

Decarbonization and Equitable Climate Action and Resilience Building for the Inland Empire (DECARB IE) Workplan

Introduction

The San Bernardino County Transportation Authority/San Bernardino Council of Governments (SBCTA/SBCOG) is proud to submit this proposal for Climate Pollution Reduction Grant (CPRG) implementation funding in partnership with the Coachella Valley Association of Governments (CVAG) and Western Riverside Council of Governments (WRCOG). Together, we represent 52 cities, 78 unincorporated areas, 17 tribes, and 4.7M residents. We have a history of collaborating on similar projects, and have a strong communications and management infrastructure in place through the Inland Regional Energy Network (I-REN) and other joint projects.

Pollution is a heavy burden on our communities. Some of the worst air quality hot spots in the nation are in our region, which is in extreme nonattainment for ozone and serious nonattainment for particulate matter (PM)-2.5 and PM-10. Combined with extreme climate change impacts, including increasingly hot and dry weather, and the over-representation of low-income and disadvantaged communities (LIDAC), our communities are at the forefront of need for investments in greenhouse gas (GHG) reductions and the myriad of associated co-benefits this funding will bring.

Our **Decarbonization and Equitable Climate Action and Resilience Building for the Inland Empire (DECARB IE)** proposal will implement building decarbonization and electric vehicle (EV) charging infrastructure measures, as well as workforce development, by building on existing organizational infrastructures and deep expertise. As the transportation commission and the council of governments for the region, SBCTA/SBCOG brings the unique advantage of extensive experience with both federal transportation and energy-related funding and significant financial management capacity, with an annual budget of over \$1 billion. We have confidence in our ability to manage this grant in a way that realizes its full potential to make significant and lasting reductions in GHG emissions and to bring meaningful benefits to LIDAC communities.

1. Overall Project Summary and Approach

The Riverside–San Bernardino–Ontario metropolitan statistical area (MSA) includes the counties of Riverside and San Bernardino, California. Three councils of governments (COGs) represent all of the city and county governments in the MSA: CVAG, SBCTA/SBCOG, and WRCOG, herein referred to as “the COGs.” The lead organization for purposes of the CPRG implementation grant is SBCTA/SBCOG, henceforth referred to as “SBCOG.”

The COGs have a proven track record of working together on behalf of public agencies within their jurisdictions to reduce GHG emissions for the entire MSA, as evidenced by the Priority Climate Action Plan (PCAP) submission and the establishment of the I-REN. I-REN is a consortium of the COGs, created to administer, design, and deliver local energy efficiency (EE) programs using ratepayer funding approved by the California Public Utilities Commission (CPUC). Through this experience, the COGs are ideally positioned to identify gaps in existing programs, facilitate community engagement, and administer funds throughout the region to provide transformative opportunities, especially in LIDAC communities.

This DECARB IE workplan highlights the three regional measures deemed by stakeholders to be the highest priorities for implementation based on their near-term GHG reduction potential, need for funding, and anticipated co-benefits to LIDAC communities and are described in further detail below.

1a. Description of GHG Reduction Measures

The three GHG reduction measures include: (1) **Municipal building decarbonization**; (2) **Residential building decarbonization**; and (3) **Light duty EV charging infrastructure**. These measures will be complemented by a workforce development program as well as central administration led by SBCOG.

Municipal Building Decarbonization

SBCOG is requesting a total of \$106.7 million to create a municipal building decarbonization revolving loan fund (RLF). The RLF will address funding gaps by issuing bridge loans to finance decarbonization and resilience projects for public agencies within the MSA. Projects will be identified and developed through I-REN's existing technical assistance program and agencies will be responsible for expending funds using competitively selected subcontractors. Specific decarbonization project measures funded by the RLF may include, but are not limited to:

- EE upgrades (minimum 10% reduction in building energy usage)
- Electrification of gas appliances and equipment (with heat pump systems where applicable)
- Solar photovoltaic (PV) and battery storage installation
- Additional demand side management technologies as applicable on a site-by-site basis

Features - The RLF will be designed to fund three different types of municipal projects:

- **Type 1:** Non-critical facilities that want to save energy and decarbonize. The allocation target is 10% of total CPRG funds allocated for this measure, with a maximum \$2 million loan per project. We estimate 6 projects of this type will be implemented within the 5-year grant term.
- **Type 2:** Critical facilities in or serving LIDACs that provide essential community services during an emergency. Retrofitting these facilities with islandable solar and battery storage will allow them to continue to operate and serve the public during a grid outage or other emergency. The allocation target is 45% of total CPRG funds allocated for this measure, with a maximum \$5 million loan per project. We estimate 10 projects of this type will be implemented within the 5-year grant term.
- **Type 3:** Community resilience centers in or serving LIDACs that can offer shelter and emergency-related services to the public during an outage or other emergency, beyond their normal services, by retrofitting with islandable solar and battery. The allocation target is 45% of total CPRG funds allocated for this measure with a maximum \$5 million loan per project. In addition, \$50,000 of grant funding will be allocated per project for resilience center programming. We estimate 10 projects of this type will be implemented within the 5-year grant term.

The RLF is designed to maximize projects completed in the initial 5-year grant period. Loans will be interest-free with no fees or pre-payment penalties. There will also be a principal forgiveness incentive that will convert a portion of the loan to a grant for projects that are completed within the initial 5-year period (up to 25% for type 1 projects and up to 50% for type 2 projects). Loans will be structured with fixed repayments for ease of agency budgeting and loan terms will be capped at 15 years. To assist with loan repayment, I-REN will help agencies leverage multiple sources of existing funding where applicable, such as those identified in section 1b (Demonstration of Funding Need). Further details about the RLF design are included in the Technical Appendix.

Milestones and Tasks - We will leverage I-REN's existing public sector programs, which will provide a steady pipeline of loan applications for identified municipal building decarbonization projects. The projects will be "implementation ready" and will not require environmental review (e.g. California Environmental Quality Act [CEQA]), which will expedite their implementation. Major milestones and

tasks for each project are below, with associated timelines included in section 3c (Authorities, Implementation Timeline, and Milestones):

- **Project identification and development:** technical assistance, feasibility analysis, and project management.
- **RLF loan execution and disbursement:** application preparation and loan administration.
- **Other funding and financing secured:** application preparation and processing/disbursement.
- **Equipment/contractor selection:** agency procurement process to select a contractor and finalize the project equipment.
- **Permitting and interconnection application/approval:** preparing and filing interconnection application.
- **Equipment installation and activation:** equipment installation and commissioning by the selected contractor.
- **Savings measurement and verification:** measurement and verification for performance metrics tracking.
- **Incentives and investment tax credit (ITC) closeout:** incentive closeout paperwork submitted and incentives received.
- **LIDAC input on resilience center siting and services** (types 2 and 3 only): community outreach to gather input on resilience center siting and services (See section 4b, Community Engagement, for additional detail), design and implementation of community resilience center programming.
- **Program reporting and assessment:** activities related to tracking and reporting performance measures.

Underlying Assumptions, Risks, and Impacts - This section addresses schedule risks that could delay measure implementation. A schedule for this measure is shown in section 3c (Authorities, Implementation Timeline, and Milestones) based on conservative estimates for project completion times, and existing expressions of interest from multiple I-REN agencies. Equipment availability and shipping delays are a risk to project completion timelines and would reduce overall GHG reductions if project completion is pushed into later years. If agencies do not implement projects as fast as expected, total realized GHG reductions would be less than projected. To address this risk, the RLF has been designed to attract early agency participation. The program will offer a sliding scale of partial loan forgiveness for agencies that complete their projects within the grant period, with greater rates of loan forgiveness offered to projects that complete earlier in the grant period. We believe that the combination of no-interest loans and loan forgiveness incentives makes our schedule assumptions low-risk. Risks related to equipment characteristics, building energy demand, and costs for equipment and contractor labor, are discussed in the Technical Appendix.

Roles and Responsibilities - WRCOG will be responsible for administration of funds for the RLF program. Eligible agencies within the MSA territory, with assistance from I-REN, will be responsible for identifying projects, applying for and executing loan agreements, managing procurement, implementing project measures, and repaying the loan. Nonprofit partners and competitively-selected contractors will be responsible for outreach, design, permitting, procurement, installation, RLF management, and administration. Further details are provided in section 3c (Authorities, Implementation Timeline, and Milestones).

Priority Climate Action Plan (PCAP) Correspondence - Municipal building decarbonization is identified as a regional priority measure in Chapter 4, page 4-1 of the Riverside-San Bernardino-Ontario MSA PCAP. It

builds on several measures in WRCOG's Sub Regional CAP (2022), SBCOG's Regional GHG Reduction Plan (2021), and the individual CAPs produced in CVAG's jurisdictions.

