



**CALIFORNIA
ENERGY COMMISSION**



California Energy Commission

STAFF REPORT

Localized Health Impacts Report

**Projects Awarded Funding Under Solicitation
GFO-22-609 — Responsive, Easy Charging
Products with Dynamic Signals**

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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) or similar funding. Preventing or minimizing health risks from pollution is vital in any community, but especially in those 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. Those guidelines require the CEC to issue LHI Reports (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.”

In addition, the CEC issues LHI Reports for certain projects that are similar to CTP projects but do not receive CTP funding.

The CEC publishes this LHI Report at least 30 days before approving projects 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-22-609. This grant initiative seeks to accelerate the development and deployment of easy-to-use charging products that help customers manage electric vehicle charging and respond to dynamic grid signals. Under California Code of Regulations Title 13, Section 2343, this report is available for public comment for 30 days before projects can be approved at a publicly noticed business meeting.

CEC staff has proposed 10 projects for grant funding awards under Solicitation GFO-22-609. In addition to deploying charging management software solutions, some of these projects will install electric vehicle supply equipment or charging infrastructure at multiple locations. If site locations for hardware charger installation were unavailable at the time of the application, metropolitan or county-level demographic data was used for environmental justice indication analysis. Based on known project location information provided by the awardees, 14 of the 23 communities where these projects are located are considered high-risk communities. Staff does not anticipate a net increase in the pollution burden for the communities where these projects are located.

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

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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. The CEC also provides funding from programs that are similar to but separate from the Clean Transportation Program. An example of a similar program is the funding described in Section 74 of the Budget Act of 2021 (Senate Bill 129, Skinner, Chapter 69, Statutes of 2021).

Under California Code of Regulations Title 13, Section 2343, this Localized Health Impacts Report describes the electric vehicle charging projects proposed for funding that may require certain kinds of permits 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 how project-related emissions or pollution could affect community health. Environmental justice communities, low-income communities, and minority communities are at higher risk of harm from pollution. Project locations in these communities are considered "high-risk community project locations." CEC staff identifies high-risk communities using a combination of demographic and environmental data. Environmental data for air quality come from the California Air Resources Board. Demographic data are from the U.S. Census Bureau and the California Employment Development Department.

CEC staff proposes 10 projects for Clean Transportation Program or similar grant funding awards under Solicitation GFO-22-609, "Responsive, Easy Charging Products with Dynamic Signals (REDWDS)." This initiative seeks to accelerate the development and deployment of easy-to-use charging products that help customers manage electric vehicle charging and respond to dynamic grid signals. Of the 10 proposed projects, three (Optiwatt, Weave Grid Inc., and ev.energy Corp) will be deploying software-centric solutions that will not require permits or environmental review. Staff assessed the localized health impacts of the remaining seven projects. Based on known project site information provided by the awardees, 14 of the 23 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 negative health impacts from pollution. However, 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

This solicitation utilizes the processes established under the Clean Transportation Program (CTP) and Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007). AB 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) reauthorized the CTP to January 1, 2024. Assembly Bill 126 (Reyes, Chapter 319, Statutes of 2023) reauthorized the CTP through July 1, 2035.

The Budget Act of 2021 (Assembly Bill 128, Ting, Chapter 21, Statutes of 2021, as amended by Senate Bill 129, Skinner, Chapter 69, Statutes of 2021 and Senate Bill 170, Skinner, Chapter 240, Statutes of 2021) and Assembly Bill 211 (Committee on Budget, Chapter 574, Statutes of 2022) provides funding that is related to but separate from the CTP.

On March 10, 2023, the CEC released a competitive grant solicitation, “Responsive, Easy Charging Products with Dynamic Signals (REDWDS)” (GFO-22-609). GFO-22-609 offered funding for projects that accelerate the development and deployment of easy-to-use charging products that help customers manage electric vehicle (EV) charging and respond to dynamic grid signals. This solicitation was designed to accommodate two phases. Phase 1 includes product development to improve response to dynamic grid signals, some preliminary customer deployment of the product, and data reporting on product usage. Phase 2 of this solicitation may provide funding for additional customer deployments and data reporting based on performance metrics from Phase 1. Only Phase 1 project activities have been included in this LHI Report. GFO-22-609 will support switching from gasoline vehicles to EVs, which will reduce criteria air pollutants and greenhouse gas (GHG) emissions in California.

