

# INVEST CLEAN

Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity,  
Air Quality, and National Competitiveness

April 1, 2024

## Climate Pollution Reduction Grant U.S. Environmental Protection Agency



**South Coast  
Air Quality  
Management District**



**ENVIRONMENTAL PROTECTION AGENCY (EPA)  
Climate Pollution Reduction Grants Program:  
Implementation Grants General Competition  
EPA-R-OAR-CPRGI-23-07**

**Applicant Information:** South Coast Air Quality Management District

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**Type of Application:** Individual Application

**Funding Request:** \$499,997,415 (Tier A)

**Application Title:** INVEST CLEAN - Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness

**Brief Description of GHG Measures:** This proposal focuses on four (4) transportation measures from the Climate Pollution Reduction Grant (CPRG) Priority Climate Action Plans (PCAP) for the Los Angeles – Long Beach – Anaheim and Riverside–San Bernardino – Ontario Metropolitan Statistical Areas (MSA) as well as the state of California, to decarbonize goods movement in partnership with cities, counties, local and State agencies, ports, industry, labor, community-based organizations, academia, and a national lab. **Infrastructure, Vehicles, and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness's** (INVEST CLEAN's) greenhouse gas emission (GHG) reduction measures target limiting factors and challenges to the zero-emission (ZE) transformation of the Southern California goods movement corridor, including:

- **Measure 1 - Charging Infrastructure Deployment Incentive Program**  
This measure provides incentives to install electrical charging equipment to support the Southern California goods movement corridor for battery electric ZE vehicles. The current lack of infrastructure is a limiting factor to deploying battery electric ZE vehicles.
- **Measure 2 - Battery Electric Freight Vehicle Deployment Incentive Program**  
This measure will incentivize the decarbonization of goods movement operations by increasing the deployment of ZE heavy-duty long-haul and last-mile freight vehicles.
- **Measure 3 - Battery Electric Cargo Handling Equipment (CHE) Deployment Incentive Program**  
This measure will replace or convert CHE used at facilities such as warehouses, intermodal railyards, airports, ports, or freight facility centers. Infrastructure will be paired with each deployment.
- **Measure 4 - Battery Electric Locomotive Pilot Program**  
This measure will replace diesel freight switcher locomotives domiciled in the MSAs region with ZE switchers. Infrastructure will be paired with each deployment.

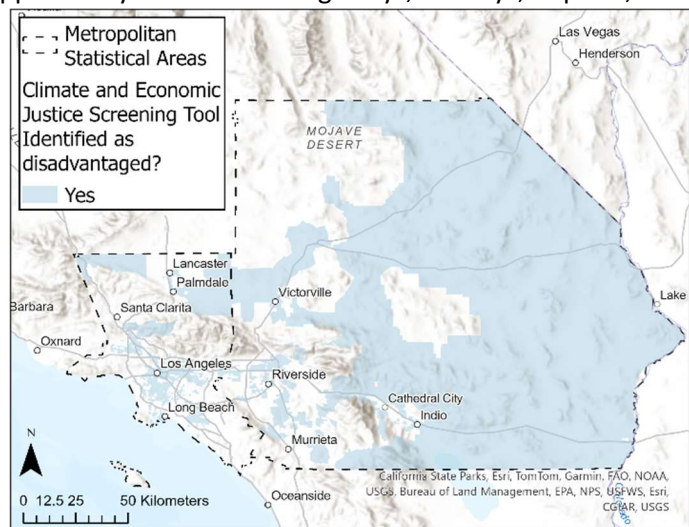
These measures incentivize ready to deploy and shovel-ready projects aligned with the National Zero-Emission Freight Corridor Strategy. The measures will create high-road jobs estimated at 470 in California and 4,700 across the nation. As the infrastructure becomes fully utilized, an additional 43,500 high-road jobs are expected to be created nationwide. A workforce training program in partnership with the National Electrical Contractors Association (NECA) and International Brotherhood of Electrical Workers (IBEW), academia, and CBOs directly will support the implementation and maintenance of ZE technologies through the development and training of skilled labor. Additionally, benefits for low-income disadvantaged communities (LIDAC) have been integrated into the GHG measures and through a community benefits program to facilitate authentic engagement and achieve CPRG and Justice40 goals. A total of seven (7) letters of commitment with 15 signatories and 73 letters of support with 101 signatories have been received in support of INVEST CLEAN from government, industry, chambers of commerce, academia and workforce training institutions, and community-based organizations.

In addition, charging infrastructure projects will support renewable energy and battery storage to help with resiliency and to create additional job benefits. These are critical components for charging infrastructure as seen from previous South Coast AQMD projects.

**Sector:** Transportation - Goods Movement

**Expected Total Cumulative GHG Emission Reductions:** 3.6 million metric tons CO<sub>2</sub>e or \$139/metric ton CO<sub>2</sub>e for 2025-2030; 12 million metric tons CO<sub>2</sub>e or \$42/metric ton CO<sub>2</sub>e for 2025-2050.

