



**CALIFORNIA
ENERGY COMMISSION**



California Energy Commission

STAFF REPORT

Localized Health Impacts Report

**Selected Projects Awarded Funding Through
the Clean Transportation Program Under
Solicitation GFO-21-604 — Rural Electric
Vehicle (REV) Charging**

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California Energy Commission

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PREFACE

This Localized Health Impacts Report (LHI Report) assesses the local health impacts from projects proposed to receive Clean Transportation Program (CTP) funding. Preventing or minimizing health risks from pollution is vital in any community, but it is especially important for communities that are at high risk due to preexisting poor air quality and other factors. Environmental justice (EJ) communities, low-income communities, and minority communities are considered the most impacted by any project that could increase air pollution. Therefore, they are considered “high-risk communities.” This LHI Report:

- Identifies proposed projects located in high-risk communities.
- Analyzes the potential health impacts to communities from project-related emissions or pollution, based on information submitted by the project awardees.
- Describes the plans for community outreach for each project.

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), which created the CTP, also directed the California Air Resources Board (CARB) to develop guidelines to ensure the CTP improves air quality. CARB’s *AB 118 Air Quality Guidelines*, approved in 2008, are published in the California Code of Regulations (CCR), Title 13, Motor Vehicles, Chapter 8.1. This LHI Report is required under those guidelines (13 CCR Section 2343):

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

“(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

“(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This LHI Report is made publicly available at least 30 days before projects are approved at a publicly noticed meeting. This report includes projects that may require a conditional-use permit, discretionary permit, or California Environmental Quality Act (CEQA) review. The CEC interprets “permits” to suggest discretionary and conditional-use permits, because they require a review of potential impacts to communities and the environment before issuance. Since ministerial-level permits do not review public health–related pollutants, CEC staff does not assess projects requiring only ministerial-level permits in this report.

ABSTRACT

This Localized Health Impacts Report describes the potential health impacts to communities from projects seeking California Energy Commission (CEC) funding under Grant Solicitation GFO-21-604. This grant initiative seeks to expand electric vehicle charging infrastructure for residents of rural California areas, especially those in low-income and disadvantaged communities. Under California Code of Regulations Title 13, Section 2343, this report is available for public comment for 30 days before the approval of projects at a publicly noticed business meeting.

CEC staff has proposed 17 projects for Clean Transportation Program grant funding awards under Solicitation GFO-21-604. Most of these projects have multiple locations. Based on project site information provided by the awardees, 27 of the 34 communities where these projects are located are considered high-risk communities. Community members near the proposed project sites may be at a higher risk of adverse health impacts from pollution. However, staff does not anticipate a net increase in the pollution burden for the communities where these projects are located. In fact, these projects may improve community health by increasing the use of zero-emission vehicles.

Keywords: Air pollution, California Air Resources Board (CARB), Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), electric vehicles (EVs), electric vehicle supply equipment (EVSE), environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), localized health impacts (LHI), rural vehicle electrification

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TABLE OF CONTENTS

	Page
Preface.....	i
Abstract	iii
Table of Contents.....	iv
List of Tables	vi
Executive Summary.....	1
CHAPTER 1: Projects Proposed for Funding	3
Background	3
Projects Selected.....	3
Table 1: Project Details Along With EJ Indicators.....	4
Public Comment.....	8
CHAPTER 2: Project Descriptions	9
(bst)ChargePoint, Inc. (Central California)	9
Table 2: ChargePoint Central California Estimated Emissions Reductions (est)	9
ChargePoint, Inc. (Northern California).....	10
Table 3: ChargePoint Northern California Estimated Emissions Reductions	10
(bst) ChargePoint, Inc. (Southern California)	10
Table 4: ChargePoint Southern California Estimated Emissions Reductions (est)	11
City of Gonzales	11
County of Mendocino.....	11
EV Charging Solutions, Inc. (Central California).....	12
Table 5: EVCS Central California Estimated Emissions Reductions.....	12
EV Charging Solutions, Inc. (Northern California)	12
Table 6: EVCS Northern California Estimated Emissions Reductions	12
FreeWire Technologies	13
GC Green Incorporated.....	13
Lassen Municipal Utility District	13
Redwood Coast Energy Authority	14
Tesla, Inc. (Baker)	14
Tesla, Inc. (Barstow)	14
Tesla, Inc. (Coalinga)	14
Tesla, Inc. (Willows).....	15
Ventura Energy LLC.....	15
ZEV Station California LLC.....	15
CHAPTER 3: Location Analysis	16
Part 1: Environmental Standard	16
Part 2: Demographic Standard	16

Analysis Results	17
Table 7: EJ Indicators by Project Location City Demographic.....	18
Summary.....	20
Glossary	21

LIST OF TABLES

	Page
Table 1: Project Details Along With EJ Indicators	4
(bst) Table 2: ChargePoint Central California Estimated Emissions Reductions (est)	9
Table 3: ChargePoint Northern California Estimated Emissions Reductions.....	10
(bst) Table 4: ChargePoint Southern California Estimated Emissions Reductions (est)	11
Table 5: EVCS Central California Estimated Emissions Reductions	12
Table 6: EVCS Northern California Estimated Emissions Reductions.....	12
Table 7: EJ Indicators by Project Location City Demographic	18

EXECUTIVE SUMMARY

The California Energy Commission's (CEC's) Clean Transportation Program provides funding to support innovation and accelerate the development and implementation of advanced transportation and fuel technologies. Under California Code of Regulations Title 13, Section 2343, this Localized Health Impacts Report describes the electric vehicle charger projects proposed for funding that may require a conditional or discretionary permit or environmental review. These permits include conditional-use permits, air-quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. Since ministerial-level permits do not assess public health-related pollutants, staff does not assess projects requiring only ministerial-level permits in this report.