Projects Selected

On September 29, 2023, the CEC posted a notice of proposed awards (NOPA)¹ identifying the 10 projects awarded grant funding under GFO-22-609 Phase 1. Two of the 10 proposed projects, submitted by Optiwatt and Weave Grid Inc., will deploy software-only solutions and will not require permits or environmental review. The proposed project for ev.energy Corp. will deploy a software product with optional charging cables that will also not require permits or environmental review. Since these three proposed projects (Optiwatt, Weave Grid Inc., and ev.energy Corp.) do not require permits or environmental review, they are not required to be

1 Hockaday, Angela. 2023. “Notice Of Proposed Awards.” California Energy Commission. Accessed October 25, 2023. [Cover letter](https://www.energy.ca.gov/sites/default/files/2023-09/GFO-22-609_NOPA_REDWDS_Cover_Page_2023-09-29_ada.docx) available at https://www.energy.ca.gov/sites/default/files/2023-09/GFO-22-609_NOPA_REDWDS_Cover_Page_2023-09-29_ada.docx, and [table of awardees](https://www.energy.ca.gov/sites/default/files/2023-09/GFO-22-609_NOPA_REDWDS_Table_2023-09-29_ada.xlsx) available at https://www.energy.ca.gov/sites/default/files/2023-09/GFO-22-609_NOPA_REDWDS_Table_2023-09-29_ada.xlsx.

included in this report or environmental justice (EJ) indicator analysis. However, project descriptions for these three awardees have been included to provide a complete picture of the funds awarded under GFO-22-609.

The remaining seven proposed projects include hardware and software solutions, such as charging equipment or infrastructure installation. Table 1 lists the known proposed project locations or regions of the awardees and the corresponding EJ indicators. EJ indicator definitions are in Chapter 3 of this report, and EJ indicator analysis is in Table 2. In some cases, the city listed in the postal address of a project may differ from the geographic entity assigned by the U.S. Census Bureau. In these cases, the Census location (county, place, or Census Designated Place) used for EJ indicator analysis is listed in parentheses following the project location address.

Bidirectional Energy Inc. and Kaluza Ltd. will select deployment sites during Phase 1 of their respective projects and have provided targeted deployment areas. Metropolitan-, county-, or regional-level data has been used to conduct the EJ indicator analysis for these two proposed projects. Deployment site locations for projects proposed by dcbel LLC, Gridtractor and IoTecha Corp. were unknown at the time of application. No EJ indicator analysis was performed for these three proposed projects.

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. That type of update is called an "LHI Report Addendum."

Table 1: Project Details with EJ Indicators

| Proposed Awardee | Project Title | Project Location | EJ Indicator(s) |
|---------------------------|---|--|--------------------------------------|
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: Bakersfield Metro Area | Age, Minority, Poverty, Unemployment |
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: Fresno Metro Area | Age, Minority, Poverty, Unemployment |
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: Los Angeles Metro Area (Los Angeles, Long Beach, Anaheim Metro Area) | Minority, Poverty, Unemployment |
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: Sacramento Metro Area (Sacramento, Roseville, Folsom Metro Area) | none |