Building energy emissions accounted for approximately 40% of regional GHG emissions for WRCOG in 2017, 35% of regional GHG emissions for SBCOG in 2016, and 18% of regional GHG emissions for CVAG in 2018. Methane gas consumption in buildings is also a major contributor to local and regional air pollution in the MSA. Electrifying appliances and equipment, reducing overall energy use, and incorporating local generation will yield substantial GHG and co-pollutant reductions, particularly for LIDACs who disproportionately bear the impacts of air pollution.

Residential Building Decarbonization

SBCOG is requesting a total of \$29.1 million to establish a residential direct install program that will offer decarbonization retrofits to LIDAC households at no cost to the customer. This program will complement the California Energy Commission's (CEC) Equitable Building Decarbonization program.

Features - The program will leverage existing and upcoming programs that encourage the adoption of low carbon technologies, discussed in section 1b (Demonstration of Funding Need). The program will aim to complement the CEC's upcoming Equitable Building Decarbonization Direct Install program, which provides low or no cost decarbonization retrofits to LIDAC households. The program will coordinate with and leverage other funding sources whenever possible, such as those identified in section 1b. In addition, CPRG funding will be used to install solar and battery storage systems to address electricity bill affordability for LIDAC households, while also leveraging applicable state programs to reduce costs.

Available retrofit measures may include heat pumps for space heating and cooling, heat pumps for water heating, unitary and central, duct testing/sealing, new ducts, returns, and registers, occupant controlled smart thermostats, ENERGY STAR® certified appliance replacements, air sealing, insulation, and solar window film, low-flow showerheads and faucets, induction range or cooktops, electric clothes dryers, LED bulbs and fixtures, attic fan installation, installing awnings or blackout UV window shades, solar, and battery storage installation. On a case-by-case basis, the program may consider electrical and remedial repairs required to install the retrofit measures, such as roof repair needed to enable solar installation.

By offering a set of prescribed EE measures, the program will simplify the process for participants and contractors, avoiding the need for a custom solution to be developed for each home. The program is designed to achieve bill savings and GHG emission reductions in participating households while improving indoor air quality, energy affordability, and resilience to extreme heat. The latter is particularly important for communities in this desert region, where temperatures can reach upward of 120 degrees during summer days and hover around 90–100 degrees at night. We estimate this direct install program will reach approximately 525-575 homes in the region. For purposes of calculating GHG emissions reduction, this example assumes the budget is allocated by home type: 85 percent of the budget to single-family homes, 10 percent to multi-family homes, and 5 percent to manufactured homes.

The program's success will be directly impacted by the contractors installing the energy measures. Therefore, the program will run a competitive solicitation with a robust set of screening criteria to select experienced contractors for the program. Contractors will be evaluated based on their previous track record and ability to ensure high quality service.

Milestones and Tasks - The residential projects will be "implementation ready" and will not require environmental review (i.e., CEQA), which will expedite project implementation. Major milestones and tasks for each project are below, with additional milestone detail in section 3c (Authorities, Implementation Timeline, and Milestones):

- **Competitive procurement of EE contractor(s):** develop solicitation and review bids for qualified contractor(s).
- **Outreach and eligibility screening:** develop outreach plans with community-based organizations to engage LIDAC residents.
- **Project identification and development:** implement outreach and education to determine residents' interest in and eligibility for available measures.
- **Permitting and interconnection application/approval:** enroll customers and secure all necessary homeowner permissions and city permits.
- **Equipment installation and education:** install improvements, provide equipment training, and offer ongoing support and warranties.

Underlying Assumptions, Risks, and Impacts - This section addresses schedule risks that could delay measure implementation. Schedule assumptions (detailed in section 3c) are based on conservative estimates of the number of homes interested, the time required to complete each home, and the project rollout over the 5-year grant term. Appliance and equipment availability and shipping delays are risks to project completion timelines and would reduce overall GHG reductions if project completion is pushed into later years. If fewer households participate or enrollment takes longer, GHG reductions may be less than projected. To address this risk, we have budgeted funding for a robust community outreach effort, including partnering with Alianza, a local nonprofit with extensive experience in this work.

Furthermore, there is always the risk of unique conditions arising as work is conducted on a home, and these tend to be more prevalent in LIDAC communities where building stock is older and where there are fewer resources available for home maintenance. Structural issues, mold, unpermitted renovations, or electrical system conditions can impair planned work and may require additional funding and/or cause project delays around equipment installation, inspections, or permitting. Because our project partners have extensive experience in residential decarbonization in LIDAC communities, we have accounted for these risks as we developed the project schedule and the estimated number of homes we can reach. Budget has also been allocated to address these physical barriers to decarbonization. Overall, we believe this combination of program design elements have minimized the risk for schedule impacts to GHG reduction estimates. Risks related to appliance/equipment characteristics, household energy demand, and costs for equipment and contractor labor, are discussed in the Technical Appendix.

Roles and Responsibilities - CVAG will be responsible for administration of funds for this program. Nonprofit partners and competitively-selected contractors will be responsible for outreach, design, permitting, procurement, and installation. Further details are provided in section 3c (Authorities, Implementation Timeline, and Milestones).

Priority Climate Action Plan (PCAP) Correspondence - Residential building decarbonization is identified as a regional priority measure in Chapter 4, page 4-1 of the Riverside-San Bernardino-Ontario MSA PCAP. Building energy emissions account for a large portion of GHG emissions in the MSA. Methane gas consumption in buildings is also a major contributor to ambient and indoor air pollution. Electrifying appliances and equipment, reducing overall energy use, and incorporating local generation will yield substantial GHG and co-pollutant reductions, particularly for LIDACs who disproportionately bear the impacts of air pollution. Resilience to extreme heat is particularly important in the region, where summer temperatures can exceed 120 degrees. Households in LIDACs need to be able to afford to keep their homes at a safe and healthy temperature. The residential decarbonization direct install program

model will streamline highly replicable EE measure installations with added solar and storage to achieve bill savings and GHG emission reductions in LIDAC households.

Light Duty EV Infrastructure

SBCOG is requesting a total of \$58.2 million for EV charging stations with funds expended directly to competitively selected subcontractors. The scope involves the installation, operation, and maintenance of 500 Level-2 (L2) and 285 Level-3 (DCFC) chargers at publicly accessible sites throughout the MSA.

Features - The following criteria will be used to select EV products and vendors:

- Meeting Build America Buy America requirements and any applicable California codes.
- Securing smart charging capabilities like scheduling charging sessions, monitoring charge status via app, accepting different payment methods, and dynamically adjusting charging rate based on power availability.
- Choosing ISO 15118 certified chargers, which enable bidirectional power flow, demand response capabilities, cybersecurity measures, and interoperability. These features enhance system resilience by supporting vehicle-to-grid (V2G) capabilities, load management, and data protection.
- Chargers with battery storage will also be explored where economically feasible to prevent the need for grid upgrades.
- Ensuring future proofing at installation sites including extra wiring conduits and oversized switchgear equipment added during the initial setup. This "dig once" approach makes it easier to expand charging capacity later on without having to redo major infrastructure components, allowing the vendor and site hosts to cost-effectively scale up the number or size of charger ports as electric vehicle adoption grows over time. Wiring will be enclosed in protective conduits or enclosures (such as heavy-duty metal or concrete enclosures or burying the wiring underground) that are difficult to access or tamper with to prevent vandalism.

Milestones and Tasks - Major milestones and tasks for each site include the following, for which the National Electric Vehicle Infrastructure (NEVI) process was used as guidance:

- **Site identification:** our team will use a strategic approach to leveraging data, partnerships, and community engagement to optimize site selection. San Bernardino County has an existing EV Readiness Plan that identifies priority sites, and Riverside County will conduct a site selection analysis using CPRG funding. We will also coordinate with South Coast Air Quality Management District (SCAQMD) as they develop their heavy duty charging facilities work plan.
- **Electrical and site feasibility studies:** the selected EV vendor will conduct site feasibility analysis to evaluate access routes, traffic flow, electrical capacity, locations of electric panels/rooms and conduits, parking layout including Americans with Disabilities Act (ADA) consideration, load management, cost assessment, permitting, and future growth accommodation.
- **Site host agreement:** the site host(s) and EV vendor will execute a site host agreement. The agreement will optimize the business model to maximize funds and value to the site host.
- **Design and component procurement:** the EV vendor engineering contractor will conduct a site walk, develop an engineering design for each site, and coordinate with the local utility on the interconnection design. SBCOG has strong working relationships with the local utilities, including Southern California Edison (SCE), which serves the majority of the MSA. SCE provides spatial data on grid capacity through its Distributed Resources Plan portal, which the engineering contractor will use as part of the site selection criteria. If the utility determines that the site needs additional electrical capacity, the EV vendor will submit a Rule 29 application for an upgrade. This process

includes additional steps for utility design, inspections and interconnections. The EV vendor will submit the site design to the authority having jurisdiction (AHJ), to obtain a permit to construct. The project team will work with the AHJ to finalize permit approvals and initiate procurement for chargers, switchgear, panels and other equipment due to long lead times of some components.

