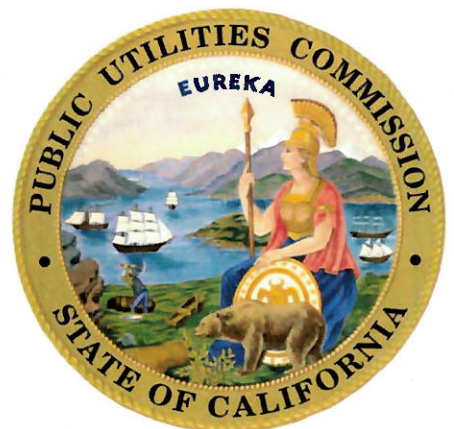




CPUC Program Options to Promote Clean Energy and Reduce Air Pollution in AB 617 Environmental and Social Justice Communities



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3. EXECUTIVE SUMMARY

This report develops a typology of air pollution source sectors affecting the initial 10 communities selected pursuant to Assembly Bill 617 for air monitoring and community emissions reduction programs through the California Air Resources Board's Community Air Protection Program. The typology organizes the key pollution sources identified in each community's air monitoring and emissions reduction programs and is used to identify programs of the California Public Utilities Commission with the potential to reduce emissions and promote clean energy in each community. Pending and former CPUC programs with potential applications for the relevant emission source sectors are also discussed as policy opportunities for consideration.

Although this report is primarily a guide for regional air districts to navigate CPUC program options for reducing emissions, recommendations for regional and state decisionmakers are also offered. Whereas this document identifies CPUC program options with relevance to the challenges faced by Assembly Bill 617 communities, additional analysis is needed at the community level to evaluate the effectiveness and the cost implications of each program. This report also recommends the requirement of expanded and commensurate emission source identification as part of the development of emissions reduction plan proposals.

The implementation of the Community Air Protection Program comes at a critical juncture for the CPUC with the Commission's recent adoption of its *Environmental and Social Justice Action Plan* and its expanded focus on serving the needs of disadvantaged communities (DACs) pursuant to Senate Bill 350. As regional air districts prepare to implement their proposed plans for the Program's first-year and CARB prepares to consider selection of additional communities, there is a significant role for the Commission to collaborate with CARB and the air districts while considering how to leverage agency programs to improve environmental and social justice outcomes statewide.

4. INTRODUCTION

4.1 AB 617 Background

In July 2017, Governor Edmund G. Brown, Jr. signed Assembly Bill 617 (AB 617) into law to establish community-driven processes to reduce air pollution and improve public health in critically impacted and disadvantaged communities (DACs) throughout California.¹ This legislation is a continuation of the state's leadership in implementing programs to reduce air pollution and is aimed at reducing environmental and public health inequities in communities which are disproportionately affected by pollution from sources including but not limited to:

- Residential Heating
- Oil Refineries
- Other Oil and Gas Facilities (including power plants and gas stations)
- Industrial Facilities and Warehouses
- Waste Facilities
- Seaports
- Passenger Vehicles
- Heavy-Duty Trucks
- Rail Yards
- Locomotives
- Agricultural Operations
- Fugitive Dust

AB 617 requires community-specific emissions reduction programs as well as expedited expansion of pollution controls on industrial facilities, increased community-level air quality monitoring and emissions reporting, greater transparency of emissions data via online tools, more severe penalties for violation of emissions limits, and grants to community based organizations for engagement in the AB 617 process.

In September 2018, the California Air Resources Board (CARB) selected 10 communities for the first year of the AB 617 Community Air Protection Program's implementation.² AB 617 requires CARB to conduct an assessment to identify communities with high cumulative exposure burdens. Communities were selected based on CARB's statewide assessment and recommendations from regional air districts, community groups, and community members. The legislation specifically requires CARB to prioritize DACs with high vulnerability to pollution. Each of the 10 initial communities is a designated DAC per Senate Bill 535 (SB 535) as each scores at or above the 75th percentile in the California Communities Environmental Health Screening Tool

¹ California Air Resources Board. "Community Air Protection Blueprint For Selecting Communities, Preparing Community Emissions Reduction Programs, Identifying Statewide Strategies, and Conducting Community Air Monitoring." 19 October 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-10/final_community_air_protection_blueprint_october_2018.pdf

² California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

(CalEnviroScreen 3.0). CalEnviroScreen 3.0 identifies communities statewide which are most polluted and vulnerable to pollution impacts based on census tract data regarding socioeconomic and health status.³

Following the selection of communities for the inaugural year of the Program, air districts convened community steering groups to develop community-level emissions reductions programs and air monitoring plans. The groups are comprised of people who live, work, or own businesses in the affected communities in addition to representatives from local environmental justice organizations, government, education, public health, and labor with a majority of the representation from affected community residents.

The steering committees completed their emission reduction strategies for adoption by air district governing boards in October 2019. After adoption, air districts are required to submit their emissions reduction programs to CARB for review and approval. By December 2019, CARB is slated to consider the selection of additional communities for community emissions reduction programs, community air monitoring, or both. Air district governing boards will have up to one year after the selection of new communities to adopt community emissions reduction programs. CARB will review and update the Program's statewide strategy by September 2023 and at least every five years thereafter.⁴

4.2 California Public Utilities Commission

Pursuant to Article XII, Section 3 of the California State Constitution, as well as various state legislative acts and federal statutory requirements, the California Public Utilities Commission (CPUC) is responsible for regulating the investor-owned electric and natural gas utilities in California.⁵ While the vast majority of energy customers in California are served by one of the four largest investor-owned utilities (IOUs) including Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison (SCE), and the Southern California Gas Company (SoCalGas), some customers receive energy services from publicly-owned utilities (POUs) or small multi-jurisdictional utilities (SMJUs). Additionally, some customers opt to receive energy services from Community Choice Aggregators (CCAs), which procure power on behalf of customers which is then transmitted to customers through utility infrastructure.

As not all utilities and CCAs offer the same programs, the programs available to any individual customer depend on which IOU, POU, or SMJU service territory a customer is located in and whether that customer receives energy services from a CCA. Therefore, for the initial 10 AB 617 communities, the relevant IOU, POU, and CCA service territories determine which programs are available in each community (no SMJUs currently serve the initial 10 AB 617 communities).

³ Office of Environmental and Health Hazard Assessment. "SB 535 Disadvantaged Communities." June 2018. Web. <https://oehha.ca.gov/calenviroscreen/sb535>

⁴ California Air Resources Board. "Community Air Protection Program." 2019. Web. <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/about>

⁵ California Public Utilities Commission. "Electric." 2019. Web. <https://www.cpuc.ca.gov/energy/>

4.2.1 Role for CPUC Programs

California is a leader in the fight against climate change as is exemplified by its deployment of renewable energy and aggressive Renewables Portfolio Standard target of 60 percent carbon-free electricity by 2030 and 100 percent by 2045.⁶ However, as communities throughout the state reap the benefits of sustainability, others are being left behind. While California continues to make progress towards its renewable energy goals, AB 617 environmental and social justice communities continue to suffer from disproportionately intense air pollution. At the same time, there is significant potential for programs of the CPUC to promote clean energy, help reduce air pollution, and improve the public health of residents in these DACs.

The CPUC's obligation to serve the needs of DACs is rooted in state legislative policy and is closely linked with the agency's recent adoption of a framework to advance equity statewide through its programs and policies. Senate Bill 350, the *Clean Energy and Pollution Reduction Act of 2015*, revised Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code to require the Commission to consider how it can help reduce pollution and increase the economic and environmental benefits of distributed energy generation in DACs.⁷ SB 350 also required the CPUC and the California Energy Commission (CEC) to develop a Disadvantaged Communities Advisory Group (DACAG) of community representatives to advise both agencies regarding the impact on DACs of clean energy and pollution reduction measures.

In February 2019, the Commission adopted its *Environmental and Social Justice (ESJ) Action Plan*, an initiative spearheaded by Commissioner Martha Guzman Aceves and Commissioner Clifford Rechtschaffen to maximize the agency's ability to serve ESJ communities.⁸ The plan defines ESJ communities as those which are:

- *Predominantly communities of color or low-income;*
- *Underrepresented in the policy setting or decision-making process;*
- *Subject to a disproportionate impact from one or more environmental hazards; and*
- *Likely to experience disparate implementation of environmental regulations and socio-economic investments in their communities.*

Additionally, the plan notes that such communities include but are not limited to the following:

- *Disadvantaged Communities located in the top 25 percent of communities identified by Cal EPA's CalEnviroScreen;*
- *All Tribal lands;*

⁶ California Public Utilities Commission. "Renewables Portfolio Standard (RPS) Program." 2019. Web. <https://www.cpuc.ca.gov/rps/>

⁷ California Legislative Information. "SB-350 Clean Energy and Pollution Reduction Act of 2015." 7 October 2015. Web. https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350

⁸ California Public Utilities Commission. "Environmental and Social Justice Action Plan." 21 February 2019. Web. https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Commissioners/Martha_Guzman_Aceves/Env%20and%20Social%20Justice%20ActionPlan_%202019-02-21.docx.pdf

- *Low-income households; and*
- *Low-income census tracts.*

Among the 9 general goals adopted through the plan, the agency makes the following commitments with particular relevance to AB 617 communities:

- *Consistently integrate equity and access considerations throughout CPUC proceedings and other efforts.*
- *Increase investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.*
- *Increase climate resiliency in low-income and disadvantaged communities.*
- *Enhance outreach and public participation opportunities to meaningfully participate in the CPUC's decision-making process and benefit from CPUC programs.*

Accordingly, while CARB and regional air districts begin implementation of pollution reduction strategies for the first year of the Program, there is both an opportunity and an obligation for the CPUC to consider agency program options to improve ESJ outcomes in AB 617 communities and complement CARB's efforts to reduce emissions.

4.3 Objectives

This report reviews CPUC programs with the potential to promote clean energy and help reduce air pollution in AB 617 communities selected for the first year of the Program's implementation. In doing so, this report seeks to accomplish the following objectives:

- Development of a typology of emissions sources affecting AB 617 communities;
- Description of the characteristics of each AB 617 community including key sources of air pollution as identified by each community;
- Identification of specific CPUC programs that emitters and community members can participate in to reduce pollution and receive clean energy benefits; and
- Improvement of collaboration amongst the various state, regional, and local agencies and entities who regulate and offer programs to address climate change and air pollution as it relates to energy.

It is important to note that while this report discusses potential CPUC program options for AB 617 communities, granular analysis at the community level and beyond the scope of this report is needed to evaluate which programs are the most effective at reducing key pollutants and which are the most economical for residents and local emitters. The greater value of this report is as a review of potential CPUC program options to be considered and evaluated as tools by local decisionmakers in addressing the pollution challenges and barriers to clean energy adoption facing AB 617 communities and comparable DACs.

5. INITIAL AB 617 COMMUNITIES

This section details the key characteristics of each AB 617 community. The initial ten AB 617 communities selected by CARB include:

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Calexico, El Centro, Heber
- South Sacramento-Florin
- Portside Environmental Justice Neighborhoods (West National City, Barrio Logan, Logan Heights, and Sherman Heights)

Each of these communities is subject to a range of pollution sources and has been selected by CARB for an air monitoring plan, emissions reduction program, or both. In the agency's 2018 Staff Report, CARB identifies the key emission source categories for each community.⁹ This report reorganizes these categories for the purpose of targeting sources with relevant CPUC programs. These source types are then matched to each community based on the information provided in each community's air monitoring or emissions reduction plan. Importantly, this report does not diagnose the emission sources in each community but relies on the information provided in each community's air monitoring or emissions reduction plans and CARB's 2018 Staff Report. The emission source types used in this report are defined in [Figure 1](#) below.

⁹ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

Figure 1. Key Emission Source Types



Residential sources include those where emissions are generated by single and multifamily housing. This category includes emissions from home heating sources such as residential wood smoke.



Oil & Gas sources include refineries, gas stations, diesel generators, and diesel stationary equipment. This category also comprises oil drilling, hydraulic fracturing, and fossil fuel-fired power plants.



Industry sources include both heavy industrial facilities such as cement factories, metal manufacturing, asphalt production, aircraft equipment manufacturing, chemical plants, food processing, smelting, rendering, metal coating and plating, and paint facilities as well as smaller commercial sources including auto body shops and restaurants. This category also includes stationary sources associated with freight operations such as warehouses and distribution facilities.



Waste sources include waste-water treatment, landfill, and recycling facilities.



Ports include all equipment and facilities associated with the operation of a seaport including but not limited to cargo equipment, port trucks, ocean-going ships, and harbor craft.



Road Transportation encompasses all on-road vehicles such as heavy-duty trucks as well as passenger vehicles which utilize freeways and roads in the community. This category includes all such sources in communities where industrial or agricultural freight is prevalent as well as heavy traffic due to border crossing, port, or distribution operations.



Rail Transportation includes all emissions associated with rail operations including trains, rail yards, and industrial and agricultural rail freight.



Agriculture includes live sources such as dairies, crop fields, livestock, and animal feeding facilities as well as off-road equipment used in farming operations such as tractors and hay compression and irrigation systems.



Military sources comprise military equipment and operations such as those at Naval Air Facility El Centro.

This section reviews each AB 617 community in order of their air district of jurisdiction. In addition to reviewing key community characteristics including the location, boundaries, demographics, energy utility territory, and key sources and types of pollution, this section lists the relevant CPUC programs for each community. As each community is served by different utilities, not all programs are available in every community. **Figure 24** on Page 34 at the end of this section summarizes the key characteristics for all communities.

5.1 Bay Area Air Quality Management District

5.1.1 Richmond

Figure 2. Map of Richmond



Source: BAAQMD San Francisco Community Health Protection Program Final Submittal, August 2018.

Richmond is one of two AB 617 communities under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and was selected for an air monitoring plan. As currently defined for the purposes of the Program, this community includes the City of Richmond, parts of El Cerrito to the south, and North Richmond and San Pablo to the north. Richmond comprises 139,000 people and includes neighborhoods ranging from 16 to 33 percent African American and 40 to 56 percent Latinx.¹⁰ In comparison to the surrounding region, Richmond has high rates of unemployment, poverty, and health conditions such as asthma and cardiovascular disease which make the population more vulnerable to pollution exposure. Pacific Gas and Electric Company (PG&E) is the energy utility for Richmond and Marin Clean Energy (MCE) is the local Community Choice Aggregator (CCA).¹¹

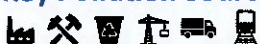
¹⁰ Bay Area Air Quality Management District. "San Francisco Bay Area Community Health Protection Program: Improving Neighborhood Air Quality: Final Submittal, Public Process for Determination of Recommended Communities." 1 August 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-08/BAAQMD_AB617_Submittal.pdf

¹¹ Pacific Gas and Electric Company. "Company Profile." 2019. Web. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page

Richmond is affected by various sources of pollution under the categories of **Port**, **Road** and **Rail Transportation**, **Oil & Gas**, **Industry**, and **Waste**. These sources include port and rail operations, a refinery, a chemical plant, a water treatment facility, gypsum product manufacturing, landfills, and surrounding freeways including Interstates 80 and 580, and the Richmond Parkway.¹²

Figure 3. CPUC Programs for Richmond

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: EV Charge Network
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

Marin Clean Energy. "Member Communities" 2019. Web.