| Proposed Awardee | Project Title | Project Location | EJ Indicator(s) |
|---------------------------|--|---|--|
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: San Diego Metro Area (San Diego, Chula Vista, Carlsbad Metro Area) | Minority |
| Bidirectional Energy Inc. | Bidirectional Residential V2X Demonstration Project | Deployment Target Area: San Francisco Metro Area (San Francisco, Oakland, Berkeley Metro Area) | none |
| Everergi LLC | GridFleet CA | 11370 Trade Center Dr #3, Rancho Cordova, CA 95742 | Age |
| Everergi LLC | GridFleet CA | 1260 Martin Luther King Jr Wy, Oakland, CA 94612 | Poverty |
| Everergi LLC | GridFleet CA | 1993 Rancho Conejo Blvd, Thousand Oaks, CA 91320 | Age |
| Everergi LLC | GridFleet CA | 250 Frank H Ogawa Plaza, Oakland, CA 94612 | Poverty |
| Everergi LLC | GridFleet CA | 2550 Mercantile Dr Ste d, Rancho Cordova, CA 95742 | Age |
| Everergi LLC | GridFleet CA | 4710 Cardin St, San Diego, CA 92111 | Minority |
| Everergi LLC | GridFleet CA | 7101 Edgewater Dr, Oakland, CA 94621 | Poverty |
| Everergi LLC | GridFleet CA | 750 Hearst Castle Rd, San Simeon, CA 93452 (San Luis Obispo County) | Age |
| Everergi LLC | GridFleet CA | 976 S First St, San Jose, CA 95110 | Minority |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Fresno County | Age, Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Kern County | Age, Minority, Poverty, Unemployment |

| Proposed Awardee | Project Title | Project Location | EJ Indicator(s) |
|------------------------------------|--|---|--------------------------------------|
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Kings County | Age, Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Madera County | Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Merced County | Age, Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: San Joaquin County | Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Stanislaus County | Minority, Poverty, Unemployment |
| Kaluza Ltd | Technology for Reliable ElectricVehicle Electricity - TREE | Deployment Target Area: Tulare County | Age, Minority, Poverty, Unemployment |
| Prologis Mobility, Bruns Auri Inc. | Prologis Mobility Solutions | 1901 California St, Redlands, CA 92374 | Minority |
| Prologis Mobility, Bruns Auri Inc. | Prologis Mobility Solutions | 1990 S Cucamonga Ave, Ontario, CA 91761 | Minority, Poverty |
| Prologis Mobility, Bruns Auri Inc. | Prologis Mobility Solutions | 20504 South Denker Ave, Torrance, CA 90501 (Los Angeles city) | Minority, Poverty, Unemployment |

Source: CEC staff

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](https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/localized-health-impacts-reports) 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 your 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.

A hard copy can be mailed 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-22-609 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 CalEnviroScreen² screening tool developed by the Office of Environmental Health Hazard Assessment.

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

Bidirectional Energy Inc.

Phase 1 of Bidirectional Energy Inc.'s proposed project, "Bidirectional Residential V2X Demonstration Project," will test the data integration and interoperability of vehicle-to-everything (V2X) Quasar 2 bidirectional chargers manufactured by Wallbox. Chargers will be installed by COIL, an electric vehicle charging infrastructure (EVCI) installer, at 120 residential California locations. Customer product deployment targets metropolitan areas with high EV adoption rates such as the San Francisco Bay Area, Sacramento, Los Angeles, and San Diego. Additional marketing efforts will include Bakersfield, Fresno, and other Central Valley locations. Bidirectional Energy will partner with the Clean Cities Coalition to ensure at least 50 percent of the customer deployments are in disadvantaged communities and form an outreach plan and implementation plan.

Outreach efforts include organizing a Community Advisory Board with local and state organizations to disseminate information about regional charger rebates available from utilities, air districts, and state federal income tax credits to subsidize charger costs. Community outreach events will be hosted for community members and potential customers to view and demo the bidirectional charging features.

Optiwatt

Optiwatt's proposed project, "Optiwatt REDWDS Scalable, Grid-Connected, Rate-Optimized EV Telematics Solution," will upgrade their existing EV Managed Charging Solution software to incorporate dynamic rates and interface with the CEC's Market Informed Demand Automation Server (MIDAS). Optiwatt expects to market the upgraded software to roughly 21,000

² 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. Accessed October 25, 2023. Available at <https://oehha.ca.gov/calenviroscreen>.

customers in Phase 1. The software utilizes localized emission signals from WattTime³, to calculate the grid mix for any given hour and shift EV charging load to times when the grid has the highest level of renewable energy, reducing carbon dioxide (CO₂) emissions from fossil fuel power generation. This project does not include any EVCI installation, permits or environmental review.