The CEC is required to assess the local health impacts of projects proposed for Clean Transportation Program funding. This report focuses on the potential health impacts to communities from project-related emissions or pollution. Environmental justice communities, low-income communities, and minority communities are considered to be higher risk of adverse health impacts from pollution. Project locations in these communities are considered "high-risk community project locations." High-risk communities are identified using demographic data with environmental data for air quality from the California Air Resources Board.

CEC staff proposes 17 projects for Clean Transportation Program grant funding awards under Solicitation GFO-21-604, titled "Rural Electric Vehicle (REV) Charging." This initiative seeks to expand the supply of electric vehicle charging in rural areas of California. Staff analyzes localized health impact information submitted by the project awardees. Based on project site information provided by the awardees, 27 of the 34 proposed project locations are in high-risk communities. Community members near the proposed project sites may be at a higher risk of adverse health impacts from pollution. Staff does not anticipate a net increase in the pollution burden for the communities where these projects are located. Instead, staff expects the projects to reduce pollution levels.

CHAPTER 1:

Projects Proposed for Funding

Background

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program (CTP, originally called the “Alternative and Renewable Fuel and Vehicle Technology Program”). Assembly Bill 118, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the CEC to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the CTP to January 1, 2024.

On December 14, 2021, the CEC released a competitive grant solicitation titled “Rural Electric Vehicle (REV) Charging” (GFO-21-604). GFO-21-604 offered CTP grant funding for projects that install electric vehicle (EV) chargers in rural areas (including smaller rural cities), encouraging residents to adopt EVs. The solicitation requires that at least 50 percent of project costs be spent on low-income or disadvantaged communities or both. GFO-21-604 will support switching from gasoline vehicles to EVs, which will reduce criteria air pollutants and greenhouse gas (GHG) emissions in California.

Please Note: This report has been revised. Added language appears in bold underline (**example**) and deletions appear in strikethrough (~~example~~). To effectively include access to the marked-up language for all users, please refer to the following key codes:

- “(bbu)” means begin bold underline text.
- “(ebu)” means end bold underline text.
- “(bst)” means begin strikethrough text.
- “(est)” means end strikethrough text.

Items marked with an asterisk in parentheses (*) were updated after the original version of this LHI Report was published, but it is not practical to show the changes in this revised report. See Addendum 1 for these previous changes.¹

Projects Selected

On June 24, 2022, the CEC posted a notice of proposed awards (NOPA)² identifying the 17 projects awarded grant funding under GFO-21-604. This LHI Report assesses the locations of each of those projects.

1 Addendums and Revisions are located at: Localized Health Impacts Report: GFO-21-604 — Rural Electric Vehicle (REV) Charging. California Energy Commission. Accessed June 8, 2023. Available at <https://www.energy.ca.gov>.

2 Hockaday, Angela. 2022. “Notice Of Proposed Award.” California Energy Commission. [Cover letter](https://www.energy.ca.gov/sites/default/files/2022-06/GFO-21-604_NOPA_Cover_Letter_2022-06-24_ada.docx) available at https://www.energy.ca.gov/sites/default/files/2022-06/GFO-21-604_NOPA_Cover_Letter_2022-06-24_ada.docx, and [table of awardees](https://www.energy.ca.gov/sites/default/files/2022-06/GFO-21-604_NOPA_Results_Table_2022-06-24_ada.xlsx) available at https://www.energy.ca.gov/sites/default/files/2022-06/GFO-21-604_NOPA_Results_Table_2022-06-24_ada.xlsx.

Table 1 lists the proposed project locations for each of the awardees and their corresponding environmental justice (EJ) indicators. EJ indicator definitions are in Chapter 3 of this LHI Report, and EJ indicator analysis is in Table 7.

Note: Some awardees have not yet finalized their project locations but have submitted potential locations for this LHI analysis. These are marked with a bold "**Potential**" in Table 1. The CEC will release update(s) to this report when specific sites are finalized. An update that requires new location analysis will include a 30-day public comment period; staff calls that type of update an "LHI Report Addendum."

Table 1: Project Details Along With EJ Indicators

Proposed Awardee	Project Title	Project Location	EJ Indicator(s)
(bst)ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Central California's Rural Routes	Potential: Ceres, CA	Minority, Poverty, Unemployment
ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Central California's Rural Routes	Potential: Stanislaus County, CA	Minority, Poverty, Unemployment(est)
ChargePoint, Inc.	Charging the Road Less Traveled — Electrifying Northern California's Rural Routes	(bst) Potential: 501 Low Gap Rd, Ukiah, CA 95482 (est) (bbu) <u>289 North Main St, Ukiah, CA 95482</u> (ebu)	Minority, Poverty, Unemployment
ChargePoint, Inc.	Charging the Road Less Traveled — Electrifying Northern California's Rural Routes	(bst) Potential: 727 S State St, Ukiah, CA 95482 (est) (bbu) <u>558 Park Blvd, Ukiah, CA 95482</u> (ebu)	Minority, Poverty, Unemployment
ChargePoint, Inc.	Charging the Road Less Traveled — Electrifying Northern California's Rural Routes	(bst) Potential: Mendocino County, CA (est) (bbu) <u>1043 Low Gap Rd, Ukiah, CA 95482</u> (ebu)	Age, Poverty
(bst)ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Southern California's Rural Routes	Potential: 49500 Seminole Dr, Cabazon, CA 92230	Age, Minority, Poverty