- **Construction and commissioning:** upon approval of all permitting, the sites will be constructed by the EV vendor in a phased approach, working with the local electric utility to coordinate grid interconnection and implement the electric utility work plan. Then, the EV vendor will coordinate with the AHJ to conduct civil work construction, and with the utility to conduct trenching and other construction for grid interconnection. Following installation, the chargers will be commissioned, which includes connecting the electric vehicle charging station (EVCS) site to the EV vendor network, documenting all equipment with serial numbers and photographs, and training site hosts on operation.
- **Maintenance:** our contracts will include requirements for a robust maintenance program, with a high uptime target of 97% as stipulated by NEVI guidelines to ensure that the chargers operate reliably for their 15-year life. Charger revenue is projected to be sufficient to fund the replacement of chargers and a continued maintenance program. Budgeted funding for maintenance supports a 48-hour response time for any downed chargers.

Underlying Assumptions, Risks, and Impacts - There are several categories of underlying assumptions and risks. This section addresses schedule risks that could delay measure implementation. Schedule assumptions (detailed in section 3c) are based on conservative estimates of a feasible rollout timeline. Equipment availability and shipping delays are a risk to project completion timelines and would reduce overall GHG reductions if project completion is pushed into later years. To address these risks, we will implement comprehensive project planning and management to closely track progress and implement corrective action if needed. We will initiate early engagement with local authorities to streamline permitting, and engage in proactive supply chain management, equipment procurement strategies, and early coordination with utilities. Risks related to customer utilization, and costs for equipment and contractor labor, are discussed in the Technical Appendix.

Roles and Responsibilities - SBCOG will be responsible for administration of funds for this program. Competitively-selected contractors/EV vendors will be responsible for design, permitting, procurement, construction, commissioning, and maintenance. Further details are provided in section 3c (Authorities, Implementation Timeline, and Milestones).

Priority Climate Action Plan (PCAP) Correspondence - Light duty EV infrastructure is identified as a regional priority measure in Chapter 4, page 4-1 of the Riverside-San Bernardino-Ontario MSA PCAP. The expansion of light duty zero-emissions vehicles (EV) infrastructure in the region has the potential to significantly reduce GHG emissions from on-road transportation, the largest GHG-contributing sector across all three subregions. The goal of this measure is to achieve significant decarbonization of on-road transportation vehicles while ensuring that LIDACs have equitable access to the network of additional EVCS resulting from the measure. Funding for this measure will support the deployment and operation of an increasing number of light-duty EVs traveling within and through the region by providing accessible, reliable, and widely available charging opportunities.

1b. Demonstration of Funding Need

CPRG funding is needed for the three GHG emission reduction measures in this application. In this section, we first discuss funding for building decarbonization—both the collective availability of funding

compared to the need within the MSA, and the sufficiency of funds to cover the full cost of individual projects. We then discuss the collective availability of funding for EV charging infrastructure.

Collective Availability of Funds for Building Decarbonization

Although multiple federal and state programs provide funding for building decarbonization, there are limitations to many of these programs, including:

- Local government entities are not eligible recipients for some programs.
- Some programs are only applicable to residential buildings, not municipal buildings.
- Many incentives and financing are paid post-installation, making it financially infeasible for public agencies or LIDAC households without upfront capital.

The following tables (1-2) list major federal and state programs for building decarbonization and identifies their limitations. SBCOG has not yet applied for any of the listed programs, but intends to leverage these resources (if accessible/applicable) and any future programs as part of the municipal and residential building decarbonization program's implementation. Assumptions about how these sources will be leveraged are provided in the Technical Appendix.

Table 1. Major Federal Funding Sources

| Opportunity Name - Administering Agency | Total Funding Nationwide | Local Gov't Eligible | Municipal or Residential | Currently Available |
|--|--------------------------|----------------------|--------------------------|---------------------|
| Energy Efficiency and Conservation Block Grant Program (EECBG) - DOE | \$430M | Yes | Municipal | Closes 4/30/24 |
| Solar for All - EPA | \$7B | Yes | Residential | Closed |
| Greenhouse Gas Reduction Fund (other financing) - EPA | \$20B | No | Both | Closed |
| Green and Resilient Retrofit Program - Department of Housing and Urban Development (HUD) via the Inflation Reduction Act (IRA) | \$2B | No | Residential | Closed |
| Clean Energy Tax Credits - Internal Revenue Service (IRS) via IRA | N/A | Yes | Both | Available |
| State-Based Home EE Contractor Training Grants - DOE | \$200M | No | Residential | Closes 9/30/31 |
| Latest and Zero Building Energy Codes - DOE | \$1B | Yes | Residential | Closes 4/30/2024 |
| Weatherization Assistance Program - DOE | Renewed annually | No | Residential | Available |
| Home Energy Rebates - DOE | \$8.8B | No | Residential | TBD |
| Homeowner Efficiency Rebates Program & Homeowner Managing Energy Savings (HOMES) - DOE | \$292M for CA | TBD | Residential | TBD |
| Home Electrification and Appliance Rebates Program (HEEHRA) - DOE | \$290M for CA | Yes | Residential | TBD |

Table 2. Major State Funding Sources

| Opportunity Name - Administering Agency | Total Funding | Local Gov't Eligible | Municipal or Residential | Currently Available |
|---|---------------|----------------------|--------------------------|---------------------|
|---|---------------|----------------------|--------------------------|---------------------|

| | | | | |
|--|--|-----|-------------|----------------------------|
| Equitable Building Decarbonization Program - CEC | \$TBD (2024-2027) | No | Residential | Available 2024 - TBD |
| TECH Clean California Statewide Incentive Program - CPUC | \$37M | Yes | Both | Available |
| California Energy-Smart Homes Electrification Alterations Incentive - CPUC | Up to \$5,500 (SFH), up to \$3,050 (MFH) | No | Residential | Available |
| Self-Generation Incentive Program (SGIP) - CPUC | \$166M (2020-2024) | Yes | Both | Available |

Despite these funding sources, there is still insufficient funding available to meet the need for building decarbonization in the MSA. Table 3 below shows values for residential built space and gas use in Riverside and San Bernardino counties. With over 550 million therms of gas used annually across more than 1.5 billion square feet of residential buildings, the need far exceeds the currently available funding.

Table 3. Built Space and Gas Usage for Residential Buildings

| County | Residential Built Space (million sq-ft)* | Residential 2022 Gas Usage (million therms)** |
|----------------|---|--|
| Riverside | 1,007 | 284 |
| San Bernardino | 588 | 267 |
| Total | 1,595 | 551 |

* UCLA Energy Atlas estimates for 2014, <https://www.energyatlas.ucla.edu/profiles>

**California Energy Commission, <https://ecdms.energy.ca.gov/gasbycounty.aspx>

Although similar data are not available for municipal buildings, hundreds of local governments and public agencies throughout the MSA territory continue to use gas to power water and space heating systems and lack on-site solar generation and storage systems.

Sufficiency of Funds on a Project Scale for Building Decarbonization

Not only is the collective amount funding insufficient, but the available funding also does not fully cover the costs of individual projects. The next sections present the cost of representative municipal and residential decarbonization projects, further demonstrating the need for CPRG funding to make progress on GHG emission reductions from the building sector.

Municipal Building Decarbonization

Many public agencies within the MSA do not possess the upfront capital to implement EE, decarbonization, and resilience projects. Table 4 below demonstrates the upfront capital and post-installation funding gaps for a representative project.

Table 4. Funding Gap for Type 1 Representative Municipal Decarbonization Project

| | Amount | Paid Upfront | Paid Post-Installation |
|---|--------------------|--------------------------------|------------------------|
| Type 1 Sample Decarbonization Project Cost | \$2,059,248 | | |
| Statewide HPWH Incentive | \$15,750 | | X |
| Golden State Thermostat Rebate | \$75 | | X |
| EECBG (average formula award for agency within MSA) | \$160,879 | X (only with the grant option) | |

| | | | |
|---|--------------------|--|---|
| I-REN EE Incentives (\$1/kWh) | \$60,813 | | X |
| SGIP (\$350/kWh) | \$106,750 | | X |
| ITC (30% of solar and battery cost) | \$499,033 | | X |
| Total Incentives | \$793,300 | | |
| Remaining Funding Gap After Incentives | \$1,265,948 | | |

Residential Building Decarbonization

LIDAC households do not possess the upfront capital to implement EE , decarbonization, and resilience projects. Table 5 below demonstrates the up-front and overall financing gap for a representative single-family home (SFH) project.