<https://www.mccleanenergy.org/member-communities/>

¹² California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

5.1.2 West Oakland

West Oakland is the second community under BAAQMD's jurisdiction and was selected for an emissions reduction program. This community of 25,000 is 30 percent African American and 25

Figure 4. Map of West Oakland



Source: BAAQMD AB 617 West Oakland Community Action Plan: Initial Study, May 2019.

percent Latinx and is characterized by disproportionately high rates of unemployment, poverty, asthma, and cardiovascular disease.¹³ West Oakland is part of the City of Oakland and is located in a dense urban environment bordered by Interstates 580 and 80 on the north, 980 on the east, 880 and the Port of Oakland on the south, and 880 and the Union Pacific Railyard on the west.¹⁴ PG&E is the energy utility for West Oakland and East Bay Community Energy (EBCE) is the local CCA.¹⁵

West Oakland is one of the San Francisco Bay Area communities most polluted by diesel particulate matter (Diesel PM) as well as fine particulate matter (PM_{2.5}), and toxic air contaminants (TACs). The primary sources of pollution affecting this

community are **Road** and **Rail Transportation, Waste, Industry, Oil & Gas, and Ports** and include:

- *Stationary sources in West Oakland and adjacent to West Oakland, such as the East Bay Municipal Utility District wastewater treatment plant; recycling facilities such as Schnitzer Steel, CASS, and California Waste Solutions, Incorporated; gas stations, back-up diesel generators, and auto-body shops;*
- *Mobile sources, such as heavy-duty trucks and light-duty vehicles that travel in West Oakland and on the surrounding freeways; and*

¹³ Bay Area Air Quality Management District. "San Francisco Bay Area Community Health Protection Program: Improving Neighborhood Air Quality: Final Submittal, Public Process for Determination of Recommended Communities." 1 August 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-08/BAAQMD_AB617_Submittal.pdf

¹⁴ Bay Area Air Quality Management District and West Oakland Environmental Indicators Project. "AB 617 West Oakland Community Action Plan: Initial Study." 14 May 2019. Web. http://www.baaqmd.gov/~media/files/ab617-community-health/west-oakland/20190513_ab617_woap_initial-study.pdf?la=en

¹⁵ Pacific Gas and Electric Company. "Company Profile." 2019. Web. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page
East Bay Community Energy. "About." 2019. Web. <https://ebce.org/about/>

- Mobile sources that serve the Port of Oakland, such as cargo equipment, port trucks, locomotives, ocean-going ships, and harbor craft in the San Francisco Bay.¹⁶

Figure 5. CPUC Programs for West Oakland

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: EV Charge Network
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

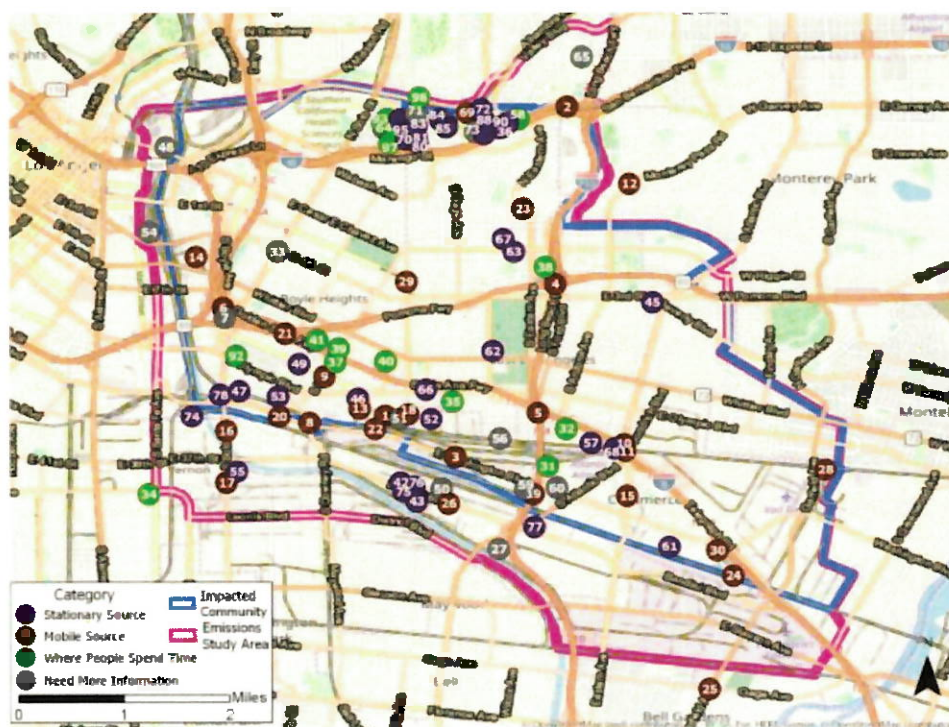
¹⁶ Bay Area Air Quality Management District and West Oakland Environmental Indicators Project. "AB 617 West Oakland Community Action Plan: Initial Study." 14 May 2019. Web. http://www.baaqmd.gov/~media/files/ab617-community-health/west-oakland/20190513_ab617_woap_initial-study-pdf.pdf?la=en

5.2 South Coast Air Quality Management District

5.2.1 East Los Angeles, Boyle Heights, West Commerce

The East Los Angeles, Boyle Heights, West Commerce (ELABHWC) community is one of three communities served by the South Coast Air Quality Management District (SCAQMD) and selected for both air monitoring and emissions reduction plans. This community contains unincorporated East Los Angeles, the Los Angeles neighborhood of Boyle Heights, and the west side of the City of Commerce. The ELABHWC community of 230,000 people is 95 percent Latinx and is characterized by disproportionately high rates of poverty and unemployment. The population also has high rates of asthma, cardiovascular disease, and is younger than that of the state, making the community especially vulnerable to pollution exposure.¹⁷

Figure 6. Map of East Los Angeles, Boyle Heights, West Commerce



Source: SCAQMD Boyle Heights, East LA, West Commerce Community Emissions Reduction Plan, June 2019.

Southern California Edison (SCE) provides electricity to East Los Angeles and West Commerce while the Los Angeles Department of Water and Power (LADWP) serves Boyle Heights.¹⁸

¹⁷ South Coast Air Quality Management District. "Boyle Heights, East Los Angeles, West Commerce: Community Emissions Reduction Plan." 21 June 2019. Web. <http://www.aqmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134/east-la/community-emissions-reduction-plan>

¹⁸ Southern California Edison. "Incorporated Cities and Counties Served by SCE." 2019. Web. https://www.sce.com/sites/default/files/inline-files/Incorporated_Cities_and_Counties_and_Unincorporated_Areas_Served_by_SCE.pdf
Los Angeles Department of Water and Power. "Our Service and History." 2019. Web. https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-whoware?_afrctrl-state=t182xn6kk_21&_afrcLoop=411457966538571

Southern California Gas (SoCalGas) provides gas to the ELABHWC community.¹⁹ Clean Power Alliance is the CCA for East Los Angeles.²⁰

The ELABHWC community is predominantly affected by exposure to diesel emissions from sources primarily spanning the categories of **Oil & Gas**, **Road** and **Rail Transportation**, and **Industry**. These sources include six rail yards, metal coating and smelting facilities, rendering and meat processing facilities, and over 30 miles of freeways including Highways 101 and 60 and Interstates 5, 10, and 710.²¹

Figure 7. CPUC Programs for East Los Angeles and West Commerce

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: Charge Ready
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

¹⁹ Southern California Gas. "About SoCalGas." 2019. Web. <https://www3.socalgas.com/about-us/company-profile>

²⁰ Clean Power Alliance. "About Us." 2019. Web. <https://cleanpoweralliance.org/about-us/>

²¹ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

Figure 8. CPUC Programs for Boyle Heights

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- Green Tariff Shared Renewables (GTSR) in DACs
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Low-Carbon Fuel Standard PEV Rebates

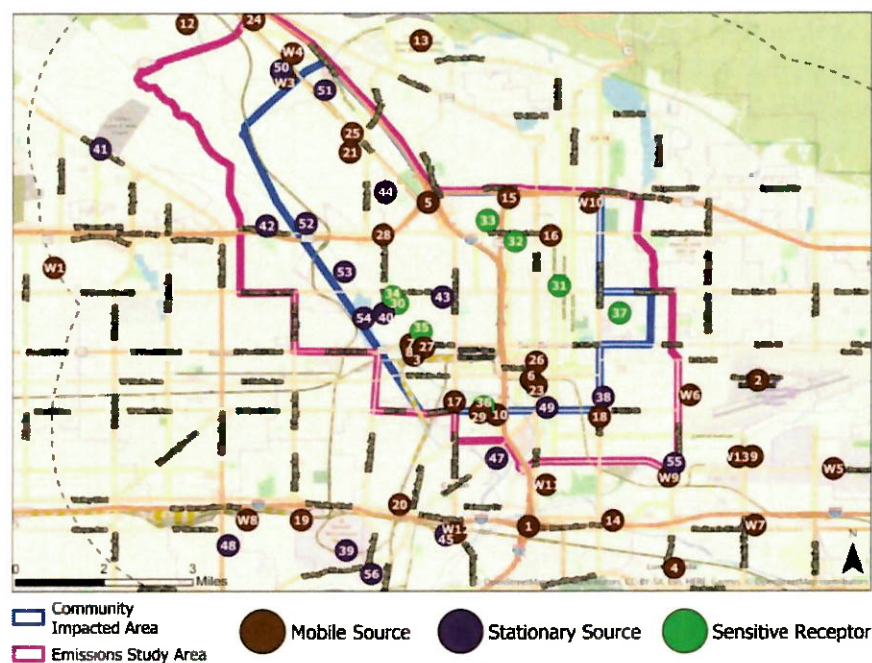
Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

5.2.2 San Bernardino and Muscoy

The San Bernardino and Muscoy community is also served by the SCAQMD and was selected for both an air monitoring and emissions reduction plan. This community includes the City of San Bernardino and the adjacent unincorporated community of Muscoy. There are over 90,000 people who live in San Bernardino and Muscoy, nearly 75 percent of whom are Latinx, 13 percent African American, and 9 percent White. Approximately 20 percent of the population is under the age of 10 and the population has disproportionately high rates of unemployment, poverty, asthma, and cardiovascular disease.²² SCE and SoCalGas serve this community.²³

Figure 9. Map of San Bernardino and Muscoy



Source: SCAQMD San Bernardino and Muscoy Community Emissions Reduction Plan, June 2019.

San Bernardino and Muscoy experience pollution exposure resulting from **Road** and **Rail Transportation, Industry, and Oil & Gas**. There are six rail yards connected with freight operations serving warehouses throughout San Bernardino and Muscoy. The community is also divided by several freeways including Highways 215 and 210, and Interstate 10.²⁴ Additionally,

²² South Coast Air Quality Management District. "San Bernardino, Muscoy: Community Emissions Reduction Plan." 14 June 2019. Web. <http://www.aqmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134/san-b/community-emissions-reduction-plan>

²³ Southern California Edison. "Incorporated Cities and Counties Served by SCE." 2019. Web. https://www.sce.com/sites/default/files/inline-files/Incorporated_Cities_and_Counties_and_Unincorporated_Areas_Served_by_SCE.pdf

Southern California Gas. "About SoCalGas." 2019. Web. <https://www3.socalgas.com/about-us/company-profile>

²⁴ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

the community is subject to emissions from the proximate Mountainview Generating Station, a 1,054 MW natural gas-fired power plant.²⁵

Figure 10. CPUC Programs for San Bernardino and Muscoy

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: Charge Ready
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

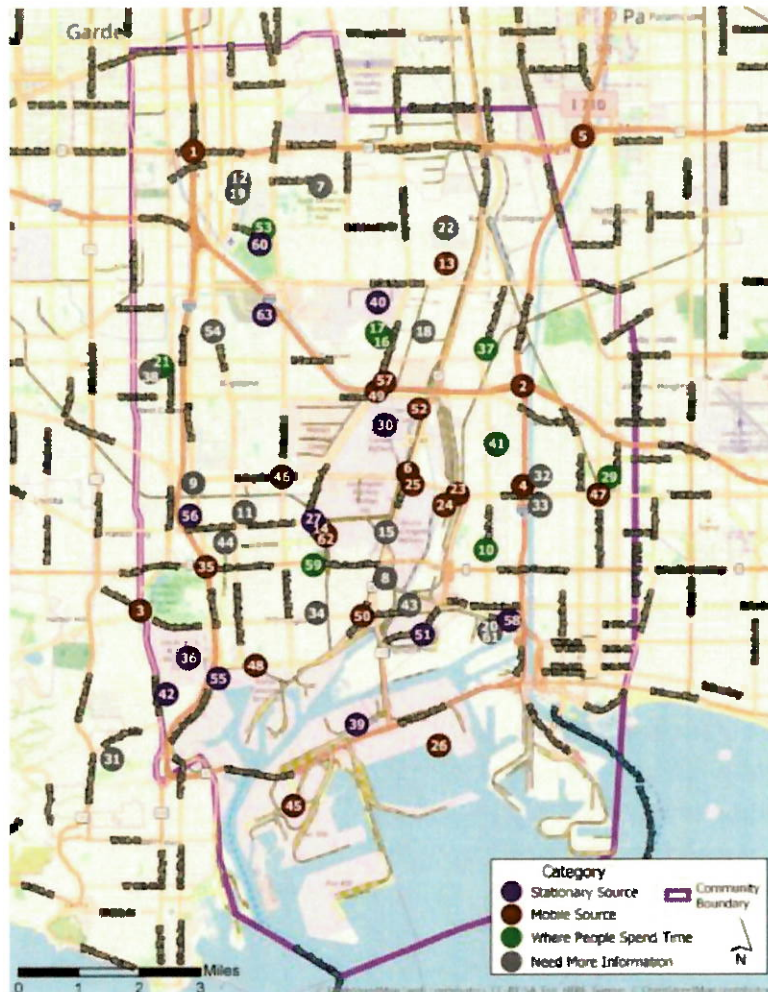
Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

²⁵ Southern California Edison. "Mountainview Generating Station." 2019. Web. <https://www.sce.com/about-us/environment/power-generation>

5.2.3 Wilmington, West Long Beach, Carson

Figure 11. Map of Wilmington, West Long Beach, Carson



Source: SCAQMD Wilmington, West Long Beach, Carson Community Emissions Reduction Plan, June 2019.

The Wilmington, West Long Beach, Carson community is served by the SCAQMD and was selected for both air monitoring and emissions reduction plans. It includes the Wilmington neighborhood of the City of Los Angeles, the Long Beach neighborhood of West Long Beach, the City of Carson, and parts of Compton, Gardena, Torrance, Harbor City, and San Pedro. This community has a population of nearly 365,000 people of whom over half are Latinx, 20 percent are Asian, 16 percent are African American, and 11 percent are White. This community also has high rates of unemployment, asthma, and heart disease.²⁶ Wilmington receives energy services

²⁶ South Coast Air Quality Management District. "Wilmington, West Long Beach, Carson: Community Emissions Reduction Plan." 7 June 2019. Web. <http://www.agmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134/wilm/cerp>

from LADWP and SoCalGas while Carson and West Long Beach are served by SCE and SoCalGas.²⁷

Diesel PM is the air toxic pollutant with the largest impact in this community and it predominantly originates from sources in the categories of **Ports, Rail** and **Road Transportation**, and **Oil & Gas**. The community is bordered by the Ports of Los Angeles and Long Beach, the two largest seaports in the United States, which are connected to nine rail yards through the Alameda Freight Rail Corridor. The community also contains over 40 miles of freeways including Highways 110, 710, and 91, and Interstate 405. In addition to refineries, the community also suffers from the impacts of local oil drilling.²⁸

Figure 12. CPUC Programs for West Long Beach, Carson, Compton, Gardena, and Torrance

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: Charge Ready

²⁷ Los Angeles Department of Water and Power. "Our Service and History." 2019. Web.

https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-whoweare?_adf.ctrl-state=t182xn6kk_21&_afLoop=411457966538571

Southern California Edison. "Incorporated Cities and Counties Served by SCE." 2019. Web.

https://www.sce.com/sites/default/files/inline-files/Incorporated_Cities_and_Counties_and_Unincorporated_Areas_Served_by_SCE.pdf

Southern California Gas. "About SoCalGas." 2019. Web. <https://www3.socalgas.com/about-us/company-profile>

²⁸ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

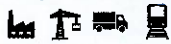
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

Figure 13. CPUC Programs for Wilmington, Harbor City, and San Pedro

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- Green Tariff Shared Renewables (GTSR) in DACs
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Low-Carbon Fuel Standard PEV Rebates