Proposed Awardee	Project Title	Project Location	EJ Indicator(s)
ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Southern California's Rural Routes	Potential: N Museum Dr and W Tahquitz Canyon Way, Palm Springs, CA 92262	Age, Poverty
ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Southern California's Rural Routes	Potential: 3601 E Mesquite Ave, Palm Springs, CA 92264	Age, Poverty
ChargePoint, Inc.	Charging the Road Less Traveled—Electrifying Southern California's Rural Routes	Potential: Riverside County	Minority(est)
City of Gonzales	Gonzales Community EV Charging	Fifth St and Gabilan Ct, Gonzales, CA 93926	Age, Minority
City of Gonzales	Gonzales Community EV Charging	851 Fifth St, Gonzales, CA 93926	Age, Minority
City of Gonzales	Gonzales Community EV Charging	147 Fourth St, Gonzales, CA 93926	Age, Minority
County of Mendocino	Ukiah Valley EV Charging Pilot Project	501 Low Gap Rd, Ukiah, CA 95482	Minority, Poverty, Unemployment
County of Mendocino	Ukiah Valley EV Charging Pilot Project	727 – 747 S State St, Ukiah, CA 95482	Minority, Poverty, Unemployment
EV Charging Solutions, Inc.	EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC	6300 S Hwy 1, Elk, CA 95432	Age, Poverty
EV Charging Solutions, Inc.	EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC	6751 N Hwy 1, Little River, CA 95456	Age, Poverty
EV Charging Solutions, Inc.	EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC	250 Hwy 20, Fort Bragg, CA 95437	Age, Minority, Poverty
EV Charging Solutions, Inc.	EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC	220 Pearson Rd, Paradise, CA 95969	Age, Poverty, Unemployment
EV Charging Solutions, Inc.	EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC	550 Oro Dam Blvd, Oroville, CA 95965	Age, Poverty, Unemployment
EV Charging Solutions, Inc.	EVCS Shafter Community and Surrounding Area DCFC	15688 S Harlan Rd, Lathrop, CA 95330	Age, Minority, Unemployment

Proposed Awardee	Project Title	Project Location	EJ Indicator(s)
EV Charging Solutions, Inc.	EVCS Shafter Community and Surrounding Area DCFC	295 W Mathews Rd, French Camp, CA 95231	Minority, Poverty
FreeWire Technologies	Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California	54692 Teresa St, San Lucas, CA 93954	Age, Minority, Poverty
FreeWire Technologies	Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California	11160 Speegle St, Castroville, CA 95012	Age, Minority, Unemployment
FreeWire Technologies	Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California	315 El Camino Real, Greenfield, CA 93927	Age, Minority, Poverty
FreeWire Technologies	Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California	2460 River Rd, Norco, CA 92860	Minority
FreeWire Technologies	Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California	78998 Hwy 111, La Quinta, CA 92253	Age, Minority, Poverty
GC Green Incorporated	Demonstrating Resilient and Net-Zero EV Fast Charging Development in California Indian Country	135 US-395, Independence, CA 93526 (*)	Age
Lassen Municipal Utility District	Lassen Rural Access to EV Fast Charging Project	781 Main St, Susanville, CA 96130	Minority, Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	38162 Hwy 96, Orleans, CA 95556	Age, Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	1620 Pickett Rd, McKinleyville, CA 95519	Age, Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	3800 Janes Rd, Arcata, CA 95521	Poverty, Unemployment
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	Carlson Park Dr, Arcata, CA 95521	Poverty, Unemployment

Proposed Awardee	Project Title	Project Location	EJ Indicator(s)
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	3414 W St, Eureka, CA 95503	Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	7351 Tompkins Hill Rd, Eureka, CA 95501	Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	9 Park St, Fortuna, CA 95540	Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	3300 Renner Dr, Fortuna, CA 95540	Poverty
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	101 West Coast Rd #B, Redway, CA 95560	Age
Redwood Coast Energy Authority	North Coast Plug-In Electric Vehicle Charging Network Phase 2	733 Cedar St, Garberville, CA 95542	Age, Poverty
Tesla, Inc.	Baker, CA	71808 Baker Blvd, Baker, CA 92309	Age, Minority, Poverty
Tesla, Inc.	Barstow, CA	1503 E Main St, Barstow, CA 92311	Age, Minority, Poverty, Unemployment
Tesla, Inc.	Coalinga, CA	Potential: Near I-5, Coalinga, CA	Minority, Poverty, Unemployment
Tesla, Inc.	Willows, CA	Potential: Near I-5, Willows, CA	Age, Poverty, Unemployment
Ventura Energy LLC	City of Santa Paula EV Charging Stations	742 N Ojai Rd, Santa Paula, CA 93060 (*)	Age, Minority, Poverty, Unemployment
Ventura Energy LLC	City of Santa Paula EV Charging Stations	970 E Ventura St, Santa Paula, CA 93060 (*)	Age, Minority, Poverty, Unemployment
ZEV Station	ZEV Charging for Rural Mobility	Garnet Ave and I-10, Palm Springs, CA 92240	Age, Poverty

Sources: CEC staff, Google Maps

Funding for these projects is contingent upon approval at a publicly noticed CEC business meeting and execution of a grant agreement.

Public Comment

As provided by Title 13 of the CCR, Section 2343, a 30-day public review period applies to this LHI Report from the date it is posted on the CEC website. The [original posting date for this report](#) is at <https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/localized-health-impacts-reports>.

The CEC encourages comments by email. Please include your name or organization's name in the name of the file. Send comments in either Microsoft® Word format (.doc) or Adobe® Acrobat® format (.pdf) to FTD@energy.ca.gov.

The public can email comments to FTD@energy.ca.gov or mail them to:

California Energy Commission
Fuels and Transportation Division
715 P Street, MS-44
Sacramento, CA 95814-5512

All written comments will become part of the public record and may be posted to the internet. News media should direct inquiries to the Media and Public Communications Office at 916-654-4989 or by email at mediaoffice@energy.ca.gov.

CHAPTER 2:

Project Descriptions

As part of the GFO-21-604 process for selecting projects, applicants must provide LHI information for their proposed project and location. This information includes the expected impact of the project on local communities and the outreach efforts the applicant has made to engage disadvantaged communities or other local communities. This chapter summarizes that information submitted by the awardees. The awardees identify disadvantaged communities using the CalEnviroScreen³ screening tool developed by the Office of Environmental Health Hazard Assessment.

Note: Applicants use different methods for estimating emissions reductions, so estimates may vary significantly between similar projects.