Table 5. Funding Gap for Representative Single-Family Home

| | Amount | Paid Upfront | Paid Post Installation |
|---|------------------|--------------|------------------------|
| Average Per SFH | \$86,606 | | |
| SW HPWH Incentive | \$ 3,100 | | X |
| SW Low GWP Bonus | \$ 1,500 | | X |
| SW > or = 55 Gal Incentive | \$ 700 | | X |
| SW Electrical Upgrade | \$ 2,000 | | X |
| TECH HVAC | \$ 2,000 | | X |
| Golden State Thermostat Rebate | \$ 75 | | X |
| Golden State HPWH Rebate | \$ 900 | | X |
| CA Energy Smart Incentive | \$ 5,550 | | X |
| CA Energy Smart Infrastructure Bonus | \$ 1,000 | | X |
| 25C Tax Credit for HPWH | \$ 2,000 | | X |
| 25C Tax Credit for Energy Efficient Home Improvement | \$ 750 | | X |
| Federal Tax Credit Solar Panel (30% tax rebate) | \$6,120 | | X |
| SGIP Incentive | \$6,173 | | X |
| Charge Ready Home Program Main Service Panel (MSP) Upgrades Incentive | \$ 840 | | X |
| Total Incentives Before CPRG | \$32,708 | | |
| Remaining Funding Gap After Incentives: | \$ 53,898 | | |

Collective Availability of Funds for Light Duty EV Infrastructure

Despite existing funding sources for expanding EV charging infrastructure, there is not nearly enough funding available to meet the region's anticipated need. The most recent analysis by the CEC indicates that by 2030, California will need a total of 1,008,844 public and shared private EV chargers statewide (including 969,844 L2s and 39,000 DCFCs) to support California's projected 7.1 million light duty electric vehicles. Given the number already deployed, the CEC analysis estimates that Riverside County will need an additional 22,944 L2 chargers and 1,258 DCFCs, while San Bernardino County will need 21,076 L2 chargers and 1,116 DCFCs. Using capital cost estimates provided by a contractor to SBCOG, the estimated cost associated with the chargers needed for the MSA would be more than \$1.4 billion. Federal and state funding for EV charging infrastructure is available for the MSA through the programs shown in Table 6 below. Using conservative estimates for the NEVI and CFI grant programs, the maximum expected

funding for EV charging infrastructure in the MSA by 2028 is approximately \$322 million. This represents only 23% of the funding needed through 2030.

Table 6. Estimated Potential Funding vs. Estimated Funding Needed for 2030 EV Charging Infrastructure

| Category | \$ Amount |
|---|------------------------|
| National Electric Vehicle Infrastructure (NEVI) | \$205,714,286 |
| Charging and Fueling Infrastructure (CFI) | \$95,398,594 |
| California Electric Vehicle Infrastructure Project (CALeVIP 1.0) | \$529,525 |
| California Electric Vehicle Infrastructure Project (CALeVIP 2.0) | \$2,123,312 |
| Clean Transportation Program: Charging Infrastructure for Government Fleets (CTP) | \$18,000,000 |
| Total Potential Grant Funding | \$321,765,716 |
| Estimated Charging Funding Needed by 2030 | \$1,409,120,000 |
| Shortfall: \$1,087,354,284 | |

1c. Transformative Impact

The shift toward decarbonized buildings can stimulate the growth of local green industries by creating more job opportunities in renewable energy and EE, providing a strong workforce infrastructure to support future GHG emissions reduction efforts. Measure-specific transformative opportunities and impacts that can lead to significant additional GHG reductions are as follows in the sections below.

Municipal Building Decarbonization

The RLF will continue the initial CPRG investment long after the initial five year grant period. As initial loans are repaid, the RLF will be an evergreen source of capital that can fund municipal decarbonization projects well past 2050. The RLF can also apply for and attract additional seed capital funding. This model will serve as a demonstration case to help scale deployment of this approach within public agencies themselves, thereby accelerating GHG reductions from public agency facilities.

Residential Building Decarbonization

The targeted nature of the residential building decarbonization ensures that LIDAC households will receive support, services, education, and access to technologies that would otherwise be out of reach due to financial and information barriers. As a hard-to-abate sector, GHG reductions from LIDAC households must be understood within the context and circumstances of these communities. LIDAC households tend to utilize low-cost, inefficient technologies for heating and cooling. Replacement of existing equipment often occurs through second hand markets, and therefore a business as usual assumption of increased efficiency of appliances upon replacement does not apply. Including solar and battery storage in the residential decarbonization package lowers electricity bill costs associated with appliance electrification and creates lasting infrastructure to maintain zero emission appliances and transportation into the future, even upon replacement as components reach their end of life.

Light Duty Electric Vehicle (EV) Infrastructure

EV charger deployment removes the most important barrier to EV ownership, making it essential for encouraging EV adoption. L2 chargers will support transportation decarbonization within hard-to-reach LIDAC communities, including households in multi-unit dwellings who do not have access to charging at home and those with high vehicle miles traveled (VMT) due to commutes to more populated areas for work. By including contract requirements for a robust maintenance program with high uptime targets, we will support workforce opportunities within the region. Investments will provide early market deployment support for future V2G power systems and leveraging EVs and chargers as emergency

resources to support energy reliability. The program will also consider adoption of curbside and streetlight EV chargers and off-grid EV charging solutions where appropriate and economical. In the long term, EV charging infrastructure can serve as a catalyst for the adoption of emerging technologies, such as better battery technologies, V2G systems, smart charging, and wireless/inductive charging.

2. Impact of GHG Reduction Measures

2a. Magnitude of GHG Reductions from 2025 through 2030

Municipal Building Decarbonization

Table 7 below summarizes the GHG reductions associated with this measure.

Table 7. Municipal Building Decarbonization GHG Reductions 2025-2030

| Project Type | Associated GHG Reduction - 2025-2030* (MTCO ₂ e) |
|---|---|
| Municipal Building Decarbonization | 11,323 |
| *Based on assumptions for rollout schedule and distribution across project types - see Appendix for details | |

Durability of reductions: GHG emission reductions from municipal building decarbonization projects will be permanent and substantial. Building grid energy use will be offset by renewable solar and battery storage. As the grid transitions toward a target of 100% renewable energy by 2045, any remaining building grid consumption will become less GHG intensive over time. Once the decarbonization technology is installed, we are confident that the new equipment will be replaced with similar or more efficient equipment at the end of its effective useful life (EUL).

Residential Building Decarbonization

Table 8 below summarizes the GHG reductions associated with this measure.

Table 8. Residential Building Decarbonization GHG Reductions 2025-2030

| Project Type | Associated GHG Reduction - 2025-2030* (MTCO ₂ e) |
|---|---|
| Residential Building Decarbonization | 4,953 |
| *Based on assumptions for rollout schedule and distribution across project types - see Appendix for details | |

Durability of reductions: GHG emission reductions from residential building decarbonization will be permanent and substantial as the grid transitions toward a target of 100% renewable energy by 2045. Solar and battery storage will provide resilience to households, helping to encourage widespread adoption and sustained use of these technologies, thereby cementing the emission reductions achieved.

Light Duty Electric Vehicle (EV) Infrastructure

Table 9 below summarizes the GHG reductions associated with this measure.

Table 9. Light Duty Zero EV GHG Reductions 2025-2030

| Project Type | Associated GHG Reduction - 2025-2030* (MTCO ₂ e) |
|---|---|
| Total | 115,573 |
| *Based on assumptions for rollout schedule - see Appendix for details | |

Durability of reductions: GHG emission reductions from EV infrastructure will be permanent and substantial as the grid transitions toward a target of 100% renewable energy by 2045. As EV adoption accelerates, more internal combustion engine (ICE) vehicles will be replaced by EVs, leading to a

significant reduction in emissions. Furthermore, a reliable charging infrastructure, as will be demonstrated by EV infrastructure meeting NEVI guidelines of 97% uptime, will ensure that EVs can be conveniently charged, enabling their widespread adoption and sustained use, thereby cementing the emission reductions achieved through this transition.