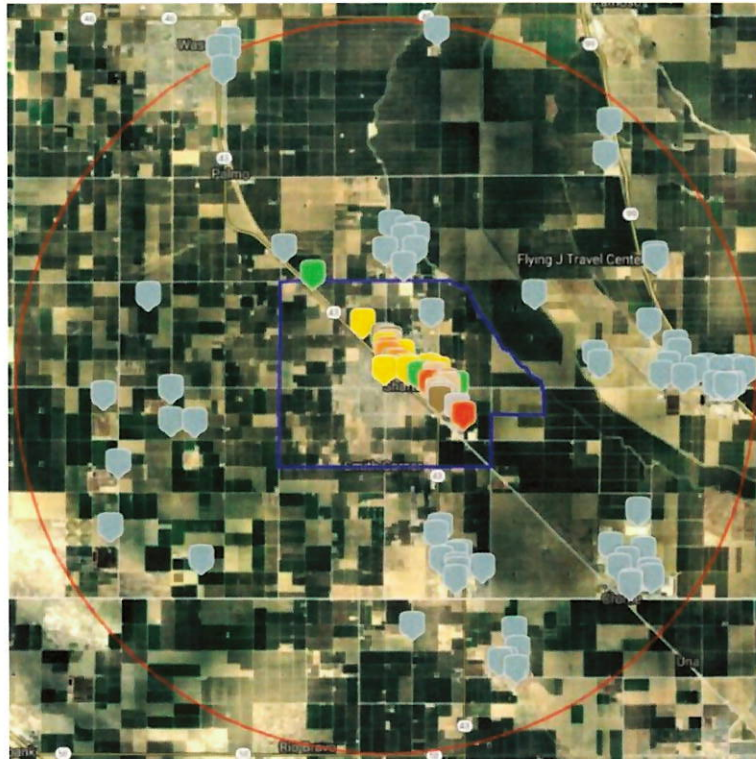
Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

5.3 San Joaquin Valley Air Pollution Control District

5.3.1 Shafter

Figure 14. Map of Shafter



Source: SJVAPCD Community Emission Inventory for Shafter, July 2019.²⁹

This community which includes part of the City of Shafter in Kern County is served by the San Joaquin Valley Air Pollution Control District (SJVAPCD) and was selected for both air monitoring and emissions reduction plans. While the community only includes part of the City of Shafter, the Steering Committee moved to consider the impacts of pollution within the seven mile radius of the city center (i.e. the area bounded by the red line in the figure above).³⁰ Shafter has a population of more than 19,000 of whom 80 percent are Latinx.³¹ This community has disproportionately high rates of cardiovascular disease, unemployment, and poverty. PG&E is Shafter's energy utility.³²

²⁹ San Joaquin Valley Air Pollution Control District. "Community Emission Inventory for Shafter." July 2019. Web. <http://community.valleyair.org/selected-communities/shafter/community-emission-inventory-for-shafter/>

³⁰ San Joaquin Valley Air Pollution Control District. "Community Air Monitoring Plan: Shafter AB 617 Community." 12 July 2019. Web. http://community.valleyair.org/media/1306/shafter_camp_v1_2019_july.pdf

³¹ U.S. Census Bureau. "American Fact Finder: 2010 Demographic Profile Data, Shafter City, California." 2010. Web. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

³² Pacific Gas and Electric Company. "Company Profile." 2019. Web. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page

Shafter is primarily impacted by pollution from the **Agriculture, Oil & Gas, Road and Rail Transportation**, and **Industry** sectors including dairies and agricultural fields as well as hydraulic fracturing operations.³³ These emissions are compounded by highway-based emissions including those from the surrounding Highways 43, 46, 58 and 99 and the Lerdo Highway as well as rail emissions from the corridor adjacent to Highway 43. Additional sources including gas stations, restaurants, and consumer product manufacturing contribute to the community's emissions.³⁴

Figure 15. CPUC Programs for Shafter

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: EV Charge Network
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

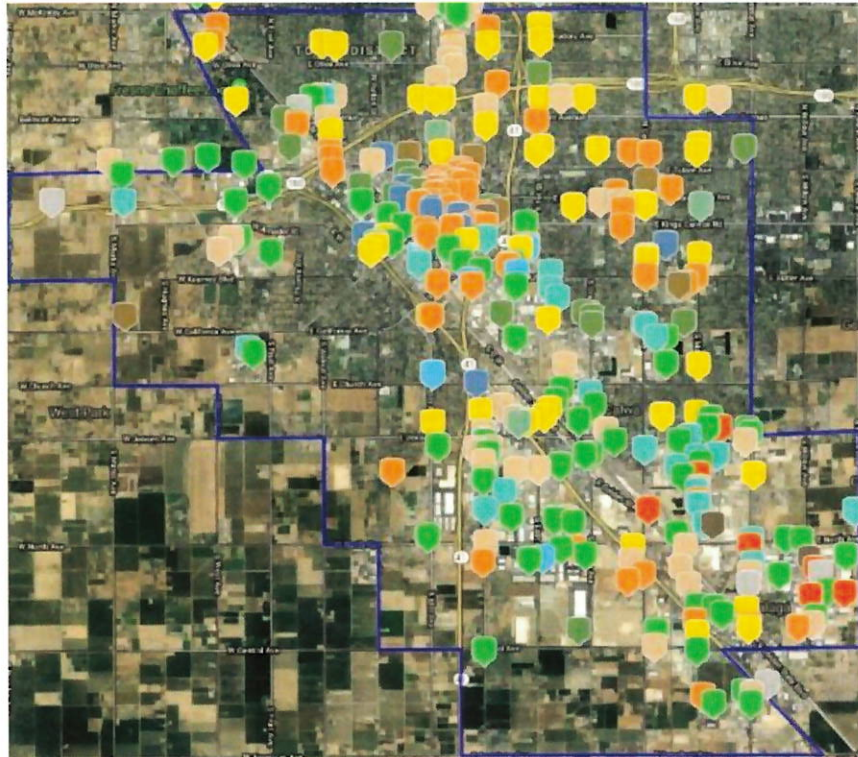
- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

³³ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

³⁴ San Joaquin Valley Air Pollution Control District. "Community Air Monitoring Plan: Shafter AB 617 Community." 12 July 2019. Web. http://community.valleyair.org/media/1306/shafter_camp_v1_2019_july.pdf

5.3.2 South Central Fresno

Figure 16. Map of South Central Fresno



Source: SJVAPCD Community Emission Inventory for South Central Fresno, July 2019.³⁵

The South Central Fresno community includes parts of the City of Fresno including South Central Fresno, South West Fresno, Downtown Fresno, Chinatown, and Roeding Park as well as the census-designated places of Calwa and Malaga. The community of 130,000 is served by the SJVAPCD and was selected for air monitoring and emissions reduction plans. The broader county is roughly half Latinx and 10 percent Asian.³⁶ Residents experience disproportionately high rates of cardiovascular disease, unemployment, and poverty.³⁷ South Central Fresno receives energy from PG&E.³⁸

The primary sources of pollution in South Central Fresno fall under the categories of **Industry**, **Road Transportation**, **Oil & Gas**, and **Residential**. In addition to its location downwind of emissions from the greater Fresno area, South Central Fresno is home to industrial and

³⁵ San Joaquin Valley Air Pollution Control District. "Community Emission Inventory for South Central Fresno." July 2019. Web. <http://community.valleyair.org/selected-communities/south-central-fresno/community-emission-inventory-for-south-central-fresno/?appid=809bbc655ddb4de2806b3a0876d7730c>

³⁶ U.S. Census Bureau. "American Fact Finder: 2010 Demographic Profile Data, Fresno County, California." 2010. Web. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

³⁷ San Joaquin Valley Air Pollution Control District. "Community Air Monitoring Plan: South Central Fresno AB 617 Community." 12 July 2019. Web. http://community.valleyair.org/media/1308/fresno_camp_v1_2019_july-1.pdf

³⁸ Pacific Gas and Electric Company. "Company Profile." 2019. Web. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page

distribution facilities and multiple freeways including Highways 180, 99, and 41.³⁹ The community comprises an industrial sector with a fossil fuel power plant as well as a residential zone of single-family homes, including some which rely on wood burning for home heating.⁴⁰

Figure 17. CPUC Programs for South Central Fresno

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: EV Charge Network
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

Demand Response

- Disadvantaged Communities Demand Response (DAC-DR) Pilot

³⁹ San Joaquin Valley Air Pollution Control District. "Community Air Monitoring Plan: South Central Fresno AB 617 Community." 12 July 2019. Web. http://community.valleyair.org/media/1308/fresno_camp_v1_2019_july-1.pdf

⁴⁰ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

5.4 Imperial County Air Pollution Control District

5.4.1 Calexico, El Centro, Heber

Figure 18. Map of Calexico, El Centro, Heber



Source: CARB El Centro-Heber-Calexico Draft Preliminary 2017 Baseline Community Emission Inventory, April 2019.⁴¹

The Calexico, Heber, El Centro community is served by the Imperial County Air Pollution Control District (ICAPCD) and includes the cities of Calexico and El Centro and the unincorporated community of El Centro.⁴² This community was selected for air monitoring and emissions reduction plans and has a population of 98,000.⁴³ 85 percent of the population is Latinx and this community suffers from disproportionately high rates of asthma, cardiovascular disease, poverty, and unemployment. The Imperial Irrigation District (IID) and SoCalGas are the energy utilities for this community.⁴⁴

⁴¹ Cayabyab, Adrian and Victoria Villa. "El Centro-Heber-Calexico Draft Preliminary 2017 Baseline Community Emission Inventory." *California Air Resources Board*. 10 April 2019. Web.

https://docs.wixstatic.com/ugd/99eb03_761072012a6c444682a18672e398b05e.pdf

⁴² Imperial County Air Pollution Control District. "Imperial County AB617 Community Nominations." 3 August 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-08/IC_AB617%20Submittal.pdf

⁴³ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

⁴⁴ Imperial Irrigation District. "Energy Service Maps." 2019. Web. <https://www.iid.com/energy/about-iid-energy/energy-service-maps>

The primary sources of pollution afflicting this community fall in the categories of **Road** and **Rail Transportation**, **Industry**, **Agriculture**, **Oil & Gas**, **Military**, and **Waste**. As this community sits on the U.S.-Mexico border, emissions stem largely from vehicles crossing the border including diesel trucks transporting products to local warehouse facilities as well as those transporting the community's agricultural products. The local agriculture economy accounts for the production of over 100 different commodities including cattle and sheep. This economy includes the operation of animal feeding facilities and some 20,000 off-road diesel mobile and stationary agriculture equipment units. This community also includes railroads, Naval Air Facility (NAF) El Centro, a gas-fired power plant, a cement factory, and various industrial facilities including metal manufacturing, recycling, hay compression, and asphalt production.⁴⁵

Figure 19. CPUC Programs for Calexico, El Centro, Heber

Key Pollution Sources Targeted



Clean Energy Deployment

- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)

Zero-Emission Vehicle Deployment

- Low-Carbon Fuel Standard PEV Rebates (Natural Gas Rebate)

Energy Efficiency

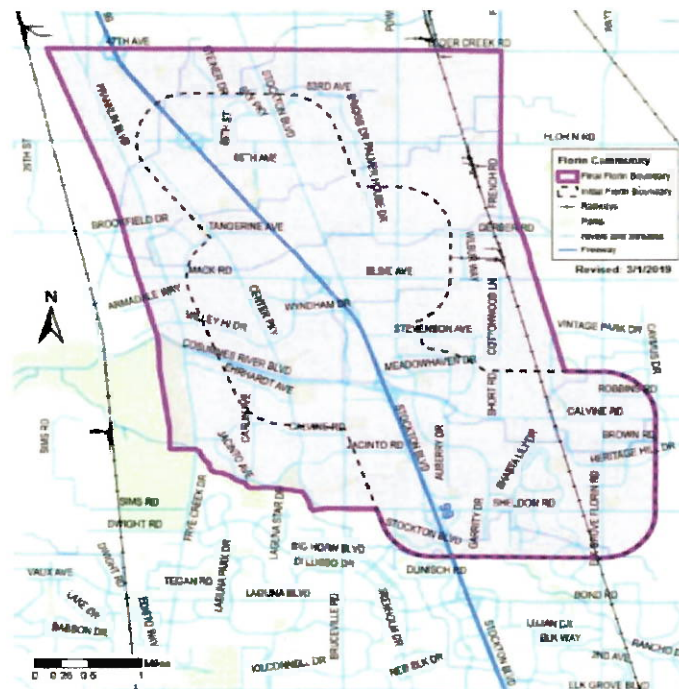
- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

⁴⁵ Imperial County Air Pollution Control District. "Imperial County AB617 Community Nominations." 3 August 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-08/IC_AB617%20Submittal.pdf

5.5 Sacramento Metropolitan Air Quality Management District

5.5.1 South Sacramento-Florin

Figure 20. Map of South Sacramento-Florin



Source: SMAQMD AB 617 Maps, 2019.⁴⁶

The South Sacramento-Florin community is served by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and was selected for an air monitoring plan. This community of 27,000 includes part of the City of Sacramento south of Downtown and the census-designated place of Florin. The South Sacramento-Florin community is very diverse with approximately 30 percent of people identifying as Asian, 25 percent as Latinx, and 16 percent as Black or African American.⁴⁷ This community experiences high rates of asthma, cardiovascular disease, unemployment, and poverty.⁴⁸ South Sacramento-Florin receives electricity from the Sacramento Municipal Utility District (SMUD) and gas from PG&E.⁴⁹

⁴⁶ Sacramento Metropolitan Air Quality Management District. "AB 617 Maps." 2019. Web.

<http://www.airquality.org/air-quality-health/community-air-protection/ab-617-maps>

⁴⁷ U.S. Census Bureau. "American Fact Finder: 2010 Demographic Profile Data, Florin, California." 2010. Web. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

⁴⁸ Sacramento Metropolitan Air Quality Management District. "Final Assessment of Proposed Monitoring Locations for AB 617 Community Air Protection Action." 31 July 2018. Web.

<http://www.airquality.org/ProgramCoordination/Documents/SMAQMD%20Final%20Recommendations-Report.pdf>

⁴⁹ Sacramento Municipal Utility District. "Our Service Area." 2019. Web.

<https://www.smud.org/en/Corporate/About-us/SMUDs-Territory-Map>

The key emissions sources in this community fall in the categories of **Road** and **Rail Transportation**, **Industry**, and **Residential**. Vehicle and rail traffic associated with the warehouse areas next to the community along Highway 99 and major roadways such as Fruitridge Road generate much of the local emissions. Additionally, residential wood smoke compromises air quality during the winter months.⁵⁰

Figure 21. CPUC Programs for South Sacramento-Florin

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- Green Tariff Shared Renewables (GTSR) in DACs
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Low-Carbon Fuel Standard PEV Rebates (Natural Gas Rebate)

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

⁵⁰ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

5.6 San Diego County Air Pollution Control District

5.6.1 Portside Environmental Justice Neighborhoods (West National City, Barrio Logan, Logan Heights, and Sherman Heights)

Figure 22. Map of Portside Environmental Justice Neighborhoods



Source: CARB Community Air Protection Program Staff Report, September 2018.

