(3).

The change is needed to clarify that the protection of confidential information covers individual holdings of compliance instruments, not aggregated holdings. ARB has committed to releasing information on aggregate holdings to enable market participants to understand market trends and to plan their market activities. The existing text was not specific enough to reflect the intent to protect individual holding account balances while allowing staff to publish aggregate data needed by market participants.

Summary of Section 95921(e)(4).

The proposed text clarifies that the Executive Officer will release information on the aggregate quantity of compliance instruments in compliance accounts in a manner that protects the confidentiality of the identity of account holders.

Rationale for Section 95921(e)(4).

The modification is necessary to clarify that while aggregate account holding information will be released in a timely manner, ARB considers the identify of account holders to be confidential and will treat it as such.

Summary of Section 95921(g)(3)(A).

The proposed text would prohibit a registered entity that has had its holding account revoked or suspended from holding compliance instruments or registering for a replacement set of accounts.

Rationale for Section 95921(g)(3)(A).

The change is needed to ensure that entities do not find a way around sanctions imposed by ARB on registered entities that violate market rules. One of the most important enforcement procedures contained in the regulation is the ability of the Executive Officer to revoke or suspend the accounts held by voluntarily associated entities, or to impose restrictions on the accounts of covered and opt-in covered entities. These provisions allow ARB to take quick and effective action to prevent damage to the market by entities that have violated market rules. These actions would be ineffective if an entity could simply acquire another set of accounts.

Summary of Section 95921(h)(1).

The proposed text clarifies a requirement that the operators of an exchange clearing holding account must provide transaction records on transfer requests available to the Executive Officer within ten calendar days of a request.

Rationale for Section 95921(h)(1).

The change is needed to clarify which records the operators of an exchange clearing holding account must make available.

Summary of Section 95921(h)(3).

The proposed change removes references to outdated requirements that are being proposed for deletion in this rulemaking.

Rationale for Section 95921(h)(3).

The change is needed to remove outdated requirements.

Summary of Section 95921(i)(2)(D).

The proposed new text would clarify that even if parties to a deficient transfer request can rectify the deficiency within five business days, the Executive Officer retains the ability to apply penalties for the underlying violations.

Rationale for Section 95921(i)(2)(D).

The change is needed for clarity. The existing text states only that if an entity fails to remedy the deficiency within five business days that the Executive

Officer can order the transfer reversed. This created confusion over whether reversal was the only sanction available. This provision was never intended to limit sanctions solely to the reversal of a transfer request. The modification makes the intent of the provision explicit.

## **Section 95922. Banking, Expiration, and Voluntary Retirement.**

### Summary of Section 95922(d)(2).

The proposed modification removes an outdated explanation of the voluntary retirement process. The proposed new text also allows the transfer to the Retirement Account to be the result of a transaction agreement with an entity that is not registered into the tracking system.

### Rationale for Section 95922(d)(2).

The change is needed because recent developments in the tracking system have simplified the process for voluntary retirement so some of the existing requirement is obsolete. The new text is also needed to allow entities to voluntarily retire allowances for entities that are not registered.

### Summary of Section 95922(d)(2)(A).

The new proposed text would allow unregistered entities to contract with registered entities to conduct the voluntary retirement process. This would facilitate contributions to voluntary reductions by private persons to cover their own emissions. Entities registered into an external GHG ETS or Program with whom ARB has a Retirement-Only Agreement would not be able to use this option.

### Rationale for Section 95922(d)(2)(A).

The prohibition on the use of the option by an entity that is registered into an external GHG program or ETS is needed to prevent “unilateral” linkage access to California compliance instruments, meaning that California has to take some affirmative action to approve this type of linkage. Entities registered into a jurisdiction that has an approved Retirement-Only Agreement with ARB should be using the process specified in those Agreements, rather than the option in section 95922(d)(A).

### Summary of Section 95922(d)(2)(B).

The proposed text imposes a quantitative limit on the amount of allowances a registered entity may transfer to the Retirement Account based on agreements with a single unregistered entity. The limit would be set at 10,000 allowances per year.

### Rationale for Section 95922(d)(2)(B).

The proposed text is needed to further prevent non-Board approved “unilateral” linkages to California’s Cap-and-Trade Program. Staff intends the quantitative

limit to be higher than what individuals would want to cover their emissions. At the same time, the limit should be much lower than what compliance entities would need for compliance, since most GHG ETS and programs have minimum emissions thresholds above 10,000 tons per year.

Summary of Section 95922(d)(2)(C).

The proposed text states that registered entities would have a pathway to conducting voluntary retirement transactions with unregistered entities without violating the prohibitions on beneficial holding contained in section 95921(f)(1). This pathway would require the transaction agreement and transfer request to move from the registered entity's account directly into the Retirement Account.

Rationale for Section 95922(d)(2)(C).

The proposed text is needed to provide registered entities with a way to conduct authorized voluntary retirement transactions without violating existing trade prohibitions.

## **Subarticle 12: Linkage to External Greenhouse Gas Emissions Trading Systems**

### **Section 95941. Procedures for Approval of External GHG ETS.**

Summary of Section 95941.

The proposed amendment adds in language indicating that the Governor of California has to make findings pursuant to Government Code section 12894(f) prior to the Board approving a linkage to an external GHG ETS. The proposed amendment has been added to ensure that the statutory linkage findings required by Government Code section 12894(f) are clearly referenced in the regulation. Government Code section 12894(f) specifies that the Governor must find the following before a linkage is approved: (1) the external GHG Program has adopted program requirements for greenhouse gas reductions, including, but not limited to, requirements for offsets, that are equivalent to or stricter than those required by AB 32; (2) the State of California is able to enforce AB 32 and related statutes, against any entity subject to regulation under those statutes, and against any entity located within the linking jurisdiction to the maximum extent permitted under the United States and California Constitutions; (3) the proposed linkage provides for enforcement of applicable laws by the linking jurisdiction of program requirements that are equivalent to or stricter than those required by AB 32; and (4) the proposed linkage shall not impose any significant liability on the state or any state agency for any failure associated with the linkage.

Rationale for Section 95941.

The proposed amendment is necessary to ensure a clear understanding of the steps and process which must occur prior to a linkage being approved between

California's Cap-and-Trade Program and another jurisdiction's GHG emission trading system.

### **Section 95943. Procedures for Approval of External GHG ETS.**

#### Summary of Section 95943.

The title of the section is modified to include the term "External GHG Program."

#### Rationale for Section 95943.

The change is necessary to reflect a new type of linkage between California's Cap-and-Trade Program with external GHG Programs that are not full GHG emissions trading systems (ETS). Some jurisdictions are planning GHG programs and are exploring the use of emissions credits that originate in an ETS like California's. Before this use could occur, California would have to approve a linkage to or another type of arrangement with the program. The current Regulation does not provide for this type of linkage arrangement.

#### Summary of Section 95943(a).

The change adds a reference to section 95941, which in turn has been modified to reflect the need for the Governor of California to make the findings specified by Government Code section 12894(f) before any linkage can occur. In addition, the section is modified to include linkage with the program proposed by the Government of Ontario, effective January 1, 2018. Addition of Ontario to the list of approved programs allows California covered and opt-in covered entities to use compliance instruments issued by the Government of Ontario.

#### Rationale for Section 95943(a).

This change is necessary to ensure the statutory linkage findings referenced in section 95941 are understood as a precondition to any ARB approved linkage. Addition of the Government of Ontario to the list of programs is needed to allow California covered and opt-in covered entities to use compliance instruments issued by the Government of Ontario starting January 1, 2018.

#### Summary of New Section 95943(b).

Proposed new section 95943(b) creates a new type of connection between California's Cap-and-Trade program and an approved external GHG ETS. Instead of the full interchangeability of compliance instruments between jurisdictions that characterizes linkage under section 95943(a), the proposed section would allow California covered and opt-in covered entities to retire compliance instruments issued by the approved external GHG ETS without granting reciprocal retirement of California compliance instruments to the covered entities in the approved external GHG ETS.

Rationale for New Section 95943(b).

As ARB considers new types of linkages with other GHG ETS, a potential type of linkage would be one which does not require entities registered with either ETS to be full participants in the other ETS. This type of arrangement would only create the ability for California registered entities to purchase and retire instruments in the other system in order to meet their California compliance obligations. This type of arrangement is needed to allow limited linkage with an external GHG ETS that has operating rules that are not fully compatible with California's. The arrangement could still allow limited trade between the systems without full integration. The arrangements would have to meet the requirements of proposed section 95944.

ARB has not established any such arrangement with any external GHG ETS and is not proposing to do so in this rulemaking.

Summary of New Section 95943(c).

Proposed new section 95943(c) would allow for a new type of connection between California's Cap-and-Trade Program and an approved external GHG program. This section would allow entities registered into an approved external GHG program to retire California compliance instruments for compliance with their own GHG program's requirements. The arrangement would have to meet the requirements of proposed section 95945.

Rationale for New Section 95943(c).

The proposed section is needed to allow limited connection with an external GHG program that may not be a full-fledged GHG ETS. The arrangement could allow limited trade between the systems without full integration by allowing entities registered into the approved external GHG program to retire California compliance instruments for compliance with their own program's requirements. The arrangements would have to meet the requirements of proposed section 95945.

ARB has not established any such arrangement with any external GHG program and is not proposing to do so in this rulemaking.

**New Section 95944. Retirement-Only Limited Linkage.**

Summary of New Section 95944(a).

The proposed section creates a new type of linkage with an external GHG ETS to be known as a "Retirement-Only Limited Linkage." ARB already has one form of linkage with the Province of Québec pursuant to existing section 95943(a). In this existing form of linkage, entities registered into one jurisdiction are allowed to purchase and hold compliance instruments issued by the other jurisdiction. Entities from both jurisdictions are registered into one



tracking system. This form of linkage requires a common set of operational rules.

ARB is contemplating other forms of linkage in which entities can access the compliance instruments issued by a GHG ETS with very different operating rules. One form of linkage is the proposed “Retirement-Only Limited Linkage,” in which California registered entities could purchase and retire compliance instruments in another system and apply these retirements to their California obligations. The proposed section specifies that the Board would be needed to approve such a linkage.

Rationale for New Section 95944(a).

The proposed section is needed to authorize a new type of linkage and to ensure that any such linkages conform to important rules governing California’s system, including restrictions on the types of compliance instruments and the quantitative limit on offset use.

Summary of New Section 95944(a)(1).

The proposed text authorizes California covered or opt-in covered entities to arrange for the retirement of compliance instruments in approved GHG ETS for credit towards their compliance obligation in California.

Rationale for New Section 95944(a)(1).

The proposed section is needed to authorize a new type of linkage. The provision is also needed to require Executive Officer approval of the retirements for compliance.

Summary of New Section 95944(a)(2).

The proposed section requires Board approval of the types of compliance instruments issued by the linked GHG ETS that may be retired and applied towards a California compliance obligation.

Rationale for New Section 95944(a)(2).

The proposed text is needed clarify how compliance instruments issued by a linked GHG ETS may be applied towards a California compliance obligation. Specifically, the Board would have to approve the types of eligible instruments for any linked GHG ETS.

Summary of New Section 95944(a)(3).

The proposed text gives the Board the option of specifying restrictions on the use of compliance instruments from the linked GHG ETS.

Rationale for New Section 95944(a)(3).

The proposed text is needed to provide a mechanism for the Board to ensure that the types of compliance instruments retired through this type of linkage meet the environmental objectives of the California Cap-and-Trade Program.

Summary of New Section 95944(b)(1).

The proposed text requires California entities that seek to purchase, transfer, or retire compliance instruments in the linked GHG ETS to follow the rules established by the linked GHG ETS concerning access of California registered entities to that system.

Rationale for New Section 95944(b)(1).

The change is needed to clarify that California does not seek a “unilateral” linkage with any external GHG ETS. Rather, the linkage agreement and California regulations will ensure that the linked system may control access to the system by California registered entities. The proposed text imposes only minimal prerequisites for how the external GHG ETS grants access to California registered entities. The external GHG ETS could impose requirements ranging from a simple reciprocation of California’s retirement-only approach to a system that may require registration by California entities in the other system or involve additional rules.

Summary of New Section 95944(b)(2).

The proposed text would specify that the linkage agreement would need to ensure that the external GHG ETS provides the California accounts administrator with documentation on the compliance instruments retired by California entities on the linked system in time for California to use the information to determine compliance in California’s program.

Rationale for New Section 95944(b)(2).

The new text is necessary to establish a process by which allowances retired in a linked GHG ETS may be applied to California entities’ compliance obligations.

**New Section 95945. Retirement-Only Agreements With External GHG Program.**

Summary of New Section 95945(a).

The proposed section creates a new type of connection with an external GHG program to be known as a “Retirement-Only Agreement,” in which entities from approved external GHG programs may retire California compliance instruments that could then be applied to their own program obligations. The term “program” is meant to include any type of program requiring reductions in greenhouse gas emissions, so a GHG ETS could be one kind of GHG program. Another kind might set individual entity targets for reductions with an option to retire another jurisdiction’s compliance instruments.

ARB already has one form of linkage with the Province of Québec pursuant to existing section 95943(a). In this existing form of linkage, entities registered into one jurisdiction are allowed to purchase and hold compliance instruments issued by the other jurisdiction. Entities from both jurisdictions are registered into one tracking system. This form of linkage requires a common set of operational rules.

ARB is contemplating other forms of relationships in which entities can access the compliance instruments issued by California. One form of linkage is the proposed “Retirement-Only Agreement,” in which registered entities from an external GHG program could purchase and retire compliance instruments in California and apply these retirements to their program’s obligations. The proposed section specifies that the Board would need to approve such an agreement.

Rationale for New Section 95945(a).

The proposed section is needed to authorize a new type of agreement and to ensure that any such linkages conform to important rules governing California’s system, including restrictions on the types of compliance instruments and the quantitative limit on offset use.

Summary of New Section 95945(a)(1).

The proposed text authorizes entities registered into approved external GHG programs to arrange for the retirement of California compliance instruments for credit towards their compliance obligation in their program.

Rationale for New Section 95945(a)(1).

The proposed section is needed to authorize a new type of agreement. The provision is also needed to specify the structure for this type of arrangement.

Summary of New Section 95945(a)(2).

The proposed section specifies that the Retirement-Only Agreement will specify the types of compliance instruments issued by California that may be retired and applied towards a compliance obligation in an approved external GHG program.

Rationale for New Section 95945(a)(2).

The proposed text is needed to ensure that this type of agreement must occur through a Board-approved Retirement-Only Agreement. This text is needed to ensure entities understand the approval process that must occur before such a Retirement-Only Agreement can be approved.

Summary of New Section 95945(a)(3).

The proposed text provides for ARB to place limits on the retirements of California compliance instruments by entities registered into approved external GHG programs.

Rationale for New Section 95945(a)(3).

The proposed text is needed to provide a mechanism for ARB to ensure that the types of compliance instruments retired through this type of agreement meet the environmental objectives of the California Cap-and-Trade Program.

Summary of New Section 95945(b)(1).

The proposed text requires creation of an External GHG Program Holding Account under the control of the Executive Officer. California entities seeking to retire California compliance instruments for entities registered into approved external GHG programs would have to transfer compliance instruments to this account before ARB would retire them.

Rationale for New Section 95945(b)(1).

The change is needed to create a pathway to conduct this new type of transfer in a manner consistent with the agreement.

Summary of New Section 95945(b)(2).

The proposed text prohibits entities registered with an external GHG program from registering with ARB for the purpose of retiring California compliance instruments.

Rationale for New Section 95945(b)(2).

The new text is necessary to prevent retirements for purposes of compliance with an external GHG program which California has not approved and to ensure proper accounting for retirements of California compliance instruments under a Retirement-Only Agreement.

Summary of New Section 95945(c)(1).

The proposed text would allow an entity registered with an approved external GHG program to contract with a California-registered entity to retire California compliance instruments on behalf of the unregistered entity.

Rationale for New Section 95945(c)(1).

The proposed text would create a pathway to implement transactions under the new type of linkage agreement without violating the prohibition on holding instruments on behalf of another entity contained in section 95921(f)(1).

Summary of New Section 95945(c)(2).

The proposed text requires the California registered entity retiring California compliance instruments on behalf of an entity registered into an approved

external GHG program to include an identifier in the transfer request containing the entity identification number assigned by the approved external GHG program to the entity registered into an approved external GHG program.

Rationale for New Section 95945(c)(2).

The proposed text is needed to create a mechanism for ARB to maintain an accounting record of retirements made on behalf of entities registered into approved external GHG program.

Summary of New Section 95945(c)(3).

The proposed text requires the Executive Officer to review retirement transfer requests for conformance with the Cap-and-Trade Regulation. When conformance is established the instruments will be transferred to the Retirement Account and the entity identification assigned by the approved external GHG program to the entity registered into an approved external GHG program will be entered into the transfer request.

Rationale for New Section 95945(c)(3).

The proposed text is needed to ensure all retirements conform to the Cap-and-Trade Regulation requirements and to ensure an accounting of all retirements made on behalf of an entity registered into an approved external GHG program.

Summary of New Section 95945(c)(4).

The proposed text would authorize the accounts administrator to provide the administrator of the approved external GHG program an accounting of the retirements made by California on behalf of the entities registered into the approved external GHG program.

Rationale for New Section 95945(c)(4).

The proposed text is needed to provide the administrator of the approved external GHG program with an accounting of the retirements made on behalf of its entities in the California Cap-and-Trade Program.

### **Subarticle 13: ARB Offset Credits and Registry Offset Credits**

#### **Section 95972. Requirements for Compliance Offset Protocols.**

Summary of Section 95972(c).

Section 95972(c) is amended to delete Canada and Mexico from geographic applicability of compliance offset projects.

Rationale for Section 95972(c).

This amendment is appropriate because all of the current Board-approved compliance offset protocols limit the geographic location of offset projects to

within the United States or the United States and its territories. Any future offsets from regions outside the United States would be authorized via linkage.

### **Section 95973. Requirements for Offset Projects Using ARB Compliance Offset Protocols.**

#### Summary of Section 95973(a)(2)(D).

Section 95973(a)(2)(D) is amended to change the word “report” to “Report.”

#### Rationale for Section 95973(a)(2)(D).

This change is necessary to correct a typographical error.

#### Summary of Section 95973(a)(2)(G).

Section 95973(a)(2)(G) is added to clarify that if a new law, regulation, or legally binding mandate comes into effect, a project may continue to receive ARB offset credits for the remainder of the crediting period, but may not renew a crediting period.