Total Reductions Across All Measures

Table 10 below shows the sum of total GHG reductions from all measures from 2025-2030.

Table 10. Sum of Total GHG Reductions from all Measures 2025-2030

| Measure | Associated GHG Reduction - 2025-2030 (MTCO _{2e}) |
|--------------------------------------|--|
| Municipal Building Decarbonization | 11,323 |
| Residential Building Decarbonization | 4,953 |
| EV Charging Infrastructure | 115,573 |
| Total | 131,849 |

2b. Magnitude of GHG Reductions from 2025 through 2050

Municipal Building Decarbonization

Table 11 below summarizes the GHG reductions associated with this measure.

Table 11. Municipal Building Decarbonization GHG Reductions 2025-2050

| Project Type | Associated GHG Reduction - 2025-2050* (MTCO _{2e}) |
|---|---|
| Municipal Building Decarbonization | 28,287 |
| *Based on assumptions for rollout schedule and distribution across project types - see Appendix for details | |

Durability of reductions: GHG emission reductions from municipal building decarbonization projects will be permanent and substantial. Building grid energy use will be offset by renewable solar and battery storage. Because the grid is transitioning toward renewable energy sources like solar, wind, and other clean energy technologies, any remaining building grid consumption will become less GHG intensive over time. Once the decarbonization technology is installed, we are confident that the new equipment will be replaced with similar or more efficient equipment at the end of its EUL.

Residential Building Decarbonization

Table 12 below summarizes the GHG reductions associated with this measure.

Table 12. Residential Building Decarbonization GHG Reductions 2025-2050

| Project Type | Associated GHG Reduction - 2025-2050* (MTCO _{2e}) |
|--|---|
| Residential Building Decarbonization | 20,424 |
| *Based on assumptions for rollout schedule and distribution across project types - see Tech Appendix for details | |

Durability of reductions: GHG emission reductions from residential building decarbonization will be permanent and substantial because the grid is transitioning toward a target of 100% renewable energy by 2045. Reliable solar and battery storage systems will ensure that residents can be resilient and in charge of their grid energy usage. Their successful use of solar and battery storage will encourage widespread adoption and sustained use of these technologies, thereby cementing the emission reductions achieved through this transition.

Light Duty Electric Vehicle (EV) Infrastructure

Table 13 below summarizes the GHG reductions associated with this measure.

Table 13. Light Duty Zero EV GHG Reductions 2025-2050

| Project Type | Associated GHG Reduction - 2025-2050* (MTCO2e) |
|--|--|
| Total | 729,352 |
| *Based on rollout schedule assumption - see Technical Appendix for details | |

Durability of reductions: GHG emission reductions from EV infrastructure will be permanent and substantial as the grid transitions toward a target of 100% renewable energy by 2045. As EV adoption accelerates, more ICE vehicles will be replaced by EVs, leading to a significant reduction in emissions. A reliable charging infrastructure, as will be demonstrated by EV infrastructure meeting NEVI guidelines of 97% uptime, will ensure that EVs can be conveniently charged, enabling their widespread adoption and sustained use, thereby cementing the emission reductions achieved through this transition. While the EUL of the EV infrastructure is assumed to be 15 years, revenue generated by the chargers is sufficient to fund a continued maintenance contract and replacements upon end-of-life (as demonstrated in the GHG calculation workbook).

Total Reductions Across All Measures

Table 14 below shows the sum of total GHG reductions from all measures from 2025-2050.

Table 14. Sum of Total GHG Reductions from all Measures 2025-2050

| Measure | Associated GHG Reduction - 2025-2050 (MTCO2e) |
|--------------------------------------|---|
| Municipal Building Decarbonization | 28,287 |
| Residential Building Decarbonization | 20,424 |
| EV Charging Infrastructure | 729,352 |
| Total | 778,063 |

2c. Cost Effectiveness of GHG Reductions

Table 15 below shows the cost effectiveness of the GHG emissions reductions.

Table 15. Cost Effectiveness of GHG Emissions Reductions 2025-2030

| Item | Value |
|---|---------------|
| Requested CPRG funding (\$) | \$199,998,000 |
| 2025-2030 Cumulative Reductions for all 3 Measures (MTCO2e) | 131,849 |
| Cost-effectiveness of GHG reductions (\$/MTCO2e) | \$1,517 |

Factors that affect cost-effectiveness: This portfolio of projects addresses hard-to-reach communities in multiple ways. All of these additional investments increase the cost per MTCO2e reduced.

- Municipal building decarbonization project types 2 and 3 include investments for larger sized solar and battery systems, to support urgently needed community resilience in LIDACs, as well as for resilience center programming, and community outreach around siting and programming.
- Residential building decarbonization will focus exclusively on LIDACs, where upgrades require additional investments to address poor roof quality and undersized electric service panels and circuitry. Funding will include solar and storage to reduce the impact of electrification on household energy bills and strengthen the durability of GHG reductions.

- The EV charging infrastructure portfolio will include L2 charges as well as DCFCs. L2 chargers are essential to support the transition to electric vehicles in LIDACs, which have been historically underserved, but each L2 charger results in an order of magnitude fewer MTCO₂e reductions compared to DCFCs. The budget for this measure also includes community outreach to LIDAC residents for input into charging station siting.
- We have allocated \$4 million toward a workforce development program that will provide essential skills training and certifications for approximately 260 LIDAC residents and will connect them with the contractors conducting measure implementation.

2d. Documentation of GHG Reduction Assumptions

The Technical Appendix contains detailed documentation of GHG reduction assumptions.

3. Environmental Results – Outputs, Outcomes, and Performance Measures

3a. Expected Outputs and Outcomes

Municipal Building Decarbonization

| Outputs | Outcomes |
|---|---|
| <ul style="list-style-type: none"> -Number of projects implemented -Total kW of solar installed -Total kWh of battery storage installed -Reductions in electricity consumption (kWh) -Reductions in gas consumption (therms) -Reduction in co-pollutants associated with methane gas consumption -Number of LIDAC resilience centers created | <ul style="list-style-type: none"> -GHG emissions reductions -Enhanced LIDAC resiliency during sustained power outages -CAP/HAP emissions reductions due to retrofitting gas appliances (overall and within LIDACs) -Improved indoor air quality due to HVAC filtration improvements -Energy bill savings for municipalities -Establishment of a continuing source of funding for municipal clean energy projects |

Residential Building Decarbonization

| Outputs | Outcomes |
|--|--|
| <ul style="list-style-type: none"> -Number of projects implemented -Total kW of solar installed -Total kWh of battery storage installed -Reduction in electricity consumption (kWh) -Reduction in total methane gas consumption (therms) -Reduction in methane gas consumption for cooking (therms) -Reduction in co-pollutants associated with methane gas consumption | <ul style="list-style-type: none"> -GHG emissions reductions -Enhanced LIDAC household resilience during sustained power outages -CAP/HAP ambient emissions reductions in LIDACs due to retrofitting gas appliances -CAP/HAP indoor emissions reductions in LIDAC communities due to cooking appliance electrification -Improved indoor air quality in LIDACs due to HVAC filtration improvements -Energy bill savings for LIDAC households -Increase in local green jobs |

Light Duty Electric Vehicle (EV) Infrastructure

| Outputs | Outcomes |
|---|---|
| <ul style="list-style-type: none"> -Number of charging stations installed -Location of charging stations (including number in LIDACs) | <ul style="list-style-type: none"> -GHG emissions reductions -CAP/HAP ambient emissions reductions -CAP/HAP ambient emissions reductions in LIDACs |

| | |
|--|--|
| -Charging capacity added (kW) -Total kWh of charging annually | -Increased electric vehicle adoption in general -Increased electric vehicle adoption in LIDACs -Reduced gasoline/diesel fuel demand -Accelerated transition to electric transportation and reduced dependence on fossil fuels |
|--|--|

3b. Performance Measures and Plan

Overall Grant Administration

As the lead organization, SBCOG will be the primary interface with the EPA on the grant award. SBCOG will lead coordination among the other COGs to collect data, measure and track progress against the outputs and outcomes identified in section 3a above, and report on performance and benefits collectively for the grant program. The overall grant administration budget assumes staff time for coordination meetings, data collection, measurement, quantification, tracking, and reporting. I-REN's existing public sector program framework will be leveraged for administration of the municipal building decarbonization measure.

The spreadsheets and underlying formulas included in this application's Technical Appendix will be used to quantify emissions and calculate ongoing benefits to LIDACs, including associated CAP/HAP changes. Assumptions will be updated with actual data and reported semi-annually throughout the grant term.