The Portside Environmental Justice Neighborhoods are served by the San Diego County Air Pollution Control District (SDCAPCD) and were selected for an air monitoring plan. This community is made up of the neighborhoods of Barrio Logan, Logan Heights, and Sherman Heights in the City of San Diego and the West National City neighborhood of National City. The population of 53,000 is heavily Latinx (as high as 60 percent) and experiences high rates of asthma and poverty.⁵¹ San Diego Gas and Electric Company (SDG&E) is the energy utility for the Portside Neighborhoods.⁵²

⁵¹ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

U.S. Census Bureau. "American Fact Finder: 2010 Demographic Profile Data, National City, California." 2010. Web. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

⁵² San Diego Gas and Electric Company. "About Us." 2019. Web. <https://www.sdge.com/more-information/our-company/about-us>

The primary sources of pollution in Portside are in the **Port, Road and Rail Transportation, Industry, and Oil & Gas** sectors. The area experiences pollution emanating from the San Diego Port as well as dense truck, freight, and rail traffic including that along Interstates 5 and 15. Additionally, the community includes aircraft parts and equipment manufacturing facilities, a power plant, and smaller sources including metal plating, auto body, and paint facilities.⁵³

Figure 23. CPUC Programs for Portside Environmental Justice Neighborhoods

Key Pollution Sources Targeted



Clean Energy Deployment

- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Single Family Solar Homes (DAC-SASH)
- DAC-Green Tariff (DAC-GT)
- Green Tariff Shared Renewables (GTSR) in DACs
- Community Solar Green Tariff (CSGT)
- California Solar Initiative Thermal (CSI-T)
- Self-Generation Incentive Program (SGIP)
- Electric Program Investment Charge (EPIC)

Low-Emission Nonrenewable Alternatives

- Net Energy Metering Fuel Cell (NEMFC)

Zero-Emission Vehicle Deployment

- Plug-in Electric Vehicle (PEV) Time-of-Use Rates
- Low-Carbon Fuel Standard PEV Rebates
- SDG&E Champions for Clean Air
- SB 350 Transportation Electrification Projects
- EV Infrastructure Pilot Programs: Power Your Drive
- Infrastructure Pilot Programs at Schools and State Parks and Beaches

Energy Efficiency

- Energy Savings Assistance (ESA)
- Utility Energy Efficiency Programs

Demand Response

- Disadvantaged Communities Demand Response (DAC-DR) Pilot

⁵³ California Air Resources Board. "Community Air Protection Program: 2018 Community Recommendations Staff Report." 11 Sept. 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

Figure 24. AB 617 Community Characteristics & Pollution Source Types

Community	Air Monitoring Plan	Emissions Reduction Plan	Utilities/CCAs	Key Pollution Source Types	
Richmond	Yes	No	PG&E Marin Clean Energy (CCA)	     	Oil & Gas Industry Waste Port Road Rail
West Oakland	No	Yes	PG&E East Bay Community Energy (CCA)	     	Oil & Gas Industry Waste Ports Road Rail
East Los Angeles and West Commerce	Yes	Yes	SCE SoCalGas Clean Power Alliance (CCA)	   	Oil & Gas Industry Road Rail
Boyle Heights	Yes	Yes	LADWP SoCalGas	   	Oil & Gas Industry Road Rail
San Bernardino and Muscoy	Yes	Yes	SCE SoCalGas	   	Oil & Gas Industry Road Rail
Wilmington, Harbor City, and San Pedro	Yes	Yes	LADWP SoCalGas	   	Oil & Gas Ports Road Rail

West Long Beach, Carson, Compton, Gardena, and Torrance	Yes	Yes	SCE SoCalGas	   	Oil & Gas Ports Road Rail
Shafter	Yes	Yes	PG&E	    	Oil & Gas Industry Road Rail Agriculture
South Central Fresno	Yes	Yes	PG&E	   	Residential Oil & Gas Industry Road
Calexico, El Centro, Heber	Yes	Yes	Imperial Irrigation District SoCalGas	      	Oil & Gas Industry Waste Road Rail Agriculture Military
South Sacramento- Florin	Yes	No	SMUD PG&E (Gas)	   	Residential Industry Road Rail
Portside Environmental Justice Neighborhoods	Yes	No	SDG&E	    	Oil & Gas Industry Port Road Rail

6. CURRENT CPUC PROGRAMS

In this section, CPUC programs with the potential to reduce pollution in AB 617 communities are discussed. The programs reviewed in this section include those focused on **Clean Energy Deployment**, **Low-Emission Nonrenewable Alternatives**, **Zero-Emission Vehicle Deployment**, **Energy Efficiency**, and **Demand Response**. Although not all of these programs will result in direct or immediate local emission reductions, each can reduce greenhouse gas emissions while providing other benefits for DACs including lower bills and energy costs. Additionally, the scope of programs discussed is not exhaustive as the CPUC continues to approve and direct IOUs to implement new programs. Therefore, while the information discussed in this section is informative, it is important for decisionmakers and customers to complement this information by communicating directly with their energy service providers to keep apprised of new and developing programs.

6.1 Clean Energy Deployment

The programs in this section focus on the expansion of affordable and renewable energy in low-income and disadvantaged communities and have applications primarily for **Residential** and **Oil & Gas** as well as **Industry**, **Port**, and **Waste** emission sources.

6.1.1 Net Energy Metering DAC Programs

The following programs incentivize the transition to clean energy in DACs. By incentivizing renewable power installation, the **Solar on Multifamily Affordable Housing (SOMAH)** and **DAC-Single Family Solar Homes (DAC-SASH)** programs allow customers to benefit from Net Energy Metering (NEM) which provides bill credits to customers for generation exported to the grid. Alternatively, the **DAC-Green Tariff (DAC-GT)**, **Green Tariff Shared Renewables (GTSR) in DACs**, and **Community Solar Green Tariff (CSGT)** programs provide options for customers who cannot install distributed renewable generation on-site where they live. Collectively, these programs have the potential to reduce emissions from the **Residential** and **Oil & Gas** sectors.

6.1.1.1 Solar on Multifamily Affordable Housing (SOMAH)

Launched in July 2019, the Solar on Multifamily Affordable Housing (SOMAH) program allocates financial incentives for installing solar on multifamily affordable housing properties. The program is administered by the SOMAH Nonprofit Administrative Partnership (SNAP) which is composed of the Center for Sustainable Energy (CSE), GRID Alternatives, the Association for Energy Affordability (AEA), the California Housing Partnership Corporation (CHPC) and Rising Sun. SOMAH has an annual budget of \$100 million (\$1 billion total) and aims to install 300 megawatts (MW) of capacity by 2030.⁵⁴

⁵⁴ Solar on Multifamily Affordable Housing. "About The Program." 2019. Web. <https://www.calsomah.org/about>

At the time of this writing, SOMAH has allocated its current funding for this year in SCE, SDG&E, and PG&E service territories but the program is still accepting waitlist applications in these areas. The program does have available funding for projects in PacifiCorp and Liberty Utilities' service territories. In order to be eligible for SOMAH, a property must meet the following conditions:

- Be an existing building containing 5 or more, separately metered units;
- Be deed-restricted for low-income housing;
- Either:
 - Have 80 percent of residents with incomes at or below 60 percent of the Area Median Income (AMI); or
 - Be located in a DAC per CalEnviroScreen 3.0; and
- Be a utility or CCA customer in the service territory of PG&E, SCE, SDG&E, PacifiCorp, or Liberty Utilities.

As each of the AB 617 communities is a DAC per CalEnviroScreen 3.0, this program has the potential to reduce emissions generated by multifamily units and therefore targets the **Residential** and **Oil & Gas** sectors. This program may help reduce demand for fossil fuel fired power plants located statewide and in AB 617 communities such as the Malaga Peaker Plant in South Central Fresno and the El Centro Generating Station, and potentially reduce local emissions generated as a result of residential power consumption.⁵⁵

6.1.1.2 DAC-Single Family Solar Homes (DAC-SASH)

The Disadvantaged Communities-Single Family Solar Homes (DAC-SASH) program launched in September 2019 and provides financial incentives for rooftop solar to low-income resident-owners of single-family homes. GRID Alternatives is the program administrator for DAC-SASH and the program has an annual budget of \$10 million through 2030.⁵⁶

GRID Alternatives is accepting applications at the time of this writing through their Energy for All Program which considers applicants' eligibility for state, local, and private solar incentives. In order to be eligible for DAC-SASH, homeowners must own and live in a property in a CalEnviroScreen 3.0-designated DAC; live in the electric service territory of PG&E, SCE, or SDG&E; and be eligible for the California Alternate Rates for Energy (CARE) or the Family Electric Rate Assistance (FERA) programs.⁵⁷

⁵⁵ San Joaquin Valley Air Pollution Control District. "Community Emission Inventory for South Central Fresno." July 2019. Web. <http://community.valleyair.org/selected-communities/south-central-fresno/community-emission-inventory-for-south-central-fresno/?appid=809bbc655ddb4de2806b3a0876d7730c>

Imperial Irrigation District. "Integrated Resource Plan." November 2018. Web. <https://www.iid.com/home/showdocument?id=9280>

⁵⁶ California Public Utilities Commission. "Solar in Disadvantaged Communities." 2019. Web. <https://www.cpuc.ca.gov/solarInDACs/>

⁵⁷ Ratnayake, Erandi. "Introduction to the Disadvantaged Communities – Single Family Solar Homes (DAC-SASH) Program: Getting Ready for Implementation." *GRID Alternatives*. 8 April 2019. Web.

Similar to the SOMAH program, DAC-SASH targets emissions from the **Residential** and **Oil & Gas** sectors. DAC-SASH is an option for income-qualified resident-owners of single-family properties in AB 617 communities to reduce their demand for fossil fuel generation and thereby potentially lessen emissions from local nonrenewable generation sources.

6.1.1.3 DAC-Green Tariff (DAC-GT)

The DAC-Green Tariff (DAC-GT) program provides 100 percent renewable energy to customers at a 20 percent discounted rate in addition to CARE and FERA discounts. All DAC-GT projects must be located in DACs. Each of the following utilities and CCAs within their service territories can provide up to the following capacity limits through DAC-GT:

- PG&E's service territory: 70 MW
- SCE's service territory: 70 MW
- SDG&E's service territory: 18 MW⁵⁸

To be eligible for DAC-GT, customers must live in DACs and be eligible for CARE and FERA. Customers enroll in DAC-GT through their IOU or potentially through their CCA if that CCA submits an implementation plan for DAC-GT that is approved by the CPUC. Although at the time of this writing, PG&E is the only IOU planning to use existing resources to implement DAC-GT, each IOU is required to submit Requests for Offers (RFOs) for DAC-GT projects ranging in size from 500 kilowatts (kW) to 20 MW within 60 days after the approval of their solicitation documents.⁵⁹ PG&E customers will be able to enroll in the program by April 2020 or sooner while it is estimated the SCE and SDG&E customers will be able to enroll in 2021.⁶⁰

The program provides an option for customers in DACs who do not own their homes to reduce their demand for local fossil fuel energy generation and targets emissions from the **Residential** and **Oil & Gas** sectors by increasing the amount of solar generation in California.

6.1.1.4 Green Tariff Shared Renewables (GTSR) in DACs

The Green Tariff Shared Renewables (GTSR) program allows customers to receive 50 to 100 percent of their electricity from renewable generation sources. This program includes two options: (1) a Green Tariff option whereby a customer pays the difference between their current generation charge and the cost of 50 to 100 percent renewables procurement, or (2) an Enhanced Community Renewables program whereby customers may buy into a share of a local

<https://gridalternatives.org/sites/default/files/Introduction%20to%20the%20Disadvantaged%20Communities%20%E2%80%93%20Single-family%20Solar.pdf>

⁵⁸ California Public Utilities Commission. "Solar in Disadvantaged Communities." 2019. Web.

<https://www.cpuc.ca.gov/solarInDACs/>

⁵⁹ California Public Utilities Commission. "Solar in Disadvantaged Communities." 2019. Web.

<https://www.cpuc.ca.gov/solarInDACs/>

⁶⁰ California Public Utilities Commission. "Resolution E-4999." 30 May 2019. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M297/K211/297211380.PDF>

Community Renewables project. While the program has a maximum enrollment of 600 MW throughout the territories of PG&E, SCE, and SDG&E, 100 MW are reserved for projects ranging from 500 kW to 1 MW in DACs in CalEnviroScreen's top 20th percentile.⁶¹

Pursuant to SB 840, the GTSR program has been extended indefinitely until the 600 MW cap is reached. As of June 2017, 22.02 MW were enrolled. As of May 2019, 163 MW of additional renewables capacity (all solar) has been procured on behalf of the GTSR program.

The GTSR program targets emissions in the **Residential** and **Oil & Gas** sectors. By providing an option for AB 617 community residents who are unable to afford onsite solar to receive renewable energy for their homes, the GTSR program can potentially help reduce demand for local nonrenewable generation.

6.1.1.5 Community Solar Green Tariff (CSGT)

The Community Solar Green Tariff (CSGT) program is similar to the DAC-GT program in that it provides 100 percent renewable energy to DAC customers at a 20 percent discounted rate and projects must be located in DACs. However, the CSGT program also requires each project to be located in or adjacent to the community it serves. Projects can be a maximum of 3 MW to 4.4 MW, depending on jurisdiction. Each of the following utilities and CCAs in their territories can provide up to the following capacity limits through CSGT:

- PG&E's service territory: 18 MW
- SCE's service territory: 18 MW
- SDG&E's service territory: 5 MW⁶²

To be eligible for the CSGT program, PG&E, SCE, and SDG&E customers must live in DACs and projects must provide at least half of their generation to customers who are eligible for CARE and FERA. Customers residing in the Commission's San Joaquin Valley Pilot communities are also eligible for the program.⁶³ This program is estimated to become available to customers by 2021.⁶⁴

The CSGT program targets emissions from the **Residential** and **Oil & Gas** sectors by increasing the amount of solar generation in California and providing another option for residents to offset their demand for local fossil fuel generation.

⁶¹ California Public Utilities Commission. "Green Tariffs/Shared Renewables Program (GTSR)." 2019. Web. <https://www.cpuc.ca.gov/General.aspx?id=12181>

⁶² California Public Utilities Commission. "Solar in Disadvantaged Communities." 2019. Web. <https://www.cpuc.ca.gov/solarInDACs/>

⁶³ For more on the San Joaquin Valley Pilot Program, see Pending CPUC Programs.

⁶⁴ California Public Utilities Commission. "Resolution E-4999." 30 May 2019. Web. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M297/K211/297211380.PDF>

6.1.2 California Solar Initiative Thermal (CSI-T)

The California Solar Initiative Thermal (CSI-T) program provides rebates to residential and commercial (including large industrial) customers for replacing their natural gas fired water heating systems with solar water heating systems (SWHs).⁶⁵ The portion of the program that formerly provided funds for the replacement of electric systems ended in December 2016.⁶⁶ AB 1470 authorized the program to provide \$250 million in incentives through 2017, which was extended to July 31, 2020 by AB 797. AB 797 reserves 50 percent of this budget for low-income residential housing or buildings in DACs and 10 percent for industrial buildings. As of December 31, 2018, \$76.5 million of the \$250 million allocation remains.

This program is available in the service territories of PG&E, SDG&E, and SoCalGas. Additionally, AB 797 expanded program eligibility to include homeowners in the SJV pilot communities discussed below. Customers can apply for the CSI-T program through their IOUs and the California Center for Sustainable Energy in the case of SDG&E. Single family SWH systems replacing natural gas can qualify for a maximum rebate of \$4,366 while multifamily buildings qualify for a maximum rebate of \$800,000. The maximum incentive for industrial customers is \$2,580,873 for PG&E, \$1,946,599 for SoCalGas, and \$1,030,802 for SDG&E.⁶⁷

The CSI-T program targets emissions from the **Residential**, **Industrial**, and **Oil & Gas** sectors by providing customers with a subsidized alternative to nonrenewable water heating systems and thereby reducing their demand for local fossil fuel generation.

6.1.3 Self-Generation Incentive Program (SGIP)

The Self-Generation Incentive Program (SGIP) program provides rebates to residential and non-residential customers for the installation of distributed energy resources such as wind, pressure reduction, and gas turbines; microturbines; waste heat-to-power systems; internal combustion engines; fuel cells; and energy storage systems. SGIP also allocates 25 percent of its funding for an Equity Storage Budget (estimated to be \$55 million from 2018 to 2020) to subsidize energy storage systems for residential, business, educational, and public sector customers who are located in DACs or live in low-income housing. SB 700 extended the program through January 1, 2026.⁶⁸ The program was also revised in September 2019 to require PG&E, SCE, SoCalGas, and

⁶⁵ California Public Utilities Commission. "CSI-Thermal Program/Solar Water Heating." 2019. Web.

<https://www.cpuc.ca.gov/General.aspx?id=3753>

California Public Utilities Commission. "CSI-Thermal Low-Income Program/Solar Water Heating." 2019. Web.

<https://www.cpuc.ca.gov/General.aspx?id=6350>

⁶⁶ Esfahani, Asal, Kerry Fleisher, Tory Francisco, Nora Hawkins, Brian Korpics, Christopher Westling, Shannon O'Rourke. "2019 California Solar Initiative: Annual Program Assessment." *California Public Utilities Commission*. June 2019. Web.

https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Demand_Side_Management/2019-CSI-APA.pdf

⁶⁷ California Public Utilities Commission. "California Solar Initiative-Thermal: Program Handbook." May 2019. Web.

https://www.gosolarcalifornia.ca.gov/documents/CSI-Thermal_Handbook.pdf

⁶⁸ California Legislative Information. "SB-700 Self-generation incentive program." 27 September 2019. Web.

https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=20170180SB700

the Center for Sustainable Energy in the SDG&E service territory to collectively allocate \$4 million for an Equity Heat-Pump Water Heater Budget. Customers can apply for SGIP through the SGIP program administrators including, PG&E, SCE, SoCalGas, and the Center for Sustainable Energy in the SDG&E service territory.⁶⁹

This program targets emissions sources from the **Residential**, **Oil & Gas**, **Industry**, **Waste**, and **Port** sectors. By funding the installation of storage in DACs, SGIP has the potential to help reduce residential demand for local fossil fuel generation. At the same time, this program can help reduce nonresidential demand for local fossil fuel generation and potentially cut emissions from sources such as diesel generators. This program also has the potential to reduce emissions from nonrenewable residential water heating sources.