(bst) ~~**ChargePoint, Inc. (Central California)**~~

~~ChargePoint’s proposed project, titled “Charging the Road Less Traveled — Electrifying Central California’s Rural Routes,” will install EV chargers in and around the city of Ceres in Stanislaus County. There will be 4 direct-current fast-charger (DCFC) charging ports and 42 Level 2 ports. The project will follow a “hub-and-spoke” model, with the DCFCs and two of the Level 2 ports located at the central charging hub. The other project charging locations, the “spokes,” will be spread out around the county and provide Level 2 charging. ChargePoint has not finalized the number or location of spokes.~~

~~By enabling rural residents to switch to EVs, ChargePoint estimates that this project will reduce GHG emissions by 940,411 metric tons of carbon dioxide equivalent (CO₂e) over the first five years and 3,392,646 metric tons of CO₂e over a useful life of 10 years. ChargePoint also projects reductions of carbon monoxide (CO), particulate matter 2.5 microns in diameter or smaller (PM_{2.5}), nitrogen oxides (NO_x), and reactive organic gases (ROGs).~~

~~**Table 2: ChargePoint Central California Estimated Emissions Reductions**~~

Emission Reduced	Over 5 years	Over 10 years
CO Emission Reduction (metric tons)	2,478.02	8,939.75
PM2.5 Emission Reduction (metric tons)	107.54	387.97
NOx Emission Reduction (metric tons)	189.94	685.13
ROG Emission Reduction (metric tons)	189.94	685.13

~~Source: ChargePoint~~

³ This tool ranks U.S. Census tracts based on geographic, socioeconomic, public health and environmental hazard criteria. See “[CalEnviroScreen](https://oehha.ca.gov/calenviroscreen).” Office of Environmental Health Hazard Assessment. Available at <https://oehha.ca.gov/calenviroscreen>.

ChargePoint plans to select a community-based organization (CBO) and work with it to reach out to rural residents. Outreach will include asking for input on charger site selection, a ribbon-cutting event to promote the chargers, social media announcements, and information on available EV incentives. (est)

ChargePoint, Inc. (Northern California)

ChargePoint’s proposed project, titled “Charging the Road Less Traveled — Electrifying Northern California’s Rural Routes,” will install EV chargers in and around the city of Ukiah in Mendocino County. ChargePoint plans 4 DCFC ports and 42 Level 2 ports. The project will follow a “hub-and-spoke” model, with the DCFCs and two of the Level 2 ports at the central charging hub. The other project charging locations, the “spokes,” will be spread out around the county and provide Level 2 charging. ChargePoint has not finalized the number or location of spokes.

By enabling rural residents to switch to EVs, ChargePoint estimates that this project will reduce GHG emissions by 857,188 metric tons of CO₂e over the first five years and 3,146,004 metric tons of CO₂e over a useful life of 10 years. ChargePoint also projects reductions of the following pollutants.

Table 3: ChargePoint Northern California Estimated Emissions Reductions

Emission Reduced	Over 5 Years	Over 10 Years
CO Emission Reduction (metric tons)	2,258.72	8,289.83
PM2.5 Emission Reduction (metric tons)	98.02	359.76
NOx Emission Reduction (metric tons)	173.11	635.32
ROG Emission Reduction (metric tons)	173.11	635.32

Source: ChargePoint

ChargePoint plans to work with the Mendocino Council of Governments to reach out to rural residents. Outreach will include asking for input on charger site selection, a ribbon-cutting event to promote the chargers, social media announcements, and information on available EV incentives.

(bst) ChargePoint, Inc. (Southern California)

ChargePoint’s proposed project, titled “Charging the Road Less Traveled — Electrifying Southern California’s Rural Routes,” will install EV chargers in and around the city of Palm Springs in Riverside County. There will be a total of 8 DCFC charging ports and 18 Level 2 ports. The project will follow a “hub-and-spoke” model, with four of the DCFC ports and two of the Level 2 ports located at the central charging hub. The other project charging locations, the “spokes,” will be spread out in Riverside County near Palm Springs and provide Level 2 charging. Also, one spoke will include the remaining four DCFC ports. ChargePoint has not finalized the number or location of spokes.

By enabling rural residents to switch to EVs, ChargePoint estimates that this project will reduce GHG emissions by 260,367 metric tons of CO₂e over the first five years and 834,760 metric tons of CO₂e over a useful life of 10 years. ChargePoint also projects reductions of the following pollutants:

Table 4: ChargePoint Southern California Estimated Emissions Reductions

Emission Reduced	Over 5 Years	Over 10 Years
CO Emission Reduction (metric tons)	686.08	2,199.62
PM2.5 Emission Reduction (metric tons)	29.77	95.46
NO _x Emission Reduction (metric tons)	52.58	168.58
ROG Emission Reduction (metric tons)	52.58	168.58

Source: ChargePoint

ChargePoint plans to work with the City of Palm Springs and a CBO to reach out to residents, including those outside the city. Outreach will include asking for input on charger site selection, a ribbon-cutting event to promote the chargers, social media announcements, and information on available EV incentives. (est)

City of Gonzales

The City of Gonzales’s proposed project, titled “Gonzales Community EV Charging,” will install EV chargers at three sites in the city. These installations will include 6 DCFC charging ports and 24 Level 2 ports. The DCFCs are especially intended to increase charging access for local agricultural workers, who drive relatively long distances per day. By allowing residents to switch to EVs, the City of Gonzales estimates that the project will reduce GHG emissions by 38.8 metric tons CO₂e per year or 194 metric tons CO₂e over five years. The city also expects the project to reduce other air pollutants.

Outreach will include social media promotion, a grand opening event, and EV educational information for residents. The city has already received feedback from local residents and businesses requesting charger access.

County of Mendocino

Mendocino County’s proposed project, titled “Ukiah Valley EV Charging Pilot Project,” will deploy EV chargers at two county-owned sites in Ukiah. There will be a total of 24 charging ports, all Level 2. By enabling rural residents to switch to EVs, Mendocino County estimates that the project will reduce GHG emissions by 112 metric tons CO₂e in the first year. The project team expects annual emissions benefits to increase over time and expects the project to lower criteria air pollutants and toxic air contaminants.