Measure-Level Grant Administration

Budgets for each measure include funding for project management and administration. This will include creating detailed project plans at grant inception as well as overall program oversight throughout the grant term. SBCOG will closely and continuously monitor project progress to mitigate potential schedule delays through early identification of alternative pathways for shipping, permitting, and/or construction.

The following section identifies data that will be collected and tracked monthly for each measure to enable emission reduction calculations and to track other defined outputs and outcomes.

Municipal Building Decarbonization

- EE and electrification retrofits in municipal buildings including the number and types of measures installed, total kWh and total therms saved, and utility energy cost savings
- Solar and battery storage projects installed on municipal buildings including solar kW and battery kWh installed, total kWh saved, and utility energy cost savings
- Number of loan applications submitted/approved, by agency
- Amount (\$) of loans disbursed, by agency
- Amount (\$) and percentage of loan forgiveness, by agency
- Jobs created
- Number of projects benefiting LIDACs
- CAP/HAP emissions reductions in LIDACs

Residential Building Decarbonization

- EE and electrification retrofits in residential buildings including the number and types of measures installed, installation dates, total kWh and total therms saved, and utility energy cost savings
- Solar and battery storage projects installed on residential buildings including solar kW and battery kWh installed, installation dates, total kWh saved, and utility energy cost savings

- Participant satisfaction survey results
- Locations of retrofitted homes (zip code, climate zone, utility service territory)
- Participant opt-out rate
- Number and characteristics (e.g., vintage, square footage, building type) of homes retrofitted
- Number of projects benefiting LIDACs
- Number of occupants in retrofitted homes
- Jobs created
- CAP/HAP emissions reductions in LIDACs

As a direct install program with a prescribed set of EE measures, the energy savings of each EE measure will be determined on a per unit basis utilizing the Database for Energy Efficiency Resources (DEER), which was developed by the CPUC. DEER provides estimates of the energy-savings potential for technologies in residential applications. The number and type of EE and electrification retrofits installed at each home site will be used to quantify annual energy savings and GHG reductions realized.

Light Duty Electric Vehicle (EV) Infrastructure

- Type of charging station (L2 or DCFC)
- Date installed
- Exact geocoded location and whether or not the location is in a LIDAC
- Charger capacity (kW)
- Jobs created
- CAP/HAP emissions reductions in LIDACs

As part of the competitively selected contract for EV infrastructure deployment, the contractor will be required to maintain minimum standards for charging station performance and to incorporate a transparent system to collect real-time data on all aspects of charger usage, including:

- Frequency of use (charges per day)
- Charge per use (kWh)
- Maintenance issues/down time per charger

3c. Authorities, Implementation Timeline, and Milestones

Municipal Building Decarbonization

Responsible Parties and Authorities

- WRCOG will be responsible for administration of the funds for this measure.
- Eligible agencies within the MSA territory, with assistance from I-REN, will be responsible for identifying projects, applying for and executing loan agreements, contractor and equipment selection and procurement, implementation of project measures, filing for ITC, securing required permits, and loan repayment.
- I-REN and its subcontractors will be responsible for providing technical assistance and support for project development, application assistance for funding and financing sources, day-to-day project management services, and administering the RLF. I-REN will track and report performance metrics and direct and manage program implementers' technical services scope.
- GRID Alternatives will be responsible for LIDAC outreach to gather input on community resilience center siting and services.
- PFM Financial Advisors LLC (PFM) will be responsible for providing ongoing RLF program strategy and planning support.

- The loan program administrator will be responsible for design, launch, implementation, management, and reporting of the RLF.
- The solar/battery developer will be responsible for filing interconnection applications (if applicable).
- The electric utility will be responsible for granting interconnection for solar/battery (if applicable).

Implementation Timeline and Milestones

Table 16. Implementation Timeline and Milestones

| Milestone | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|--|------|------|------|------|------|------|
| Project Identification and Development | 10% | 35% | 65% | 90% | 100% | |
| LIDAC Input on Resilience Center Siting and Services | | 10% | 35% | 65% | 90% | 100% |
| RLF Loan Execution and Disbursement | | 10% | 35% | 65% | 90% | 100% |
| Equipment/Contractor Selection and Procurement | | 10% | 35% | 65% | 90% | 100% |
| Permitting and Interconnection Application/Approval | | 10% | 35% | 65% | 90% | 100% |
| Equipment Installation and Activation | | 10% | 35% | 65% | 90% | 100% |
| Savings Measurement and Verification | | | 20% | 50% | 80% | 100% |
| Incentives and ITC Closeout | | | 20% | 50% | 80% | 100% |

Residential Building Decarbonization

Responsible Parties and Authorities

- CVAG will be responsible for administration of funds for this program and for selecting contractors through a competitive bidding process. CVAG will oversee all program partners.
- The Energy Coalition (TEC) will be responsible for overall program oversight, reporting, and day-to-day management of community-based organizations and contractors. They will also liaise with GRID Alternatives Inland Empire (IE) for coordinated installation of EE, solar, and storage measures.
- GRID Alternatives IE will conduct homeowner outreach and be responsible for solar and storage design and installation and for filing interconnection applications.
- EE contractors will be responsible for verifying participant eligibility, filing permits, and cost-effective and high quality installation of EE measures at participants homes.
- Alianza will lead outreach and engagement to identify eligible program participants.
- Homeowners and tenants will be responsible for active participation in the program and allowing contractors access to install decarbonization measures.
- The electric utility will be responsible for granting interconnection for solar/battery storage.

Implementation Timeline and Milestones

Table 17. Implementation Timeline and Milestones

| | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|------|------|------|------|------|------|
| Outreach and eligibility screening | 5% | 30% | 65% | 90% | 100% | |
| Project identification and development | | 10% | 35% | 65% | 90% | 100% |
| Equipment/contractor selection and procurement | | 100% | | | | |
| Permitting and interconnection application/approval | | 10% | 35% | 65% | 90% | 100% |
| Equipment installation and education | | 10% | 35% | 65% | 90% | 100% |

Light Duty Electric Vehicle (EV) Infrastructure

Responsible Parties and Authorities

- SBCOG and its subcontractors will be responsible for the identification of site hosts (working with other public agencies and COGs), facilitating conversations and agreements between site hosts and the EV vendor, procurement of EV vendors and technical consultants, and overall program oversight.
- The technical consultant will conduct site feasibility studies and advise the EV vendor.
- The EV vendor will oversee installation and maintenance of charging stations. The vendor's electrical contractors will complete civil work, trenching, and installation.
- The electric utility will develop interconnection design and determine if upgrades are needed.
- The AHJ will review permit applications and issue permits.
- The site host will negotiate agreement on business models with the EV vendor and site host
- The operations and maintenance vendor will be responsible for commissioning and for ongoing operations and maintenance.
- The selected CBO will be responsible for community outreach.
- The selected marketing firm will be responsible for designing and implementing LIDAC-focused marketing materials.

Implementation Timeline and Milestones

Table 18. Implementation Timeline and Milestones

| | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|------|------|------|------|------|------|
| Program planning and site identification | 10% | 80% | 100% | | | |
| Electrical and site feasibility studies | 5% | 60% | 100% | | | |
| Permit applications and approval | | 40% | 80% | 100% | | |
| Charging station installation and activation | | 8% | 34% | 64% | 90% | 100% |
| Charger operation, maintenance, program admin | | 8% | 34% | 64% | 90% | 100% |

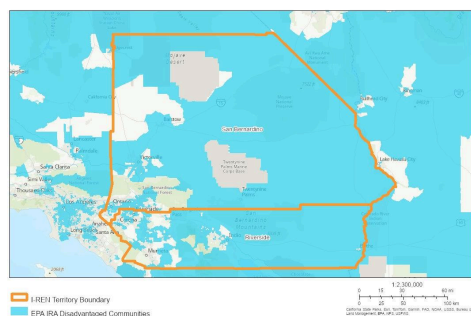
4. Low-Income and Disadvantaged Communities

4a. Community Benefits

Benefits to Low-Income and Disadvantaged Communities

The GHG reduction measures in this application will bring both direct and indirect benefits to LIDACs, which comprise the majority of the MSA geography. The map below provides an overview of the areas identified as disadvantaged by EJScreen. The map includes both counties within the MSA and a full list of the EJScreen census block groups IDs is included as a separate attachment in this application.

Figure 1. Disadvantaged Areas in the MSA Geography



Each measure is designed to emphasize investments in LIDACs: (1) the municipal building decarbonization program design will incentivize investments that serve and provide resilience to LIDACs, (2) all residential building decarbonization will be conducted in LIDACs, and (3) siting of L2 EV charging infrastructure will prioritize use by LIDAC

residents. The benefits of reducing GHG emissions include reduced risks of extreme weather events, including high heat days and extreme rainfall, to which LIDAC residents have fewer resources to adapt. The substantial co-benefits produced by our specific measures are discussed further in the paragraphs below. We do not anticipate any negative impacts to LIDAC residents from the implementation of these measures.