6.1.4 Electric Program Investment Charge (EPIC)

The Electric Program Investment Charge (EPIC) is a research and development program that was created by the CPUC in December 2011 to make ratepayer-funded investments in clean energy systems to benefit PG&E, SDG&E, and SCE ratepayers.⁷⁰ The CPUC oversees the program, which is administered by the CEC (80 percent of the program's budget), and PG&E, SDG&E, and SCE (which together administer the remaining 20 percent). Per AB 523, at least 25 percent of the CEC's funds for Technology Deployment and Demonstration (TD&D) are reserved for projects sited in and benefitting DACs while an additional 10 percent of TD&D funds are allocated to projects benefitting and located in low-income communities.⁷¹ For the EPIC 3 2018-2020 investment plan, this amounts to a total of \$555 million including \$111 million for the IOUs (which are restricted to TD&D investments) and \$444 million for the CEC.⁷² The CEC budget includes \$172,237,778 for TD&D, meaning that \$4,306,945 is reserved for DACs and \$17,223,778 is reserved for low-income communities.

This program can help reduce emissions from the **Residential**, **Oil & Gas**, **Industry**, **Waste**, **Port**, **Road Transportation**, and **Agriculture** sectors. By funding clean energy deployment in DACs, this program has the potential to reduce demand for local fossil fuel facilities while reducing vehicle and stationary source emissions.

⁶⁹ California Public Utilities Commission. "Self-Generation Incentive Program." 2019. Web.

<https://www.cpuc.ca.gov/sgip/>

California Public Utilities Commission. "Decision Establishing A Self-Generation Incentive Program Equity Resiliency Budget, Modifying Existing Equity Budget Incentives, Approving Carry-Over of Accumulated Unspent Funds, and Approving \$10 Million to Support the San Joaquin Valley Disadvantaged Community Pilot Projects." 12 September 2019. Web. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M312/K684/312684664.PDF>

⁷⁰ California Energy Commission. "General EPIC Program Information." 2019. Web.

<https://www2.energy.ca.gov/research/epic/faq.html>

⁷¹ California Legislative Information. "AB-523: Electric Program Investment Charge: Allocation." 9 October 2017.

Web. https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB523

⁷² California Public Utilities Commission. "Decision Addressing Applications of the California Energy Commission, Pacific Gas and Electric Company, Southern California Edison Company and San Diego Gas & Electric Company for Approval of their Triennial Investment Plans for the Electric Program Investment Charge Program for the Years 2018 through 2020, and Modifying Decision 12-05-037." 11 January 2018. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M206/K319/206319491.PDF>

6.2 Low-Emission Nonrenewable Alternatives

This section discusses programs which incentivize low-emission nonrenewable alternatives to emission-intensive resources.

6.2.1 Net Energy Metering Fuel Cell (NEMFC)

The Net Energy Metering Fuel Cell (NEMFC) program provides incentives to residential and business customers who generate energy with nonrenewable fuel cell technology which meets annual greenhouse gas emissions standards. Customers receive electric bill credits for feeding surplus energy to the grid. This program is available to customers in the service territories of PG&E, SCE, and SDG&E and expires on December 31, 2021.⁷³

The NEMFC program has the potential to help reduce demand for local emission-intensive generation and thereby reduce pollution from the [Residential](#), [Oil & Gas](#), [Industrial](#), [Waste](#), and [Port](#) sectors.

6.3 Zero-Emission Vehicle Deployment

The following programs revolve around the expansion of electric vehicle (EV) charging infrastructure and the promotion of zero-emission vehicle (ZEV) deployment. These programs have applications for emissions generated in the [Residential](#), [Oil & Gas](#), [Industrial](#), [Waste](#), [Port](#), [Agriculture](#), and [Road Transportation](#) sectors.

6.3.1 Plug-in Electric Vehicle (PEV) Time-of-Use Rates

Each electric utility offers residential Time-of-Use (TOU) rates which incentivize the use of electricity during off-peak hours, or during the morning, early afternoon, and overnight. SCE also offers commercial TOU rates.⁷⁴

These programs can incentivize the deployment of ZEVs by making charging and the cost of owning and operating ZEVs cheaper. Therefore, these programs can help reduce local emissions

⁷³ California Public Utilities Commission. "Net Energy Metering (NEM)." 2019. Web.

<https://www.cpuc.ca.gov/general.aspx?id=3800>

California Legislative Information. "Section 2827.10." 2019. Web.

https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=2827.10.&lawCode=PUC

⁷⁴ Pacific Gas and Electric Company. "Take control with Time-of-Use Rate Plans." 2019. Web.

https://www.pge.com/en_US/residential/rate-plans/rate-plan-options/time-of-use-base-plan/time-of-use-plan.page

San Diego Gas and Electric Company. "Electric Vehicles." 2019. Web. <https://www.sdge.com/residential/electric-vehicles>

Southern California Edison. "Rates and Savings." 2019. Web. <https://www.sce.com/residential/electric-vehicles/rates-savings>

by reducing **Residential** (and in the case of SCE, **Industrial, Port, and Agriculture**) demand for local **Oil & Gas** facilities and promoting the deployment of ZEVs for **Road Transportation**.

6.3.2 Low-Carbon Fuel Standard PEV Rebates

Per the State's Low-Carbon Fuel Standard (LCFS), each electric utility offers rebates of up to \$1000 to residential customers who own or lease a ZEV. While PG&E also offers rebates for customers with natural gas-powered vehicles, SoCalGas and SDG&E are developing their programs for such rebates.⁷⁵ The LCFS program was extended by CARB until 2030.⁷⁶

In 2018, CARB changed the LCFS program so that all of the large IOUs contribute the majority of their LCFS credit revenue to one statewide point-of-purchase rebate program, and the Publicly-Owned Utilities (POUs) also contribute a portion of their revenue to the statewide program. The point-of-purchase Clean Fuels Reward rebate is expected to be \$1,000 to \$1,500 per vehicle, and available up front to customers buying new vehicles. This statewide program is expected to launch in 2020.⁷⁷

These programs have the potential to promote the adoption of ZEVs and thereby reduce emissions generated from **Road Transportation** and lessen demand for local **Oil & Gas** facilities.

6.3.3 SDG&E Champions for Clean Air

SDG&E offers a \$1,000 rebate for school district employees and first responders within their territory, funded by shareholders.⁷⁸ While this program is unique to SDG&E, it has the potential to promote the deployment of ZEVs and reduce demand for local **Oil & Gas** generation while cutting emissions from **Road Transportation**.

6.3.4 SB 350 Transportation Electrification Projects

Pursuant to SB 350, the CPUC has approved a collective budget of \$970.8 million for PG&E, SCE, and SDG&E transportation electrification programs.⁷⁹ In May 2018, the agency approved approximately \$42 million for the following 15 priority review projects:

⁷⁵ California Public Utilities Commission. "Zero-Emission Vehicles." 2019. Web. <https://www.cpuc.ca.gov/zev/>

⁷⁶ California Air Resources Board. "CARB amends Low Carbon Fuel Standard for wider impact." 27 September 2018. Web. <https://ww2.arb.ca.gov/news/carb-amends-low-carbon-fuel-standard-wider-impact>

⁷⁷ The regulatory changes creating the statewide point-of-purchase EV rebates funded with utility LCFS credit revenue were adopted by the CARB Office of Administrative Law on January 4, 2019. <https://www.arb.ca.gov/regact/2018/lcfs18/frolcfs.pdf>

⁷⁸ San Diego Gas and Electric Company. "Champions for Clean Air Electric Vehicle Rebate." 2019. Web. <https://www.sdge.com/residential/electric-vehicles/champions-clean-air-ev-rebate>

⁷⁹ California Public Utilities Commission. "Transportation Electrification Activities Pursuant to Senate Bill 350." 2019. Web. <https://www.cpuc.ca.gov/sb350te/>

California Public Utilities Commission. "Summary of Approved SB 350 Transportation Electrification Priority Review Projects for SDG&E, SCE, and PG&E." 11 January 2018. Web. <https://www.cpuc.ca.gov/sb350te/>

6.3.4.1 SDG&E

- Air Ground EV Support Equipment (EVSE) at the San Diego Airport (\$2.8 million)
- 88 charging stations at park-and-ride locations in or close to DACs (\$4 million)
- 30 EVSEs at the San Diego Unified Port (\$2.4 million)
- 90 EVSEs for local fleet delivery services (\$3.7 million)
- Chargers for local shuttle services (\$3.2 million)
- EV training for car dealership staff (\$1.7 million)

6.3.4.2 SCE

- Residential EV Make-Ready Rebate for electrician services (\$4 million)
- 50 Direct-Current Fast Chargers (DCFCs) in urban areas (\$4 million)
- Electric Transit Bus Make-Ready Infrastructure (\$4 million)
- Make-Ready Infrastructure for 9 Port of Long Beach Gantry Cranes (\$4 million)
- 24 EVSE units for electric yard tractors at the Port of Long Beach (\$0.5 million)

6.3.4.3 PG&E

- Medium or Heavy-Duty Fleet Customer Demonstration (\$3.4 million)
- Make-Ready Infrastructure for 2-5 EV School Buses (\$2.2 million)
- Idle Reduction Technologies for Truck Stop Electrification and Transport Refrigeration Units (\$1.7 million)
- Home EV Charger Online Information Resources (\$0.5 million)

6.3.4.4 Standard Review SB 350 Programs

In May 2018, the CPUC authorized \$601 million for medium and heavy-duty charging infrastructure for commercial customers of PG&E and SCE and \$137 million for a home charging station rebate program for SDG&E. SDG&E has since declined to implement its home charging station rebate program. The May 2018 decision directed PG&E and SCE to ensure at least 25 and 40 percent, respectively, of their infrastructure budgets to support medium- and heavy-duty electric vehicle deployment in DACs.⁸⁰

In August 2019, the Commission approved SDG&E's application for \$107.4 million for vehicle electrification and charging infrastructure for medium- and heavy-duty fleets including public transit, school buses, forklifts, and delivery trucks. The CPUC decision also approved a Vehicle-to-Grid (V2G) pilot for electric school buses.⁸¹ SDG&E agreed to spend at least 30 percent of its infrastructure budget to support medium- and heavy-duty vehicle deployment in DACs.

California Public Utilities Commission. "Approved SB 350 Projects, D.18-01-024, D.18-05-040." 2019. Web. <https://www.cpuc.ca.gov/sb350te/>

⁸⁰ California Public Utilities Commission. "Summary of Decision on Transportation Electrification Program Proposals from the Investor-Owned Utilities." 31 May 2018. Web. <https://www.cpuc.ca.gov/sb350te/>

⁸¹ California Public Utilities Commission. "Proposed Decision of ALJ Hymes and Goldberg: Application of San Diego Gas & Electric Company (U902E) For Approval of Senate Bill 350 Transportation Electrification Proposals Regarding Medium and Heavy-Duty Electric Vehicles and a Vehicle-To-Grid Pilot." 16 July 2019. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M309/K725/309725359.PDF>
D.19-08-026 approved a multi-party settlement that amended SDG&E's A.18-01-012.

PG&E has proposed to spend \$4.15 million to offer EV charging station rebates to low- and moderate-income customers in single-family homes.⁸² It proposed to focus its program on locations in Oakland, San José, and Fresno, including AB 617 communities in those regions such as South Central Fresno and West Oakland.

Additionally, some of the projects and programs authorized pursuant to SB 350 are located in AB 617 communities such as the charging infrastructure at the San Diego Unified Port and those at the Port of Long Beach. While the scope of these programs varies across each utility, they represent examples of significant EV deployment that the CPUC could replicate across the **Residential, Oil & Gas, Industry, Waste, Port, Road Transportation, and Agriculture** sectors.

6.3.5 EV Infrastructure Pilot Programs: Power Your Drive, Charge Ready, EV Charge Network

Each electric utility is in the process of implementing pilot programs to expand EV charging infrastructure throughout their service territories at eligible multifamily, employer, and public properties. Approved in January 2016 (SCE and SDG&E) and December 2016 (PG&E), these programs include PG&E's EV Charge Network (7,500 charging stations), SCE's Charge Ready (1,500 stations plus an additional 1,000 approved in December 2018), and SDG&E's Power Your Drive (3,500 stations). Together, these programs aim to install 13,500 charging stations including at least 10 percent in DACs in SDG&E and SCE's territories and at least 15 percent in DACs in PG&E's territory.⁸³

Although these programs are not accepting applications at the time of this writing, this model has the potential to promote ZEV adoption and thereby reduce **Road Transportation** emissions and demand for local **Oil & Gas** facilities.

6.3.6 Infrastructure Pilot Programs at Schools and State Parks and Beaches

Pursuant to AB 1082 and AB 1083, PG&E, SCE, and SDG&E have submitted applications to the CPUC for \$49.79 million for pilot programs to install EV charging infrastructure at schools and state parks and beaches. The budgets for these programs are as follows:

6.3.6.1 AB 1082

- PG&E: \$5.76 million
- SCE: \$9.89 million
- SDG&E: \$9.9 million

⁸² PG&E filed A.18-07-021 in July 2018, and a proposed decision was issued by the assigned Administrative Law Judge in August 2019. It is expected to be voted on during the September 12, 2019 CPUC voting meeting.

⁸³ California Public Utilities Commission. "Power Your Drive, Charge Ready, EV Charge Network." 2019. Web. <https://www.cpuc.ca.gov/zev/>

For their AB 1082 program proposal, PG&E plans to install up to 132 charging stations in its territory at 22 school campuses in Alameda, Fresno, and San Joaquin counties. SCE intends to install up to 250 stations at 40 schools throughout its territory while SDG&E plans to install 196 chargers at 30 schools. For PG&E, at least 35 percent of participating schools will be located in DACs, while SDG&E will require at least 25 percent to be located in DACs. SCE has proposed outreach to DACs and while the IOU has not set a minimum percentage for site location, schools located in or near DACs will be prioritized.⁸⁴

6.3.6.2 AB 1083

- PG&E: \$5.54 million
- SCE: \$9.88 million
- SDG&E: \$9.88 million

For their AB 1083 program proposal, PG&E will install up to 43 charging stations across 15 state parks and beaches. SCE plans to install 145 charging stations at 27 state parks and beaches. SDG&E's proposal seeks to install a total of 140 chargers across 12 state parks and beaches and 10 city and county parks and beaches. PG&E and SCE's applications do not include a minimum DAC target, while SDG&E has a cumulative DAC goal of 50 percent, with at least 25 percent of state parks and beach chargers sited in or near a DAC, and 100 percent of the city and county parks being located within a DAC.

These pilots can help incentivize clean transportation alternatives to reduce emissions from **Road Transportation** while also reducing demand for local **Oil & Gas** facilities.

6.4 Energy Efficiency

The following programs focus on fostering energy efficient buildings in the **Residential, Oil & Gas, Industry, Waste, and Port** sectors.

6.4.1 Energy Savings Assistance (ESA)

The Energy Savings Assistance (ESA) program provides fully subsidized weatherization services to customers who are CARE-eligible. These services are administered by the customer's utility and include energy efficiency upgrades spanning building and attic insulation, refrigerators, furnaces, showerheads, and water heaters.⁸⁵

⁸⁴ Truax, Michael and Carrie Sisto. "PG&E, SCE, SDG&E, and Liberty Utilities' Applications for Programs Under AB 1082 & 1083." *California Public Utilities Commission*. 6 December 2018. Web. https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/RDDEmergingProgs/AlternativeFuelVehicles/zef/12062018_wsPresentation.pdf

⁸⁵ California Public Utilities Commission. "Energy Savings Assistance Program." 2019. Web. <https://www.cpuc.ca.gov/esap/>

This program has the potential to reduce emissions in the **Residential** sector by keeping homes warmer and minimizing the need for emission-intensive home heating practices such as wood burning. Additionally, the ESA program has the potential to lower overall household energy consumption and reduce demand for local **Oil & Gas** generation, such as from diesel generators and fossil fuel-fired power plants.