Outreach will focus on providing information about the project and EVs more generally. It will include press releases, signage at the project sites, and updates at public county meetings. The county may also use public input to adjust charge pricing in the future.

EV Charging Solutions, Inc. (Central California)

EV Charging Solutions' (EVCS's) proposed project, titled "EVCS Shafter Community and Surrounding Area DCFC," will install chargers in at least two locations in Central California. Not all sites have been finalized. There will be both DCFCs and Level 2 chargers. Since the project will enable rural residents to switch to EVs, EVCS projects the following reductions of carbon dioxide (CO₂) emissions, based on two assumptions for annual vehicle miles traveled.

Table 5: EVCS Central California Estimated Emissions Reductions

Assumed Annual Mileage Per Vehicle	Vehicles Year 1	Tons of CO2 Avoided	Vehicles Year 2	Tons of CO2 Avoided	Vehicles Year 3	Tons of CO2 Avoided
7,200	20	64	50	160	100	321
12,000	20	107	50	267	100	534

Source: EVCS

EVCS also expects the project to reduce air pollution overall.

The project team plans to work with a nonprofit, The Energy Coalition, to conduct outreach. Planned outreach will include social media promotions, email campaigns, flyers, and workshops and will discuss available EV incentives.

EV Charging Solutions, Inc. (Northern California)

EVCS's proposed project, titled "EVCS Mendocino Hwy 1 Corridor DCFC and Surrounding Rural Area DCFC," will install chargers in at least five locations in Northern California. Not all sites have been finalized. There will be both DCFCs and Level 2 chargers. Since the project will enable rural residents to switch to EVs, EVCS projects the following reductions of GHG emissions, based on two assumptions for annual vehicle miles traveled. These figures are the same as those given for their Central California project.

Table 6: EVCS Northern California Estimated Emissions Reductions

Assumed Annual Mileage Per Vehicle	Vehicles Year 1	Tons of CO2 Avoided	Vehicles Year 2	Tons of CO2 Avoided	Vehicles Year 3	Tons of CO2 Avoided
7,200	20	64	50	160	100	321
12,000	20	107	50	267	100	534

Source: EVCS

EVCS also expects the project to reduce air pollution overall.

The project team plans to work with a nonprofit, The Energy Coalition, to conduct outreach. Planned outreach will include social media promotions, email campaigns, flyers, and workshops and will discuss available EV incentives.

FreeWire Technologies

FreeWire Technologies' (FreeWire's) proposed project, titled "Deploying Battery-Integrated DCFC in Rural Community Centers Across Southern California," will deploy EV chargers at five locations spread between Monterey County and Riverside County. Each location will have a DCFC with integrated battery and a Level 2 charger. While the total number of charging ports of the project is not clear, each DCFC has two ports. By enabling rural residents to switch to EVs, FreeWire estimates that the project will reduce GHG emissions by 84.2 metric tons over 10 years. FreeWire did not specifically address criteria air pollutants or toxic air contaminants. As with other GFO-21-604 projects, however, CEC staff expects the project to reduce emissions of these pollutants.

FreeWire plans to work with local CBOs to promote the project and gather data about EV adoption. The project team has received positive feedback from businesses and local government entities about the need for charging access.

GC Green Incorporated

GC Green's proposed project, titled "Demonstrating Resilient and Net-Zero EV Fast Charging Development in California Indian Country," will install EV chargers at one tribally owned site in Inyo County. There will be two dual-port DCFCs and one single-port Level 2 charger. The project will enable rural residents to switch from gasoline-powered vehicles to EVs and will include solar power generation and battery storage, which GC Green states will further reduce GHG emissions. GC Green estimates the project will reduce GHG emissions by 543 metric tons of CO₂ annually. It also expects it to reduce overall emissions, benefiting local residents' health.

GC Green plans to work with tribal community partners for outreach, which may include Spanish and native languages. Possible outreach formats include EV ride-and-drive events, pop-up booths, job fairs, stakeholder meetings, surveys, and educational workshops aimed at tribal youth.

Lassen Municipal Utility District

Lassen Municipal Utility District's (LMUD's) proposed project, titled "Lassen Rural Access to EV Fast Charging Project," will deploy seven DCFCs at one site in Susanville. There are no DCFCs in or near the city. By enabling residents to switch to EVs, LMUD estimates that the project will reduce GHG emissions by 294.7 metric tons of CO₂e over one year. LMUD also expects that the project will reduce other emissions, such as particulate matter.

Outreach will include physical flyers, a ribbon-cutting ceremony, and social media updates to promote the project. LMUD did previous outreach that found community support for installing EV chargers.

Redwood Coast Energy Authority

Redwood Coast Energy Authority's (RCEA's) proposed project, titled "North Coast Plug-In Electric Vehicle Charging Network Phase 2," will install Level 2 chargers at 10 locations in Humboldt County. Each site will have two to four charging ports, and there will be a total of 32 ports. By enabling rural residents to switch to EVs, RCEA estimates that the project will reduce GHG emissions by 28.86 metric tons of CO₂e annually. The application mentions that, coupled with new EVs with bidirectional charging ability, the project may reduce the use of fossil-fueled home backup generators and the accompanying pollutants. Also, as with other GFO-21-604 projects, CEC staff expects the project to lower criteria air pollutants and toxic air contaminants by reducing the use of gasoline-powered vehicles.

Outreach will include website posts, a launch event, and listing in charging apps.

Tesla, Inc. (Baker)

Tesla's proposed project, titled "Baker, CA," will install EV chargers at one location in San Bernardino County. There will be 56 DCFCs and 2 Level 2 chargers, although the total number of charging ports is not clear. As required by the GFO-21-604 solicitation, at least 50 percent of ports will use SAE International (SAE) standard connectors instead of Tesla's proprietary connector. Tesla estimates that the project will reduce GHG emissions by 107,073 metric tons CO₂e over 15 years. Tesla also expects the project to improve overall air quality by reducing pollutants such as NO_x and PM_{2.5}.