#### Rationale for Section 95973(a)(2)(G).

This amendment is necessary to assure the additionality of projects in the offsets program. If a law, regulation or legally binding mandate requires an activity that results in GHG emission reductions or GHG removal enhancements a project cannot receive credit for those GHG emission reductions or removal enhancements. However, if a project lists prior to the law, regulation or legally binding mandate going into effect, the project may continue to receive ARB offset credits for the remainder of their crediting period. This will help ensure the anticipated financial return on a project investment is realized.

#### Summary of Section 95973(a)(3).

Section 95973(a)(3) is amended to remove Canada and Mexico from applicable locations under general requirements for compliance offset projects. And any future offsets from regions outside the United States would come in via linkage.

#### Rationale for Section 95973(a)(3).

This amendment is necessary because all of the current Board-approved compliance offset protocols limit the geographic location of offset projects to within the United States or the United States and its territories.

#### Summary of Section 95973(b).

Section 95973(b) is amended to clarify that state laws and regulations are also included in the Regulatory Compliance requirements and that a project may be out of regulatory compliance even if it has not subject to an enforcement action.

Rationale for Section 95973(b).

This modification is necessary to make it explicit that state laws and regulations were also included in the regulatory compliance requirement. Previously, state requirements were included under regional requirements, but now they will be explicitly identified. Additionally, the modification clarifies that ARB has discretion to find regulatory noncompliance where noncompliance exists but has not been subject to enforcement action by a regulatory oversight body.

Summary of Section 95973(b)(1).

Section 95973(b)(1) is added to specify a project using the Livestock Projects and Mine Methane Capture Projects Compliance Offset Protocols is not eligible to receive ARB offset credits for only the time period the offset project is out of regulatory compliance. The Offset Project Operator or Authorized Project Designee must submit information, subject to ARB review, identifying the start and end dates of the period the offset project is out of regulatory compliance.

Rationale for Section 95973(b)(1).

This addition is necessary to limit the time period projects using the Livestock Projects and Mine Methane Capture Projects Compliance Offset Protocols are ineligible to receive ARB offset credits. In the current version of the Regulation, if the offset project was out of regulatory compliance during any part of a reporting period, the offset project was not eligible to receive ARB offset credits for the entire reporting period. ARB staff determined it is appropriate, when possible, to limit the period of ineligibility to the period the project was out of regulatory compliance. The period of time the offset project is out of regulatory compliance must be substantiated by the Offset Project Operator or Authorized Project Designee to the satisfaction of ARB.

Summary of Section 95973(b)(1)(A).

Section 95973(b)(1)(A) was added to describe how the start date for the offset project being out of regulatory compliance is determined, and what must be provided by the Offset Project Operator or Authorized Project Designee to justify the start date.

Rationale for Section 95973(b)(1)(A).

This addition is necessary since the time period for the offset project being ineligible to receive ARB offset credits is tied to the period the offset project is out of regulatory compliance, the time period for which the offset project is not in regulatory compliance must be accurately determined. The time period for which the project is out of regulatory compliance does not always begin when the violation is first observed by a regulatory oversight body; it may begin earlier. It is possible the violation could have been occurring prior to the first observation, so ARB must be assured that the date used for the start of the project being out of regulatory compliance truly reflects the date the noncompliant activity cited in the enforcement action actually started.

Summary of Section 95973(b)(1)(A)(1).

Section 95973(b)(1)(A)3. is added to include documentation from the regulatory oversight body that initiated the enforcement action as one option for identifying the start date the offset project is out of regulatory compliance.

Rationale for Section 95973(b)(1)(A)(1).

This addition is necessary since evidence may be present from a variety of real time monitoring equipment or other sources indicating the precise date of the offset project going out of regulatory compliance. The same regulatory oversight body issuing the enforcement action must review the evidence and agree with the determination of the start date.

Summary of Section 95973(b)(1)(A)(2).

Section 95973(b)(1)(A)(2) is added to allow the date of the last inspection that did not indicate the offset project was out of regulatory compliance for the activity in question as one option for identifying the start date the offset project is out of regulatory compliance.

Rationale for Section 95973(b)(1)(A)(2).

This addition is necessary because it is unlikely the activity that caused the offset project to be out of regulatory compliance began simultaneously with the inspection noting the noncompliance or other identification of the activity. If the activity cited in the enforcement action was not observed at a previous inspection by the same regulatory oversight body issuing the enforcement action, then it is likely, but not necessarily conclusive, the activity was in regulatory compliance at that time.

Summary of Section 95973(b)(1)(A)(3).

Section 95973(b)(1)(A)2. is added to allow the beginning of the Reporting Period as one option for identifying the start date the offset project is out of regulatory compliance.

Rationale for Section 95973(b)(1)(A)(3).

This addition is necessary since each Offset Project Data Report contains GHG emission reduction and removal enhancements for one Reporting Period only. Even if the offset project was out of regulatory compliance prior to the beginning of the Reporting Period it is not relevant to calculation GHG emission reductions and removal enhancements for the current Reporting Period. However, it may have consequences for previous Reporting Periods.

Summary of Section 95973(b)(1)(B).

Section 95973(b)(1)(B) was added to describe how the end date for the offset project being out of regulatory compliance is determined, and what must be provided by the Offset Project Operator or Authorized Project Designee to substantiate the end date.



Rationale for Section 95973(b)(1)(B).

This addition is necessary since the time period for the offset project being ineligible to receive ARB offset credits is tied to the period the offset project is out of regulatory compliance, and therefore the time period the offset project is out of regulatory compliance must be accurately determined. The time period the offset project is out of regulatory compliance does not automatically end when the violation is addressed by the Offset Project Operator or Authorized Project Designee. Rather, it ends when the regulatory oversight body issuing the enforcement action determines that all substantive and procedural requirements have been met to bring the offset project back into regulatory compliance.

Summary of Section 95973(b)(1)(C).

Section 95973(b)(1)(B) was added to clarify that the period that the offset project is out of regulatory compliance is not limited to just the current Reporting Period, and the period the offset project is out of regulatory compliance could extend to previous or subsequent Reporting Periods.

Rationale for Section 95973(b)(1)(C).

This addition is necessary because the Offset Project Operator or Authorized Project Designee is allowed to use the beginning and ending of the current Reporting Period for calculating eligible emission reductions for the current Reporting Periods. However, this does not necessarily limit the period the offset project is out of regulatory conformance to the current Reporting Period.

Summary of Section 95973(b)(1)(D).

Section 95973(b)(1)(D) was added to clarify that ARB's written determination and any supporting documents from the regulatory oversight body relating to the offset project being out of regulatory compliance and the timeframe identified for removal from the Reporting Period will be made public.

Rationale for Section 95973(b)(1)(D).

This addition is necessary to maintain the public transparency of the compliance offset program. Since a portion of the Reporting Period tied to the offset project being out of regulatory compliance will be removed, the manner in which the dates were determined should be transparent to the public.

Summary of Section 95973(b)(1)(E).

Section 95973(b)(1)(E) was added to explain how the GHG emission reductions and removal enhancements for the period of time the offset project is ineligible to receive ARB offset credits are removed from the offset project accounting.

Rationale for Section 95973(b)(1)(E).

This addition is necessary since the baseline for Livestock Projects and Mine Methane Capture Projects is calculated based on the number of days in the Reporting Period, or based on at least daily meter readings. In this situation, it is possible to remove the precise dates covered by the time period the offset project is out of regulatory compliance.

Summary of Section 95973(b)(2).

Section 95973(b)(2) was added to clarify that all other project types, except Livestock Projects and Mine Methane Capture Projects, are ineligible to receive ARB offset credits for the entire Reporting Period when the offset project is not in regulatory compliance.

Rationale for Section 95973(b)(2).

This section is necessary since none of the other protocol types have methods in the Board-adopted Compliance Offset Protocol that allow for the removal of a specific time period from the Reporting Period. This section also preserves the status quo in the existing regulation, which does not allow for the removal of specific time periods from the reporting period.

Summary of Section 95973(b)(3).

Section 95973(b)(3) is added to refer the reader to Appendix E for more information on what are considered project activities.

Rationale for Section 95973(b)(3).

This section is necessary because Appendix E defines the scope of project activities for each of the six Board-adopted Compliance Offset Protocols.

Summary of Section 95973(c).

Section 95973(c) is amended to change the word “transition” to “transitioned” and to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95973(c).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015, or February 28, 2016, depending on the offset project type. As of August 31, 2016, ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

**Section 95974. Authorized Project Designee.**

Summary of Section 95974(a)(2).

Section 95974(a)(2) is amended to add the term “Director or Officer of the” prior to Offset Project Operator, referring to who may delegate responsibility to the Authorized Project Designee and to replace the reference to section 95990 with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95974(a)(2).

Currently, Authorized Project Designees are able to designate themselves as such once they are made an authorized account representative on the Offset Project Operator’s Compliance Instrument Tracking System Service account. Therefore, this amendment is necessary to limit authority to designate an Authorized Project Designee to the Director or Officer of the Offset Project Operator. Also, this amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

**Section 95975. Listing of Offset Projects Using ARB Compliance Offset Protocols.**

Summary of Section 95975(h).

Section 95975(h) is amended to require all projects to list no later than one year after of Offset Project Commencement.

Rationale for Section 95975(h).

This amendment is needed to limit the timeframe between project commencement and listing which adds another feature to the program to ensure offset projects are developed for purposes of reducing GHG’s above a conservative business-as-usual scenario. Now that a significant amount of time has passed since the original adoption of the Regulation, it is not necessary to have the exception for projects with an Offset Project Commencement prior to January 1, 2015. Also a minor clarification to specify that projects can list more than one year prior to commencement or waiver requirements being met, but can only list up to one year after Offset Project Commencement or waiver requirements being met.

Summary of Section 95975(o).

Section 95975(o) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o).

Currently, ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(1).

Section 95975(o)(1) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(1).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(1)(A).

Section 95975(o)(1)(A) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(1)(A).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(1)(B).

Section 95975(o)(1)(B) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(1)(B).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(1)(C).

Section 95975(o)(1)(C) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(1)(C).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(2).

Section 95975(o)(2) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(2).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of Section 95975(o)(3).

Section 95975(o)(3) is amended to provide a path to transition offset projects to or from ARB.

Rationale for Section 95975(o)(3).

Currently ARB does not offer registry services; however, the regulation does allow for the potential of projects registering with ARB. In the case that ARB does allow project listing in the future, projects need the ability to transfer to and from ARB just like projects can transfer between registries.

Summary of New Section 95975(p).

New section 95975(p) is added to state that once a forest offset project has been issued registry offset credits, the project may not relist within the same geographic boundaries unless the previous offset project was terminated due to an unintentional reversal.

Rationale for New Section 95975(p).

This amendment is necessary to more clearly limit the circumstances under which a forest offset project may relist within the same geographic boundary once it has been issued registry offset credits. This language exists in the current version of the Regulation in section 95983(d)(4), and repeating it in the listing section makes the limitation more apparent.

**Section 95976. Monitoring, Reporting, and Record Retention Requirements for Offset Projects.**

Summary of Section 95976(d).

Section 95976(d) is amended to identify that project termination is the consequence for not submitting the required Offset Project Data Report, to allow 28 months between listing and reporting and specify that if an Offset Project Operator or Authorized Project Designee does not submit the initial Offset Project Data Report within 28 months of listing, the project must be relisted using the most recent version of a Compliance Offset Protocol in order to remain eligible to be issued ARB offset credits.

Rationale for Section 95976(d).

This amendment is necessary because there was not an expressly apparent consequence for not submitting the required Offset Project Data Report, which is needed to ensure permanence of the issued ARB offset credits. Projects have the option of submitting a report reflecting zero GHG emission reductions or removal enhancements (which is not required to be verified) if necessary. The timeframe to submit an Offset Project Data Report after listing was increased to 28 months to allow for a 24 month reporting period and 4 months to complete and submit the Offset Project Data Report. The requirement to update the project listing to the most recent version of the Compliance Offset Protocol was necessary to clarify the consequence of not meeting the 28 month reporting deadline. Projects that have not reported in a reasonable amount of time should be required to use the latest version of the Compliance Offset Protocol to ensure fairness to other program and market participants, and to ensure the most accurate accounting possible. Additional language was added to clarify that there are other deadlines within the Regulation that must also be met.

Summary of Section 95976(d)(7).

Section 95976(d)(7) is amended to state that the Offset Project Operator or Authorized Project Designee is required to submit the required attestations with each version of the Offset Project Data Report.

Rationale for Section 95976(d)(7).

This amendment is necessary to clarify that required attestations must be submitted with each version of the Offset Project Data Report, to avoid possible interpretation that attestations are only required for certain version(s) of the Offset Project Data Report.

Summary of New Section 95976(d)(10).

New section 95976(d)(10) is added to require that each version of the Offset Project Data Report contain a version number and date submitted.

Rationale for New Section 95976(d)(10).

This amendment is necessary to ensure clarity regarding document versions when multiple versions of an Offset Project Data Report are submitted.

Summary of Section 95976(f).

Section 95976(f) is amended to expand the applicability of interim data collection to data collection systems other than gas or fuel analytical monitoring equipment.

Rationale for Section 95976(f).

This amendment is necessary to allow ARB staff additional flexibility in determining when interim data collection methods may be used when data is

missing due to an unforeseen breakdown of data collection systems, in order to allow an offset project to continue operating during a reasonable timeframe while the monitoring equipment is undergoing repair, when ARB staff determine that the interim data collection would be reasonably equivalent to data collected from properly functioning monitoring equipment.

Summary of Section 95976(f)(1)(A).

Section 95976(f)(1)(A) is amended to expand the applicability of interim data collection to data collection systems other than gas or fuel analytical monitoring equipment.

Rationale for Section 95976(f)(1)(A).

This amendment is necessary to allow ARB staff additional flexibility in determining when interim data collection methods may be used when data is missing due to an unforeseen breakdown of data collection systems, in order to allow an offset project to continue operating during a reasonable timeframe while the monitoring equipment is undergoing repair, when ARB staff determine that the interim data collection would be reasonably equivalent to data collected from properly functioning monitoring equipment.

Summary of Section 95976(f)(1)(B).

Section 95976(f)(1)(B) is amended to expand the applicability of interim data collection to data collection systems other than gas or fuel analytical monitoring equipment.

Rationale for Section 95976(f)(1)(B).

This amendment is necessary to allow ARB staff additional flexibility in determining when interim data collection methods may be used when data is missing due to an unforeseen breakdown of data collection systems, in order to allow an offset project to continue operating during a reasonable timeframe while the monitoring equipment is undergoing repair, when ARB staff determine that the interim data collection would be reasonably equivalent to data collected from properly functioning monitoring equipment.

Summary of Section 95976(f)(1)(C).

Section 95976(f)(1)(C) is amended to expand the applicability of interim data collection to data collection systems other than gas or fuel analytical monitoring equipment.

Rationale for Section 95976(f)(1)(C).

This amendment is necessary to allow ARB staff additional flexibility in determining when interim data collection methods may be used when data is missing due to an unforeseen breakdown of data collection systems, in order to allow an offset project to continue operating during a reasonable timeframe while the monitoring equipment is undergoing repair, when ARB staff determine

that the interim data collection would be reasonably equivalent to data collected from properly functioning monitoring equipment.

Summary of Section 95976(f)(1)(D).

Section 95976(f)(1)(D) is amended to expand the applicability of interim data collection to data collection systems other than gas or fuel analytical monitoring equipment.

Rationale for Section 95976(f)(1)(D).

This amendment is necessary to allow ARB staff additional flexibility in determining when interim data collection methods may be used when data is missing due to an unforeseen breakdown of data collection systems, in order to allow an offset project to continue operating during a reasonable timeframe while the monitoring equipment is undergoing repair, when ARB staff determine that the interim data collection would be reasonably equivalent to data collected from properly functioning monitoring equipment.

**Section 95977. Verification of GHG Emission Reductions and GHG Removal Enhancements from Offset Projects.**

Summary of Section 95977(b).

Section 95977(b) is amended to change “12-month rolling” to “Reporting Period.”

Rationale for Section 95977(b).

This amendment is necessary for consistency with previous Regulation amendments that changed offset project reporting from an annual or 12-month rolling basis to a Reporting Period basis.

Summary of Section 95977(c).

Section 95977(c) is amended to allow for more time between required full offset verifications for forest projects with high carbon stocks after the end of their final crediting period.

Rationale for Section 95977(c).

This amendment is necessary to acknowledge that if a forest project’s carbon stocks continue to grow after the end of the last crediting period, there is reduced need for more frequent verifications to ensure permanence. Increasing the time between full offset verifications for highly stocked projects also provides an additional incentive for projects to sequester and maintain additional carbon after the end of their crediting period(s).

Summary of Section 95977(d).

Section 95977(d) is amended to state that the eleven-month deadline for ARB or the Offset Project Registry to receive an Offset Verification Statement after



the conclusion of a Reporting Period does not apply when verification is deferred in accordance with the Regulation.

Rationale for Section 95977(d).

This amendment is required to clarify the circumstances under which the eleven-month verification deadline applies.

**Section 95977.1. Requirements for Offset Verification Services.**

Summary of Section 95977.1(a).

Section 95977.1(a) is amended to allow the same verification body or verification team member to verify any six of nine consecutive Reporting Periods. This section is also amended to specify that for Ozone Depleting Substances projects, the same verification body or verification team member may verify any six of nine offset projects. The amendments specify that the order of consecutive projects will be determined by project commencement date.

Rationale for Section 95977.1(a).

This amendment is necessary to clarify criteria establishing the order of consecutive projects for purposes of determining verifier rotation, and, in response to stakeholder feedback, provides reasonable flexibility for the verification bodies and offset project developers to contract for multiple verifications.

Summary of Section 95977.1(a)(1).

Section 95977.1(a)(1) is amended to allow the same verification body or verification team member to verify any six of nine consecutive Reporting Periods for Ozone Depleting Substances projects. The amendments specify that the order of consecutive projects will be determined by project commencement date.

Rationale for Section 95977.1(a)(1).

This amendment is necessary for consistency with the amended language in section 95977.1(a).

Summary of Section 95977.1(a)(3).

Section 95977.1(a)(3) is amended to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95977.1(a)(3).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits

to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95977.1(b)(1).

Section 95977.1(b)(1) is amended to require that the Offset Project Operator or Authorized Project Designee submit the Offset Project Data Report prior to the verifier beginning offset verification services, and to change the requirement for the verification body to submit a Notice of Offset Verification Services from 30 calendar days prior to beginning offset verification services to 10 calendar days prior to beginning offset verification services (subject to ARB or Offset Project Registry approval of the conflict of interest self-evaluation) and 30 calendar days prior to the scheduled site visit.