6.4.2 Utility Energy Efficiency Programs

Each of the large IOUs as well as the Imperial Irrigation District and the Sacramento Municipal Utility District (SMUD) has a suite of energy efficiency programs with the potential to help reduce emissions in AB 617 communities.⁸⁶ The entirety of utility energy efficiency programs for 2018 are listed in the **Appendices 11.1**. Collectively, these programs have the potential to help reduce emissions from the **Residential, Oil & Gas, Industry, Waste, Port, and Agriculture** sectors.

6.5 Demand Response

6.4.1 Disadvantaged Communities Demand Response (DAC-DR) Pilot

This pilot program aims to expand the economic and environmental benefits of DR in disadvantaged communities and will be available in the AB 617 communities of South Central Fresno (PG&E) and National City in the Portside Environmental Justice Neighborhoods (SDG&E) as well as non-AB 617 DACs in SCE's service territory. From 2019 to 2022, PG&E and SCE's programs will have budgets of \$1 million each while SDG&E will have a budget of \$500,000. The utilities' plans include reducing consumption and shifting the use of electricity to different times of day as well as the use of energy storage to support such changes.⁸⁷

⁸⁶ Pacific Gas and Electric Company. "2018 Energy Efficiency Annual Report." 1 May 2019. Web. <http://eestats.cpuc.ca.gov/EEGA2010Files/PGE/AnnualReport/PGE.AnnualNarrative.2018.1.pdf>
Southern California Edison. "Amended 2019 Energy Efficiency Annual Report." 7 June 2019. Web. <http://eestats.cpuc.ca.gov/EEGA2010Files/SCE/AnnualReport/SCE.AnnualNarrative.2018.2.pdf>
San Diego Gas and Electric Company. "Energy Efficiency Programs Annual Report: 2018 Results." 1 May 2019. Web. <http://eestats.cpuc.ca.gov/EEGA2010Files/SDGE/AnnualReport/SDGE.AnnualNarrative.2018.1.pdf>
Southern California Gas Company. "Energy Efficiency Programs Annual Report: 2018 Results." 1 May 2019. Web. <http://eestats.cpuc.ca.gov/Views/Documents.aspx?ReportType=PIP>
Imperial Irrigation District. "Save Energy and Money. 2019. Web. <https://www.iid.com/energy/save-energy-and-money>
Sacramento Municipal Utility District. "Rebates and Savings." 2019. Web. <https://www.smud.org/en/Rebates-and-Savings-Tips/Rebates-for-My-Home>
Sacramento Municipal Utility District. "Business Solutions and Rebates. 2019. Web. <https://www.smud.org/en/Business-Solutions-and-Rebates>
⁸⁷ Pacific Gas & Electric Company. "Advice 5477-E-A Supplemental: PG&E's Disadvantaged Communities Pilot Plan." 7 May 2019. Web. <https://cpucadviceletters.org/documents/list/recent/>
San Diego Gas and Electric Company. "Advice Letter 3342-E-A: SDG&E's Supplemental Demand Response Pilot Plan for Disadvantaged Communities in Compliance with Decision 18-11-029." August 2019. Web. <https://cpucadviceletters.org/documents/list/recent/>
Southern California Edison. "Advice 3951-E Southern California Edison Company's Proposal for a Demand

This pilot can help reduce demand for fossil fuel generation. As a result, DAC-DR can reduce emissions from the **Residential** and **Oil & Gas** sectors.

Figure 25. Applicability of Current CPUC Programs to AB 617 Communities

Clean Energy Deployment

Solar on Multifamily Affordable Housing (SOMAH)

- | | |
|--|---|
| <ul style="list-style-type: none"> • Richmond • West Oakland • East Los Angeles, Boyle Heights, West Commerce • San Bernardino and Muscoy • Wilmington, West Long Beach, Carson | <ul style="list-style-type: none"> • Shafter • South Central Fresno • South Sacramento-Florin • Portside EJ Neighborhoods |
|--|---|

DAC-Single Family Solar Homes (DAC-SASH)

- | | |
|---|--|
| <ul style="list-style-type: none"> • Richmond • West Oakland • East Los Angeles, West Commerce • San Bernardino and Muscoy • West Long Beach, Carson | <ul style="list-style-type: none"> • Shafter • South Central Fresno • Portside EJ Neighborhoods |
|---|--|

DAC-Green Tariff (DAC-GT)

- | | |
|---|--|
| <ul style="list-style-type: none"> • Richmond • West Oakland • East Los Angeles, West Commerce • San Bernardino and Muscoy • West Long Beach, Carson | <ul style="list-style-type: none"> • Shafter • South Central Fresno • Portside EJ Neighborhoods |
|---|--|

Green Tariff Shared Renewables (GTSR) in DACs

- | | |
|--|---|
| <ul style="list-style-type: none"> • Richmond • West Oakland • East Los Angeles, Boyle Heights, West Commerce • San Bernardino and Muscoy • Wilmington, West Long Beach, Carson | <ul style="list-style-type: none"> • Shafter • South Central Fresno • South Sacramento-Florin • Portside EJ Neighborhoods |
|--|---|

Community Solar Green Tariff (CSGT)

- | | |
|---|--|
| <ul style="list-style-type: none"> • Richmond • West Oakland • East Los Angeles, West Commerce • San Bernardino and Muscoy • West Long Beach, Carson | <ul style="list-style-type: none"> • Shafter • South Central Fresno • Portside EJ Neighborhoods |
|---|--|

Response Pilot in Disadvantaged Communities, in Compliance With Commission Decision 18-11-029." 8 February 2019. Web. <https://cpucadviceletters.org/documents/list/recent/>

California Solar Initiative Thermal (CSI-T)

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Calexico, El Centro, Heber
- South Sacramento-Florin
- Portside EJ Neighborhoods

Self-Generation Incentive Program (SGIP)

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Calexico, El Centro, Heber
- South Sacramento-Florin
- Portside EJ Neighborhoods

Electric Program Investment Charge (EPIC)

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- South Sacramento-Florin
- Portside EJ Neighborhoods

Low-Emission Nonrenewable Alternatives

Net Energy Metering Fuel Cell (NEMFC)

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- South Sacramento-Florin
- Portside EJ Neighborhoods

Zero-Emission Vehicle Deployment

Plug-in Electric Vehicle (PEV) Time-of-Use Rates

- Richmond
- West Oakland
- East Los Angeles, West Commerce
- San Bernardino and Muscoy
- West Long Beach, Carson
- Shafter
- South Central Fresno
- Portside EJ Neighborhoods

Low-Carbon Fuel Standard PEV Rebates

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Calexico, El Centro, Heber (Natural gas rebate)
- South Sacramento-Florin (Natural gas rebate)
- Portside EJ Neighborhoods

SDG&E Champions for Clean Air

- Portside EJ Neighborhoods

SB 350 Transportation Electrification Projects

- Richmond
- West Oakland
- East Los Angeles, West Commerce
- San Bernardino and Muscoy
- West Long Beach, Carson
- Shafter
- South Central Fresno
- Portside EJ Neighborhoods

EV Infrastructure Pilot Programs

- Richmond
- West Oakland
- East Los Angeles, West Commerce
- San Bernardino and Muscoy
- West Long Beach, Carson
- Shafter
- South Central Fresno
- Portside EJ Neighborhoods

Infrastructure Pilot Programs at Schools and State Parks and Beaches

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- West Long Beach, Carson
- Shafter
- South Central Fresno
- Portside EJ Neighborhoods

Energy Efficiency

Energy Savings Assistance (ESA)

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Callexico, El Centro, Heber
- South Sacramento-Florin
- Portside EJ Neighborhoods

Utility Energy Efficiency Programs

- Richmond
- West Oakland
- East Los Angeles, Boyle Heights, West Commerce
- San Bernardino and Muscoy
- Wilmington, West Long Beach, Carson
- Shafter
- South Central Fresno
- Callexico, El Centro, Heber
- South Sacramento-Florin
- Portside EJ Neighborhoods

Demand Response

Disadvantaged Communities Demand Response (DAC-DR) Pilot

- South Central Fresno
- Portside EJ Neighborhoods

7. PENDING CPUC PROGRAMS

This section discusses ongoing projects and pilot programs that are either currently not open to applications or unavailable in AB 617 communities. These programs have the potential to reduce emissions and promote clean energy and may be expanded to serve current AB 617 communities in the future or may be available for new AB 617 communities identified in future cycles of the Community Air Protection Program. The programs covered in this section include those focused on **Clean Energy Deployment** and **Agriculture**.

7.1 Clean Energy Deployment

The following programs promote the deployment of affordable and renewable energy in low-income and disadvantaged communities. They have applications for reducing pollution from the **Residential** and **Oil & Gas** sectors.

7.1.1 San Joaquin Valley (SJV) Pilot Program: Phase III

Per AB 2672, the CPUC approved pilot projects in 11 San Joaquin Valley communities without natural gas to expand the deployment of affordable clean energy in SJV DACs. These programs include community solar discounts, gas line extensions, appliance replacements, and solar water heating systems.⁸⁸

While these pilots are currently being implemented outside of AB 617 communities, it is possible they will expand to new communities in the future. These programs are examples of programs which have applications for the **Residential** and **Oil & Gas** sectors. In particular, they have the potential to reduce demand for local fossil fuel generation and provide alternatives to propane and wood burning for home and water heating.

7.1.2 SB 1477 Building Decarbonization Pilots

Signed into law in September 2018, SB 1477 requires the CPUC to develop and supervise two programs to decarbonize buildings with a collective annual budget of \$50 million from 2019-2020 to 2022-2023.⁸⁹ The programs would be funded from GHG allowance proceeds issued to gas corporations by CARB as part of its Cap-and-Trade Program through 2023. In February 2019, the CPUC adopted an Order Instituting Rulemaking (OIR) to develop a framework for the implementation of SB 1477 and in July 2019, the agency issued a draft joint staff proposal with the CEC.

⁸⁸ California Public Utilities Commission. "CPUC Approves Pilot Projects to Improve Affordable Access to Energy in San Joaquin Valley." 13 December 2018. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M250/K547/250547876.PDF>

⁸⁹ California Legislative Information. "SB-1477 Low-emissions buildings and sources of heat energy." 14 September 2018. Web. https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1477

7.1.2.1 Building Initiative for Low-Emissions Development (BUILD)

The Building Initiative for Low-Emissions Development (BUILD) program will provide incentives for new all-electric residential construction projects in order to reduce GHG emissions. Per the staff proposal, this program:

- Will be administered by the CEC with CPUC oversight. The program will have a budget of \$20 million annually for four years with a minimum of 30 percent of funding reserved for low-income or DAC housing.⁹⁰
- CEC will hire expertise of low-income property developers and technical assistance for deploying low-GHG heating systems in these properties to encourage participation.

This program has the potential to help reduce emissions from the **Residential** and **Oil & Gas** sectors by increasing the deployment of low-emission all-electric technologies, and thereby reducing demand for local fossil-fired generation. This program can also avoid pollution from emission-intensive home heating fuels such as propane and wood.

7.1.2.2 Technology and Equipment for Clean Heating (TECH)

The Technology and Equipment for Clean Heating (TECH) initiative will provide incentives and market development, outreach, and education to promote low-emission space and water heating technologies in new and existing residential buildings. This initiative will be administered by a third party with CPUC oversight. The CPUC staff proposal recommends that:

- The TECH program will have a budget of \$30 million annually for four years.
- The third-party implementer will provide incentives to supply-chain market actors, develop the workforce through education and outreach, and administer a portfolio of high-impact pilot projects.⁹¹

This initiative can help minimize emissions from the **Residential** and **Oil & Gas** sectors by increasing the deployment of low-emission space and water heating technologies in homes and by cutting demand for local fossil fuel generation.

7.2 Agriculture Programs

The following program has the potential to help reduce emissions from the **Agriculture** sector.

⁹⁰ Brook, Martha, Tiffany Mateo, Robert Ridgeley, Christie Torok, Genesis Tang, Chari Worster, and Rory Cox. "California Public Utilities Commission and California Energy Commission Staff Proposal for Building Decarbonization Pilots – Draft." *California Public Utilities Commission and California Energy Commission*. 16 July 2019. Web. <https://www.cpuc.ca.gov/BuildingDecarb/>

⁹¹ Brook, Martha, Tiffany Mateo, Robert Ridgeley, Christie Torok, Genesis Tang, Chari Worster, and Rory Cox. "California Public Utilities Commission and California Energy Commission Staff Proposal for Building Decarbonization Pilots – Draft." *California Public Utilities Commission and California Energy Commission*. 16 July 2019. Web. <https://www.cpuc.ca.gov/BuildingDecarb/>

7.2.1 Dairy Biomethane Pilot Program

Pursuant to SB 1383, in December 2018 the CPUC, CARB, and the California Department of Food and Agriculture (CDFA) provided \$150 million over 20 years to fund six biomethane interconnection pilot projects at 45 dairies in the San Joaquin and Sacramento Valleys.⁹² These projects were selected with the intention of reducing emissions in the **Agriculture** sector by repurposing dairy manure to produce biomethane fuel. While this program solely focuses on converting dairy manure to produce biomethane, a comparable program could produce biomethane from other agricultural waste such as unsold crops which are largely composted.

8. FORMER CPUC PROGRAMS

This section discusses former pilot programs that serve as examples for future CPUC programs to build upon in order to improve ESJ outcomes in AB 617 communities. The programs covered in this section include those focused on **Zero-Emission Vehicle Deployment** and **Agriculture**.

8.1 Zero-Emission Vehicle Deployment

The following programs focus on increasing the number of ZEVs and ZEV charging infrastructure. These programs can help reduce pollution from the **Residential, Oil & Gas, Industry, Waste, Port, Road Transportation, Agriculture, and Military** sectors.

8.1.1 Plug-In Electric Vehicle (PEV) Submetering Pilot

From January 2017 to April 2018, PG&E, SCE, and SDG&E conducted this pilot for residential and commercial customers to use submeters specifically for EV charging. This pilot was distinguished from standard TOU rates in that customers did not need to adopt “whole-house” TOU service as in the case of the PEV TOU rates discussed in the preceding section.⁹³

This pilot is an example of a program with the potential to make the cost of owning and driving a ZEV more affordable. Similar programs could reduce demand for **Oil & Gas** generation from customers in the **Residential, Industrial, Port, and Agriculture** sectors while reducing **Road Transportation** emissions and avoiding the constraints of “whole-house” TOU rates. Although the pilot has concluded, the final evaluation suggests the CPUC should consider sub-metering more thoroughly as an option for future EV rate options. The issue is being considered in the current DRIVE OIR (R.18-12-006).

⁹² California Public Utilities Commission. “CPUC, CARB, and Department of Food and Agriculture Select Dairy Biomethane Projects to Demonstrate Connection to Gas Pipelines.” 3 December 2018. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M246/K748/246748640.PDF>

California Public Utilities Commission. “Decision Establishing Implementation and Selection Framework to Implement the Dairy Biomethane Pilots Required by Senate Bill 1383.” 18 December 2017. Web.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352373.PDF>

⁹³ California Public Utilities Commission. “Plug-In Electric Vehicle (PEV) Submetering.” 2019. Web.

<https://www.cpuc.ca.gov/general.aspx?id=5938>

8.1.2 PG&E and SCE EV Demand Response Pilots

Pursuant to D.12-04-045, PG&E and SCE implemented EV charging demand response pilots in 2015 and 2016. PG&E's BMW iChargeForward Project and SCE's Smart Charging Pilot targeted residential customers while SCE's Workplace Charging Pilot targeted commercial customers. By delaying charging during peak periods, these programs provided the grid with additional capacity and reduced demand for conventional peaker generation.⁹⁴

BMW received a grant from the California Energy Commission to conduct a second phase of iChargeForward with support from PG&E which is still ongoing.⁹⁵

These pilots are an example of using EVs to reduce demand for local **Oil & Gas** facilities. Comparable programs could be applied to reduce demand for local fossil fuel power and emissions from the **Residential**, **Industrial**, **Port**, **Waste**, and **Agriculture** sectors.