Outreach will include app, website, and social media posts to promote the project.

Tesla, Inc. (Barstow)

Tesla's proposed project, titled "Barstow, CA," will install EV chargers at one location in San Bernardino County. There will be 100 DCFCs and 2 Level 2 chargers, although the total number of charging ports is not clear. At least 50 percent of ports will use SAE standard connectors. Tesla estimates that the project will reduce GHG emissions by 191,203 metric tons CO₂e over 15 years. Tesla also expects the project to improve overall air quality by reducing pollutants such as NO_x and PM_{2.5}.

Outreach will include app, website, and social media posts to promote the project.

Tesla, Inc. (Coalinga)

Tesla's proposed project, titled "Coalinga, CA," will install EV chargers at one location in Fresno County. There will be 164 DCFCs and 1 Level 2 charger, although the total number of charging ports is not clear. At least 50 percent of ports will use SAE standard connectors. Tesla estimates that the project will reduce GHG emissions by 215,512 metric tons CO₂e over 15 years. Tesla also expects the project to improve overall air quality by reducing pollutants such as NO_x and PM_{2.5}.

Outreach will include app, website, and social media posts to promote the project.

Tesla, Inc. (Willows)

Tesla's proposed project, titled "Willows, CA," will install EV chargers at one location in Glenn County. There will be 100 DCFCs and 4 Level 2 chargers, although the total number of charging ports is not clear. At least 50 percent of ports will use SAE standard connectors. Tesla estimates that the project will reduce GHG emissions by 147,179 metric tons CO₂e over 15 years. Tesla also expects the project to improve overall air quality by reducing pollutants such as NO_x and PM_{2.5}.

Outreach will include app, website, and social media posts to promote the project.

Ventura Energy LLC

Ventura Energy's proposed project, titled "City of Santa Paula EV Charging Stations," will deploy EV chargers at two locations in Santa Paula, Ventura County. There will be a total of four DCFC ports and six Level 2 ports. By enabling rural residents to switch from gasoline-powered vehicles to EVs, Ventura Energy estimates that the project will reduce GHG emissions by 424 tons of CO₂ over five years. For criteria air pollutants and toxic air contaminants, Ventura Energy stated only that the project will not increase emissions. As with other GFO-21-604 projects, however, CEC staff expects the project to decrease these emissions.

Outreach will include yearly meetings (including at local farming organizations) to provide updates on the project.

ZEV Station California LLC

ZEV Station's proposed project, titled "ZEV Charging for Rural Mobility," will install 16 DCFC ports at one location in Riverside County. By encouraging rural residents to switch to EVs, ZEV Station estimates that the project could reduce GHG emissions by 1,104 metric tons of CO₂ per year. The project team also expects a reduction in criteria air pollutants, such as PM_{2.5}.

Outreach will include social media and web outreach, press releases, groundbreaking and ribbon-cutting ceremonies, and an educational workshop. ZEV Station also plans to install a sheltered educational area at the site.

CHAPTER 3:

Location Analysis

This LHI Report identifies projects located in high-risk communities, using staff’s adaptation of the Environmental Justice Screening Method (EJSM).⁴ High-risk communities are those with social vulnerability indicators, high exposure to pollution, and greater health risks. This LHI Report is not intended to be a detailed pollution analysis of proposed projects, nor is it intended to substitute for the environmental review conducted during CEQA.

CEC staff identifies high-risk community project locations using data from CARB, the U.S. Census Bureau, and other public agencies. The data are analyzed to assign EJ indicators for each project location specified in the LHI Report. The proposed project location must meet a two-part environmental and demographic standard to be considered in a “high-risk community.”

Part 1: Environmental Standard

Communities meet the environmental standard if they have a high concentration of air pollutants. These pollutants include ozone, particulate matter 2.5 microns in diameter or smaller (PM_{2.5}), or particulate matter 10 microns in diameter or smaller (PM₁₀). The environmental standard uses CARB air quality monitoring data on nonattainment⁵ status for these pollutants.

Based on data for 2020,⁶ almost all projects are in communities that meet the environmental standard, since they are within a nonattainment zone for ozone, PM_{2.5}, or PM₁₀. This indicates that there may be existing poor air quality where the proposed projects are located. The only exception is the city of Susanville, since Lassen County is listed as either “unclassified” or “attainment” for these pollutants.

Part 2: Demographic Standard

Communities meet the demographic standard if they have two or more of the following EJ indicators for (1) minority, (2) age, (3) poverty, and (4) unemployment. Staff defines the EJ indicator thresholds as:

1. A minority subset represents more than 30 percent of a given city’s population.

4 Pastor Jr., Manuel (University of Southern California), Rachel Morello-Frosch (University of California, Berkeley), and James Sadd (Occidental College). 2010. *Air Pollution and Environmental Justice: Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*. California Air Resources Board.

5 A *nonattainment* area is a geographic area that does not meet state and/or national Ambient Air Quality Standards for a given pollutant. See “[Maps of State and Federal Area Designations](https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations).” California Air Resources Board. Available at <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

6 Ibid.

2. The percentage of people living in a city who are younger than 5 years of age, or who are 65 years of age or older, is more than 1.2 times (more than 20 percent higher than) the state average for those age categories.
3. A city's poverty rate exceeds the state average poverty rate.
4. The city (or county if city data are unavailable) unemployment rate exceeds the state average unemployment rate.

The demographic standard uses the U.S. Census Bureau's American Community Survey five-year estimates⁷ on race, ethnicity, age, and poverty, and the California Employment Development Department's monthly data⁸ on unemployment. Specifically, this LHI Report uses both city-level⁹ and county-level¹⁰ unemployment data. Unemployment data are not seasonally adjusted. Also, the communities of Elk and Orleans lack American Community Survey data, so county-level data are used for all of their demographic categories.

Twenty-eight of the 34 communities (including potential locations) where these projects are located meet the demographic standard, since they exceed the threshold for two or more EJ indicators (Table 7).