Air Quality. All three measures will improve air quality for residents long burdened by air pollution. San Bernardino and Riverside counties face a high air pollution burden compared to national averages and are nonattainment for national ambient air quality standards for ozone, PM-10 and PM-2.5. LIDACs in these counties are exposed to air pollution at significantly higher rates than average and possess insufficient resources to shield themselves from its effects. Expansion of EV infrastructure will support a faster transition to pollution-free vehicles and will yield significant reductions in co-pollutants locally and regionally. Coupled with reductions in local methane combustion associated with gas equipment and appliances through residential and municipal building decarbonization, these measures will reduce NOx, ozone, PM2.5, and diesel PM. Reduction in pollution from on-road vehicles is especially important for LIDAC populations residing close to major roadways and goods movement corridors. Improvements in indoor air quality associated with the electrification of cooking appliances is especially critical in older homes with poor kitchen ventilation.

Public Health. Reductions in harmful pollutant exposures from the implemented measures will have broad public health outcomes and are expected to reduce risks for chronic diseases, and respiratory and cardiovascular issues and their associated healthcare costs. Young children in particular are expected to benefit from reduced exposure to PM2.5 and ozone, resulting in fewer new asthma cases, hospital admissions, and emergency department visits. Residents of LIDACs, who often face the harshest conditions from pollution and environmental degradation, will particularly benefit from these public health co-benefits. With improved appliance efficiency and reduced energy costs, households will be able to maintain more comfortable and healthier living conditions – this is especially important for families who have not been able to afford to cool their homes to a safe temperature during the summer.

Community Resilience. LIDACs have fewer resources to anticipate, prepare for, and recover from climate-related shocks like heat waves, wildfires, and flood events, as well as from infrastructure disruptions such as power outages. The impact of losing a refrigerator full of food during a grid outage can be severe for low-income households. GHG reduction measures related to building decarbonization will have significant benefits for LIDAC resilience at both the household and the community scale. Solar and storage will maintain household energy services during grid outages, reduce overall energy costs, and support the durability of appliance electrification. Households in LIDACs are especially sensitive to changes in utility bills; a reduction in energy costs frees up funds for other essential household, medical, and family expenses.

Investments in municipal building decarbonization that create community resilience centers are particularly beneficial in LIDACs. For homes that do not yet have access to rooftop solar and storage, or that cannot support these technologies due to shading, building type, or other limitations, access to a local facility provides a lifeline for cooling, charging phones and laptops, and provision of other emergency services. For type 3 municipal facilities, our budget includes non-loan funds to support resilience center programming and related expenses such as communications systems.

Economic Development. The GHG reduction measures in this proposal will contribute to economic opportunities via green jobs with living wages and skill development opportunities. The positive effects

of these changes extend beyond direct employment in green industries, stimulating greater overall economic activity within communities, even for those not directly employed in the green sector.

Environmental Justice and Socioeconomic Equity. The GHG reduction measures proposed in this application will reduce the disproportionate burden of environmental harm experienced in LIDACs. Investments will prioritize LIDACs, improve the distribution of resources and opportunities, and address/reduce disparities in wealth and access to essential services. Energy-efficient electric appliances, coupled with solar generation and energy storage, will lead to significant cost savings for residents, reducing utility bills and alleviating the financial burden on low-income households. Publicly available EV infrastructure expands options for personal vehicle ownership.

Community Awareness and Capacity Building. As described below, the community engagement associated with each of the three measures will expand community awareness of climate change and will build capacity for resilience. Outreach will educate community members on climate hazards and gain their input to inform CPRG investments, activating individual and collective support for future climate investments and improving households' abilities to plan for climate impacts to their lives.

Plan for Continued Assessment of Benefits

As discussed in section 3b (Performance Measures and Plan), continued assessment of benefits, including co-pollutant impacts, will be conducted under the administrative component of each measure. Reporting support for these analyses will be provided by the overall grant administration budget.

Workforce Development

Successful completion of the GHG reduction measures will require a qualified workforce with proper training and skills. Our workforce development program will train income-qualified residents within the MSA to prepare them for jobs supporting implementation of the GHG reduction measures in this application. We will build on the following existing programs and partners:

- The **Inland Empire Desert Regional Consortium (IEDRC)**, a partner in I-REN's existing Workforce Education & Training (WE&T) Program. The IEDRC is a regional framework to communicate, coordinate, collaborate, promote and plan career and technical education and workforce and economic development in the region. Among many member organizations, it represents 12 regional community colleges and their career and technical education administrators, faculty, and staff.
- The **Chino Valley Chamber of Commerce (CVCOC)**, a member of IEDRC that specializes in placing MSA area residents into jobs with local businesses.
- **GRID Alternatives Inland Empire (GRID)**, a nonprofit organization who will lead the installation of solar PV and batteries on residential and municipal buildings for this grant. They have a long-standing Solar Installations Basic Training 200 (IBT 200) Certificate Program.

Our CPRG workforce development program will create a pipeline of outreach, recruitment, enrollment, job training and certifications, employer engagement, and job placement - each tailored and targeted to the relevant trades and contractors implementing the CPRG-funded GHG reduction measures.

1. **Outreach and recruitment** to income-qualified residents within the MSA will be led by IEDRC, who will also identify appropriate training programs within the regional community college system. The goal will be to recruit 200 eligible students for placement in training programs that will prepare them for potential employment with the contractors selected to work on implementing the GHG reduction measures. We will leverage the IEDRC's existing programs for this work.

2. **Scholarships** will pay for job training and certifications at regional community colleges, at an average of \$10,000 per income-qualified student. SBCOG will hire a consultant to manage the mechanics and tracking of scholarship awards. Training programs will target the following trades:
 - a. Building decarbonization, including HVAC retrofit/HVAC tech, heat pump installation, water heater installation, plumbing, electrical work, lighting replacement, and insulation work.
 - b. EV charging infrastructure, including installation, operations, and maintenance.
3. **Job placement and engagement with contractors** implementing CPRG measures will be led by CVCoC. They will (1) establish partnerships with all grant contractors, (2) assess and document the specific workforce needs of the contractors, (3) collaborate with IEDRC and community colleges to communicate contractor needs and provide feedback on training programs, (4) facilitate connections between training program participants and contractors, and (5) provide essential soft skill development to maximize job placement for training program participants.
4. **A solar installation training program**, led by GRID, will provide 200 hours of training over a 5-week period. The IBT200 Certificate Program includes modules in OSHA 10, job site safety, PV array layout, racking installation, micro-inverter and module installation, electrical safety, electrical wiring, layout and mounting, and conduit bending and installation. GRID Alternatives will train 60 participants (in cohorts of 10) from LIDAC communities in the MSA. Trainees will receive a tool kit and a stipend for participation and satisfactory completion of the program, equivalent to \$27.50/hour. GRID's program also provides soft skills training including resume building and interpersonal skills and 1-2 hiring events per year.

Other features of the workforce development program include:

- Activities concentrated in the first 3-4 years of the grant term to provide the best chance of connecting participants with selected contractors to support measure implementation.
- A CPRG workforce development plan prepared in the initial months following award, in collaboration with all partners. Ongoing collaboration will occur throughout the grant term.
- Procurement processes for GHG measure contractors that include a requirement to engage with the workforce development program. This will include participation in discussions around workforce needs, required skills, and internship opportunities, and taking part in job fairs.
- An adaptive management approach applied to the program, based on ongoing input from participants and prospective employers. As a result, scholarship funds may be applied to employer internship programs in addition to community college training, if it is determined that this is the best way to build participant skills and preparation for entry into the workforce.

4b. Community Engagement

Previous Engagement Activities

Engagement activities, including focus groups with CBOs, were carried out in San Bernardino and Riverside counties during the development of the MSA's PCAP to gain input from LIDACs. The Southern California Association of Governments (SCAG) led engagement and outreach activities in close coordination with key organizations in the MSA, including SBCOG, WRCOG, the City of Riverside, and the Inland Southern California Climate Collaborative (ISC3).

SCAG conducted targeted engagement to increase the participation of LIDACs in the CPRG process. Recognizing that cities or jurisdictions with a high percentage of LIDACs often have limited capacity for climate action planning and grant administration, engaging with COGs representing these areas has been an important element to ensure LIDAC feedback is incorporated into the PCAP. Due to the resource constraints of many of these cities, COGs functioned as an important forum to facilitate feedback. COG

engagement with cities that represent a high proportion of LIDACs was prioritized. This approach was particularly effective for the MSA, which contains over 50 jurisdictions. Furthermore, input from prior community engagement around the development of the many regional and local climate action plans that informed the PCAP was also incorporated into the final selection of priority measures.