Rationale for Section 95977.1(b)(1).

The amendments to section 95977.1(b)(1) clarify that the Offset Project Operator or Authorized Project Designee is required to complete and submit the Offset Project Data Report, which is the basis for the verification, before the verification services commence to allow the verification body to begin offset verification services promptly, while still allowing ARB staff sufficient notice to plan for conducting audits.

Summary of Section 95977.1(b)(3)(A)1.

Section 95977.1(b)(3)(A)1. is amended to replace the word annual with Reporting Period.

Rationale for Section 95977.1(b)(3)(A)1.

This amendment is necessary because all verification services are conducted based on the Offset Project Data Report which covers a single Reporting Period and is not necessarily annual.

Summary of Section 95977.1(b)(3)(D).

Section 95977.1(b)(3)(D) is amended to state that the listed elements of offset verification services may be conducted either during the site visit or as part of a desk review.

Rationale for Section 95977.1(b)(3)(D).

This amendment allows for the verifier to use their professional judgment in determining which of the listed elements of verification should be completed during the site visit and which elements are better suited for desk review, while still maintaining all of the required elements of offset verification services.

Summary of Section 95977.1(b)(3)(D)1.

Section 95977.1(b)(3)(D)1. is amended to state that the listed elements of offset verification services may be conducted either during the site visit or as part of a desk review.

Rationale for Section 95977.1(b)(3)(D)1.

This amendment allows for the verifier to use their professional judgment in determining which of the listed elements of verification should be completed during the site visit and which elements are better suited for desk review, while still maintaining all of the required elements of offset verification services.

Summary of Section 95977.1(b)(3)(D)2.

Section 95977.1(b)(3)(D)2. is amended to state that the listed elements of offset verification services may be conducted either during the site visit or as part of a desk review.

Rationale for Section 95977.1(b)(3)(D)2.

This amendment allows for the verifier to use their professional judgment in determining which of the listed elements of verification should be completed during the site visit and which elements are better suited for desk review, while still maintaining all of the required elements of offset verification services.

Summary of Section 95977.1(b)(3)(D)2.h.

Section 95977.1(b)(3)(D)2.h. is modified to state that “some or all” of the GHG emission reduction or removal enhancements may be ineligible to receive ARB offset credits.

Rationale for Section 95977.1(b)(3)(D)2.h.

This modification is necessary to be consistent with modifications to section 95973(b) which in certain situations limits the period ineligible to receive ARB offset credit to less than the full Reporting Period.

Summary of Section 95977.1(b)(3)(D)2.i.

Section 95977.1(b)(3)(D)2.i. is deleted.

Rationale for Section 95977.1(b)(3)(D)2.i.

This section is deleted because the language overlaps with the amendment to section 95977.1(b)(3)(D)2.

Summary of Section 95977.1(b)(3)(L)1.

Section 95977.1(b)(3)(L)1. is amended to replace the word “annual” with “Reporting Period”.

Rationale for Section 95977.1(b)(3)(L)1.

This amendment is necessary because all verification services are conducted based on the Offset Project Data Report, which covers a single Reporting Period and is not necessarily annual.

Summary of Section 95977.1(b)(3)(M).

Section 95977.1(b)(3)(M) is amended to state that a revised Offset Project Data Report must include the attestations required in accordance with section 95976(d)(7).

Rationale for Section 95977.1(b)(3)(M).

This amendment is necessary to clarify that all revised Offset Project Data Reports must include the required attestations. The attestations are essential to ensuring the integrity of the reported data.

Summary of Section 95977.1(b)(3)(R).

Section 95977.1(b)(3)(R) is amended to state that offset verification services are not complete until ARB issues offset credits for the Offset Project Data Report.

Rationale for Section 95977.1(b)(3)(R).

This amendment is necessary to clarify when offset verification services are complete. ARB often requests revisions of the Offset Verification Report prior to issuance of ARB offset credits.

Summary of Section 95977.1(b)(3)(R)1.

Section 95977.1(b)(3)(R)1. is amended to replace the word “upon” with the phrase “prior to” in reference to the completion of offset verification services.

Rationale for Section 95977.1(b)(3)(R)1.

This amendment is necessary to clarify that the verification body must complete and submit an Offset Verification Statement prior to completion of offset verification services.

Summary of Section 95977.1(b)(3)(R)8.

Section 95977.1(b)(3)(R)8. is added to state that if ARB or the Offset Project Registry determines that a verification report is insufficient, the verification body must submit a revised report and Offset Verification Statement within 15 calendar days.

Rationale for Section 95977.1(b)(3)(R)8.

This amendment is necessary to ensure that revisions to the offset verification report and Offset Verification Statement are made in a timely matter.

Summary of Section 95977.1(b)(3)(S).

Section 95977.1(b)(3)(S) is amended to replace the term “verification body” with “Offset Project Operator or Authorized Project Designee” in reference to who may make changes to the Offset Project Data Report after submittal.

Rationale for Section 95977.1(b)(3)(S).

This amendment is necessary because only the Offset Project Operator or Authorized Project Designee can make changes to the Offset Project Data Report. The verifier can never make changes to the Offset Project Data Report.

Summary of Section 95977.1(b)(3)(T).

Section 95977.1(b)(3)(T) is amended to change the reference from section 95979(b)(3) to 95979(b)(4), and the reference from 95979(b)(4) to 95979(b)(5).

Rationale for Section 95977.1(b)(3)(T).

This amendment is necessary because section 95979(b)(3) is amended to 95979(b)(4) and section 95979(b)(4) is amended to 95979(b)(5).

**Section 95978. Offset Verifier and Verification Body Accreditation.**

Summary of Section 95978(e).

Section 95978(e) is amended to state that the direct supervision requirement only applies to a technical expert during a site visit.

Rationale for Section 95978(e).

This amendment is needed to clarify that the direct supervision requirement is only applicable during a site visit, to remove uncertainty regarding when a verifier, acting as a supervisor to a technical expert, must be available to respond to the needs of the technical expert.

**Section 95979. Conflict of Interest Requirements for Verification Bodies and Offset Verifiers for Verification of Offset Project Data Reports.**

Summary of Section 95979(b).

Section 95979(b) is modified to move the definitions of Member and related entity from the middle of the section to the top.

Rationale for section 95979(b).

The modification is necessary to make it more apparent that the definitions apply to the whole section, and to conform to a more conventional regulatory format.

Summary of Section 95979(b)(2)(R).

Section 95979(b)(2)(R) is amended to add the word “and.”

Rationale for Section 95979(b)(2)(R).

This amendment is a grammatical correction resulting from the deletion of section 95979(b)(2)(T).

Summary of Section 95979(b)(2)(S).

Section 95979(b)(2)(S) is amended to delete the word “and” and related punctuation changes.

Rationale for Section 95979(b)(2)(S).

This amendment is a grammatical correction resulting from the deletion of section 95979(b)(2)(S).

Summary of Section 95979(b)(2)(T).

Section 95979(b)(2)(T) is deleted.

Rationale for Section 95979(b)(2)(T).

This deletion is necessary because section 95979(b)(2)(T) is not in the appropriate place in the Regulation. Section 95979(b)(2)(T) identifies a potential conflict of interest between a verification body or verifier(s) and an ozone depleting substances destruction facility, however, it is in section 95979(b)(2) which refers to potential conflict of interest activities between the verification body or verifier(s) and the Offset Project Operator, Authorized Project Designee, or their technical consultants. This section has been moved to section 95979(b)(3).

Summary of New Section 95979(b)(3).

New section 95979(b)(3) is added to include the scenario that within the previous three years any staff member of the verification body has provided a third-party TEAP certification to an ozone depleting substances destruction facility.

Rationale for New Section 95979(b)(3).

The language in this new section was formerly in section 95979(b)(2)(T), which is amended as described above. As described above, section 95979(b)(2)(T) was inappropriately under section 95979(b)(2) and needed to be moved. The timeframe has been changed from five years to three since the TEAP certification is only valid for three years.

Summary of Section 95979(b)(3).

Section 95973(b)(3) is renumbered to 95973(b)(4).

Rationale for Section 95979(b)(3).

This change is needed due to the addition of new section 95973(b)(3).

Summary of Section 95979(b)(4).

Section 95973(b)(4) is renumbered to 95973(b)(5).

Rationale for Section 95979(b)(4).

This change is needed due to the addition of new section 95973(b)(3).

Summary of Section 95979(c).

Section 95979(d) is amended to add employment relationships as reason for medium conflict of interest. This change is needed to maintain consistency with the addition of employment relationships as a reason for medium conflict of interest in section 95979(d)

Rationale for Section 95979(c).

This amendment is necessary since in addition to personal and family relationships, employment relationships can also influence our interactions with others.

Summary of Section 95979(d).

Section 95979(d) is amended to add employment relationships as a reason for medium conflict of interest. Text defining the term “employment” for the purposes of section 95979 is added.

Rationale for Section 95979(d).

Employment relationships are added as a reason for medium conflict of interest since, in addition to personal and family relationships, employment relationships can also influence interactions with others. The text defining “employment” is needed to clearly define the term as it is applied in section 95979.

Summary of Section 95979(e)(3)(D).

Employment relationships are added to the types of relationships that potentially represent a conflict of interest for staff that would perform offset verification services.

Rationale for Section 95979(e)(3)(D).

Employment relationships are added as a reason for potential conflict of interest since, in addition to personal and family relationships, employment relationships can also influence interactions with others.

**Section 95980. Issuance of Registry Offset Credits.**

Summary of Section 95980(c).

Section 95980(c) is amended to change the word “transition” to “transitioned” and to add language to support the deleting of section 95990(k) including language formerly found in 95990(k)(2) describing the initial crediting period.

Rationale for Section 95980(c).

The amendment to change the word “transition” to “transitioned” is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015, or February 28, 2016, depending on the offset project type. The reference change

from section 95990(k) to Program for Recognition of Early Action Offset Credits is necessary because 95990(k) is deleted in the proposed amendments. And the initial crediting period language was included to replace similar language from deleted section 95990(k)(2).

### **Section 95980.1 Process for Issuance of Registry Offset Credits.**

#### Summary of Section 95980.1(a).

Section 95980.1(a) is amended to add the phrase “or Authorized Project Designee” in reference to parties able to authorized the issuance of registry offset credits.

#### Rationale for Section 95980.1(a).

This amendment is necessary to allow Authorized Project Designees to authorize the issuance of registry offset credits. The Offset Project Operator has assigned significant rights and responsibilities to the Authorized Project Designee so it is logical it should also include the right to request issuance of offset credits. Section 95980.1 is identified in section 95974(a)(2) of the current regulation as containing requirements the Offset Project Operator can delegate to the Authorized Project Designee.

### **Section 95981. Issuance of ARB Offset Credits.**

#### Summary of Section 95981(a).

Section 95981(a) is amended to expressly state that ARB offset credits will only be issued for a GHG emission reduction or removal enhancement that occurs during a Reporting Period.

#### Rationale for Section 95981(a).

This amendment is necessary to limit the issuance of ARB offset credits to GHG emission reductions and removal enhancements, which occur during a Reporting Period. Emission reductions that occur outside a Reporting Period cannot be included in an Offset Project Data report, which only covers one Reporting Period and therefore cannot be verified. This is consistent with the definition of Reporting Period in the current version of the Regulation.

#### Summary of Section 95981(a)(2).

Section 95981(a)(2) is amended to delete the word “and.”

#### Rationale for Section 95981(a)(2).

This amendment is a grammatical correction resulting from the addition of new section 95981(a)(4).



Summary of Section 95981(a)(3).

Section 95981(a)(3) is amended to add the word “and” and related punctuation changes.

Rationale for Section 95981(a)(3).

This amendment is a grammatical correction resulting from the addition of new section 95981(a)(4).

Summary of New Section 95981(a)(4).

New section 95981(a)(4) is added to specify that ARB offset credits will only be issued if the criteria for invalidation of ARB offset credits has not been triggered.

Rationale for New Section 95981(a)(4).

This new section is necessary to preclude issuance of ARB offset credits resulting from projects where ARB is aware, prior to issuance that the offset credits would immediately be subject to invalidation.

Summary of Section 95981(b)(5).

Section 95981(b)(5) is modified to delete the final period to allow the sentence to continue with language from section 95981(b)(5)(B)

Rationale for Section 95981(b)(5).

Modifications to this section are necessary to allow either the Offset Project Operator or Authorized Project Designee to request that ARB offset credits are placed into the Holding Account of the Offset Project Operator, Authorized Project Designee, or another third party. The Offset Project Operator has assigned significant rights and responsibilities to the Authorized Project Designee so it is logical it should also include the right to request issuance of offset credits. Section 95981 is identified in the current version of the regulation as a section the Offset Project Operator can delegate to the Authorized Project Designee.

Summary of Section 95981(b)(5)(A).

Section 95981(b)(5)(A) is deleted.

Rationale for Section 95981(b)(5)(A).

It is necessary to delete this section because there is no longer a difference in whether the Offset Project Operator and the Authorized Project Designee can request the issuance of ARB offset credits to.

Summary of Section 95981(b)(5)(B).

Section 95981(b)(5)(B) is deleted and the majority of the language appended to section 95981(b)(5) to allow either the Offset Project Operator or Authorized Project Designee to request that ARB offset credits are placed into the Holding

Account of the Offset Project Operator, Authorized Project Designee, or another third party.

Rationale for Section 95981(b)(5)(B).

This amendment is necessary to allow the Authorized Project Designee to request that ARB offset credits be placed into its Holding Account or that of the Offset Project Operator or another third party.

Summary of Section 95981(c).

This section is amended to replace the text “section 95981(a)” with “this article and the applicable Compliance Offset Protocol,” in reference to the requirements that GHG emission reductions and removal enhancements must meet.

Rationale for Section 95981(c).

This amendment is necessary to clarify that GHG emission reductions and removal enhancements must meet all the requirements of the Regulation and the applicable Compliance Offset Protocol, rather than only the requirement stated in section 95981(a).

Summary of Section 95981(e).

Section 95981(e) is amended to change the word “transition” to “transitioned” and to add language to support the deleting of section 95990(k) including language formerly found in 95990(k)(2) describing the initial crediting period.

Rationale for Section 95981(e).

The amendment to change the word “transition” to “transitioned” is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015, or February 28, 2016, depending on the offset project type. The reference change from section 95990(k) to Program for Recognition of Early Action Offset Credits is necessary because section 95990(k) is deleted in the proposed amendments, and the initial crediting period language was included to replace similar language from deleted section 95990(k)(2).

**Section 95981.1. Process for Issuance of ARB Offset Credits.**

Summary of Section 95981.1(e).

Section 95981.1(e) is amended to state that a registry offset credit must be removed or canceled within 10 calendar days after ARB issues an ARB offset credit, and to delete the requirement that registry offset credits be removed or canceled before ARB issues an ARB offset credit.

Rationale for Section 95981.1(e).

This amendment is necessary to clarify that registry offset credits may be canceled after, and do not need to be canceled prior to ARB offset credit issuance. Allowing the Offset Project Registry to cancel registry offset credits after ARB offset credit issuance is necessary to ensure that market sensitive issuance information is not released prior to the time when ARB offset credit issuances are publicly announced.

**Section 95983. Forestry Offset Reversals.**

Summary of Section 95983(b)(1).

Section 95983(b)(1) is amended to change the timeframe for which a verified estimate of current carbon stocks must be completed after an unintentional reversal from one year to 23 months, to replace the word “regulatory” with the word “offset” in reference to the required full offset verification, and to state that after an unintentional reversal, the Offset Project Operator or Authorized Project Designee does not need to submit an Offset Project Data Report until the required estimate of carbon stocks is completed.

Rationale for Section 95983(b)(1).

The amendment to the timeframe for submittal of a verified estimate of current carbon stocks is necessary to allow for sufficient time for generation and verification of the carbon stock inventory after an unintentional reversal occurs. The replacement of the word “regulatory” with the word “offset” is necessary for consistency with the term “full offset verification,” which is defined in section 95802(a). The amendment to state that the Offset Project Data Report does not need to be submitted until the required estimate of carbon stocks is completed is required because until there is an updated inventory of carbon stocks, there is less value in submitting an Offset Project Data Report using data from prior to the unintentional reversal which no longer accurately reflects onsite carbon stocks.

Summary of Section 95983(b)(2)(A).

Section 95983(b)(2)(A) is amended to change the term “each Reporting Period” to “all Reporting Periods.”

Rationale for Section 95983(b)(2)(A).

This amendment is necessary to clarify that after an unintentional reversal of a forest project that came into the program directly under a Compliance Offset Protocol, ARB offset credits will be retired from the Forest Buffer Account in an amount based on the metric tons of CO<sub>2</sub>e reversed for all Reporting Periods. It is sufficient to calculate the reversal based on the total number of offset credits issued rather than for each individual Reporting Period.

Summary of Section 95983(b)(2)(B).

Section 95983(b)(2)(B) is amended to change five instances of the term “each Reporting Period” to “all Reporting Periods.”

Rationale for Section 95983(b)(2)(B).

This amendment is necessary to clarify that after an unintentional reversal of a forest project that transitioned to the program from an Early Action Offset Program, ARB offset credits will be retired from the Forest Buffer Account in an amount calculated based on all Reporting Periods, and the terms in the equation are amended for consistency.

Summary of Section 95983(c)(2).

Section 95983(c)(2) is amended to replace the word “regulatory” with the word “offset” in reference to the required full offset verification.

Rationale for Section 95983(c)(2).

The replacement of the word “regulatory” with the word “offset” is necessary for consistency with the term “full offset verification,” which is defined in section 95802(a).

Summary of Section 95983(c)(3).

Section 95983(c)(3) was modified to identify the that current, or most recent (in the case of an offset project after the final crediting period), forest owner(s) are responsible for submitting ARB compliance instruments in the case of an intentional reversal.

Rationale for Section 95983(c)(3).

This amendment is necessary to clarify which forest owner(s) are responsible for submitting ARB compliance instruments in the case of an intentional reversal. It is possible that the project area or parts of it may have been transitioned to new owner(s) during the project, and this makes clear which forest owner(s) are responsible.

Summary of Section 95983(c)(3)(A).

Section 95983(c)(3)(A) is amended to change the term “each Reporting Period” to “all Reporting Periods.”

Rationale for Section 95983(c)(3)(A).

This amendment is necessary to clarify that after an intentional reversal of a forest project that came into the program directly under a Compliance Offset Protocol, the forest owner must turn in valid compliance instruments in an amount based on the metric tons of CO<sub>2</sub>e reversed for all Reporting Periods. It is sufficient to calculate the reversal based on the total number of offset credits issued rather than for each individual Reporting Period.