Analysis Results

Staff finds that 27 of the 34 communities (including potential locations) where these projects are located meet the criteria for high-risk communities since they meet both the environmental and demographic standards. The city of Susanville meets the demographic standard but not the environmental standard, so it is not considered "high-risk." In Table 7, an asterisk (*) indicates categories that exceed a given EJ indicator threshold. A city/county name in **bold**, followed by a dagger (†), indicates a high-risk community.

7 American Community Survey codes DP05 and S1701 were used to find data. See "[Explore Census Data](https://data.census.gov/cedsci/)." U.S. Census Bureau. Available at <https://data.census.gov/cedsci/>.

8 Overview page with data from most recent and previous months: "[Unemployment Rate and Labor Force](https://labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html)." Employment Development Department. Available at <https://labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html>.

9 Most recent data only: "[Monthly Labor Force Data for Cities and Census Designated Places \(CDP\)](https://labormarketinfo.edd.ca.gov/file/lfmonth/allsubs.xls)." Employment Development Department. Available at <https://labormarketinfo.edd.ca.gov/file/lfmonth/allsubs.xls>.

10 Most recent data only: "[Monthly Labor Force Data for Counties](https://labormarketinfo.edd.ca.gov/file/lfmonth/countyur-400c.pdf)." Employment Development Department. Available at <https://labormarketinfo.edd.ca.gov/file/lfmonth/countyur-400c.pdf>.

Table 7: EJ Indicators by Project Location City Demographic

Site Location	American Indian and Alaska Native (2020)	Asian (2020)	Black or African American (2020)	Hispanic or Latino (Any Race) (2020)	Native Hawaiian and Pacific Islander (2020)	Under 5 Years of Age (2020)	65 Years of Age and Over (2020)	Below Poverty Level (2020)	Unemployment (May 2022)
California	0.8%	14.8%	5.7%	39.1%	0.4%	6.1%	14.3%	12.6%	3.4%
EJ Indicator Threshold	30%	30%	30%	30%	30%	7.3%	17.2%	12.6%	3.4%
Arcata†	3.1%	4.1%	2.5%	15.2%	1.0%	2.3%	11.7%	34.5%*	4.9%*
Baker†	5.1%	5.8%	0.0%	80.6%*	2.3%	14.5%*	5.8%	20.5%*	3.4%
Barstow†	2.4%	2.7%	16.8%	44.8%*	2.3%	8.9%*	11.5%	30.4%*	4.3%*
Cabazon†	10.7%	2.6%	3.4%	45.0%*	0.0%	9.0%*	11.5%	17.5%*	1.6%
Castroville †	0.0%	4.6%	0.6%	87.2%*	0.0%	8.9%*	11.4%	10.2%	7.7%*
Ceres†	1.0%	7.2%	3.7%	62.3%*	0.6%	6.9%	10.5%	14.5%*	5.4%*
Coalinga†	2.6%	1.9%	2.9%	62.0%*	0.5%	4.3%	9.8%	18.9%*	5.7%*
Elk†	4.3%	2.0%	0.5%	25.7%	0.2%	5.7%	22.1%*	16.3%*	2.9%
Eureka	1.7%	6.2%	2.3%	15.6%	0.2%	5.4%	16.1%	19.8%*	2.5%
Fort Bragg†	2.3%	1.6%	1.1%	34.3%*	0.0%	8.3%*	22.8%*	19.5%*	2.3%
Fortuna	2.4%	0.4%	0.9%	23.0%	0.6%	5.6%	16.0%	18.7%*	1.9%
French Camp†	1.5%	3.1%	10.7%	62.3%*	0.1%	4.5%	8.3%	22.6%*	3.3%
Garberville†	0.0%	0.7%	0.0%	4.6%	0.0%	10.4%*	12.5%	26.5%*	2.9%
Gonzales†	0.6%	1.6%	0.5%	92.2%*	0.4%	9.6%*	6.9%	10.8%	2.9%
Greenfield †	0.1%	1.0%	1.7%	91.9%*	0.0%	11.6%*	6.3%	14.3%*	2.7%
Independence	14.6%	0.4%	0.9%	17.6%	0.4%	6.6%	22.2%*	6.4%	1.9%
La Quinta†	0.2%	4.5%	1.9%	36.2%*	0.1%	4.9%	27.1%*	14.1%*	2.5%
Lathrop†	1.3%	26.3%	6.7%	40.1%*	0.5%	7.6%*	10.4%	11.5%	4.4%*
Little River†	0.0%	0.0%	0.0%	20.5%	0.0%	0.0%	18.2%*	56.3%*	2.9%

Site Location	American Indian and Alaska Native (2020)	Asian (2020)	Black or African American (2020)	Hispanic or Latino (Any Race) (2020)	Native Hawaiian and Pacific Islander (2020)	Under 5 Years of Age (2020)	65 Years of Age and Over (2020)	Below Poverty Level (2020)	Unemployment (May 2022)
McKinleyville†	3.7%	3.7%	0.3%	10.9%	0.0%	8.9%*	15.3%	17.0%*	1.8%
Mendocino County†	4.3%	2.0%	0.5%	25.7%	0.2%	5.7%	22.1%*	16.3%*	2.9%
Norco	0.4%	3.4%	4.2%	33.6%*	0.1%	3.7%	15.0%	6.5%	2.4%
Orleans†	4.5%	2.9%	1.1%	11.9%	0.4%	5.2%	17.8%*	19.7%*	2.9%
Oroville†	1.9%	13.7%	4.8%	14.4%	0.1%	7.6%*	14.4%	25.8%*	3.5%*
Palm Springs†	0.9%	4.9%	4.9%	25.2%	0.3%	2.8%	32.4%*	16.4%*	2.7%
Paradise†	1.4%	0.9%	0.5%	6.3%	0.1%	3.3%	34.6%*	14.7%*	3.6%*
Redway	0.0%	0.0%	0.0%	4.6%	0.0%	3.4%	33.1%*	0.0%	3.4%
Riverside County	0.8%	6.7%	6.5%	49.4%*	0.3%	6.4%	14.5%	12.5%	3.4%
San Lucas†	0.0%	0.0%	0.0%	86.7%*	0.0%	11.8%*	5.5%	29.9%*	0.0%
Santa Paula†	0.8%	0.7%	0.1%	83.8%*	0.0%	8.5%*	13.3%	16.1%*	4.8%*
Stanislaus County†	0.9%	5.9%	3.1%	46.9%*	0.6%	7.2%	13.0%	13.5%*	4.5%*
Susanville	2.1%	1.9%	15.3%	30.4%*	1.5%	3.2%	7.4%	20.0%*	2.6%
Ukiah†	2.5%	3.2%	0.7%	35.7%*	0.0%	6.7%	15.1%	18.2%*	3.6%*
Willowst†	1.5%	10.2%	1.7%	29.9%	0.0%	8.0%*	16.9%	18.8%*	5.4%*