This grant application proposes to implement the three highest priorities identified in the MSA's PCAP.

Plans for Continuous Ongoing Engagement

Identification of Community-Based Organizations

The Inland Southern California Climate Collaborative (ISC3) helped identify key organizations in the region for ongoing engagement focused on climate change, climate and environmental justice, social justice, economic development, immigrant justice, health, transit equity, and natural resources. The following organizations in the MSA have been identified as active and knowledgeable and will serve as an initial list for outreach around measure implementation:

| | |
|--|---|
| <ul style="list-style-type: none"> -UC Riverside Center for Social Innovation -Citizens United for Resources and the Environment -Riverside Community Services Foundation -Riverside Community Health Foundation, Community Access Center -Riverside County Leadership Council for Justice and Accountability -Torres Martinez Indian Reservation -Soboba Band of Luiseno Indians -Parkview Legacy Foundation -Riverside Neighbors Opposing Warehouses -The People's Collective for Environmental Justice -Alianza Coachella Valley | <ul style="list-style-type: none"> -Inland Coalition for Immigrant Justice -Community Climate Connection -Inland Empire Resource Conservation District -Inland Congregation United for Change, Rolling Start -El Sol Neighborhood Educational Center -Mary's Mercy Center, Inc. -Building Resilient Communities -San Bernardino Community Service Center, Inc. -San Manuel Band of Mission Indians -Chicano Indigenous Community for Culturally Conscious Advocacy and Action -Center for Community Action and Environmental Justice -Inland Empire Biking Alliance |
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Planning and Approach to Outreach Activities

Continuous meaningful engagement with LIDACs will be included throughout the life of this grant. Our approach will include community consultations and public input meetings to gain community feedback and understand priorities. Best practices for engagement with LIDAC residents will be incorporated, including in-language translation of written materials and presentations, and scheduling meetings at times and locations that are accessible to the community.

Outreach to engage and solicit input from LIDAC residents to inform the siting of specific projects will be budgeted and implemented at the measure-scale, led by the COG responsible for that measure.

Outreach will be supported by one or more highly experienced and trusted partner CBOs.

- For **municipal building decarbonization**, outreach will take place around type 2 (critical facility) or type 3 (community resilience center) projects, including gaining public input on the choice of project facilities and the design of resilience center programming. WRCOG will be supported for this outreach by GRID Alternatives IE, building on the existing 2023 agreement between the two organizations, which involves similar work at a smaller scale. The team will use multiple methods, including community events, workshops, and surveys to gain input. They will document and report on quantitative and qualitative results from engagement efforts.

- For **residential building decarbonization**, CVAG will be supported by GRID Alternatives IE, who will lead outreach and engagement to LIDAC communities. Because GRID Alternatives IE is the identified nonprofit organization implementing the solar and storage component of this measure, outreach will be conducted as an integral part of the recruitment and enrollment of participant households. GRID will use its existing network of CBOs and engagement forums to engage with communities.
- For **EV charging infrastructure**, SBCOG will identify a partner CBO through a competitive bid process to conduct community outreach and engagement, which will solicit LIDAC input to inform the selection of locations and to keep the public informed about the status of new installations.
- Outreach will be conducted around **workforce development**, as described in section 4a (Community Benefits).

5. Job Quality

SBCOG is committed to creating high quality jobs when procuring firms and contractors to perform the project work. SBCOG's existing procurement policies require SBCOG to not only abide by internal policies, but also state and federal requirements when utilizing state and federal funds. SBCOG is responsible for ensuring standards set out in 2 Code of Federal Regulations Part 200 (prevailing wage requirements) and 2 Code of Federal Regulations Part 1201 are met and are included in appropriate contracts. SBCOG encourages participation from small and disadvantaged business enterprises (DBEs) for procurement opportunities, and recognizes the importance of creating "good jobs," as defined by the Department of Commerce and Labor's Good Jobs Initiative. SBCOG has recently hired a firm to audit the prevailing wages of their construction projects to ensure compliance with state and federal regulations.

SBCOG ensures that its employees are provided with stable, family-sustaining benefits that uphold an elevated quality of life through health insurance, a retirement plan, workers' compensation benefits, and family-related benefits. SBCOG is committed to equal employment opportunity for all qualified applicants and employees and its Equal Employment Opportunity policy ensures employees have equitable opportunities and tools to progress to future good jobs. All coalition partners will be required to abide by the policies stated above. Furthermore, all competitively awarded contractors and vendors will be required to engage with workforce development partners and program components per the workforce development program discussed in section 4a (Community Benefits).

6. Programmatic Capability and Past Performance

6a. Past Performance

The following agreements are for currently ongoing projects SBCTA/SBCOG is implementing, funded by a combination of federal and non-federal funds. In all three cases, contacts from the funding organization are: Evita Premdas (Evita.premdas@dot.ca.gov) and Martin Villanueva (martin.villanueva@dot.ca.gov).

Title: I-10 Corridor Contract 1 | **Assistance agreement number:** 08-1645

Funding: Federal - \$491,800,000 | State - \$286,500,000 | Local - \$150,900,000 | **Total** - \$929,200,000

Federal or non-federal funding agency: California Department of Transportation (Caltrans)

Brief description of the agreement: Agreement between the State of California Department of Transportation, Caltrans, and SBCTA to add Express Lanes to I-10.

Title: I-10 Truck Climbing Lane | **Assistance agreement number:** 08-1749

Funding: State - \$27,790,000 | Local - \$11,700,000 | **Total** - \$39,500,000

Federal or non-federal funding agency: California Department of Transportation (Caltrans)

Brief description of the agreement: Agreement between the State of California Department of Transportation, Caltrans, and SBCTA to enter into a cooperative work agreement for improvements to the State Highway System per the California Streets and Highways Code, Sections 114 and 130.

Title: I-15 Corridor Freight and Express Lane Project, Contract 1 | **Agreement number:** 08-1758

Funding: State - \$118,740,000 | Local - \$115,120,000 | Other - \$83,820,000 | **Total** - \$317,680,000

Federal or non-federal funding agency: California Department of Transportation (Caltrans)

Brief description of the agreement: Agreement between the State of California Department of Transportation, Caltrans, and SBCTA to enter into a cooperative work agreement for improvements on the State Highway System per the California Streets and Highways Code Section 114 and 130.

SBCTA/SBCOG has successfully managed all of these assistance agreements through a team of project delivery and fund administration employees. They monitor agreements, execute delegated responsibilities timely and efficiently, track deadlines and expenditures, and communicate both internally and with the funding agency to ensure completion of all activities, including reporting, in a timely and accurate manner.

6b. Reporting Requirements

For all three ongoing agreements listed above (the I-10 Corridor Contract 1, the I-10 Truck Climbing Lane, and the I-15 Express Lanes), SBCTA/SBCOG promptly submits quarterly progress reports in the CALSMART reporting system. These reports are reviewed and approved by Caltrans D8 PMs and Caltrans HQ reviewers prior to final submission. Project milestones are updated to the latest schedule dates as appropriate, which reflects progress toward expected project outputs and outcomes.

6c. Staff Expertise

SBCOG is extremely qualified to administer and implement every aspect of this grant. Internal staff are highly experienced and knowledgeable of project elements and principles. Specialist contractors will be hired to assist with administrative and reporting requirements. SBCOG's grant management team includes the following key staff. Resumes are included as an attachment to this application.

Josh Lee - Deputy Director of Planning | **Mairany Anaya** - Management Analyst II | **Cheryl Chesnut** - Energy Program Manager | **Hilda Flores** - Chief Financial Officer

7. Budget

Table 19 below is a high level overview of the cost allocation for this proposal. Detailed information for each project/element by budget category is contained in the Detailed Budget Narrative and Budget Spreadsheet. The Detailed Budget Narrative also addresses expenditure of awarded funds and the reasonableness of costs.

Table 19. Budget

| Project / Element | Budget | % |
|--------------------------------------|----------------------|-----|
| Grant Administration | \$1,998,000 | 1% |
| Municipal Building Decarbonization | \$106,700,000 | 53% |
| Residential Building Decarbonization | \$29,100,000 | 15% |
| EV Charging Infrastructure | \$58,200,000 | 29% |
| Workforce Development | \$4,000,000 | 2% |
| TOTAL | \$199,998,000 | |