Outreach efforts to drive customer deployment include digital marketing strategies such as push notifications and advertising on EV applications and EV content marketing on social media. Billboards and postcards with information on dynamic rates will target EV drivers in disadvantaged communities. Optiwatt will also partner with community-based organizations (CBO), the California Energy Alliance, and the California Environmental Justice Alliance to conduct marketing at EV and community events.

dcbel LLC

Phase 1 of dcbel LLC's proposed project, "REDWDS dcbel Ready Deployment with Dynamic Rates," will provide customer incentives to install 200 bidirectional direct current chargers, or Home Energy Stations, in single-family homes with a bidirectional EV. Home Energy Stations are all-in-one electric vehicle supply equipment (EVSE) that includes bidirectional EV charging (vehicle to home and vehicle to grid) and hybrid inverters for solar power or home battery management. Operating system software integrates dynamic rate signals and third-party applications to execute charging routines based on the household's lifestyle, weather, energy costs, anticipated future energy use, cost savings, and CO₂ emissions. Priority customer locations include communities with dynamic rates (35 percent of deployments) and disadvantaged communities (50 percent of deployments). dcbel will partner with Celestica Service to install Home Energy Station and does not expect any permits to be required.

Outreach efforts include marketing campaigns with dcbel's partner original equipment manufacturers (Nissan, Volvo, and GM) to target new and existing EV owners in priority communities. dcbel will also partner with Community Choice Aggregation (CCA) programs, and existing community organizations such as the California Alternate Rates for Energy Program (CARE) and Family Electric Rate Assistance Program (FERA) to make new EV buyers in disadvantaged communities aware of EV bidirectionality savings and revenue generation opportunities.

ev.energy Corp.

ev.energy Corp's proposed project, "ChargeWise CA," will offer rebates on a SmartenIt SmartElek cable to be used in conjunction with the ev.energy dynamic charging application to more than 1,000 EV drivers in Phase 1. No project locations were provided. ev.energy does not expect permits to be required since the project will use existing 208/240-volt outlets.

³ WattTime provides real-time, forecast, and historical electricity grid data through an API. See [Data Signals](https://watttime.org/data-science/data-signals/) available at <https://watttime.org/data-science/data-signals/>.

Outreach efforts will leverage partnerships with CCAs and targeted marketing efforts to ensure 50 percent of customer deployments are located within disadvantaged communities. Special provisions for customers lacking smart charging capabilities will be provided.

Evenergi LLC

Evenergi LLC's proposed project, "GridFleet CA," will build and deploy BetterFleet, an optimized EV fleet charging platform capable of responding to dynamic signals from electric market load-modifying opportunities. Phase 1 includes nine sites in the Sacramento and San Francisco Bay areas with three direct current fast chargers (DCFC) and 10 bidirectional chargers with local storage, control system, microgrid management system, and additional metering to charge EV Star Cargo vehicles manufactured by Green Power Motor Company. Evenergi does not expect project operations to generate any emissions. The project is expected to reduce GHG, nitrogen oxides (NOx), and particulate matter.

Outreach efforts will be conducted via clean cities coalitions, tradeshow, social media, and direct sales.

Gridtractor

Gridtractor's proposed project, "Rural Electrification and Charging Technology (REACT)," will deploy automated load management software, WingspanAI, and EVSE hardware for Monarch tractor customers and electric farm vehicle owners throughout California. At the time of application, customer deployment sites have not been identified and will be selected from the Monarch tractor EV delivery backlog, of which 40 percent are in disadvantaged communities.⁴ Gridtractor's customer deployment goal is 50 percent of sites located in disadvantaged communities.

Phase 1 will deploy WingspanAI on existing EVSE and seek new customers to install chargers and enroll in the AgFIT Dynamic Rates Pilot. Gridtractor estimates Phases 1 and 2 will support 1,177 new electric farm vehicles that will displace roughly 18,900 metric tons of CO₂ emissions from diesel fuel consumption annually with electric power generation. Smart charging and V2X benefits will reduce the carbon content of the electricity used to roughly 7 percent of the CO₂ emitted from fossil fuel power generation. Gridtractor does not expect an increase in traffic since the project is replacing internal combustion engine vehicle traffic with EVs.