Sources: CEC staff, Employment Development Department, and U.S. Census Bureau.

Summary

If funded, the proposed projects would result in an expanded supply of conveniently accessible EV charging for rural residents around the state. This expansion will achieve emissions reductions by encouraging residents to switch from gas-powered vehicles to EVs.

Based on EJSM standards, CEC staff has identified 27 out of 34 communities where these projects are located as high-risk communities. These communities are at a higher risk of adverse health effects from pollution. However, staff found no indication that the CTP-funded projects identified in this LHI Report would negatively affect community health. Staff does not anticipate a significant increase in local pollutants, and the project awardees identify no major construction that would generate criteria emissions or pollutants. In fact, these proposed projects may create a net benefit for the surrounding communities, by reducing harmful criteria air pollutants, toxic air contaminants, and greenhouse gases (GHGs) that contribute to climate change.

GLOSSARY

Term	Definition
Bidirectional charging	The ability for a plug-in electric vehicle to not just receive electricity to charge its battery, but to send stored electricity back through the charging cable. This ability has various potential uses, such as allowing an electric vehicle to power a home for some time during a grid power outage.
California Code of Regulations (CCR)	The official compilation and publication of the regulations adopted, amended, or repealed by state agencies under the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the Secretary of State have the force of law.
California Environmental Quality Act (CEQA)	A statute that requires state and local agencies to identify the significant environmental impacts of their actions and avoid or reduce those impacts, if feasible.
CalEnviroScreen	A screening tool that evaluates and ranks census tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors, and prevalence of certain health conditions.
Carbon dioxide equivalent (CO ₂ e)	A measure used to compare the emissions from various greenhouse gases based upon the associated global warming potential.
Carbon monoxide (CO)	A colorless, odorless, highly poisonous gas formed by the incomplete combustion of certain fuels, including gasoline.
Community-based organization (CBO)	An organization that is intended to serve a particular geographic area and is based mainly in the community which it serves.
Criteria air pollutant	An air pollutant for which acceptable levels of exposure can be determined and for which the U.S. Environmental Protection Agency has set an ambient air quality standard. Examples include ozone (O ₃), carbon monoxide (CO), nitrogen oxides (NO _x), sulfur oxides (SO _x), and particulate matter (PM ₁₀ and PM _{2.5}).
Direct-current fast charger (DCFC)	High-speed charger for electric vehicles. DC fast charging uses direct current (DC) and can provide more power than either Level 1 or Level 2 charging.
Disadvantaged community	A designation by the California Environmental Protection Agency used to identify areas disproportionately affected by

Term	Definition
	environmental pollution or hazards, due to geographic, socioeconomic, public health, and environmental factors.
Electric vehicle (EV)	A vehicle that is powered partly or completely by electricity. This often refers to battery-electric vehicles, which have no engine and store all the energy in batteries. The term can also include other vehicle types, such as plug-in hybrids.
Environmental justice (EJ)	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
Environmental Justice Screening Method (EJSM)	An approach that combines environmental and demographic indicators to inform agency outreach and engagement practices regarding environmental justice.
Grant funding opportunity (GFO)	Where the California Energy Commission offers applicants an opportunity to receive grant funding for projects meeting certain requirements.
Level 1 charger	The slowest category of electric-vehicle charger. Level 1 uses alternating current (AC) at standard North American household voltage (for example, 120 volts).
Level 2 charger	Medium-speed charger for electric vehicles. Level 2 uses alternating current (AC) at a higher voltage (for example, 240 volts) than Level 1, providing more power.
Localized health impacts (LHI)	Potential health impacts to communities.
Metric ton	A unit of weight equal to 1,000 kilograms or 2,205 pounds.
Nitrogen oxides (NO _x)	A general term including nitric oxide (NO), nitrogen dioxide (NO ₂), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation.
Notice of proposed awards (NOPA)	A document identifying projects that are proposed to receive funding under a California Energy Commission funding opportunity, such as a grant funding opportunity.
Particulate matter (PM)	Any material besides pure water that exists in a solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particles resulting from combustion.
PM _{2.5}	Particulate matter with particles 2.5 microns in diameter or smaller. Also called "fine particulate matter."

Term	Definition
PM ₁₀	Particulate matter with particles 10 microns in diameter or smaller. Also called "coarse particulate matter."
Reactive organic gas (ROG)	Closely related to the term "volatile organic compound" (VOC). ROGs are a group of chemical gases that may contribute to the formation of smog.
SAE International (SAE)	Formerly known as the Society of Automotive Engineers.
Toxic air contaminant	An air pollutant, identified in California Air Resources Board regulations, which may cause negative health effects even at very low concentrations.
Volatile organic compound (VOC)	Closely related to the term "reactive organic gas" (ROG). VOCs are carbon-containing compounds that evaporate into the air (with a few exceptions), and often have an odor. VOCs contribute to the formation of smog, and/or may themselves be toxic. Some examples include gasoline, alcohol and the solvents used in paints.

Sources: California Air Resources Board, CEC Energy Glossary, University of Michigan School of Public Health, and U.S. Environmental Protection Agency