Summary of Section 95983(c)(3)(B).

Section 95983(c)(3)(B) is amended to change five instances of the term “each Reporting Period” to “all Reporting Periods” and to replace the term “Offset Project Data Report” with “all Reporting Periods,” in reference to the total metric tons of CO<sub>2</sub>e reversed.

Rationale for Section 95983(c)(3)(B).

This amendment is necessary to clarify that after an intentional reversal of a forest project that transitioned to the program from an Early Action Offset Program, the forest owner must turn in valid compliance instruments in an amount calculated based on all Reporting Periods, and the terms in the equation are amended for consistency.

Summary of Section 95983(c)(4).

Section 95983(c)(4) is amended to state that for an early project termination, the current, or most recent (in the case of an offset project after the final crediting period), forest owner(s) must submit valid compliance instruments in an amount equal to the number of ARB offset credits issued to the project for each Reporting Period, except for improved forest management projects, for which the amount must be multiplied by the compensation rate specified in the Compliance Offset Protocol and the early termination applied to both projects that used a Compliance Offset Protocol and projects that used an early action quantification methodology whether or not they transition to a Compliance Offset Protocol.

Rationale for Section 95983(c)(4).

This amendment is necessary because in the event of an early termination there is not a need for a verified estimate to calculate the reversal and all GHG emission reductions or removal enhancements credited to the project will be considered reversed. The amendment also clarified that no matter the origin of the ARB offset credits, Compliance Offset Protocol or early action quantification method, all ARB offset credits issued to the project will be terminated. This should have already been assumed because once a project terminates it is not possible to assure the permanence of the previously issued ARB offset credits, but the amendment makes this clear in express regulatory text. Additionally, it is necessary to clarify which forest owner(s) are responsible for submitting ARB compliance instruments in the case of an intentional reversal. It is possible that the project area or parts of it may have been transitioned to new owner(s) during the project, and this makes it clear which forest owner(s) have the responsibility.

Summary of Section 95983(c)(4)(A).

Section 95983(c)(4)(A) is deleted.

Rationale for Section 95983(c)(4)(A).

This amendment is necessary for consistency with the amendments to section 95983(c)(4).

Summary of Section 95983(c)(4)(B).

Section 95983(c)(4)(B) is deleted.

Rationale for Section 95983(c)(4)(B).

This amendment is necessary for consistency with the amendments to section 95983(c)(4).

Summary of Section 95983(c)(4)(C).

Section 95983(c)(4)(C) is deleted.

Rationale for Section 95983(c)(4)(C).

This amendment is necessary for consistency with the amendments to section 95983(c)(4).

Summary of Section 95983(c)(4)(D).

Section 95983(c)(4)(D) is amended to 95983(c)(4)(A).

Rationale for Section 95983(c)(4)(D).

This amendment is necessary due to the deletion of sections 95983(c)(4)(A), 95983(c)(4)(B) and 95983(c)(4)(C) in the proposed amendments.

Summary of Section 95983(c)(4)(E).

Section 95983(c)(4)(E) is amended to 95983(c)(4)(B).

Rationale for Section 95983(c)(4)(E).

This amendment is necessary due to the deletion of sections 95983(c)(4)(A), 95983(c)(4)(B) and 95983(c)(4)(C) in the proposed amendments.

Summary of Section 95983(c)(4)(F).

Section 95983(c)(4)(F) is amended to 95983(c)(4)(C). The two references to “sections 95983(c)(4)(A) or (B)” are amended to “section 95983(c)(4).”

Rationale for Section 95983(c)(4)(F).

These amendments are necessary due to the deletion of sections 95983(c)(4)(A), 95983(c)(4)(B) and 95983(c)(4)(C) in the proposed amendments.

Summary of Section 95983(d)(1).

Section 95983(d)(1) is amended to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95983(d)(1).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

**Section 95985. Invalidation of ARB Offset Credits.**

Summary of Section 95985(b)(1).

Section 95985(b)(1) is amended to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95985(b)(1).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(b)(1)(A).

Section 95985(b)(1)(A) is amended to change the reference to section 95990(c)(5) to the Program for Recognition of Early Action Offset Credits and to insert the phrase “all of” in reference to the requirements in the subsequent subsections.

Rationale for Section 95985(b)(1)(A).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed. The insertion of the phrase “all of” clarifies that all of the requirements in the subsequent subsections must be met in order to reduce the invalidation timeframe for the specified project type.

Summary of Section 95985(b)(1)(A)1.

Section 95985(b)(1)(A)1. is amended to change all references to section 95990(l) to 95990(a) and to state that if minor correctable errors that do not result in an offset material misstatement are found during the full offset verification conducted to reduce the invalidation timeframe, a Qualified Positive

Offset Verification Statement must be issued and the correctable errors must be identified on the Offset Verification Statement.

Rationale for Section 95985(b)(1)(A)1.

This amendment is necessary to fix an internal reference as a result of removing the majority of section 95990 and to describe how a verifier should evaluate an offset project, undergoing an invalidation verification, with minor errors that should have been corrected during the initial verification. This amendment is necessary because the Offset Project Data Report cannot be edited as a result of findings from the invalidation verification.

Summary of Section 95985(b)(1)(A)2.

Section 95985(b)(1)(A)2. is amended to change all references to section 95990(l) to 95990(a).

Rationale for Section 95985(b)(1)(A)2.

This amendment is necessary to fix an internal reference as a result of removing the majority of section 95990.

Summary of Section 95985(b)(1)(A)3.b.

Section 95985(b)(1)(A)3.b. is amended to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95985(b)(1)(A)3.b.

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(b)(1)(B)1.

Section 95985(b)(1)(B)1. is amended to change all references to section 95990(l) to 95990(a).

Rationale for Section 95985(b)(1)(B)1.

This amendment is necessary to fix an internal reference as a result of removing the majority of section 95990.

Summary of Section 95985(b)(1)(B)2.

Section 95985(b)(1)(B)2. is amended to change all references to section 95990(l) to 95990(a).



Rationale for Section 95985(b)(1)(B)2.

This amendment is necessary to fix an internal reference as a result of removing the majority of section 95990.

Summary of Section 95985(b)(1)(B)3.

Section 95985(b)(1)(B)3. is amended to insert the phrase “pursuant to section 95981” in reference to ARB offset credits issued, and to state that the invalidation timeframe for ARB offset credits issued for any number of Early Action Reporting Periods may be reduced for the specified project types if the subsequent Offset Project Data Report was verified by a different verification body.

Rationale for Section 95985(b)(1)(B)3.

This amendment is necessary to clarify that the invalidation timeframe for ARB offset credits issued for Early Action Reporting Periods may be reduced for more than three Reporting Periods, to differentiate the requirement from that which applies to ARB offset credits issued under a Compliance Offset Protocol, for which the invalidation timeframe may only be reduced for three Reporting Periods preceding the verification of an Offset Project Data Report by a different verification body.

Summary of Section 95985(b)(1)(B)3.b.

Section 95985(b)(1)(B)3.b. is amended to replace the reference to section 95990(k) with “the Program for Recognition of Early Action Offset Credits.”

Rationale for Section 95985(b)(1)(B)3.b.

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(b)(1)(B)4.

Section 95985(b)(1)(B)4. is amended to replace the word “year” with “Reporting Period” and to state that the invalidation timeframe for the specified project type may be reduced for the last Reporting Period and, under certain circumstances, previous Reporting Periods, of a crediting period for a project that will not have a renewed crediting period.

Rationale for Section 95985(b)(1)(B)4.

This amendment is necessary for consistency with prior Regulation amendments which changed reporting from an annual to a Reporting Period basis. This amendment is also necessary to provide a mechanism to allow the reverification of the final Reporting Period to shorten the invalidation timeframe

of specific prior Reporting Periods similar to the verification of a subsequent Reporting Period shortening the invalidation timeframe of previous Reporting Periods.

Summary of Section 95985(b)(1)(B)4.a.

Section 95985(b)(1)(B)4.a. is amended to allow the invalidation timeframe of additional Reporting Periods to be shortened by reverifying the final Reporting Period the for crediting period.

Rationale for Section 95985(b)(1)(B)4.a.

This amendment is necessary to support the amendments in section 95985(b)(1)(B)4. allowing the invalidation timeframe of addition reporting periods to be shortened by the final reverification.

Summary of Section 95985(b)(1)(B)5.

Section 95985(b)(1)(B)5. is amended to change the reference to 95990(c)(5) to the Program for Recognitions of early Action Offset Credits and to fix an internal reference as a result of removing the majority of section 95990.

Rationale for Section 95985(b)(1)(B)5.

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(c)(1)(B).

Section 95985(c)(1)(B) is amended to change the reference to 95990(c)(5) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95985(c)(1)(B).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(c)(2).

Section 95985(c)(2) is amended to harmonize the language with section 95973(b) and include a reference to 95973(b).

Rationale for Section 95985(c)(2).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situation to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation.

Summary of Section 95985(c)(2)(A).

Section 95985(c)(2)(A) is added to require that for Livestock and Mine Methane Capture projects that are out of regulatory compliance, the Offset Project Operator, Authorized Project Designee, and verifier must provide information requested by ARB.

Rationale for Section 95985(c)(2)(A).

This section is necessary so that ARB staff can, in a reasonable amount of time, collect the information necessary to determine how many ARB offset credits may be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)1.

Section 95985(c)(2)(A)1. is added to identify information ARB staff may review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)1.

This section is necessary so that ARB staff can determine how many ARB offset credits may be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)1.a.

Section 95985(c)(2)(A)1.a. is added to identify examples of what information ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)1.a.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)1.b.

Section 95985(c)(2)(A)1.b. is added to identify examples of what information ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)1.b.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, all the ARB offset credits issued to the offset project for the entire Reporting Period are invalidated so there is no need to review or calculate anything. The proposed revisions allow only a portion of the ARB offset credits to be invalidated, so ARB staff must have enough information to make the determination. This section is identical to existing section 95985(c)(1)(A)1.b. for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)1.c.

Section 95985(c)(2)(A)1.c. is added to identify examples of what information ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)1.c.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting

period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)2.

Section 95985(c)(2)(A)2. is added to identify examples of what methods ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)2.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)2.a.

Section 95985(c)(2)(A)2.a. is added to identify examples of what methods ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)2.a.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)2.b.

Section 95985(c)(2)(A)2.b. is added to identify examples of what methods ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)2.b.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to

invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)2.c.

Section 95985(c)(2)(A)2.c. is added to identify examples of what methods ARB staff can review in determining the number of ARB offset credits that should have been issued to the project.

Rationale for Section 95985(c)(2)(A)2.c.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)3.

Section 95985(c)(2)(A)3. is added to identify that ARB staff will determine the number of ARB offset credits that should have been issued to the project with the information gathered in section 95985(c)(2)(A)1. and the methods from 95985(c)(2)(A)2.

Rationale for Section 95985(c)(2)(A)3.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(A)4.

Section 95985(c)(2)(A)4. is added to identify that ARB staff will determine the number of ARB offset credits that should have been issued to the project once ARB has determined that the project is out of regulatory compliance.

Rationale for Section 95985(c)(2)(A)4.

This section is necessary so that ARB staff can determine how many ARB offset credits will be invalidated. Currently, where offset credits are subject to invalidation during a given reporting period, all ARB offset credits issued to the offset project for that entire Reporting Period are subject to invalidation. Therefore, there has been no need to calculate the number of offset credits that may be invalidated during that reporting period. In certain instances, the proposed revisions allow the ARB offset credits from less than a full reporting period to be invalidated, so ARB staff must have enough information to make the determination. This section is modeled after existing section 95985(c)(1)(A) for an overstatement of greater than 5.00 percent.

Summary of Section 95985(c)(2)(B).

Section 95975(c)(2)(B) is necessary because for all project types other than Livestock and Mine Methane Capture which are out of regulatory compliance during a Reporting Period, the entire Reporting Period's ARB offset credits will remain subject to invalidation.

Rationale for Section 95985(c)(2)(B).

This section is necessary because these project types do not have a mechanism to remove part of a Reporting Period. This is not change from the current version of the Regulation for these project types.

Summary of Section 95985(e)(3).

Section 95985(e)(3) is modified to specify the current or most recent, in the case of an offset project after the final crediting period, Offset Project Operator and Authorized Project Designee, and, for forest offset projects the current or most recent, in the case of an offset project after the final crediting period, Forest Owner(s) will be identified after the initial determination of invalidation has been made.

Rationale for Section 95985(e)(3).

This amendment is necessary to identify which Offset Project Operator, Authorized Project Designee, or forest owner(s) will be identified in cases where the Offset Project Operator, Authorized Project Designee, or forest owner(s) may have changed during the project crediting period.

Summary of Section 95985(g).

Section 95985(g) is amended to add the Forest Buffer Account.

Rationale for Section 95985(g).

This amendment is necessary to account for how an invalidation will affect credits issued for an Offset Project Data Report that were placed in the ARB Forest Buffer Account.

Summary of Section 95985(g)(1).

Section 95985(g)(1) is amended to add the Forest Buffer Account.

Rationale for Section 95985(g)(1).

This amendment is necessary to account for how an invalidation will affect credits issued for an Offset Project Data Report that were placed in the ARB Forest Buffer Account.

Summary of Section 95985(g)(1)(A).

Section 95985(g)(1)(A) is amended to add a reference to section 95985(c)(2)(A).

Rationale for Section 95985(g)(1)(A).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situations to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A). This modification assists with determining how the invalidated ARB offset credits will be removed from the Compliance and Holding Accounts.

Summary of Section 95985(g)(1)(A)1.

Section 95985(g)(1)(A)1. is amended to add a reference to 95985(c)(2)(A) and to change the reference to 95990(c)(5) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95985(g)(1)(A)1.

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situation to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A). This modification assists with determining how the invalidated ARB offset credits will be removed from the Compliance and Holding Accounts. This amendment is also necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.



Summary of Section 95985(g)(1)(A)3.

Section 95985(g)(1)(A)3. is added to add calculate how many ARB offset credits will be removed from the Forest Buffer Account as a result of an invalidation.

Rationale for Section 95985(g)(1)(A)3.

This amendment is necessary to account for how an invalidation will affect credits issued for an Offset Project Data Report that were placed in the ARB Forest Buffer Account.

Summary of Section 95985(g)(1)(B).

Section 95985(g)(1)(B) is amended to change a reference to section 95985(c)(2)(B) and to add the Forest Buffer Account.

Rationale for Section 95985(g)(1)(B).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situations to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A), but not 95985(c)(2)(B) so the applicability of section 95985(g)(1)(B) must be limited to 95985(c)(2)(B). The amendment to add the Forest Buffer Account is necessary to account for how an invalidation will affect credits issued for an Offset Project Data Report were placed in the ARB Forest Buffer Account.

Summary of Section 95985(g)(2).

Section 95985(g)(2) is amended to add the Forest Buffer Account.

Rationale for Section 95985(g)(2).

This amendment is necessary to notify the affected parties that credits in the Forest Buffer Account were invalidated.

Summary of Section 95985(g)(3).

Section 95985(g)(3) is amended to add the Forest Buffer Account.

Rationale for Section 95985(g)(3).

This amendment is necessary to notify linked programs that credits in the Forest Buffer Account were invalidated.

Summary of Section 95985(h)(1).

Section 95985(h)(1) is amended to add a reference to section 95985(c)(2)(A).

Rationale for Section 95985(h)(1).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situation to limit the period of ineligibility for ARB offset credits, and the same limitations would

apply to invalidation described in 95985(c)(2)(A). This modification assists with determining how the invalidated ARB offset credits will be replaced when in a Retirement Account.

Summary of Section 95985(h)(1)(A).

Section 95985(h)(1)(A) is amended to change the reference to 95990(c)(5) to the Program for Recognitions of early Action Offset Credits and to add a reference to 95985(c)(2)(A).

Rationale for Section 95985(h)(1)(A).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed. This amendment is also necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situation to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A). This modification assists with determining how the invalidated ARB offset credits will be replaced when in a Retirement Account.

Summary of Section 95985(h)(1)(C)1.

Section 95985(h)(1)(C)1. is modified to clarify the Offset Project Operator required to replace the invalidated ARB offset credit is the Offset Project Operator identified in section 95985(e)(3).

Rationale for Section 95985(h)(1)(C)1.

This amendment is necessary to identify which Offset Project Operator is responsible for replacing the invalidated ARB offset credits when the Offset Project Operator may have changed during the project crediting period.

Summary of Section 95985(h)(2).

Section 95985(h)(2) is amended to change a reference to section 95985(c)(2)(B).

Rationale for Section 95985(h)(2).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situations to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A), but not 95985(c)(2)(B) so the applicability of section 95985(h)(2) must be limited to 95985(c)(2)(B).

Summary of Section 95985(h)(3).

Section 95985(h)(3) is added to add calculate how many ARB offset credits must be replaced by the Offset Project Operator as a result of an invalidation of credits in the Forest Buffer Account.

Rationale for Section 95985(h)(3).

This amendment is necessary to compensate the Forest Buffer Account for the invalidation. Since the Forest Buffer Account protects forest projects as a whole and the ARB offset credits in the Forest Buffer Account are not used only to compensate an unintentional reversal for the project that generated the offset credits, it is not appropriate to tie the replacement of the ARB offset credits exclusively to whether they have been retired from the Forest Buffer Account or not. Replacement of 50 percent of the invalidated ARB offset credits is a reasonable approach.

Summary of Section 95985(i)(1)(A).

Section 95985(i)(1)(A) is amended to change the reference to 95990(c)(5) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95985(i)(1)(A).

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95985(i)(2).

Section 95985(i)(2) is amended to change a reference to section 95985(c)(2)(B).

Rationale for Section 95985(i)(2).

This amendment is necessary because amendments were made to section 95973(b) to allow certain offset project types under specific situation to limit the period of ineligibility for ARB offset credits, and the same limitations would apply to invalidation described in 95985(c)(2)(A), but not 95985(c)(2)(B) so the applicability of section 95985(i)(2) must be limited to 95985(c)(2)(B).

Summary of Section 95985(i)(2)(A).

Section 95985(i)(2)(A) is modified to clarify the forest owners(s) required to replace the invalidated ARB offset credit is the Offset Project Operator identified in section 95985(e)(3).

Rationale for Section 95985(i)(2)(A).

This amendment is necessary to identify which forest owner(s) is responsible for replacing the invalidated ARB offset credits when the forest owner(s) may have changed during the project crediting period.

Summary of Section 95985(i)(3).