8.1.3 Department of Defense Vehicle-to-Grid Pilot

From 2015 to September 2017, SCE partnered with the Los Angeles Air Force Base to implement a Vehicle-to-Grid (V2G) Pilot program through which the base used 34 electric vehicles as a storage system to supply power to the grid during peak hours.⁹⁶

This pilot is an example of a program which has applications for reducing **Military** emissions from sources such as NAF El Centro. At the same time, such a program has the potential to reduce emissions from **Road Transportation** and reduce demand for local **Oil & Gas** generation by substituting clean energy storage systems for fossil fuel-fired peaker plants.

8.2 Agriculture Programs

The following former program would have the potential to help reduce emissions from the **Agriculture** sector.

⁹⁴ Kaluza, Sebastian, David Almeida, and Paige Mullen. "BMW i ChargeForward: PG&E's Electric Vehicle Smart Charging Pilot." *BMW*. December 2016. Web. <http://www.pgecurrents.com/wp-content/uploads/2017/06/PGE-BMW-iChargeForward-Final-Report.pdf>

Southern California Edison. "Southern California Edison Plug-In Electric Vehicle (PEV) Workplace Charging Pilot." 22 July 2016. Web.

Southern California Edison. "Southern California Edison Plug-In Electric Vehicle (PEV) Smart Charging Pilot." 25 May 2016. Web.

⁹⁵ Vanrenen, Ari. "PG&E, BMW Pilot Successfully Demonstrates Electric Vehicles as an Effective Grid Resource." *Pacific Gas and Electric Company*. Web. 8 June 2017. <http://www.pgecurrents.com/2017/06/08/pge-bmw-pilot-successfully-demonstrates-electric-vehicles-as-an-effective-grid-resource/>

BMW. "iChargeForward Perfect Timing." 2019. Web. <https://www.bmwgroup.com/en/responsibility/sustainable-stories/popup-folder/charge-forward.html>

⁹⁶ Southern California Edison. "Southern California Edison Company's Department of Defense Vehicle-to-Grid Final Report." 2017. Web. <https://www.cpuc.ca.gov/zev/>

8.2.1 Agricultural Internal Combustion Engine Conversion Incentive (AG-ICE)

This former PG&E program provided a 20 percent discounted electricity rate to eligible agricultural customers for retiring stationary fossil-fired irrigation equipment. Eligible equipment included engines specifically used for irrigation water pumping and fueled by diesel, gasoline, butane, or propane. This program ceased accepting applications in August 2007.⁹⁷

While this program is no longer available for enrollment, it is a model for an incentive program that could be resurrected and used to reduce off-road emissions from the **Agriculture** sector and could be of interest to communities located near agricultural operations.

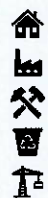
⁹⁷ Pacific Gas and Electric Company. "Agricultural Internal Combustion (IC) Engine Conversion Incentive Program: Question and Answers." 2019. Web.
https://www.pge.com/includes/docs/pdfs/about/rates/rateinfo/rateoptions/agricultural/ice/ag-ice_ga_final_7-27-05.pdf

Figure 26. Current and Noncurrent CPUC Programs by Emission Source Type

Programs	Pollution Source Types Targeted	
CURRENT PROGRAMS		
Clean Energy Deployment		
Solar on Multifamily Affordable Housing (SOMAH)	 	Residential Oil & Gas
DAC-Single Family Solar Homes (DAC-SASH)	 	Residential Oil & Gas
DAC-Green Tariff (DAC-GT)	 	Residential Oil & Gas
Green Tariff Shared Renewables (GTSR) in DACs	 	Residential Oil & Gas
Community Solar Green Tariff (CSGT)	 	Residential Oil & Gas
California Solar Initiative Thermal (CSI-T)	  	Residential Oil & Gas Industry
Self-Generation Incentive Program (SGIP)	    	Residential Oil & Gas Industry Waste Ports
Electric Program Investment Charge (EPIC)	      	Residential Oil & Gas Industry Waste Ports Road Transportation Agriculture

Low-Emission Nonrenewable Alternatives

Net Energy Metering Fuel Cell (NEMFC)



Residential
Oil & Gas
Industry
Waste
Ports

Zero-Emission Vehicle Deployment

Plug-in Electric Vehicle (PEV) Time-of-Use Rates



Residential
Oil & Gas
Road Transportation
Industry (SCE)
Ports (SCE)
Agriculture (SCE)

Low-Carbon Fuel Standard PEV Rebates



Oil & Gas
Road Transportation

SDG&E Champions for Clean Air



Oil & Gas (SDG&E)
Road Transportation (SDG&E)

SB 350 Transportation Electrification Projects



Residential
Oil & Gas
Industry
Waste
Ports
Road Transportation
Agriculture

EV Infrastructure Pilot Programs: Power Your Drive, Charge Ready, EV Charge Network



Oil & Gas
Road Transportation

Infrastructure Pilot Programs at Schools and State Parks and Beaches



Oil & Gas (PG&E, SCE, SDG&E)
Road Transportation (PG&E, SCE, SDG&E)

Energy Efficiency

Energy Savings Assistance (ESA)



Residential
Oil & Gas

Utility Energy Efficiency Programs

	Residential
	Oil & Gas
	Industry
	Waste
	Ports
	Agriculture

Demand Response

Disadvantaged Communities Demand Response (DAC-DR)

	Residential
	Oil & Gas

PENDING PROGRAMS

Clean Energy Deployment

San Joaquin Valley Pilot Program: Phase III

	Residential
	Oil & Gas

SB 1477 Building Decarbonization Pilots

	Residential
	Oil & Gas

Agriculture

Dairy Biomethane Pilot Program

	Agriculture
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FORMER PROGRAMS

Zero-Emission Vehicle Deployment

Plug-In Electric Vehicle (PEV) Submetering Pilot

	Residential
	Oil & Gas
	Industry
	Waste
	Ports
	Road Transportation
	Agriculture

PG&E and SCE EV Demand Response Pilots

	Residential
	Oil & Gas
	Industry
	Waste
	Ports
	Road Transportation
	Agriculture

Department of Defense Vehicle-to-Grid Pilot



Oil & Gas



Road Transportation



Military

Agriculture

Agricultural Internal Combustion Engine Conversion
Incentive (AG-ICE)



Agriculture

**Note: Pending and Former programs are treated as models applicable to any community with the relevant pollution source types. Identification of applicable pollution sectors in this table is not limited by the geographical scope of Pending and Former programs.*

9. RECOMMENDATIONS

9.1 Regional Air Districts

This report provides a guide to CPUC program options to reduce air pollution in AB 617 communities. Accordingly, regional air district officials and steering committee members should consider using this report as a resource to inform their decisions pertaining to local emissions reductions and should consider leveraging the specific programs identified for their communities. As local conditions may evolve beyond the scope of pollution sources identified in the 2018 CARB Staff Report and each community's emissions reduction or air monitoring plans, air district decisionmakers may ultimately find applications for any of the programs mentioned in this document. Additionally, as the programs discussed in this document are only a static representation of those available at the time of this writing, regional air district officials and steering committee members should consider maintaining active communication with energy service providers to ensure they are leveraging all of the programs available to help serve their communities.

Each of the current programs identified in this report can be used as a tool for reducing air pollution or expanding the benefits of clean energy to AB 617 communities. However, future analysis at the community level is needed to evaluate the local merits of each program. At a minimum, programs should be evaluated for their effectiveness in reducing the key pollutants in each community and the cost burden imposed on residents and local emitters. Many CPUC programs may be of interest to local communities regardless of their inclusion in the Community Air Protection Program and should be considered outside of the program when applicable.

Finally, whereas each of the pollution sectors identified in this document have been matched to at least one current, pending, or former CPUC program, **Rail Transportation** emissions are not directly targeted by CPUC programs. As a supermajority of the inaugural AB 617 communities are affected by rail operations, air district decisionmakers should consider the use of **Zero-Emission Vehicle Deployment** programs to minimize rail operations and thereby reduce the incidence of rail-borne pollution. At the same time, regional air districts should consider undertaking rigorous efforts to identify state or federal programs that can help mitigate rail emissions (e.g. rail electrification).

9.2 California Air Resources Board

As the administrator of the Community Air Protection Program, CARB has oversight over the air monitoring and emissions reduction plans developed by each regional air district. Whereas the 2018 Community Air Protection Program Blueprint requests that air districts identify air pollution concerns in their air monitoring plan proposals, the document also requests that air districts provide information in their emissions reduction plans about the air pollution sources

impacting their communities.⁹⁸ Although the decentralized development of these plans benefits air districts by providing discretion in their approaches, and while air districts have achieved a significant feat in developing their respective plans, there is variation between each of the air districts in the depth of information provided about key sources of pollution.

Therefore, in order to maximize consistency of information regarding key pollution sources in each community, CARB should consider updating its guidance to air districts for the development of emissions reduction plans by requiring the identification of the following:

- Specific sources of emissions;
- Locations of sources;
- Types of pollutants; and
- Pollution concentrations within each community.

This information would help facilitate the identification of applicable programs to reduce emissions in future AB 617 communities.

9.3 California Public Utilities Commission

As this report also reviews former and pending CPUC programs with potential applicability to AB 617 communities, it should be noted that this document is a static overview of program options available at the time of this writing. As new AB 617 communities will be selected each year, there will continue to be a role for CPUC programs to help reduce emissions in these communities. Therefore, the Commission should consider reinstating former programs where applicable and expanding current and future programs to target the needs of AB 617 communities.

As part of this action, the Commission should consider whether there is an opportunity to expand its transportation electrification programs to help reduce emissions generated from rail operations. As noted in earlier sections, rail operations contribute to emissions in a supermajority of AB 617 communities but are currently not directly addressed by any CPUC programs.

The Commission should also consider options for increasing subsidies of home space and water heating technologies such as heat-pumps. While many of the programs identified in this report are viable options for expanding distributed energy resources and renewable energy to AB 617 communities, they do not necessarily eliminate the use of emission-intensive fuels for home heating and cooking. Whereas the CSI-T program has less than \$76.5 million left for the subsidization of solar water-heating systems, the pending BUILD and TECH programs (as

⁹⁸ California Air Resources Board. "Community Air Protection Blueprint For Selecting Communities, Preparing Community Emissions Reduction Programs, Identifying Statewide Strategies, and Conducting Community Air Monitoring." 19 October 2018. Web. https://ww2.arb.ca.gov/sites/default/files/2018-10/final_community_air_protection_blueprint_october_2018.pdf

proposed) will provide \$20 million annually to target newly constructed residential buildings and \$30 million annually to target new and existing structures statewide, respectively. Similarly, the SGIP program was recently revised to require the four large IOUs (including the Center for Sustainable Energy in the case of SDG&E) to collectively allocate \$4 million for an Equity Heat-Pump Water Heater Budget. The Commission should consider building on these efforts by targeting additional incentives for space and water heat-pumps as well as electric and induction stoves to minimize direct indoor air pollution in AB 617 communities.

Finally, the Commission should consider establishing regular communication with CARB and initiating outreach to regional air districts and the community steering committees. As CARB considers the selection of new communities for the Community Air Protection Program, the CPUC should consider participation in future community steering committee processes. Such action will help increase awareness of CPUC programs and AB 617 community needs, and ensure that agency programs are being considered in communities where they have the potential to reduce emissions. Additionally, as eligibility for some programs is in part based on CARE/FERA eligibility, CPUC participation in local processes can help maximize enrollment of customers in CARE/FERA.

9.4 Investor-Owned Utilities

As discussed throughout this report, many of the programs administered by IOUs offer energy cost savings and emissions reductions for low-income and disadvantaged communities. IOUs should consider efforts to target these programs towards AB 617 communities. Specifically, IOUs should consider maximizing their engagement in the Community Air Protection Program process by proactively communicating with regional air districts and steering committees as well as CARB and the CPUC. These efforts can enable the IOUs to stay apprised of AB 617 community needs within their service territories and help determine how to most effectively address these needs through their programs. As noted above, the Commission should consider proactively facilitating connections between IOU representatives and local steering committees, and encouraging IOU representatives to engage with the local processes.

10. CONCLUSION

This report has developed a typology of emissions source sectors affecting the initial AB 617 communities and has prescribed current CPUC programs with the potential to reduce air pollution and expand clean energy benefits in each community. While the emissions typology diagnosed the key sources most prevalent in each community, agency programs with the potential to reduce emissions from each sector are discussed. Additionally, this report reviews pending and former CPUC programs which serve as models for potential replication or reinstatement by the Commission in order to reduce pollution in AB 617 communities.

While this document is largely a guide to help regional air districts navigate CPUC program options for reducing emissions, this report also offers recommendations to optimize the efforts

of regional and state decisionmakers in mitigating air pollution in AB 617 communities. At the local level, future analysis is needed to evaluate the effectiveness and the cost-burden or benefit of each available program in each community. At the same time, air districts should consider efforts to identify options for reducing emissions generated from rail operations which are not directly addressed by CPUC programs.

As CARB prepares to select communities for the second year of the Program, the agency should consider requiring each air district to provide commensurate data with respect to the key emitters in each community. This will help all decisionmakers consistently target and tailor their programs to better serve the public health needs in these communities.

Finally, with the passage of SB 350 and the agency's adoption of the *ESJ Action Plan*, the CPUC has a renewed obligation to serve DACs, including AB 617 communities. As CARB prepares to select the next cohort of AB 617 communities for development of air monitoring and emissions reduction plans, the CPUC should consider escalating its coordination with CARB and regional air districts while evaluating the reinstatement and expansion of agency programs to better serve the needs of AB 617 communities. The CPUC should recognize CARB's annual selection of communities for emissions reduction programs as a significant opportunity for interagency collaboration towards the Commission's adopted goal of improving ESJ outcomes in communities throughout California.

11. APPENDICES

11.1 2018 Energy Efficiency Programs by Utility

11.1.1 PG&E

- Residential⁹⁹
 - Residential Energy Advisor Subprogram
 - Residential Energy Efficiency Subprogram
 - Advanced Home Upgrade Subprogram
 - Multifamily Home Upgrade Subprogram
 - Residential New Construction Subprogram
 - Residential HVAC Subprogram
 - Primary Lighting Subprogram
- Residential Third-Party Programs
 - Energy Fitness & Moderate Income Direct Install Subprograms (Richard Heath & Associates, Inc.)
 - California Multifamily New Homes Subprogram (TRC)
 - Enhanced Time Delay Relay Subprogram (Proctor Engineering)
 - Direct Install for Manufactured and Mobile Homes Subprogram (Synergy Companies)
 - Residential Pay for Performance (P4P) Subprogram (Franklin Energy, ICF, Home Energy Analytics, and Build it Green)
- Commercial
 - Commercial Calculated Incentives Subprogram
 - Savings by Design (SBD) Subprogram
 - Commercial Deemed Incentives Subprogram
 - Commercial Direct Install Subprograms
 - Commercial HVAC Subprogram
- Commercial Third-Party Programs
 - Energy Smart Grocer Subprogram (CLEAResult)
 - LED Accelerator (LEDA) Subprogram (Energy Solutions)

⁹⁹ Pacific Gas and Electric Company. "2018 Energy Efficiency Annual Report." 1 May 2019. Web.