Outreach efforts will leverage established relationships with community groups, service organizations, trade associations, local, regional, and state agencies. Customer participation will be recruited through local farm bureaus, regional land trusts, agricultural research institutions, air quality management districts, reclamation districts, rural real-estate brokers, flood and irrigation districts, regional banks, county agriculture commissioners, farmers markets, National Resources Conservation Service, the California Department of Food and Agriculture, and agricultural extension resource conservation districts.

⁴ California Climate Investments. 2023. "[California Climate Investments Priority Populations 2022 CES 4.0 map.](https://webmaps.arb.ca.gov/PriorityPopulations/)" Available at <https://webmaps.arb.ca.gov/PriorityPopulations/>.

IoTecha Corp.

Phase 1 of IoTecha Corp's proposed project, "Residential Electric Vehicle Installation Supporting Innovative Tariffs (REVISIT charging project)," will install 120 Level 2 EV chargers utilizing IoT.ON™, a cloud-based platform capable of responding to grid signals, such as pricing and demand response, in single- and multifamily homes across California. At the time of the application, the project site locations are unknown. IoTecha will provide and report detailed demographic data during the customer acquisition process of Phase 1 and Phase 2. No increase in traffic is expected to be generated by the project. IoTecha conservatively estimates that new EV drivers participating in the project will represent a reduction of 54.5 million lbs. of CO₂ equivalent per year.

Outreach efforts to the EV driver community include an educational dynamic charging awareness program through social media and community events. Community outreach will emphasize the benefits of managed charging and its impact on the grid.

Kaluza Ltd.

Kaluza Ltd.'s proposed managed charging project, "Technology for Reliable Electric Vehicle Electricity," will facilitate up to 175 Level 2 EV charger installations and 30 bidirectional charging installations during Phase 1. Deployment sites have not yet been determined but are expected to be in the following counties: San Joaquin, Merced, Madera, Kings, Kern, Fresno, Tulare, and Stanislaus. The project is expected to reduce emissions by accelerating EV uptake and utilizing managed charging to charge EVs when renewable energy is available. No increase in traffic is anticipated as a result of the project.

Outreach efforts include partnering with utility providers, auto original equipment manufacturers, and CBOs to develop a bilingual educational campaign. The campaign will inform consumers about dynamic pricing structures and how smart charging benefits can be added to other EV incentives to reduce the upfront costs of EV and EVSE purchasing or delivered to consumers over time via monthly bill reductions. Kaluza will leverage CBO Valley Clean Air Now in-person engagement at the point-of-sale through the Drive Clean in the San Joaquin vehicle replacement program to inform new residential EV drivers about managed EV charging.

Prologis Mobility

Prologis Mobility's (Prologis') proposed project, "Prologis Mobility Solutions," will install 35 Zerova DOWU362000 (90 kilowatt–360 kilowatt) charging stations at commercial charging depots in Torrance, Ontario, and Redlands, California. Prologis states that the proposed sites do not require permits. No information about project-generated emissions, health impacts, or outreach efforts was provided in Prologis's application.

Weave Grid Inc.

Weave Grid Inc.'s proposed project, "Digital Responsive Infrastructure for Vehicle Electrification Readiness (DRIVER)," will integrate dynamic rates and FlexAlerts from MIDAS, the Demand Side Grid Support program, and the Emergency Load Reduction Program into their existing charging management software Distribution Integrated Smart Charging

Orchestration. Phase 1 will engage with EV fleet operators, such as Cruise, Amazon, and Uber, to gain insight on fleet operator needs and inform the design of the fleet participant interface.

The proposed project will deploy software services, marketing, data collection, and digital communication with participants' existing EVs and chargers. The project will not involve physical hardware provisioning, siting, permitting, construction, or installation. Weave Grid did not provide target locations, project-generated emissions, health impacts, or outreach efforts for the project.

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).⁵ High-risk communities are those with social vulnerability indicators, high exposure to pollution, and greater health risks. This 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 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 nonattainment⁶ status for these pollutants.

Using 2022 data,⁷ 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 finding indicates that there may be existing poor air quality where the proposed projects are located.