Section 95985(i)(3) is added to add calculate how many ARB offset credits must be replaced by the Offset Project Operator as a result of the invalidation of ARB offset credits from the Forest Buffer Account.

Rationale for Section 95985(i)(3).

This amendment is necessary to compensate the Forest Buffer Account for the invalidation. Since the Forest Buffer Account protects forest projects as a whole and the ARB offset credits in the Forest Buffer Account are not used only to compensate an unintentional reversal for the project that generated the offset credits, it is not appropriate to tie the replacement of the ARB offset credits exclusively to whether they have been retired from the Forest Buffer Account or not. Replacement of 50 percent of the invalidated ARB offset credits is a reasonable approach.

**Section 95987. Offset Project Registry Requirements**

Summary of Section 95987(b)(2)(A).

Section 95987(b)(2)(A) is amended to replace the word annual with Reporting Period.

Rationale for Section 95987(b)(2)(A).

This amendment is necessary because the Offset Project Data Report covers a single Reporting Period and is not necessarily annual.

Summary of Section 95987(b)(2)(B).

Section 95987(b)(2)(B) is amended to replace the word annual with Reporting Period.

Rationale for Section 95987(b)(2)(B).

This amendment is necessary because the Offset Project Data Report covers a single Reporting Period and is not necessarily annual.

**Subarticle 14: Auction and Sale of California Greenhouse Gas Allowances**

**Section 95990. Recognition of Early Action Offset Credits.**

Summary of Sections 95990(a)-(k).

These sections are deleted

Rationale for Section 95990(a)-(k).

This amendment is necessary because the final ARB offset credits resulting from early action projects will be issued no later than December 31, 2016. Therefore, the criteria in these sections for approving early action offset credits for the purpose of issuing ARB offset credits will no longer be relevant after December 31, 2016.

Summary of Section 95990(l) [New Section 95990(a)].

Section 95990(l) is renumbered to section 95990(a)

Rationale for Section 95990(l). [New Section 95990(a)].

This amendment is necessary to account for the deletion of section 95990(a)-(k)

Summary of Section 95990(l)(1)(A). [New Section 95990(a)(1)(A)].

Section 95990(l)(1)(A) is amended to change the reference to 95990(i) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(1)(A). [New Section 95990(a)(1)(A)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(1)(B). [New Section 95990(a)(1)(B)].

Section 95990(l)(1)(B) is amended to change the reference to 95990(i) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(1)(B). [New Section 95990(a)(1)(B)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(3). [New Section 95990(a)(3)].

Section 95990(l)(3) is amended to change the reference to 95990(c) to the Program for Recognitions of early Action Offset Credits and to change the term "statute of limitations" to "invalidation timeframe."

Rationale for Section 95990(l)(3). [New Section 95990(a)(3)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later

than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed. This amendment was also necessary because “statute of limitations” was not the most appropriate term and “invalidation timeframe” is the correct term used throughout the Regulation.

Summary of Section 95990(l)(3)(A). [New Section 95990(a)(3)(A)].

Section 95990(l)(3)(A) is amended to change the reference to 95990(k) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(3)(A). [New Section 95990(a)(3)(A)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(3)(B). [New Section 95990(a)(3)(B)].

Section 95990(l)(3)(B) is amended to change the references to 95990(k) to the Program for Recognitions of early Action Offset Credits and change the reference to 95990(l)(3)(A) to 95990(a)(3)(A).

Rationale for Section 95990(l)(3)(B). [New Section 95990(a)(3)(B)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(3)(B)2. [New Section 95990(a)(3)(B)2.].

Section 95990(l)(3)(B)2. is amended to change the references to 95990(f) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(3)(B)2. [New Section 95990(a)(3)(B)2.].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(3)(B)3. [New Section 95990(a)(3)(B)3.].  
Section 95990(l)(3)(B)3. is amended to change the references to 95990(f) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(3)(B)3. [New Section 95990(a)(3)(B)3.].  
This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(3)(B)4. [New Section 95990(a)(3)(B)4.].  
Section 95990(l)(3)(B)4. is amended to change the reference to 95990(l)(3)(B) and (B)3. to 95990(a)(3)(B) and (a)(3)(B)3.

Rationale for Section 95990(l)(3)(B)4. [New Section 95990(a)(3)(B)4.].  
This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(4). [New Section 95990(a)(4)].  
Section 95990(l)(4) is amended to change the reference to 95990(c)(5)(C) to the Program for Recognitions of early Action Offset Credits and to change the term “statute of limitations” to “invalidation timeframe.”

Rationale for Section 95990(l)(4). [New Section 95990(a)(4)].  
This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed. This amendment was also necessary because “statute of limitations” was not the most appropriate term and “invalidation timeframe” is the correct term used throughout the Regulation.

Summary of Section 95990(l)(4)(B). [New Section 95990(a)(4)(B)].  
Section 95990(l)(4)(B) is amended to change the references to 95990(f) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(4)(B). [New Section 95990(a)(4)(B)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(4)(C). [New Section 95990(a)(4)(C)].

Section 95990(l)(4)(C) is amended to change the references to 95990(f) to the Program for Recognitions of early Action Offset Credits.

Rationale for Section 95990(l)(4)(C). [New Section 95990(a)(4)(C)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

Summary of Section 95990(l)(4)(D). [New Section 95990(a)(4)(D)].

Section 95990(l)(4)(D) is amended to change the reference to 95990(l)(4) and (l)(4)(C) to 95990(l)(4) and (l)(4)(C).

Rationale for Section 95990(l)(4)(D). [New Section 95990(a)(4)(D)].

This amendment is necessary because all early action offset projects that transitioned to a Compliance Offset Protocol were required to do so no later than either February 28, 2015 or February 28, 2016, depending on the offset project type. As of August 31, 2016 ARB will no longer issue ARB offset credits to early action offset projects. Therefore, the majority of section 95990 containing the early action requirements was removed.

## **Subarticle 15: Enforcement and Penalties**

Summary of New Section 96014(c).

New section 96014(c) is added to specify that there is a separate violation for each allowance that an entity eligible to exit the Cap-and-Trade Program pursuant to section 95835(f)(1) fails to return to the Executive Officer as specified in section 95835(f)(1)(D)1. Section 95835(f)(1)(D) requires an entity exiting the Cap-and-Trade Program to place the appropriate number of allowances it must return pursuant to section 95835(f)(1)(A)-(D) into its compliance account and to notify the Executive Officer of this placement, and section 95835(f)(1)(D)1. specifies that the failure to return allowances will result in violations pursuant to section 96014.



Rationale for New Section 96014(c).

This new section is necessary to specify how violations will be calculated for the failure to return allowances when required. This new section ensures consistent treatment of the failure to return allowances when existing the program as when surrendering allowances to meet a compliance obligation. The provision is needed to ensure compliance with the Program requirements. ARB enforcement action against entities that do not return free allowance allocation when required to do so is an important, necessary incentive for entities to appropriately return allowances to ARB when required to do so.

Summary of Section 96014(c) [renumbered Section 96014(d)].

Former section 96014(c) is renumbered section 96014(d).

Rationale for Section 96014(c) [renumbered Section 96014(d)].

This change is necessary to reflect the renumbering of section 96014 with the addition of new section 96014(c).

Summary of Section 96014(d) [renumbered Section 96014(e)].

Former section 96014(d) is renumbered section 96014(e).

Rationale for Section 96014(d) [renumbered Section 96014(e)].

This change is necessary to reflect the renumbering of section 96014 with the addition of new section 96014(c).

## **Appendix C**

### **Appendix C. Quarterly Auction and Reserve Sale Dates**

Summary of Appendix C.

Appendix C is modified to add new tables that provide the dates when quarterly auctions and reserve sales will be held in the years 2021 through 2031.

Rationale for Appendix C.

Dates when quarterly auctions and reserve sales will be held in the years 2021 through 2031 need to be established so that entities that wish to participate in these auctions can plan appropriately. Future dates for quarterly auctions and reserve sales are set to maintain the same quarterly schedule that is currently in use.

## **Appendix D**

### **Appendix D. CPP Glidepath Targets and Backstop Triggers from 2021 to 2031.**

#### Summary of New Appendix D.

The new Appendix D provides a table that establishes the glidepath targets and backstop triggers for compliance with the federal Clean Power Plan (CPP) for each compliance period during the time from 2021 to 2031. The glidepath targets are aggregate emissions levels for each compliance period for all electricity generation units that are covered by CPP (CPP EGUs). The backstop trigger for each compliance period is the aggregate CPP EGU emissions threshold that, if exceeded, activates the CPP backstop.

#### Rationale for New Appendix D.

New Appendix D is needed to establish the glidepath targets and backstop triggers for CPP for each compliance period during the period from 2021 to 2031. These targets and triggers must be established for the State to comply with CPP.

### **Appendix E**

#### **Appendix E: Offset Project Activities Considered To Be Within the Scope of Regulatory Compliance Evaluation.**

#### Summary of New Appendix E.

Appendix E is added to identify the specific project activities considered for regulatory conformance for all Board-approved Compliance Offset Protocols.

#### Rationale for New Appendix E.

Appendix E is necessary to provide clarity on the scope of project activities that must be in regulatory compliance for an offset project to be eligible to receive ARB offset credits.

### **III. AIR QUALITY**

This chapter describes the expected GHG and criteria pollutant emissions benefits associated with the proposed amendments. The proposed amendments are designed to reduce statewide GHG emissions from 2021 through 2050, and these emissions reductions are considered to be an environmental benefit.

#### **A. GHG Emissions**

Executive Orders S-3-05 and B-30-15 set GHG emissions limits for California of 40 percent below 1990 emissions by 2030 and 80 percent below 2050, respectively. GHG emission reductions are needed throughout the entire economy to reach these goals, and the portion of overall emissions reductions attributable to the Proposed Project depends upon, among other factors, the GHG reductions achieved through other policies. The fewer the emissions reductions delivered by complementary policies, the greater the demand placed on the Cap-and-Trade Program to deliver emissions reductions.

As noted earlier, the Cap-and-Trade Program would be required to provide cumulative GHG reductions in the range of 100 to 200 MMTCO<sub>2</sub>e from 2021 to 2030. This range depends on the emissions reductions achieved through complementary policies and on the uncertainty related to technology development and deployment, legal challenges, and reduction mandates at the national level.

#### **B. Criteria Pollutant Emissions**

The proposed amendments are designed to reduce greenhouse gas (GHG) emissions, but criteria pollutants and air toxics are “co-pollutants” that are often associated with GHG emissions from combustion processes. Measures that reduce GHG emissions are also expected to provide co-benefits through reductions of criteria air pollutants and toxic air contaminants. Statewide, emissions of criteria pollutants and air toxics are expected to be reduced along with GHGs as a result of extending the Program beyond 2020. AB 32 requires ARB to consider the co-pollutant benefits of reducing GHGs, and these reductions are acknowledged as an overall beneficial effect of the proposed amendments.

California’s air pollution control programs for criteria and toxic pollutants will continue to significantly reduce emissions and health risk into the future. Technology improvements and enhanced energy efficiency resulting from extending the Cap-and-Trade Program beyond 2020 can further reduce these co-pollutant emissions, providing environmental and public health benefits on both a regional and local basis in addition to the benefits of reducing GHG emissions. Based on the available data, current law and policies that control localized air pollution, and expected compliance responses to the Cap-and-Trade Regulation, ARB concludes that increases in localized air pollution, including toxic air contaminants and criteria air pollutants, attributable to the Program are

extremely unlikely. However, since the potential for localized increases cannot be entirely dismissed, the Draft Environmental Analysis ultimately concludes that impacts to air quality associated with extension of the cap post-2020, incorporation of results of leakage studies for third compliance period allowance allocation, and compliance with the CPP would be potentially significant and unavoidable, related to construction-related activities and operations that may be reasonably foreseeable compliance responses for covered entities.

Further, in 2011, the Board approved an Adaptive Management (AM) Plan aimed to track and identify any increases in emissions due to the implementation of the Cap-and-Trade Program. ARB continues to consider the Program unlikely to contribute to increased localized emission impacts, but is committed to tracking this issue as the Program continues to be implemented. The development of the process to implement the AM Plan is currently under way and being conducted in collaboration with the air districts. The final process to implement the AM Plan is expected to be completed later this year and proposed for adoption at a Board hearing. More information about the AM Plan can be found at ARB's Adaptive Management website.<sup>27</sup>

The process to review and adjust programs as warranted is already part of ARB's existing practices in implementing its adopted regulations. The AM Plan will formalize this existing practice while seeking public input on how best to implement the plan. As currently proposed, the AM Plan will include key steps for data collection and screening, data analysis, review, and decision making in response to any identified changes in emissions at facilities covered by the Cap-and-Trade Program where implementation of the Program has been identified as the underlying cause for those increases. The proposed analysis will include reviewing data at the individual facility and community levels, and a multi-year trend analysis. The proposed analysis will use changes in GHG emissions as a screening criterion to make decisions on the need for a more in-depth analysis for any potential changes in criteria and toxic pollutants, as those are directly related to health impacts.

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<sup>27</sup> <http://www.arb.ca.gov/cc/capandtrade/adaptivemanagement/adaptivemanagement.htm>

#### IV. ENVIRONMENTAL ANALYSIS

The Air Resources Board (ARB), as the lead agency for the proposed amendments to the Cap-and-Trade Regulation (Proposed Project), has prepared an environmental analysis under its certified regulatory program (Cal. Code Regs., tit. 17, §§ 60000 through 60008) to comply with the requirements of the California Environmental Quality Act (CEQA). ARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA (Cal. Code Regs., tit. 14, § 15251(d)). ARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the Staff Report to comply with CEQA (Cal. Code Regs., tit. 17, §60005).

The Draft Environmental Analysis (Draft EA) for the Proposed Project is included in Appendix B to this Staff Report. The Draft EA provides a programmatic analysis of the reasonably foreseeable compliance responses that could result from implementation of the proposed amendments to the Cap-and-Trade Regulation and Clean Power Plan (CPP) Compliance Plan. The proposed amendments to the Cap-and-Trade Regulation and CPP Compliance Plan have two separate notices and staff reports and will be considered by the Board in separate proceedings. This approach is consistent with CEQA's requirement that an agency consider the whole of an action when it assesses a project's environmental effects, even if the project consists of separate approvals (Cal. Code Regs., tit. 14, § 15378(a)).

The Draft EA provides an environmental analysis which focuses on reasonably foreseeable potentially significant adverse and beneficial impacts on the physical environment resulting from reasonably foreseeable compliance responses taken in response to implementation of the Proposed Project. The Draft EA is intended to disclose potential adverse impacts and identify potential mitigation specific to the Proposed Project. The Draft EA states that implementation of the Proposed Project would continue to result in beneficial impacts to GHGs through continued reductions in emissions from capped sectors in California from 2020 through 2030 and beyond. It also concludes that the Proposed Project would result in overall long-term beneficial impacts to air quality through reductions in criteria pollutants and beneficial impacts to energy demand.

For the purpose of determining whether the Proposed Project would have a potential adverse effect on the environment, ARB evaluated the potential physical changes to the environment resulting from reasonably foreseeable compliance responses for the Proposed Project. Approval of the Proposed Project would result in the continuation of the Cap-and-Trade Program beyond 2020, Program linkage with Ontario, Canada, and compliance with the federal Clean Power Plan, among other changes. The environmental effects of the continuation of the Cap-and-Trade Program would build upon the compliance responses of the existing Cap-and-Trade Program. Environmental

effects of linkage with Ontario, Canada would be based on the compliance responses of the entities covered under Ontario's program,<sup>28</sup> which Staff expects would be similar to compliance responses by California's covered entities and offset project developers utilizing Ontario's offset protocols similar to California's compliance offset protocols for mine methane capture projects and ozone depleting substances projects. Staff expects environmental effects of Ontario's implementation of a landfill gas protocol similar to Québec's would be similar to environmental effects from compliance responses to California's Landfills Regulation. For CPP, since nearly all California entities subject to CPP are already covered entities under the Cap-and-Trade Program, Staff does not anticipate compliance responses beyond those expected for continuation of the Cap-and-Trade Program post-2020. Staff expects the few entities subject to CPP that are not currently covered entities under the Cap-and-Trade Program, but which are included in the Program as a result of the CPP and the proposed amendments, to implement similar compliance responses to reduce their GHG emissions.

While many impacts associated with the Proposed Project could be reduced to a less-than-significant level through conditions of approval applied to project-specific development, the authority to require and implement that mitigation lies with land use agencies or other agencies approving the development projects, not with ARB. Consequently, the EA takes the conservative approach in its significance conclusions and discloses, for CEQA compliance purposes, that impacts from the development of new facilities or modification of existing facilities associated with reasonably foreseeable compliance responses to the Proposed Project could be potentially significant and unavoidable under several resource areas. Please see the EA, which is included in Appendix B to this Staff Report, for additional information regarding the Proposed Project's environmental impact analysis.

Written comments on the Draft EA will be accepted starting July 29, 2016 through 5:00 p.m. on September 19, 2016. The Board will consider the final EA and responses to comments received on the Draft EA before considering adoption of the proposed amendments to the Cap-and-Trade Regulation and CPP Compliance Plan.

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<sup>28</sup> The Proposed Project does not authorize implementation of Ontario's Cap-and-Trade Program, and ARB lacks jurisdiction to implement any part of Ontario's Cap-and-Trade Program beyond the linkage included as part of the Proposed Project. ARB also lacks jurisdiction to require mitigation measures to address any identified environmental impacts in Ontario resulting from Ontario's Cap-and-Trade Program. Therefore, compliance obligations under Ontario's Cap-and-Trade Program exist independently of the Proposed Project. Any environmental effects resulting from implementation of Ontario's Cap-and-Trade Program are therefore not attributable to the Proposed Project. However, for purposes of disclosure, ARB provides in the Draft EA information regarding what is currently known about potential environmental impacts that may result from implementation of Ontario's Cap-and-Trade Program.

## V. ENVIRONMENTAL JUSTICE

Government Code section 65040.12(e) defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. ARB is committed to making environmental justice an integral part of its activities. The Board adopted its Environmental Justice Policies and Actions in December 2001 to establish a framework for incorporating environmental justice into ARB's programs consistent with the directives of State law (ARB 2001). Although these environmental justice policies apply to all communities in California, they recognize that environmental justice issues have been raised more often for low-income and minority communities.