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- Hospitality Subprogram (Ecology Action)
- Healthcare Energy Efficiency Subprogram (Willdan)
- Energize Schools Subprogram (IDEEA 365) (Strategic Energy Innovations)
- School Energy Efficiency Subprogram (CLEAResult)
- Public
 - Institutional Partnership Programs
 - California Community Colleges (CCC)
 - University of California and California State Universities (UC/CSU)
 - State of California Partnership
 - California Department of Corrections and Rehabilitation
 - Local Government Partnership Programs
 - Association of Monterey Bay Area Governments Energy Watch
 - East Bay Energy Watch
 - Fresno Energy Watch
 - Kern Energy Watch
 - Madera Energy Watch
 - Marin County Energy Watch
 - Mendocino-Lake Energy Watch
 - Napa County Energy Watch
 - North Valley Energy Watch
 - Northern San Joaquin Valley Energy Watch
 - Redwood Coast Energy Watch
 - San Francisco Energy Watch
 - San Luis Obispo County Energy Watch
 - San Mateo County Energy Watch
 - Santa Barbara County Energy Watch
 - Sierra Nevada Energy Watch
 - Silicon Valley Energy Watch
 - Solano Energy Watch
 - Sonoma County Energy Watch
 - Sutter Buttes Energy Watch
 - Valley Innovative Energy Watch
 - Yolo Energy Watch
 - Statewide Energy Efficiency Collaborative
- Industrial
 - Industrial Calculated Incentives Subprogram
 - Deemed Incentives Subprogram
 - Industrial Continuous Energy Improvement Subprogram
 - Industrial Energy Advisor Subprogram
- Industrial Third-Party Programs
 - California Wastewater Process Optimization Subprogram (CalPOP) (QuEST)
 - Energy Efficiency Services for Oil and Gas Production (CLEAResult)
 - Heavy Industry Energy Efficiency Subprogram (Lockheed Martin Corporation)
 - Industrial Refrigeration Performance Plus Subprogram (IRPP) (VaCom Technologies)

- Industrial Retrocommissioning Subprogram (Nexant, Inc.)
- Industrial Compressed Air System Efficiency Subprogram (ICASE) (AALD)
- Refinery Energy Efficiency Subprogram (REEP) (Nexant)
- Small Petrochemical Energy Efficiency Subprogram (SPEEP) (APTIM)
- Water Infrastructure System Efficiency Subprogram (Lincus)
- Food Processing Subprogram (CLEAResult)
- Agriculture and Food Processing Wastewater Energy Subprogram (WEP) (BASE Energy, Inc.)
- Industrial Strategic Energy Management (Leidos, Inc. and CLEAResult)
- Agricultural Programs
 - Agricultural Calculated Incentives Subprogram
 - Agricultural Deemed Incentives Subprogram
 - Agricultural Energy Advisor Subprogram
- Agricultural Third-Party Program
 - Dairy and Winery Industry Efficiency Solutions Subprogram (DWIES) (CLEAResult)
- Emerging Technologies Program
 - Technology Development Support (TDS) Subprogram
 - Technology Assessment (TA) Subprogram
 - Technology Introduction Support (TIS) Subprogram
 - Lighting Innovation Subprogram
- Codes and Standards
 - Building Codes Advocacy Subprogram – California Building Codes: Titles 24, Part 6
 - Appliance Standards Advocacy Subprogram
 - Compliance Improvement Subprogram
 - Reach Codes Subprogram
 - Planning and Coordination Subprogram
 - Code Readiness Subprogram
- Workforce Education and Training
 - WE&T Planning
 - WE&T Centergies
 - WE&T Connections
- Financing
 - On-Bill Financing
 - Financing Pilot Subprograms
 - Third-Party Financing
- Integrated Demand-Side Management

11.1.2 SCE

- Residential
 - Home Energy Advisor (HEA) Program
 - Plug Load and Appliances (PLA) Program
 - Multifamily Energy Efficiency Rebate (MFEER) Program
 - Energy Upgrade California (EUC) Home Upgrade Program

- Residential Heating, Ventilation, and Air Conditioning (HVAC) Program
- Residential New Construction (RNC) Program
- Residential Direct Install Program
- Commercial
 - Commercial Energy Advisor Program
 - Commercial Calculated Incentives Program
 - Savings By Design Program
 - WE&T Energy Design Resources
 - Commercial Deemed Incentives Program
 - Midstream Point of Purchase (MPOP)
 - Commercial Direct Install Program
 - Non-Residential HVAC Program
- Industrial
 - Industrial Energy Advisor Program
 - Industrial Calculated Energy Efficiency Program
 - Industrial Deemed Energy Efficiency Program
 - Strategic Energy Management (SEM) Program
- Agriculture
 - Agriculture Energy Advisor Program
 - Agriculture Calculated Energy Efficiency Program
 - Agriculture Deemed Energy Efficiency Program
- Lighting
 - Primary Lighting Program
 - Lighting Innovation Program
 - Lighting Market Transformation (LMT) Program
- Finance
 - On-Bill Financing (OBF) Program
 - The ARRA-Originated Financing Program
 - New Finance Offerings (Pilots)
 - Residential Energy Efficiency Loan (REEL) Assistance Program
 - Small Business OBR Loan/Lease Pilot
 - Master-Metered Multifamily OBR Program
- Codes and Standards
 - Appliance Standards Advocacy Subprogram
 - Building Codes Advocacy Subprogram
 - Compliance Improvement Subprogram
 - Reach Codes Subprogram
 - Planning and Coordination Subprogram
- Emerging Technologies Program
 - Technology Assessment Subprogram
 - Technology Development Support Subprogram
 - Technology Introduction Support Subprogram
- Workforce Education & Training Programs
 - WE&T Integrated Energy Education and Training (IEET) Subprogram
 - WE&T Career Connections Subprogram

- Statewide Marketing, Education, & Outreach Program
- Integrated Demand Side Management Program
- Local Programs
 - Energy Leader Partnership Program
 - Partnership Strategic Support Subprogram
 - City of Long Beach Energy Leader Partnership
 - City of Redlands Energy Leader Partnership
 - City of Santa Ana Energy Leader Partnership
 - Gateway Cities Energy Leader Partnership
 - Community Energy Leader Partnership
 - Eastern Sierra Energy Leader Partnership
 - Desert Cities Energy Leaders Partnership
 - Kern County Energy Leader Partnership
 - Orange County Cities Energy Leader Partnership
 - San Gabriel Valley Energy Leader Partnership
 - San Joaquin Valley Energy Leader Partnership
 - South Bay Energy Leader Partnership
 - South Santa Barbara County Energy Leader Partnership
 - Ventura County Energy Leader Partnership
 - Western Riverside Energy Leader Partnership
 - High Desert Regional (HDR) Partnership
 - West Side Energy Leader Partnership
 - North Orange County Cities Energy Leader Partnership
 - San Bernardino Regional Energy Partnership
 - Local Government Strategic Planning Program
- Local Government Partnerships
 - County of Los Angeles Energy Efficiency Partnership
 - County of Riverside Energy Efficiency Partnership
 - County of San Bernardino Energy Efficiency Partnership
- Southern California Regional Energy Network Partnership
- Institutional and Government Core Energy Efficiency Partnerships
 - California Community Colleges Energy Efficiency Partnership
 - California Department of Corrections and Rehabilitation (CDCR) EE Partnership
 - State of California Energy Efficiency Partnership
 - University of California/California State Universities (UC/CSU) EE Partnership
 - Public Sector Performance Based Retrofit Program (HOPPs)
- Third-Party Programs
 - Comprehensive Manufactured Homes Program (CMHP) (SoCalGas)
 - Cool Planet Program (The Climate Registry)
 - Healthcare Energy Efficiency Program (HEEP) (Willdan Energy Solutions)
 - Data Center Energy Efficiency Program (DCEEP) (Willdan)
 - Lodging Energy Efficiency Program (LEEP)(Willdan)
 - Cool Schools Program
 - Commercial Utility Building Efficiency Program (CUBE)
 - Schools Energy Efficiency Program (SEEP)

- Food & Kindred Products Program
- Primary and Fabricated Metals Program
- Nonmetallic Minerals and Products Program
- Comprehensive Chemical Products Program
- Comprehensive Petroleum Refining Program
- Oil Production Program
- IDEEA 365 Program
- Mid-Sized Industrial Customer Energy Efficiency (MICE) Program
- Enhanced Retrocommissioning Program
- Water Infrastructure System Efficiency (WISE) Program

11.1.3 SDG&E

- Residential
 - Energy Advisor Program
 - Plug Load and Appliance (PLA) Program
 - Home Energy Efficiency Rebate (HEER)
 - Point of Sale (POS) Rebates
 - Multifamily Energy Efficiency Rebate Program
 - Energy Upgrade California/Home Upgrade/Advanced Home Upgrade
 - Energy Upgrade California – Multifamily (EUC-MF)
 - California Advanced Homes Program
 - Residential Heating Ventilation and Air Conditioning (HVAC) Core Program
 - Residential Upstream HVAC Distributor Incentive Program
 - Residential HVAC Code Compliance Program
- Commercial
 - Strategic Energy Management Program
 - Customer Services - Benchmarking
 - Comprehensive Audit Program
 - Calculated Incentives Subprogram
 - Calculated Incentives – Savings by Design (SBD) Subprogram
 - Commercial Deemed Incentives Subprogram
 - Commercial Deemed Incentive – HVAC Core Program
- Industrial
 - Industrial Strategic Energy Management (SEM) Program
 - Customer Services – Benchmarking
 - Comprehensive Audit Program
 - Calculated Incentives Subprogram
 - Industrial Deemed Incentives
- Agricultural
 - Customer Services – Benchmarking
 - Comprehensive Audit Program
 - Calculated Incentives Subprogram
 - Agricultural Deemed Incentives Subprogram
- Lighting

- Lighting Market Transformation Subprogram
- Lighting Innovation Subprogram
- Primary Lighting Program
- Local Institutional Partnerships
 - California Department of Corrections and Rehabilitation (CDCR)
 - California Community Colleges (CCC)
 - UC/CSU/Utility Energy Efficiency
 - State of California
 - University of San Diego
 - San Diego County Water Authority (SDCWA)
- Local Government Partnerships
 - City of Chula Vista
 - City of San Diego
 - County of San Diego
 - Port of San Diego
 - San Diego Association of Governments (SANDAG)
 - Statewide Energy Efficiency Collaborative (SEEC)
 - Emerging Cities Program (ECP)
- Emerging Technologies Programs
 - Technology Introduction Support (TIS)
 - Technology Assessment Support
 - Technology Development Support (TDS)
- Statewide Finance Program
 - On-Bill Finance (OBF)
- Statewide Codes and Standards Program
 - Building Codes and Compliance Advocacy
 - Appliance Standards Advocacy (ASA)
 - Compliance Improvement (CI)
 - Reach Codes (RC)
 - Planning and Coordination
- Statewide Integrated Demand Side Management (IDSM)
 - Local IDSM Marketing, Education and Outreach (ME&O) – Local Marketing (EE)
 - Local IDSM ME&O – Behavioral Programs (EE)
 - California Energy Efficiency Strategic Plan
- Statewide Workforce Education and Training
 - Centergies Subprogram
 - Connections Subprogram
 - Strategic Planning
- Third Party Programs
 - Middle Income Direct Install (MIDI) Program
 - AC Quality Care
 - Non-Residential HVAC Tune-up/Quality Installation Program
 - Direct Install Program
 - Comprehensive Industrial Energy Efficiency Program (CIEEP)
 - Energy Efficient Water Pumping Program

- Water Infrastructure and System Efficiency (WISE) Program
 - Pump Test Services
- Residential Comprehensive Manufactured and Mobile Home (CMMH) Program
- Innovative Designs for Energy Efficiency Activities (IDEEA) 365
- Energy Advantage Program (EAP)
- Streamlined Ag Efficiency (SAE) Program
- Facility Assessment Services
- Pilot Programs
 - Prop 39 Zero Net Energy (ZNE) Schools Pilot Program
- High Opportunity Project or Programs (HOPPs)
 - HOPPs Retrocommissioning (RCx)
 - HOPPs Multifamily
- Water Energy Nexus Initiatives
 - Water Energy Nexus (WEN) Calculator and Measure Workpaper Activities
 - Advanced Metering Infrastructure Pilot Activities
 - WEN Programs and Activities
 - WEN Programs Energy and Water Savings
- Other Energy Efficiency Activities and Programs
 - Statewide Marketing, Education, and Outreach (ME&O) Program
 - Evaluation Measurement and Verification
 - Statewide New Finance Offerings

11.1.4 SoCalGas

- Residential
 - Energy Advisor
 - Plug Load and Appliances
 - Plug Load and Appliances Point of Sale
 - Multifamily Energy Efficiency Rebates (MFEER)
 - Home Upgrade Program (HUP)
 - Middle Income Direct Install (MIDI)
 - Residential Upstream Heating, Ventilation and Air Conditioning (HVAC)
 - Residential New Construction/California Advanced Homes Program (CAHP)
 - Residential HOPPs Central Water Heater Multifamily Building Solution (CWHMBS) Program
 - Residential Energy Management Technology (REMTs)/Home Energy Automation Resource Technology (HEARTh) Program
- Commercial
 - Energy Advisor
 - Continuous Energy Improvement
 - Commercial Calculated Incentives
 - Commercial Deemed Incentives
 - Commercial Heating, Ventilation, and Air Conditioning (HVAC) Program
 - Commercial Direct Install Program
 - Commercial Restaurant Retrofit (CRR) Program

- Commercial Energy Management Technology Lodging (CEMTL) Program
- Industrial
 - Energy Advisor
 - Continuous Energy Improvement
 - Industrial Calculated Incentives
 - Industrial Deemed Incentives
- Agricultural
 - Energy Advisor
 - Continuous Energy Improvement
 - Agricultural Calculated Incentives
 - Agricultural Deemed Incentives
- Statewide Emerging Technologies Program
 - Emerging Technologies – Technology Development Support
 - Emerging Technologies – Technology Assessment Support
 - Emerging Technologies – Technology Introduction Support
 - Water Advanced Meter Infrastructure Pilot
- Statewide Codes and Standards Program
 - Building Codes and Compliance Advocacy
 - Appliance Standards Advocacy
 - Compliance Improvement
 - Reach Codes
 - Planning Coordination
- Statewide Workforce Education and Training (WE&T) Program
 - Integrated Energy Efficiency
 - Career Connections
- IDSM Program
- Finance
 - On-Bill Financing
 - ARRA Originated Financing
 - New Finance Offerings
 - California Hub for EE Financing
- Institutional Partnerships
 - California Department of Corrections and Rehabilitation (CDCR)
 - California Community Colleges (CCC)
 - UC/CSU/Utility
 - State of California
- Local Government Partnerships
 - County of Los Angeles
 - Kern Energy Watch (KEW)
 - County of Riverside
 - County of San Bernardino
 - County of Santa Barbara
 - South Bay Cities Council of Governments (SBCCOG)
 - San Luis Obispo County Energy Watch (SLOEW)
 - Valley Innovative Energy Watch (VIEW)

- Orange County Cities Energy Efficiency
- Statewide Energy Efficiency Collaborative (SEEC)
- Desert Cities Energy Partnership (DCEP)
- Ventura County Regional Energy Alliance (VCREA)
- Local Government Energy Efficiency Pilots
- New Partnership Programs
- Regional Resource Placeholder
- Gateway Cities Energy Partnership Program (GCELP)
- San Gabriel Valley Energy Wise Partnership (SGVEWP)
- West Side Energy Partnership (WSEP)
- Western Riverside Energy Partnership (WREP)
- North Orange County Cities (NOCC) Energy Partnership
- San Bernardino Regional Energy Partnership (SBREP)
- Third Party Programs
 - Small Industrial Facility Upgrades Program (SIFU)
 - Program for Resource Efficiency in Private and Public Schools (PREPPS)
 - On Demand Efficiency (ODE)
 - Home Energy Rating System (HERS) Advanced Rater Training Program
 - Community Language Efficiency Outreach (CLEO)
 - Multi-Family Direct Therm Savings Program (Energy Smart)
 - LivingWise
 - Manufactured Mobile Home Program (MMHP)
 - California Sustainability Alliance
 - Portfolio of the Future (POF)
 - PACE Energy Savings Project (PACE ESP)
 - Innovative Designs for Energy Efficiency Activities (IDEEA 365)
 - IDEEA 365 Instant Rebates! Point of Sale Foodservice Rebate
 - IDEEA 365 Connect
 - IDEEA 365 On Premise Ozone Laundry (OPOL)
- Water Energy Nexus
 - Water Utility Partnering Activities
 - Shared Network AMI Pilot
 - Other Water Energy Related Program Activities

11.1.5 Imperial Irrigation District

- Residential Energy Savings
- Business Energy Savings
- Green Grants for Non-profits and Government

11.1.6 Sacramento Municipal Utility District (SMUD)

- Residential Rebates and Savings
- Business Solutions and Rebates

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