Part 2: Demographic Standard

Communities meet the demographic standard if they have two or more EJ indicators for minority, age, poverty, and unemployment. Staff defines the EJ indicator thresholds as:

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

5 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](https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/04-308.pdf). California Air Resources Board. Accessed October 6, 2023. Available at <https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/04-308.pdf>

6 A *nonattainment* area is a geographic area that does not meet the Ambient Air Quality Standards (state, national, or both) 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. Accessed October 6, 2023. Available at <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.

7 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 categories.
3. A city's poverty rate that exceeds the state average poverty rate.
4. The city (or county if city data are unavailable) unemployment rate exceeds the average state unemployment rate.

The demographic standard uses the U.S. Census Bureau's American Community Survey five-year estimates⁸ on race, ethnicity, age, and poverty, and the California Employment Development Department's monthly data⁹ on unemployment. Specifically, this LHI Report uses city-level¹⁰ and county-level¹¹ unemployment data. Unemployment data are not seasonally adjusted.

Analysis Results

Staff finds that 14 of the 23 communities where these projects are located meet the criteria for high-risk communities since they meet both the environmental and demographic standards. In Table 2, a **bold** number followed by 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.

Table 2: EJ Indicators by Project Location City Demographic

| Site Location | American Indian and Alaska Native (2021) | Asian (2021) | Black or African American (2021) | Hispanic or Latino (Any Race) (2021) | Native Hawaiian and Pacific Islander (2021) | Under 5 Years of Age (2021) | 65 Years of Age and Over (2021) | Below Poverty Level (2021) | Unemployment (October 2023) |
|------------------------|--|--------------|----------------------------------|--------------------------------------|---|-----------------------------|---------------------------------|----------------------------|-----------------------------|
| California | 0.9% | 14.9% | 5.7% | 39.5% | 0.4% | 6.0% | 14.4% | 12.3% | 4.9% |
| EJ Indicator Threshold | 30% | 30% | 30% | 30% | 30% | 7.2% | 17.3% | 12.3% | 4.9% |

8 American Community Survey codes DP05 and S1701 were used to find data. See "[Explore Census Data](#)." U.S. Census Bureau. Accessed October 25, 2023. Available at <https://data.census.gov/cedsci/>.

9 Overview page with data from most recent and previous months: "[Unemployment Rate and Labor Force](#)." Employment Development Department. Accessed October 25, 2023. Available at <https://labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html>.

10 Most recent data only: "[Monthly Labor Force Data for Cities and Census Designated Places \(CDP\)](#)." Employment Development Department. Accessed October 25, 2023. Available at <https://labormarketinfo.edd.ca.gov/file/lfmonth/allsubs.xls>.

11 Most recent data only: "[Monthly Labor Force Data for Counties](#)." Employment Development Department. Accessed October 25, 2023. Available at <https://labormarketinfo.edd.ca.gov/file/lfmonth/countyur-400c.pdf>.