As part of the economic, emissions, and environmental evaluation of the Cap-and-Trade Regulation for its initial adoption in 2011, staff assessed the emissions reduction opportunities available to California sources covered by the Regulation. This evaluation considered the potential for the incentives and flexibility inherent in the Program to result in direct, indirect, and cumulative emission impacts, including localized impacts in communities that are already adversely affected by air pollution. Based on the available data, the current law and policies that control localized air pollution, and the expected compliance responses to the Regulation, ARB concluded that increases in localized air pollution, including toxic air contaminants and criteria air pollutants, attributable to the Program are extremely unlikely. The proposed amendments would extend the core elements of the Program beyond 2020, and the compliance responses resulting from the proposed amendments are expected to be similar to those in the initial evaluation (ARB 2010d); thus staff anticipates that the impacts and benefits will also be similar. The Proposed Project would not relieve any entity subject to local air permitting requirements from the obligation to obtain a permit from the local air permitting agency.

ARB seeks to ensure that the Cap-and-Trade Program, as it operates over time, avoids and minimizes all instances of localized air quality impacts. As part of its Adaptive Management Plan, ARB has committed to use information collected through the Regulation, MRR, and other sources to evaluate how facilities are complying with the Program at least once each compliance period (ARB 2011b). As noted in Section III, the process to implement the Adaptive Management Plan will be proposed to the Board for adoption later this year. ARB will also solicit information from local air districts regarding permit modifications and new permit applications for covered sources. This information will be used to identify compliance activities that could potentially lead to increased emissions and to determine whether further investigation of potential criteria pollutant and toxic emissions is warranted. If unanticipated adverse localized air quality impacts are identified during this periodic review, ARB is committed to promptly developing and implementing appropriate responses. However, these potential future responses are not known at this time since ARB has not yet seen evidence of adverse localized air quality impacts. Moving forward with more targeted measures to address such unanticipated impacts is therefore not warranted based on currently available

information. Furthermore, moving forward with such measures at this time would unnecessarily conflict with other objectives of AB32.

As noted in the Executive Summary, some of the monies collected from the sale of Cap-and-Trade Program allowances at the quarterly auctions are allocated for programs that benefit disadvantaged communities. These investments yield GHG and air pollutant co-benefits. The list below includes some of the programs being funded by the Cap-and-Trade Program auction monies that are benefitting disadvantaged communities:

- Low-Income Weatherization Program/Renewable Energy
- Urban forestry
- Zero and near-zero emission passenger vehicle rebates
- Heavy duty hybrid/ZEV trucks and buses
- Pilot programs (car sharing financing, etc.) in disadvantaged communities
- Intermodal affordable housing
- Transit-oriented development

Further, on December 3, 2015, Governor Brown issued a directive for the Office of Environmental Health Hazard Assessment (OEHHA) to prepare by December 1, 2016, a report analyzing the benefits and impacts of the greenhouse gas emissions limits adopted by the Board. The report will be updated at least every three years. The report, at minimum, will track and evaluate (a) greenhouse gas emissions, criteria air pollutants, toxic air contaminants, short-lived climate pollutants, and other pollutant emission levels in disadvantaged communities; and (b) public health and other environmental health exposure indicators related to air pollutants in disadvantaged communities. Benefits are expected to include the investment of Cap-and-Trade Program auction monies in programs that benefit these communities.



## VI. ECONOMIC IMPACTS ANALYSIS

### A. Legal Requirements

Sections 11346.3 and 11346.5 of the Government Code require State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative regulation. The assessment shall include consideration of the impact of the proposed regulation on California jobs, business expansion, elimination, or creation, and the ability of California businesses to compete. State agencies are also required to estimate the cost or savings to any State or local agency and school districts in accordance with instruction adopted by the Department of Finance. This estimate is to include any nondiscretionary costs or savings to local agencies and the costs or savings in federal funding to the State.

This chapter presents results from analyses that estimate the impacts of a 2021-2031 Cap-and-Trade Program on the California economy. An economic analysis of the proposed linkage with Ontario and continued linkage with Québec is also included.

### B. Cap-and-Trade Program Design Elements

#### 1. Regional Coverage

The Cap-and-Trade Program is a multi-jurisdictional program to reduce greenhouse gas emissions that currently includes the State of California and the Canadian province of Québec. The proposed amendments to the Regulation would add the Canadian province of Ontario in 2018, at the start of the Program's third compliance period. Table VI-1 presents the GHG emissions targets adopted by each jurisdiction in the linked Cap-and-Trade Program in terms of 1990 emissions levels.

**Table VI-1. Jurisdictional Greenhouse Gas Emissions Targets.**

Target Year	California	Québec	Ontario
2020	Equal to 1990	20% below 1990 <sup>29</sup>	15% below 1990 <sup>30</sup>
2030	40% below 1990	37.5% below 1990 <sup>31</sup>	37% below 1990 <sup>32</sup>

Linkage with other jurisdictions can provide additional options for emissions reductions within the Program, reduce the potential for market participants to exercise power, as well as increase liquidity and potentially reduce volatility in the allowance market.

<sup>29</sup> [http://www.mddelcc.gouv.qc.ca/communiqués\\_en/2009/c20091123-cibleges.htm](http://www.mddelcc.gouv.qc.ca/communiqués_en/2009/c20091123-cibleges.htm)

<sup>30</sup> <http://news.ontario.ca/ene/en/2015/05/ontario-first-province-in-canada-to-set-2030-greenhouse-gas-pollution-reduction-target.html>

<sup>31</sup> <http://www.mddelcc.gouv.qc.ca/changementsclimatiques/consultations/cible2030/index-en.htm>

<sup>32</sup> <http://news.ontario.ca/ene/en/2015/05/ontario-first-province-in-canada-to-set-2030-greenhouse-gas-pollution-reduction-target.html>

## 2. Directly Covered Facilities

Approximately 450 facilities across 18 different economic sectors are directly covered by the Regulation. Directly covered facilities include electricity generators and importers, energy intensive industrial facilities, and suppliers of natural gas, gasoline, diesel, and other fossil fuels. Table VI-2 shows the reported 2014 emissions for facilities covered in the Program by two-digit NAICS code.<sup>33</sup>

**Table VI-2. Number of Covered Facilities and Reported 2014 Emissions by Economic Sector.**

NAICS Code	Sector	Number of Covered Facilities	2014 Reported Emissions (MMTCO <sub>2</sub> e)
11	Agriculture, Forestry, Fishing, and Hunting	3	151,262
21	Mining, Quarrying, and Oil and Gas Extraction	39	18,524,736
22	Utilities	197	98,135,880
31-33	Manufacturing	129	81,775,052
42	Wholesale Trade (including transportation fuel suppliers)	25	116,668,837
44-45	Retail Trade	6	2,582,589
48-49	Transportation and Warehousing	16	21,841,443
52	Finance and Insurance	5	1,648,143
54	Professional, Scientific, and Technical Services	2	58,037
55	Management of Companies and Enterprises	1	115,329
56	Administrative and Support and Waste Management and Remediation Services	3	262,349
61	Educational Services	11	845,973
62	Health Care and Social Assistance	1	61,686
92	Public Administration	3	138,057
	<b>Total</b>	<b>441</b>	<b>342,809,374</b>

A covered entity in the Program may be an aggregation of multiple facilities that span multiple economic sectors. The approximately 450 facilities covered by the Program translate to about 250 separate business entities through their corporate associations in the Program.

Entities that are covered by the Cap-and Trade Program are required to acquire and surrender allowances and/or offset credits (up to the eight percent offset usage limit) equal to their annual emissions.

<sup>33</sup> <http://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/2014-ghg-emissions-2015-11-04.xlsx>

The sectors that have the largest obligations, based on the 2014 emissions in Table IV-2, include wholesale trade (i.e., transportation fuel providers), utilities (i.e., electric power generation, transmission and distribution) and manufacturing. The covered businesses in these sectors will have costs associated with acquiring and surrendering compliance instruments to satisfy their emissions obligation. Based on 2014 emissions and an allowance price equal to the Auction Reserve Price, covered entity GHG emissions obligations could range from about \$25,000 up to almost \$900 million in 2021 depending on the entity's GHG emissions. Many sectors receive an allocation of allowances in the first three compliance periods, as detailed in Section 4 below, which could reduce the estimated cost of compliance. It is anticipated that allocation for the purposes of leakage prevention will continue in the post-2020 program, which will continue to reduce compliance costs for many entities.

### **3. Cap Decline**

Table 6-2 of the amended Regulation presents the 2021-2031 California GHG Allowances Budgets. The budgets decline from 320.9 MMTCO<sub>2</sub>e in 2020 to 193.8 MMTCO<sub>2</sub>e in 2031. As presented in Table VI-1, California has set a goal to reduce GHG emissions to 40 percent below 1990 levels by 2030. In addition to the Cap-and-Trade Program, the State has adopted complementary GHG reduction measures, such as standards for cleaner vehicles, low-carbon fuels, renewable electricity, and energy efficiency, which will achieve some of these emissions reductions. The amended Regulation is expected to achieve the emissions reductions that remain between the reductions achieved by the complementary measures and the 2030 GHG emission target.

### **4. Free Allocation of Allowances to Industrial Producers**

Free allowance allocation to industrial producers is based on product- or energy-based benchmarks, emissions leakage risk, and the cap adjustment factor. Assistance factors range from zero to 100 percent, and they are used to scale free allowance allocation based on the emissions leakage risk of industrial entities. Table 8-1 of the amended Regulation provides assistance factors for each industrial sector for third compliance period (2018-2020).

As post-2020 assistance factors have not yet been specified in the 45-day draft and may be added in Table 8-3 as part of a 15-day comment period, this analysis does not include any free allocation of allowances to any industrial producer from 2021 through 2031. For a proposed post-2020 Program, ARB proposes to retain the same general approach to calculating industrial allowance allocation for the purposes leakage prevention used during the first three compliance periods of the Program.

Under the current Regulation, industrial covered entities receive allocations to help them transition to the Cap-and-Trade Program and to minimize potential emissions leakage. Over time, the level of allocation provided for transition assistance declines, while the



allocation of allowances for emissions leakage prevention persists until the leakage risk is removed, for example, by adoption of comparable GHG emissions pricing in other jurisdictions.

For this economic analysis, the third compliance period assistance factors remain so there is no impact to covered sectors because of allocation decisions in the third compliance period.

## **5. Use of Allowance Value**

Currently, the value generated through the sale of State-owned allowances at auction is directed to the Greenhouse Gas Reduction Fund (GGRF) and must be used to further the reduction of GHG emissions. The types of projects that have received appropriations from the GGRF include high-speed rail, intercity rail, energy efficiency and weatherization, wetlands and forest health, and waste diversion (ARB 2016d). Under the current Regulation, the investor-owned electric and natural gas utilities are provided free allowances, and the utilities must use the value of these allowances on behalf of their ratepayers.<sup>34</sup> As the amended Regulation does not specify allowance allocation for electricity and natural gas utilities or industrial entities post-2020, this analysis does not include any free allocation of allowances to these entities from 2021 through 2031.

Similar to industrial allocation, the number of allowances to be provided to electric and natural gas utilities will continue to be part of the public process, and changes may be proposed to Table 9-4 and section 95893 in a 15-day comment period. For the post-2020 program, ARB is also proposing to retain the same general approach to calculating utility allowance allocation used during the first three compliance periods of the Program. In this analysis, any allowance value over what is directed to the GGRF (Table VI-6) is returned to household sector.

### **C. Potential Emissions Reductions from the Cap-and-Trade Program**

The initial AB 32 Scoping Plan outlined a range of GHG emission reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, and an AB 32 program implementation fee regulation to fund the program. This approach was recommended by the Market Advisory Committee as multiple approaches including a cap-and-trade program and direct, technology-oriented policies are needed to address multiple market failures (Market Advisory Committee 2007). California's climate policy, therefore, is a portfolio of measures, including the Renewables Portfolio Standard, the Low Carbon Fuel Standard, aggressive energy efficiency programs, the Cap-and-Trade

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<sup>34</sup> At this time, natural gas utilities can use a significant portion of the freely allocated allowances for direct compliance. Staff is proposing to escalate the rate for consignment to allow for 100 percent consignment sooner. This would result in the natural gas utilities being unable to use the freely allocated allowances for direct compliance sooner.

Program, and other GHG reduction strategies. Post-2020, California's climate policy will continue to include complementary market and direct regulatory policies to address the multiple market failures associated with GHG emissions.

To meet the 2030 emissions target, the sum of GHG emissions under the post-2020 Cap-and-Trade Program and GHG emissions from facilities not covered by the Program must not exceed the established statewide target. Thus, every ton of GHG emissions reductions accomplished by complementary regulations shrinks the share of reductions that must be achieved through the Cap-and-Trade Program. For example, tailpipe GHG standards for new vehicles and the Low Carbon Fuel Standard result in reduced GHG emissions in the transportation sector, lessening the emissions reductions that will be required to be achieved by the Cap-and-Trade Program to meet the statewide target. Determining the share of post-2020 emissions reductions that must be achieved by the Cap-and-Trade Program, therefore, requires generating forecasts of California GHG emissions that include potential reductions from anticipated post-2020 complementary policies.

For this analysis, the California GHG emissions forecast is based on results from the 2014 California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios (PATHWAYS; Energy and Environmental Economics, Inc. 2015a).<sup>35</sup> PATHWAYS is a California economy-wide, infrastructure-based GHG and cost analysis tool that was designed by Energy & Environmental Economics with support from Lawrence Berkeley National Laboratory to evaluate the feasibility and costs of a range of post-2020 GHG reduction scenarios for California. PATHWAYS is currently being updated for the 2030 Target Scoping Plan to reflect more recent input data as well as an updated portfolio of climate change policies.

PATHWAYS forecasts California GHG emissions through 2030 under a variety of scenarios that differ in terms of the timing and type of technology that might be adopted in the future. All PATHWAYS scenarios rely on existing technologies and assume a continuation of current lifestyles and economic growth as projected by California economic, energy, and fuel demand forecasts. The source data for the PATHWAYS scenarios includes California Department of Finance population projections and the California Energy Commission's Integrated Energy Policy Report (IEPR) and Energy Demand Forecast.

All PATHWAYS scenarios assume current GHG policies are continued through 2020, and then outline combinations of technologies that represent different post-2020 complementary policies that can be implemented to achieve GHG reductions through 2030. Common to all scenarios are technologies related to efficiency and conservation, fuel switching, decarbonizing electricity, and decarbonizing liquid and gaseous fuels. For this report, the Straight Line and Early Deployment scenarios are used to represent

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<sup>35</sup> The State agency collaborators on the project include California Air Resources Board, the California Independent System Operator, the California Public Utilities Commission, and the California Energy Commission.

the range of potential post-2020 complementary policies (Energy and Environmental Economics, Inc. 2015b). PATHWAYS scenarios do not include the Cap-and-Trade Program; therefore, these scenarios provide information on reductions that may be achieved through complementary measures and the remaining emissions reductions that may be required to be achieved through the post-2020 Cap-and-Trade Program. The Straight Line and Early Deployment scenarios represent policies that by 2030 will achieve:

1. Doubling of current energy efficiency goals and reduced vehicle miles traveled
2. Greater reliance on electricity in buildings and zero emission vehicles
3. Renewables accounting for 50-60 percent of annual energy use by 2030
4. Increased use of biofuels for liquid transportation fuels
5. Reductions of non-energy, non-CO<sub>2</sub> GHG emissions including emissions of F-gases and agricultural emissions

Senate Bill 350 (De León, Chapter 547, Statutes of 2015) requires 50 percent of electricity generation from renewable sources and doubling the energy efficiency of buildings, all by 2030. The additional policies that are needed to reach the 2030 target will be determined through the 2030 Target Scoping Plan<sup>36</sup> and other plans currently under development such as the Short Lived Climate Pollutant Reduction Strategy (ARB 2016a), which outlines targets for methane, black carbon, and F-gases. As the post-2020 policy mix is under development, no policies outlined in this report should be taken as final. The policies analyzed in this report represent approximations of California’s post-2020 climate change portfolio.

Table VI-3 presents the PATHWAYS emissions forecast through 2030 under two scenarios. The “existing policies” forecast includes all policies in place as of 2014 (the time of the PATHWAYS analysis). The “additional complementary policies” scenario includes the GHG emissions forecasts for the PATHWAYS Straight Line and Early Deployment scenario and represents the current approximation of emissions reductions that will be achieved through complementary regulations and measures, excluding the Cap-and-Trade Program, through 2030.

**Table VI-3. PATHWAYS Emissions Forecasts (MMTCO<sub>2</sub>e).**

Forecast Scenario	2020	2025	2030	Average Annual Emissions Growth
Existing Policies	419	416	398	-0.5%
Additional Complementary Policies	376-381	339-351	268-289	-3.0 to -3.7%

<sup>36</sup> <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

The PATHWAYS scenarios shown in Table VI-3 do not reach the statewide GHG target of a 40 percent reduction below 1990 levels by 2030. Based on these forecasts, reaching the 2030 target could require cumulative reductions of about 900 MMTCO<sub>2</sub>e between 2021 and 2030. As estimated through the Straight Line and Early Deployment scenarios, complementary policies could achieve approximately 700 to 800 MMTCO<sub>2</sub>e of the cumulative reductions from 2021 to 2030. To reach the goal of 40 percent below 1990 levels, the Cap-and-Trade Program could be required to provide GHG reductions in the range of 100 to 200 MMTCO<sub>2</sub>e from 2021 to 2030 (i.e., about 10 to 20 percent). This range is conditional on the emissions reductions that will be achieved through complementary policies and uncertainties related to technology development and deployment, legal challenges, and reduction mandates at the national level.

The lower the emissions reductions delivered by complementary policies, the greater the demand placed on the Cap-and-Trade Program to deliver emissions reductions. By motivating investments in emissions reductions that would not be undertaken in response to price alone, complementary policies reduce the demand for allowances, thereby lowering their market price. This effect is true regardless of whether individual complementary policies generate net savings or have positive per-ton abatement costs that exceed the allowance price.

#### **D. Method for Determining Economic Impacts**

Changes as a result of implementing the proposed amendments are reflected throughout the California economy. Regional Economic Models, Inc., Policy Insight Plus Version 1.7.2 (REMI) is used to estimate the macroeconomic impacts of the proposed amendments on the California economy (Regional Economic Models, Inc. 2015). REMI is a structural economic forecasting and policy analysis model that integrates input-output, computable general equilibrium, econometric and economic geography methodologies.