**Location:** The Los Angeles – Long Beach – Anaheim and Riverside–San Bernardino – Ontario MSAs span from the Pacific Coast eastward to the California border. This region is the western gateway to the U.S. supply chain and international commerce, hosting the two busiest ports in the nation which are ranked 9<sup>th</sup> in the world based on percentage of containerized waterborne import cargo in calendar year 2023.<sup>1</sup> The Ports of Long Beach and Los Angeles are supported by a network of highways, railways, airports, and intermodal facilities with corresponding warehouse and distribution facilities. The location of projects aligns with Phase 1 for hubs and corridors identified by the Joint Office of Energy & Transportation in the “National Zero-Emission Freight Corridor Strategy.”<sup>2</sup> This region encompasses the South Coast, Coachella Valley, and Mojave Air Basins. The MSAs population is predominantly located in the South Coast Air Basin which is in extreme non-attainment for ozone and serious non-attainment for PM<sub>2.5</sub> based on the National Ambient Air Quality Standards (NAAQS).<sup>3</sup>



The region also includes more than two-thirds of the State’s LIDAC communities as shown in the map.

<sup>1</sup> Port of Los Angeles, Facts and Figures, <https://www.portoflosangeles.org/business/statistics/facts-and-figures>

<sup>2</sup> Joint Office of Energy and Transportation, “National Zero-Emission Freight Corridor Strategy,” <https://driveelectric.gov/files/zef-corridor-strategy.pdf>

<sup>3</sup> U.S. Environmental Protection Agency, Green Book, Criteria Pollutant Non-attainment Summary Report, <https://www3.epa.gov/airquality/greenbook/anc13.html>

The Los Angeles-Long Beach-Anaheim, CA MSA includes the following principal cities: Anaheim, Arcadia, Burbank, Carson, Costa Mesa, Cypress, Fountain Valley, Gardena, Glendale, Irvine, Long Beach, Los Angeles, Monterey Park, Newport Beach, Orange, Pasadena, Santa Ana, Santa Monica, Torrance, and Tustin.

The Riverside-San Bernardino-Ontario, CA MSA includes the following principal cities: Chino, Corona, Ontario, Palm Desert, Redlands, Riverside, San Bernardino, Temecula, and Victorville.

#### Applicable PCAP References(s):

Los Angeles – Long Beach – Anaheim, CA MSA	
PCAP Lead	County of Los Angeles
PCAP Title	Priority Climate Action Plan – The Los Angeles – Long Beach – Anaheim, CA Metropolitan Statistical Area
PCAP Website Link	<a href="https://scag.ca.gov/sites/main/files/file-attachments/cprg_pcap_los_angeles-long_beach-anaheim_msa_mar2024_1.pdf">https://scag.ca.gov/sites/main/files/file-attachments/cprg_pcap_los_angeles-long_beach-anaheim_msa_mar2024_1.pdf</a>
List of GHG Reduction Measures	<b>Measure T1:</b> Decarbonize Goods Movement <b>Measure T3:</b> Transition Medium- and Heavy-Duty Vehicles to ZEVs
PCAP Page Numbers	Transportation Overview: Page 4-9 <b>Measure T1:</b> Page 4-10 <b>Measure T3:</b> Page 4-10

Riverside – San Bernardino – Ontario, CA MSA	
PCAP Lead	San Bernardino Council of Governments
PCAP Title	Priority Climate Action Plan – The Los Angeles – Long Beach – Anaheim, CA Metropolitan Statistical Area
PCAP Website Link	<a href="https://www.gosbcta.com/wp-content/uploads/2024/03/Riverside_San-Bernardino_Ontario_PCAP.pdf">https://www.gosbcta.com/wp-content/uploads/2024/03/Riverside_San-Bernardino_Ontario_PCAP.pdf</a>
List of GHG Reduction Measures	<b>Regional Goods Movement Decarbonization</b>
PCAP Page Numbers	<b>Regional Goods Movement Decarbonization:</b> page 4-35

State of California	
PCAP Lead	California Air Resources Board and California Environmental Protection Agency
PCAP Title	The State of California's Priority Climate Action Plan
PCAP Website Link	<a href="https://ww2.arb.ca.gov/sites/default/files/2024-03/California%20CPRG%20Priority%20Climate%20Action%20Plan%202024%20March%201_0.pdf">https://ww2.arb.ca.gov/sites/default/files/2024-03/California%20CPRG%20Priority%20Climate%20Action%20Plan%202024%20March%201_0.pdf</a>
List of GHG Reduction Measures	<b>Transportation Measure 1:</b> Create a Holistic, Heavy-Duty ZE Vehicle Buydown Program <b>Transportation Measure 2:</b> Install Truck Charging to Support ZE Goods Movement at California Ports and Warehouse Districts <b>Transportation Measure 3:</b> Advance the Deployment of Clean Off-Road Equipment <b>Transportation Measure 4:</b> Bolster Investments in the State's Sustainable Port and Freight Infrastructure
PCAP Page Numbers	<b>Transportation Overview:</b> Page 21 <b>Transportation Measure 1:</b> Page 23 <b>Transportation Measure 2:</b> Page 26 <b>Transportation Measure 3:</b> Page 28 <b>Transportation Measure 4:</b> Page 30