| Site Location | American Indian and Alaska Native (2021) | Asian (2021) | Black or African American (2021) | Hispanic or Latino (Any Race) (2021) | Native Hawaiian and Pacific Islander (2021) | Under 5 Years of Age (2021) | 65 Years of Age and Over (2021) | Below Poverty Level (2021) | Unemployment (October 2023) |
|--|--|--------------|----------------------------------|--------------------------------------|---|-----------------------------|---------------------------------|----------------------------|-----------------------------|
| Bakersfield Metro Area† | 1.0% | 4.8% | 5.4% | 54.7%* | 0.1% | 7.5%* | 10.9% | 19.4%* | 7.5%* |
| Fresno County† | 1.2% | 10.7% | 4.5% | 54.0%* | 0.2% | 7.5%* | 12.1% | 20.2%* | 6.6%* |
| Fresno Metro Area† | 1.2% | 10.7% | 4.5% | 54.0%* | 0.2% | 7.5%* | 12.1% | 20.2%* | 6.6%* |
| Kern County† | 1.0% | 4.8% | 5.4% | 54.7%* | 0.1% | 7.5%* | 10.9% | 19.4%* | 7.5%* |
| Kings County† | 1.5% | 3.9% | 6.6% | 55.5%* | 0.2% | 7.5%* | 10.3% | 16.4%* | 7.0%* |
| Los Angeles city† | 0.9% | 11.7% | 8.6% | 48.4%* | 0.2% | 5.5% | 12.9% | 16.6%* | 6.1%* |
| Los Angeles, Long Beach, Anaheim Metro Area† | 0.9% | 16.3% | 6.4% | 45.2%* | 0.3% | 5.7% | 14.0% | 12.9%* | 5.8%* |
| Madera County† | 1.4% | 2.3% | 3.0% | 59.1%* | 0.1% | 7.2% | 13.9% | 19.6%* | 6.6%* |
| Merced County† | 1.2% | 7.5% | 2.9% | 61.2%* | 0.3% | 7.5%* | 11.1% | 19.4%* | 7.7%* |
| Oakland city | 1.0% | 15.7% | 22.0% | 27.2% | 0.5% | 6.0% | 13.5% | 13.5%* | 4.3% |
| Ontario city† | 1.4% | 7.0% | 5.7% | 69.9%* | 0.3% | 6.8% | 9.8% | 13.0%* | 4.3% |
| Rancho Cordova city | 1.1% | 14.0% | 10.9% | 20.9% | 0.7% | 7.9%* | 11.7% | 11.2% | 4.5% |
| Redlands city | 0.4% | 8.1% | 6.3% | 36.8%* | 0.4% | 5.9% | 14.1% | 8.7% | 3.7% |
| Sacramento, Roseville, Folsom Metro Area | 0.6% | 14.3% | 7.0% | 22.2% | 0.8% | 5.9% | 15.4% | 12.2% | 4.3% |
| San Diego city | 0.6% | 17.2% | 6.0% | 30.1%* | 0.5% | 5.6% | 13.3% | 11.6% | 3.9% |

| Site Location | American Indian and Alaska Native (2021) | Asian (2021) | Black or African American (2021) | Hispanic or Latino (Any Race) (2021) | Native Hawaiian and Pacific Islander (2021) | Under 5 Years of Age (2021) | 65 Years of Age and Over (2021) | Below Poverty Level (2021) | Unemployment (October 2023) |
|---|--|---------------|----------------------------------|--------------------------------------|---|-----------------------------|---------------------------------|----------------------------|-----------------------------|
| San Diego, Chula Vista, Carlsbad Metro Area | 0.8% | 12.0% | 4.9% | 34.3%* | 0.4% | 6.0% | 14.1% | 10.7% | 4.0% |
| San Francisco, Oakland, Berkeley Metro Area | 0.7% | 27.0% | 7.2% | 22.0% | 0.7% | 5.3% | 15.6% | 8.4% | 3.0% |
| San Joaquin County† | 0.8% | 16.5% | 7.0% | 42.3%* | 0.6% | 6.9% | 12.6% | 13.5%* | 5.9%* |
| San Jose city† | 0.8% | 37.5%* | 3.0% | 31.0%* | 0.5% | 5.7% | 13.2% | 7.7% | 3.4% |
| San Luis Obispo County | 0.8% | 3.6% | 1.5% | 23.2% | 0.1% | 4.5% | 20.2%* | 12.0% | 3.6% |
| Stanislaus County† | 1.1% | 5.8% | 3.0% | 47.9%* | 0.6% | 7.0% | 13.0% | 13.6%* | 5.9%* |
| Thousand Oaks city | 0.5% | 9.8% | 1.7% | 19.4% | 0.1% | 5.1% | 19.4%* | 6.6% | 4.0% |
| Tulare County† | 1.2% | 3.7% | 1.7% | 65.8%* | 0.2% | 7.7%* | 11.3% | 19.8%* | 9.7%* |

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

Summary

If funded, the proposed projects would accelerate the development and deployment of easy-to-use charging products that help customers manage EV charging and respond to dynamic grid signals. 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 14 of the 23 communities, counties, or metropolitan areas 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 projects identified in this 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.

These proposed projects may create a net benefit for the communities, by reducing harmful criteria air pollutants, toxic air contaminants, and GHGs that contribute to climate change.