REMI Policy Insight Plus provides year-by-year estimates of the total impacts of the amended Regulation, pursuant to the requirements of Senate Bill 617 (Chapter 496, Statutes of 2011) and the California Department of Finance.<sup>37</sup> ARB uses the REMI single-region, 160-sector model with the model Reference case adjusted to reflect the Department of Finance Conforming Forecast dated June 2015.<sup>38</sup>

The amended Regulation is simulated in REMI by adjusting the Production Cost policy variable for covered sectors to reflect the purchase of Cap-and-Trade Program allowances, the distribution of free allowances in the third compliance period, and the transfer of proceeds from the quarterly auction of allowances to sectors that have been identified to receive legislative appropriation of these funds. Potential changes in

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<sup>37</sup> More information is available on the California Department of Finance website at:

[http://www.dof.ca.gov/Forecasting/Economics/Major\\_Regulations/SB\\_617\\_Rulemaking\\_Documents/](http://www.dof.ca.gov/Forecasting/Economics/Major_Regulations/SB_617_Rulemaking_Documents/)

<sup>38</sup> <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>



energy expenditures are estimated using consumption data from the U.S. Energy Information Administration along with assumed Cap-and-Trade Program price changes.

### **E. Inputs for the Macroeconomic Analysis**

Since there is uncertainty regarding the future allowance price path, this analysis focuses on the potential economic impacts of the amended Regulation under a range of Cap-and-Trade Program allowance prices. Including a range of prices allows the analysis to assess the potential allowance price impact of policy choices such as the method for allocating allowances, the use of auction proceeds, and linkage with other jurisdictions, as well as other factors like the cost of GHG emissions reduction technology and the potential impacts to energy and fuel prices.

In the 2010 ISOR of the Cap-and-Trade Regulation, ARB determined that the emissions reductions required by the Program would likely be achieved at an allowance price ranging from \$15 MTCO<sub>2e</sub> to \$30 MTCO<sub>2e</sub> in 2020 (ARB 2010e). The economic analysis of the Regulation for the 2010 ISOR (ARB 2010f) evaluated a range of allowance prices, bounded by the Auction Reserve Price (the minimum sales price for an allowance purchased through the quarterly auction) to the top tier price of the Allowance Price Containment Reserve (APCR). The APCR is a cost-containment mechanism that includes a set-aside pool of allowances that can only be purchased by covered entities at prices pre-set at three different tiers.

Similar to the 2010 analysis of the Regulation, this economic analysis looks at a range of allowance prices bounded by the Auction Reserve Price at the low end and by the highest price tier in the APCR at the high end. Using 2015 values sets an allowance price range from \$12.10 to \$56.51. The Auction Reserve Price grows at a real rate of five percent per year. Under the proposed amendments, the APCR in future years would become a single tier with the price set at \$60 above the Auction Reserve Price. The allowance prices used in this analysis are presented in Table VI-4.

For this analysis, the industrial sector's emissions are held constant assuming that any efficiency improvements are offset by growth in the sector between now and 2031. Emissions reductions required to meet the cap are assumed to come from the electricity, natural gas, and transportation sectors. This is consistent with the Compliance Pathways Analysis conducted for the 2010 Cap-and-Trade Regulation (ARB 2010g).

**Table VI-4. Range of Allowance Prices Analyzed in REMI (2015 Dollars).**

<b>Allowance Price</b>	<b>2015</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>
Auction Reserve Price	12.10	16.22	20.70	26.41
APCR Price	56.51	76.22	80.70	86.41



Table VI-5 presents the estimated annual obligation of covered sectors from 2021 through 2031. These values are estimated using the Auction Reserve Price (for the given year) and the 2014 emissions shown in Table VI-2 as a proxy for the future annual emissions obligations. In REMI, the obligation amounts are further disaggregated across forty-four 2- to 4-digit NAICS code sectors.

**Table VI-5. Obligation by Sector at an Allowance Price Equal to the Auction Reserve Price (millions of 2015 Dollars).**

NAICS Code	Sector	2021	2026	2031
11	Agriculture, Forestry, Fishing, and Hunting	2.3	2.3	2.3
21	Mining, Quarrying, and Oil and Gas Extraction	281.2	284.4	276.6
22	Utilities	1,489.6	1,506.6	1,465.4
31-33	Manufacturing	1,241.2	1,255.4	1,221.1
42	Wholesale Trade	1,770.9	1,791.1	1,742.1
44-45	Retail Trade	39.2	39.6	38.6
48-49	Transportation and Warehousing	331.5	335.3	326.1
52	Finance and Insurance	25.0	25.3	24.6
54	Professional, Scientific, and Technical Services	0.9	0.9	0.9
55	Management of Companies and Enterprises	1.8	1.8	1.7
56	Administrative and Support and Waste Management and Remediation Services	4.0	4.0	3.9
61	Educational Services	12.8	13.0	12.6
62	Health Care and Social Assistance	0.9	0.9	0.9
92	Public Administration	2.1	2.1	2.1
	<b>Total Obligation</b>	<b>5,203.4</b>	<b>5,262.8</b>	<b>5,118.8</b>

The total allowance value is assumed to be returned to the economy in a manner consistent with the current Regulation. In the third compliance period, a portion of the allowance value is allocated to industry to reflect free allowance allocation to producing entities. Under the current Regulation, industrial covered and opt-in covered entities receive allocations to help them transition to the Cap-and-Trade Program and to minimize potential emissions leakage. Over time, the level of allocation provided for transition assistance declines, while the allocation of allowances for emissions leakage prevention persists until the leakage risk is removed, for example by adoption of comparable GHG emissions pricing in other jurisdictions. While actual allocation to industrial entities in the Program is based on production levels at each individual facility, the level of third compliance period allowance allocation in this analysis is set based on total sector emissions, which are a proxy for the total output multiplied by the product-based benchmark. As post-2020 assistance factors have not yet been specified in the 45-day draft, this analysis does not include any free allocation of allowances from 2021 through 2031. However, ARB proposes to retain the same general approach outlined



above to calculate the industrial allowance allocation in the post-2020 period and changes may be proposed as part of a 15-day comment period. Additional information on the proposed approach to allowance allocation is presented in Appendix E.

The value associated with the auction of State-owned allowances is directed to the GGRF and must be used to further reductions of GHG emissions. The legislature decides how to appropriate GGRF monies. Types of projects include high-speed rail, intercity rail, energy efficiency and weatherization, wetlands and forest health, and waste diversion (ARB 2016d).

In order to capture some of the effects of these projects for illustrative purposes, \$2 billion per year is directed to the REMI sectors indicated in Table VI-6. As allowance value over time is not known with certainty, the total amount of GGRF funds available each year as well as the distribution of monies are approximations for this analysis. Decisions related to the redirection of allowance value through the GGRF have a considerable effect on the sectors that receive the value.

**Table VI-6. Conceptual Distribution of GGRF Value by Sector.**

Strategy	REMI Sector	Value (\$/year)
Sustainable Communities and Clean Transportation	Consumer new motor vehicles	250 Million
	Rail transportation	1 Billion
	Truck transportation	250 Million
Energy Efficiency and Clean Energy	Consumer household maintenance	400 Million
	Water, sewage, and other systems	40 Million
Natural Resources and Waste	Forestry; fishing, hunting, and trapping	20 Million
	Waste management and remediation services	40 Million
	<b>Total</b>	<b>2 Billion</b>

Under the current Regulation, investor-owned electric and gas utilities are provided allowances on behalf of their ratepayers.<sup>39</sup> For this economic analysis, in the third compliance period the value of allowances allocated to the electric and natural gas utilities is returned directly to consumers with no specification on how the money is spent in order to approximate the use of this value for the benefit of ratepayers. For the purpose of this analysis, any remaining value after distribution of funds to utilities and GGRF funding in the third compliance period is provided to consumers to reflect possible future uses of allowance value, such as dividends or reductions in other existing taxes. As post-2020 assistance factors have not yet been specified for utilities

<sup>39</sup> At this time, natural gas utilities can use a significant portion of the freely allocated allowances for direct compliance. Staff is proposing to escalate the rate for consignment to allow for 100 percent consignment sooner. This would result in the natural gas utilities being unable to use the freely allocated allowances for direct compliance sooner.

in the 45-day draft, this analysis does not include any free allocation of allowances from 2021 through 2031 for electric or natural gas utilities. However, as described previously, ARB is proposing to retain the same general approach to calculating allowance allocation for electric and natural gas utilities that was used during the first three compliance periods for the post-2020 period and may propose specific allocation values in a 15-day comment period.

The current Cap-and-Trade Regulation allows the limited use of offset credits to satisfy compliance obligations instead of allowances. Offset credits represent GHG emissions reductions in uncapped sectors that follow protocols established by ARB or one of its linked partners, and like allowances, each offset credit is equal to one metric ton of GHG. For this analysis, it is assumed that all sectors use offset credits up to their full limit, which is eight percent of their compliance obligation. In reality, some of this offset credit value would stay in California for offsets originating in California; however, offset credits are not a product that is represented in REMI, so modeling this transaction is difficult. Therefore, it is assumed for this analysis that all value related to the purchase of offset credits leaves the State economy.

## **F. Economy-Wide Impacts**

This section presents the impacts of the Program on Gross State Domestic Product (GSP), employment, and California business as modeled by REMI. All presented results are measured as the change from the Reference case established in REMI with the Department of Finance Conforming Forecast dated June 2015. As the California economy is anticipated to grow through 2031 in the REMI baseline, negative impacts can be interpreted as a slowing of growth, and positive impacts represent an increased rate of growth. The values in the presented tables represent the incremental change in the modeled value from the Reference case to the modeled policy scenario for the year considered. These tables outline the estimated impact of the amended Regulation.

### **1. Gross State Product (GSP)**

Table VI-7 presents the REMI results for GSP, the market value of all goods and services produced in California. For the allowance prices analyzed, impacts on California GSP are small relative to the size of the California economy. In the Reference scenario, GSP grows at an annual rate of 3.90 percent. With allowances at the Auction Reserve Price the annual average growth in GSP is unchanged, while at the APCR price growth in GSP is reduced slightly to 3.87 percent annually.



**Table VI-7. Change from the Reference Case in Gross State Product.**

Allowance Price	Absolute Change (billions \$2015)		Percent Change	
	2026	2031	2026	2031
Auction Reserve Price	0.0	-0.5	0.0%	0.0%
APCR Price	-6.3	-9.8	-0.2%	-0.3%

## 2. California Employment Impacts

Table VI-8 presents the REMI results for total employment. Depending on the industry, the model predicts small increases or decreases in employment. In aggregate, the model predicts a small impact on overall employment in the State at the allowance prices analyzed. The slight increase in employment growth can be attributed to the recycling of allowance value to GGRF recipients, and consumers. However, over the duration of the analysis, the increases in production costs mitigate the effect of the return of allowance value, leaving growth in employment roughly unchanged relative to the baseline scenario. In the model, the impacts at the state level are not greatly changed by the means in which money is returned within the State, indicating that as long as the value remains in California, the overall effects of the Program would be small relative to the size of the California economy.

**Table VI-8. Change from the Reference Case in Total Employment.**

Allowance Price	Absolute Change (thousands of jobs)		Percent Change	
	2026	2031	2026	2031
Auction Reserve Price	16.7	12.6	0.1%	0.1%
APCR Price	7.9	-17.6	0.0%	-0.1%

## 3. California Business

Table VI-9 presents the estimated changes in 2031 to sector gross value added from the amended Regulation. Gross value added is the contribution of each private industry and government to the State's gross domestic product. Estimated sector impacts to gross value added are both negative and positive, but small in magnitude. Overall sector gross value added is unchanged at the Auction Reserve Price and is reduced by 0.3 percent at the higher APCR price. Sectors with the greatest negative changes are those with large direct obligations such as utilities, mining, manufacturing, wholesale trade, and transportation and warehousing. Sectors with the greatest positive changes are those that benefit from the return of allowance value, such as transportation and warehousing (e.g., high-speed rail), which receives GGRF funds or the service sectors, which receive revenue indirectly from consumer spending that increases as a result of the return of allowance value to households.

**Table VI-9. Change from the Reference Case in 2031 Gross Value Added by Sector.**

Sector	Absolute Change (billions \$2015)		Percent Change	
	Auction Reserve Price	APCR Price	Auction Reserve Price	APCR Price
Forestry, Fishing, and Related Activities	0.0	0.0	0.2%	0.1%
Mining	-0.6	-2.3	-2.1%	-7.6%
Utilities	-0.5	-1.8	-1.2%	-4.3%
Construction	-0.1	-1.3	-0.1%	-0.9%
Manufacturing	-1.0	-4.4	-0.2%	-0.9%
Wholesale Trade	-0.2	-1.2	-0.1%	-0.6%
Retail Trade	0.1	0.0	0.0%	0.0%
Transportation and Warehousing	0.6	0.1	0.8%	0.1%
Information	0.1	0.0	0.0%	0.0%
Finance and Insurance	0.2	0.4	0.1%	0.2%
Real Estate and Rental and Leasing	0.2	-0.1	0.0%	0.0%
Professional, Scientific, and Technical Services	0.0	-0.6	0.0%	-0.2%
Management of Companies and Enterprises	0.0	-0.1	0.0%	-0.2%
Administrative and Waste Management Services	0.1	0.0	0.1%	0.0%
Educational Services	0.0	0.1	0.1%	0.2%
Health Care and Social Assistance	0.2	0.6	0.1%	0.3%
Arts, Entertainment, and Recreation	0.0	0.1	0.1%	0.2%
Accommodation and Food Services	0.0	0.0	0.0%	0.0%
Other Services, except Public Administration	0.2	0.3	0.3%	0.6%
<b>Total</b>	<b>-0.8</b>	<b>-10.2</b>	<b>0.0%</b>	<b>-0.3%</b>

### **G. Potential Impacts to Individuals**

Individuals are not directly covered by the Cap-and-Trade Program but they will be affected by increased fossil fuel prices and the secondary price increase of products based on their use of fossil fuels.

Incorporating the cost of Cap-and-Trade Program allowances into the price of carbon-based fuels increases the price of fossil fuels and the price of products based on their use of fossil fuels. Assuming complete cost pass-through, the impact to household



electricity and natural gas consumption from the Cap-and-Trade Program is presented in Table VI-10. Using 2014 price and consumption data evaluated at the 2021 Auction Reserve Price, the increase in an average household's expenditures for electricity and natural gas are about \$100 over one full year.

**Table VI-10. Household Consumption Impacts at the 2021 Auction Reserve Price.**

Energy Source	Total Annual Consumption <sup>1,2</sup>	Price Change	Total Expenditure Change	Individual Household Expenditure Change	Percent Change
Electricity	89,361 GWh	\$10.30 per MWh	\$920 million	\$69.4	6.3%
Natural Gas	407 Trillion BTU	\$0.86 per MMBTU	\$351 million	\$26.5	7.7%

1. U.S. Energy Information Agency EIA-826 monthly survey data was used for electricity consumption.<sup>40</sup>

2. U.S. Energy Information Agency Table F19 data was used for natural gas consumption.<sup>41</sup>

Results from the REMI modeling shown in Table VI-11 indicate that there could be a slight decrease in the growth of personal income and personal consumption across all consumer categories as a result of the amended Regulation. Personal income includes income received from participation in production as well as payments from government and businesses. In the baseline case, personal income grows at an annual rate of 4.52 percent, while at the APCR price the annual rate of growth is reduced slightly to 4.49 percent.

**Table VI-11. Change from the Reference Case in Personal Income.**

Allowance Price	Absolute Change (billions \$2015)		Percent Change	
	2026	2031	2026	2031
Auction Reserve Price	0.4	0.1	0.0%	0.0%
APCR Price	-3.2	-6.0	-0.1%	-0.2%

Table VI-12 presents the results in 2031 for impacts of the amended Regulation on personal consumption. Personal consumption represents the value of goods and services purchased by individuals. Personal consumption declines are greatest for consumer categories that include goods directly covered by the Program, such as household utilities; motor vehicle fuels, lubricants, and fluids; and fuel oil and other fuels. Motor vehicles and parts and furnishings, and durable household equipment sectors are affected by the use of allowance value to support vehicle and household energy efficiency, but the impacts are very small. Overall, personal consumption is relatively unchanged as a result of the amended Regulation.

<sup>40</sup> <http://www.eia.gov/electricity/data.cfm#sales>

<sup>41</sup> [http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep\\_fuel/html/fuel\\_use\\_nq.html&sid=US](http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep_fuel/html/fuel_use_nq.html&sid=US)

**Table VI-12. Change from the Reference Case in 2013 Personal Consumption.**

Category	Absolute Change (billions \$2015)		Percent Change	
	Auction Reserve Price	APCR Price	Auction Reserve Price	APCR Price
Motor vehicles and parts	0.3	0.3	0.3%	0.4%
Furnishings and durable household equipment	0.1	0.2	0.1%	0.3%
Recreational goods and vehicles and other durable goods	0.2	0.5	0.1%	0.3%
Food and beverages purchased for off-premises consumption	0.1	-0.1	0.0%	0.0%
Clothing and footwear	0.0	0.1	0.1%	0.1%
Motor vehicle fuels, lubricants, and fluids	-0.3	-1.0	-0.4%	-1.3%
Fuel oil and other fuels	0.0	0.0	-0.3%	-1.2%
Other nondurable goods	0.2	0.4	0.1%	0.2%
Housing	0.2	0.4	0.1%	0.1%
Household utilities	-0.3	-0.9	-0.6%	-2.0%
Transportation services	0.2	0.5	0.2%	0.7%
Health care	0.4	1.3	0.1%	0.3%
Recreation and other services	1.3	3.4	0.2%	0.5%
<b>Total</b>	<b>2.3</b>	<b>5.1</b>	<b>0.1%</b>	<b>0.2%</b>

#### **H. Potential Impact on Business Competitiveness Including Small Business**

For covered entities, the proposed amendments may reduce business competitiveness in California as similar businesses outside California do not face carbon costs. Free allowance allocation to industrial covered entities is intended to minimize emissions leakage potential, reducing the competitive disadvantage for California businesses. Allowance allocation to entities covered by the Program mitigates competitive disadvantages for businesses in California because it reduces costs to comply with the Program.

Based on the Program inclusion threshold and on the entities already subject to the Cap-and-Trade Regulation, no small businesses would face a compliance obligation under the amended Regulation. Small businesses will be indirectly affected by the Cap-and-Trade Program due to the increased price of fossil fuels. Costs will vary based on the business's use of fossil fuels and its ability to reduce fossil fuel in its operations.

According to data from the U.S. Small Business Association, commercial establishments make up about 85 percent of all establishments with less than 100



employees.<sup>42</sup> The Cap-and-Trade Program directly increases the price of fossil fuels and it increases the price of other products when they are produced and transported using fossil fuels. Assuming complete cost pass-through, the impact to commercial establishments from the Cap-and-Trade Program is presented in Table VI-13. Using 2014 price and consumption data evaluated at the 2021 Auction Reserve Price, the annual changes amount to about \$860 dollars per business customer, an increase of about seven percent.

**Table VI-13. Commercial Consumption Impacts at the 2021 Auction Reserve Price.**

Energy Source	Total Annual Consumption <sup>1,2</sup>	Price Change	Total Expenditure Change	Individual Business Expenditure Change	Percent Change
Electricity	119,494 GWh	\$10.30 per MWh	\$1,230 million	\$734/year	6.6%
Natural Gas	244 trillion BTU	\$0.86 per MMBTU	\$210 million	\$125/year	9.7%

1. U.S. Energy Information Agency EIA-826 monthly survey data was used for electricity consumption.<sup>43</sup>

2. U.S. Energy Information Agency Table F19 data was used for natural gas consumption.<sup>44</sup>

This simple analysis likely overstates the potential expenditure change because it does not consider that businesses will reduce their consumption in response to price increases, either through efficiency changes or conservation. Additionally, commercial customers may not actually encounter the full price pass-through of the carbon costs, or they may be otherwise compensated. For example, allowances given to electric and natural gas utilities in the third compliance period are to be used for the benefit of rate payers. The value of these allowances is in some cases returned directly to customers in the form of rebates, while other utilities may use the allowance value to offset the cost of other emissions reducing policies, such as the increased use of renewable electricity.

### **I. Potential Impact on Business Creation, Elimination, or Expansion**

The proposed amendments may lead to the elimination of some businesses in California because similar businesses outside California do not currently face GHG emissions costs. However, in the first three compliance periods, free allowance allocation to industrial covered entities is provided under the Program to minimize the potential for emissions leakage from California; this allocation also minimizes the related drop in California business. The proposed amendments may also lead to the creation of businesses that produce or sell low-carbon technologies or other market-related businesses, such as offset credit providers and verifiers. The 2015 Paris Agreement under the United Nations Framework Convention on Climate Change (United Nations 2015) aims to keep the global temperature rise below 2 °C. The agreement is intended to motivate the United States and other signatories in a variety of locales to start taking

<sup>42</sup> [http://www.sba.gov/sites/default/files/advocacy/Table\\_1\\_-\\_Number\\_of\\_firms\\_establishments\\_employment\\_and\\_payroll\\_by\\_firm\\_size\\_state\\_and\\_industry.xlsx](http://www.sba.gov/sites/default/files/advocacy/Table_1_-_Number_of_firms_establishments_employment_and_payroll_by_firm_size_state_and_industry.xlsx)

<sup>43</sup> <http://www.eia.gov/electricity/data.cfm#sales>

<sup>44</sup> [http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep\\_fuel/html/fuel\\_use\\_nq.html&sid=US](http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep_fuel/html/fuel_use_nq.html&sid=US)



action to reduce GHG emissions. More widespread carbon pricing may mitigate the impact of the amended Regulation on the creation and elimination of businesses in California. Therefore, it is anticipated that the proposed amendments will not have a significant adverse economic impact on businesses .

## **J. Potential Costs to Local and State Agencies**

### **1. Local Government**

Currently, some local government entities (e.g., local utilities) are regulated parties in the Program and would have a compliance obligation under the amended Regulation. These local governments could face administrative costs as well as costs associated with obtaining and surrendering compliance instruments.

Local government entities that purchase goods and fossil fuels in California but are not directly covered by the Regulation will face higher prices for fossil fuels and products that use fossil fuels. There may be additional impacts based on the continuance and appropriation of auction proceeds from the GGRF that are directed to local government.

### **2. State Government**

The Cap-and-Trade Program covers some State government entities. Examples include several University of California and California State University campuses. These entities would incur compliance costs under the amended Regulation. Through the first three compliance periods, the State universities receive an allocation of allowances so they do not have to cover the full cost of their emissions obligation.

The estimated direct fiscal year impact to State Universities in 2021 based on 2014 reported emissions is presented in Table VI-14.

**Table VI-14. Estimated Direct Fiscal Year Costs to State University Systems.#**

<b>University System</b>	<b>Estimated Annual Emissions (MTCO<sub>2</sub>e)</b>	<b>Estimated Annual Costs (\$)</b>
University of California	624,133	10,123,437
California State University	165,529	2,684,880

# Assumes compliance through the purchase of allowances at the 2021 auction reserve price, based on 2014 reported emissions.

State entities that purchase goods and fossil fuels in California, but are not directly covered by the Regulation, will face higher prices for fossil fuels and products that use fossil fuels. State entities could also potentially benefit from new lower-carbon technologies and innovations that may be indirect benefits of the amended Regulation.

There could also be impacts to the State budget based on the continuance of GGRF fund that are directed to State government. Any potential changes to allowance

allocation that provide for greater amounts of industrial assistance would also shift some allowance value that would have gone to the State for appropriation through the GGRF to covered entities, and vice versa.

### **3. ARB**

The amended Regulation would have minimal impact on staffing resources, which could be accommodated through a redistribution of existing staff. The fiscal impact of the amended Regulation for ARB is expected to be negligible.

### **4. Other State agencies**

The proposed amendments could potentially impact other state agencies based on the continuance of GGRF proceeds that could be directed to other state agencies, however these impacts are unknown and unquantified. State entities that purchase goods and fossil fuels in California, but are not directly covered by the Regulation, will face higher prices for fossil fuels and products that use fossil fuels. State entities could also potentially benefit from new lower-carbon technologies and innovations that may be indirect benefits of the amended Regulation.

## VII. EVALUATION OF REGULATORY ALTERNATIVES

California Government Code section 11346.2 requires ARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. In evaluating these alternative approaches to the proposed regulation, ARB staff found that none were as, or more, effective than a cap-and-trade program in carrying out the goals of AB 32. Further, none of the options that would have enabled California to meet AB 32 goals were as cost-effective as the proposed Cap-and-Trade Regulation. In the following sections, staff provides a discussion of each alternative considered. Staff will evaluate and present to the Board any alternative submitted by the public that is equally effective as the proposed regulation.

The alternatives discussed below focus on the post-2020 Cap-and-Trade Program. Preliminary modeling results for the continuing Cap-and-Trade Program show a greater-than \$50 million economic impact over a 12-month period.<sup>45</sup> Thus, the annual regulatory costs associated with continuing the Cap-and-Trade Program exceed \$10 million and the proposed Regulation is a major regulation for the purposes of compliance with CA Health and Safety Code Section 57005, which also requires an analysis of alternatives. Proposed changes to the Regulation for the third compliance period (2018-2020) are anticipated to have a much smaller economic impact. Therefore, the focus of this chapter is on regulatory amendments related to the post-2020 Cap-and-Trade Program.

Staff analyzed three alternatives to the proposed Cap-and-Trade Regulation:

- Do not implement the Cap-and-Trade Program, and do not replace it with an alternate approach to achieve additional emissions reductions (no project).
- Implement facility-specific regulations designed to achieve the 2030 emissions target in place of the Cap-and-Trade Program.
- Implement a carbon fee in place of the Cap-and-Trade Program.

In general, small businesses in regulated sectors would not be subject to the proposed Regulation because their total GHG emissions are below the GHG reporting threshold, thereby exempting them from compliance obligations under the proposed Regulation. Therefore, the Board has not identified any adverse impacts on small business.

### **A. Do Not Implement the Cap-and-Trade Program (“No Project” Alternative)**

The “No Project” Alternative defines a scenario in which ARB would discontinue the Cap-and-Trade Program, and would not supplement the complementary measures

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<sup>45</sup> See the revised Standardized Regulatory Impact Analysis for these amendments, which is provided in Appendix C to this Staff Report.

identified in the Climate Change Scoping Plan with additional measures to achieve the emissions reductions needed to meet the 2030 emissions target. Under this alternative, ARB would fail to meet its GHG emissions reduction target of 40 percent below 1990 levels by 2030. Therefore, this alternative was rejected.

Greenhouse gas emissions in 2030 under multiple scenarios were estimated as part of the PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios (PATHWAYS; Energy and Environmental Economics, Inc. 2015a). PATHWAYS scenarios do not include the Cap-and-Trade Program, and therefore can be used to assess what might happen if the Cap-and-Trade Program were discontinued. The PATHWAYS project used a California economy-wide, infrastructure-based analysis tool to evaluate future costs and GHG emissions under each policy scenario. For this discussion, the Straight Line and Early Deployment scenarios are used to represent the implementation of potential post-2020 complementary policies. These policies include doubling of current energy efficiency goals and renewables accounting for 50-60 percent of annual energy use by 2030. PATHWAYS results and additional analysis are described in more detail in the revised Standardized Regulatory Impact Analysis for the proposed amendments, which is provided as Appendix C to this Staff Report.

Under a business-as-usual (or baseline) scenario, reaching the 2030 target would require cumulative GHG reductions of about 900 MMTCO<sub>2</sub>e between 2021 and 2030. As estimated through the Straight Line and Early Deployment Scenarios, complementary policies could achieve approximately 700 to 800 MMTCO<sub>2</sub>e of the reductions from 2021 to 2030. That is, these GHG reductions would fall short of reductions needed to meet the 2030 target by about 100 to 200 MMTCO<sub>2</sub>e (i.e., about 10 to 20 percent), suggesting that complementary policies alone would not achieve the 2030 target.

## **B. Implement Facility Specific Requirements**

Under this scenario, ARB would cease to operate the Cap-and-Trade Program and would instead implement facility-specific requirements designed to achieve the same amount of estimated emissions reductions. This option would focus on requiring each covered facility to reduce emissions from a historical baseline level to 40 percent below that level by 2030 with interim targets. In addition to these reductions, supplemental policies may be needed to reduce emissions from non-covered sources. This alternative was rejected because it increases costs, reduces flexibility, and could generate more emissions leakage compared to the proposed Cap-and-Trade Program.

This policy would differ significantly from a Cap-and-Trade Program in terms of costs. Under this approach, each facility would be required to reduce its emissions by a fixed percent rather than allowing some facilities to achieve greater reductions than others, as is allowed under the Cap-and-Trade Program. Requiring each facility to reduce emissions by a set percentage would reduce the flexibility available to each facility, and thereby increase costs. Methods of reducing covered emissions included switching

from natural gas to electric boilers and from fossil fuels to biofuels, as well as sector-specific strategies. The costs for this scenario are likely to be higher than the cost of the Cap-and-Trade Program. More information on the economic assessment of facility-specific requirements is provided in Appendix C of this Staff Report.

This policy would result in the same in-State GHG reductions for covered entities as are expected from the Cap-and-Trade Program. However, requiring facility-specific reductions without encouraging facility productivity could result in industrial activity leaving California in order to comply with the requirements. This would constitute emissions leakage, which would hurt California's economy while increasing GHG emissions outside of California. In order to prevent it, incentives for industrial activity to stay in California would be needed, analogous to the Cap-and-Trade Program's allowance allocations to industrial entities. These incentives would impose a cost on the State. That is, this approach would either result in emissions leakage or require State expenditures to assist industrial facilities.

The linked cap-and-trade program between California and Québec would no longer exist. We would also forgo future linkages with other programs. The State would also need to identify another program, such as facility caps, as the compliance demonstration mechanism for the CPP. And, as the federal GHG regulations are expanded to cover additional sectors, we would need to take a sector-by-sector approach to address compliance under a federal scheme.

### **C. Implement a Carbon Fee**

When the Cap-and-Trade Regulation was proposed in 2010, a per-metric-ton fee on GHG emissions was one of the alternatives considered. ARB has again considered the implications of a "carbon fee" and concluded it is a less desirable GHG reduction policy for California. A carbon fee would provide price certainty to covered facilities but would not guarantee that California would meet its GHG reduction goals. Additional discussion of the economic effects of a carbon fee are included Appendix C to this Staff Report.

A carbon fee and a cap-and-trade program are similar in that both would encourage GHG emissions reductions by pricing emissions. With perfect information, a carbon fee and a cap-and-trade program could be designed to have identical effects on the economy. With imperfect information about the costs of emissions, a carbon fee would provide price certainty and an uncertain amount of emissions reductions, while a cap-and-trade program would provide a certain cap on emissions at an uncertain price. A carbon fee might not result in meeting the 2030 emissions target, or it could result in overshooting the target at an unnecessarily high cost. Because the primary goal of the Cap-and-Trade Program is to meet GHG emissions targets while minimizing costs, ARB staff believes a cap-and-trade program is a better match to California's goals.

It is unclear at this time if additional legislative authority would be needed to adopt a carbon fee. A potential carbon fee could be set at the same point of regulation for the entities that are currently subject to the California Cap-and-Trade Program, or (alternatively) as far upstream as possible. At this time, it is not known how monies generated by a carbon fee would be used.

The linked cap-and-trade program between California and Québec would no longer exist. California would forgo future linkages of this type with other programs, such as the Ontario program and a federal trading system for the CPP. The State would need to identify another program, such as the RPS, as the compliance demonstration mechanism for the Clean Power Plan. And, as the federal GHG regulations are expanded to cover additional sectors, the State would need to take a sector-by-sector approach to address compliance under a federal scheme.

### **VIII. JUSTIFICATION FOR ADOPTION OF REGULATIONS DIFFERENT FROM FEDERAL REGULATIONS CONTAINED IN THE CODE OF FEDERAL REGULATIONS**

The proposed amended Regulation continues to place a compliance obligation on large industrial sources, fuel suppliers, and electricity generators and importers for the GHG emissions associated with their activities in 2021 and beyond. The GHG emissions from these entities, except for the GHG emissions from electricity generating units (EGUs) covered by the federal Clean Power Plan (CPP) beginning in 2022, are not currently covered by any federal regulations. Covering these GHG emissions does not conflict with federal regulations.

Affected EGUs under CPP are covered under the proposed amended Regulation; indeed, compliance by affected EGUs with the proposed amended Regulation is the means by which the State proposes to demonstrate compliance with CPP. The federal CPP allows for “state measures,” such as California’s Cap-and-Trade Program, that place requirements on affected EGUs in order to meet aggregate mass-based emissions limits for the entire sector during each compliance period. The proposed amended Regulation is not different from federal regulations; it is a “state measure” that is embraced by the CPP as a means of complying with federal regulations.

### **IX. PUBLIC PROCESS FOR DEVELOPMENT OF PROPOSED ACTION**

ARB staff developed the proposed amendments through an extensive public process. The proposed amendments were developed based on staff experience with implementing the Program, Board direction through Resolutions, discussions with stakeholders, and staff analysis.

The public process for the proposed amendments began with a kickoff workshop on October 2, 2015, and a total of ten publicly noticed workshops were held from October 2015 through June 2016. A meeting of the Environmental Justice Advisory Committee

(EJAC) in January 2016 also included a public discussion of the proposed Regulation amendments. In addition, ARB staff held numerous informal meetings with stakeholders to discuss specific topics related to the proposed amendments. These forums provided ARB staff and stakeholders opportunities to present and discuss initial regulatory concepts and potential alternatives. The timeframe of the workshops and meetings allowed ARB to incorporate comments and alternatives into the proposed amendments. ARB staff considers stakeholder feedback throughout the regulatory adoption process, including up to the adoption of the final regulation.

Ten publicly noticed workshops were held from October 2015 and 2016 to present the proposed amendment concepts and to solicit feedback from stakeholders and the public. These workshop dates and topics are identified here:

- Oct. 2, 2015: Kickoff for Potential 2016 Amendments to the Cap-and-Trade Regulation and California Compliance with the Federal Clean Power Plan
- Oct. 28, 2015: Including International Sector-Based Offset Credits in the Cap-and-Trade Program
- Dec. 14, 2015: California Plan for Compliance with the Clean Power Plan and Potential 2016 Amendments to the Cap-and-Trade Program
- Feb. 24, 2016: Potential Revisions to ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions and Cap-and-Trade Regulations
- Mar. 22, 2016: Sector-Based Offset Credits: Reference Levels, Crediting Baselines, and Monitoring and Verification
- Mar. 29, 2016: Post-2020 Emissions Cap Setting and Allowance Allocation
- Apr. 5, 2016: Incorporation of Sector-Based Offset Credits and Cost Containment Provisions
- Apr. 28, 2016: Sector-Based Offset Credits: Linkage Requirements and Environmental Safeguards
- May 18, 2016: Emissions Leakage Prevention Studies
- June 24, 2016: Electricity and Natural Gas Sectors

Each of these workshops was announced at least two weeks prior to its occurrence by giving notice at a previous workshop, posting white papers and research papers online, and/or posting a notice to the Cap-and-Trade Program public email service list (capandtrade), which has over 1,000 recipients. Each workshop was open to all members of the public, and each was webcast online to allow for remote participation. ARB made available workshop documents and presentations to help stakeholders prepare for the discussions. For each workshop, ARB also invited stakeholders to participate and provide comments on the development of proposed amendments.



Workshop information and materials are posted on ARB's Cap-and-Trade Program Public Meetings webpage.<sup>46</sup>

ARB staff publicly released a total of four discussion papers and three research papers related to proposed amendment topics that mandated special attention. Staff released two discussion papers on using the Cap-and-Trade Program for California compliance with the federal Clean Power Plan, the first in September 2015 and the second in February 2016. Staff also released two discussion papers on the incorporation of sector-based offset credits into the Program, the first in October 2015 and the second in March 2016. Staff released three research papers in May 2016 that assess the emissions leakage potential associated with the Program for California's industrial sectors. All of these papers are also posted on the Program's Public Meetings webpage.

ARB accepted informal public comments in response to each workshop, and more than 200 written informal comment letters have been received to date. ARB staff also met regularly with stakeholders to discuss concerns and recommendations outside of the public workshop format.

The public notice, presentation slides, and any supporting materials for each workshop are provided in Appendix F to this Staff Report. Appendix F also includes all of the informal comment letters received by ARB in response to each workshop.

Staff also conducted a Standardized Regulatory Impact Assessment (SRIA) as required by Senate Bill 617 (Chapter 496, Statutes of 2011) and received feedback and comments from the Department of Finance (DOF). The original SRIA is posted on the DOF webpage.<sup>47</sup> Staff revised the original SRIA in response to the feedback from DOF, and Appendix C to this Staff Report includes the revised SRIA as well as a summary of DOF comments and ARB's responses to those comments.

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<sup>46</sup><http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>

<sup>47</sup>[http://www.dof.ca.gov/Forecasting/Economics/Major\\_Regulations/Major\\_Regulations\\_Table/documents/ARB\\_Cap-and-Trade\\_SRIA\\_2016\\_Final.pdf](http://www.dof.ca.gov/Forecasting/Economics/Major_Regulations/Major_Regulations_Table/documents/ARB_Cap-and-Trade_SRIA_2016_Final.pdf)



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