GLOSSARY

| Term | Definition |
|---|---|
| Bidirectional charging | The ability for a plug-in electric vehicle to receive electricity to charge its battery and to send stored electricity back through the charging cable. This ability has potential uses, such as allowing an electric vehicle to power a home 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). 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 (CO ₂) | A colorless, odorless, non-poisonous gas that is a normal part of the air. Carbon dioxide is exhaled by humans and animals and is absorbed by green growing things and by the sea. CO ₂ is the greenhouse gas whose concentration is being most affected directly by human activities. CO ₂ also serves as the reference to compare all other greenhouse gases (see carbon dioxide equivalent). The major source of CO ₂ emissions is fossil fuel combustion. CO ₂ emissions are also a product of forest clearing, biomass burning, and non-energy production processes such as cement production. Atmospheric concentrations of CO ₂ have been increasing at a rate of about 0.5 percent per year and are now about 30 percent above preindustrial levels. |
| Carbon monoxide (CO) | A colorless, odorless, highly poisonous gas formed by the incomplete combustion of certain fuels, including gasoline. |
| Census Designated Places (CDP) | A statistical entity defined by the U.S. Bureau representing closely settled, unincorporated communities that are locally recognized and identified by name. The statistical equivalents of incorporated places. |

| Term | Definition |
|------------------------------------|--|
| Census Place | A legally bounded entity such as an incorporated city or a town with a functioning governmental structure. |
| 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. |
| Community Choice Aggregation (CCA) | A state program which provides a discounted rate for electricity to qualifying low-income households. These programs are administered to all customers by PG&E, including those who choose to receive service from a CCA. |
| 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}). |
| Demand Side Grid Support Program | An incentive offered by the CEC to electric customers that provides load reduction and backup generation to support the state's electrical grid during extreme events, reducing the risk of blackouts. |
| Direct-current fast charger (DCFC) | High-speed charger for electric vehicles. Direct current fast charging 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 environmental pollution or hazards, due to geographic, socioeconomic, public health, and environmental factors. |
| Dynamic rates | Public utility providers adapting electricity rates based on the time of day or grid load. By pricing charging services higher during peak hours and lower during off-peak hours, users are encouraged to charge electric vehicles when demand is low, thereby reducing charging peaks and strain on the electrical grid. |
| 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. |

| Term | Definition |
|--|---|
| Emergency Load Reduction Program (ELP) | Program created by the California Public Utilities Commission and managed by the State's three large investor-owned utilities (IOUs) — Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison. This program pays electricity consumers for reducing energy consumption or increasing electricity supply during periods of electrical grid emergencies issued by California Independent System Operator (CAISO). |
| Electric Vehicle supply Equipment (EVSE) | Infrastructure designed to supply power to EVs. EVSE can charge a wide variety of EVs including battery electric vehicles and plug-in hybrid electric vehicles. |
| 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. |
| Greenhouse Gas (GHG) | Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), halogenated fluorocarbons (HFCs), ozone (O ₃), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs). |
| Localized health impacts (LHI) | Potential health impacts to communities. |
| Metric ton | A unit of weight equal to 1,000 kilograms or 2,205 pounds. |
| Market Informed Demand Automation Server (MIDAS) | Provides access to utilities' time-varying rates, greenhouse gas emission signals, and CAISO FlexAlerts. Managed by the CEC. |
| 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. |

| Term | Definition |
|----------------------------------|---|
| 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." |
| PM ₁₀ | Particulate matter with particles 10 microns in diameter or smaller. Also called "coarse particulate matter." |
| Toxic air contaminant | An air pollutant, identified in California Air Resources Board regulations, which may cause negative health effects even at very low concentrations. |
| Vehicle-to-everything (V2X) | A communication technology that enables vehicles to exchange data with various elements in their environment, including other vehicles (V2V), pedestrians (V2P), infrastructure (V2I), and networks (V2N). |
| Zero-emission vehicle (ZEV) | A vehicle that produces no emissions from the onboard source of power. Common examples are battery-electric vehicles and fuel-cell electric vehicles. |

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