EV Coordinating Council

September 11, 2024 Meeting

Welcome! We will begin shortly.

Feel free to change your display name to include your organization and pronouns.

This meeting will be recorded.









Meeting Agenda

- Welcome and Logistics
- Bay Area EV Market Update
- Workforce Development Panel Discussion
- Bay Area EV Funding Navigator
- Next Meeting: November 7, Curbside Charging
- Roundtable Announcements











Bay Area EV Market Update

Caylee Mercado Grants Specialist cmercado@baaqmd.gov

BAY AREA

ELECTRIC VEHICLE TRENDS AND GOALS



19,391 public charging ports currently

57,700 public charging ports needed by 2030 (NREL)

In 2023, 8.1% of the Bay Area fleet were EVs, with a goal of 90% by 2050

In 2024 Q2, 25.7% of all new sales in CA were EVs

Public charging ports



Progress towards our EV Adoption Goals

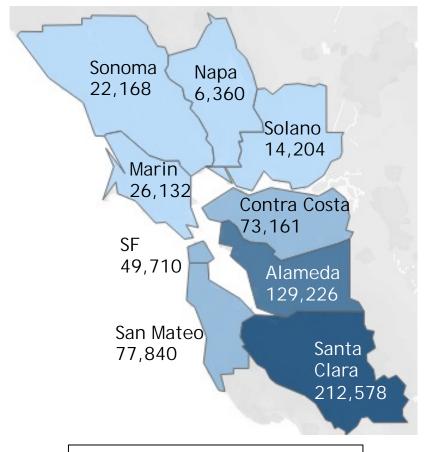


ZEV Adoption in the Bay Area



CA Total: 1,996,931

Total New ZEV Sales in California

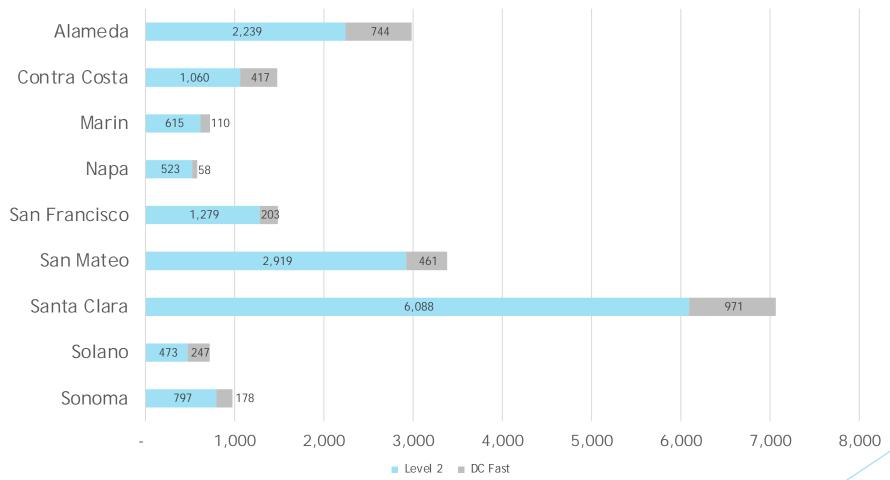


Bay Area Total: 611,379

Total New ZEV Sales in Bay Area

Existing Bay Area EV Infrastructure

ELECTRIC VEHICLE CHARGING PORTS BY COUNTY



Total public EV charging ports as of August 2024: ~19,391

C

CA Medium/Heavy Duty EVs - 2023



853
CA Medium/Heavy-Duty
EV Trucks



2,062
CA EV Buses



869 CA EV Delivery Vans

Image source: Veloz California Electric Vehicle Market Report. https://www.veloz.org/ev-market-report/
Data Source: California Energy Commission (2024). Medium- and Heavy-Duty Zero-Emission Vehicles in California. Data last updated May 1, 2024. Retrieved September 9, 2024 from https://www.energy.ca.gov/zevstats

Panel on Workforce Development: Growing to Meet Demand

Jana McKinny, California Energy Commission Kauleen Menard, Los Angeles Cleantech Incubator (LACI)

Orville Thomas, California Mobility Center Wendy Chou, Acterra (Moderator)









Meet our Panelists



Jana McKinny is an Energy Commission Specialist in the Project Integration Unit, Strategy, Equity and Economic Benefits Branch of the Fuels and Transportation Division at the California Energy Commission focusing on workforce training and development initiatives to support EVs / EVSEs for the Clean Transportation Program, including these highlights:

- Lead author, Zero-Emission Vehicle Workforce Training + Development Strategy, A Roadmap for Clean Transportation Program Funding
- Development of the Tribal Electric Vehicle Infrastructure, Planning, and Workforce Training and Development solicitation
- Agreement manager, select Inclusive, Diverse, Equitable, Accessible, and Local (IDEAL) ZEV Workforce Pilot projects
- Managed the EVITP Fund, interagency agreement with the Employment Training Panel to certify 3,000 electricians through the EVITP Program.
- Scoping and concept development for a ZEV Infrastructure Assessment of needs; development of incentive program to fund training.

Meet our Panelists



Kauleen Menard serves as the Director,

Green Job Regional Partnership for the Los Angeles Cleantech Incubator. She is honored to convene regional leaders in the workforce development ecosystem and green economy to ensure historically underrepresented communities have access to high road green jobs in Los Angeles County. In this role she leans on 15+ years as an informal educator, facilitator and leadership development professional. She enjoys exploring neighborhoods in LA on foot with her partner and cheering fanatically from the stands as an ACFC season ticket holder.

Meet our Panelists



Orville Thomas serves as the CEO of the

California Mobility Center, a clean energy, power, and zeroemission innovation collaborative headquartered in Sacramento. Prior to joining the CMC, Orville served as the State Policy Director for CALSTART, a California-based and internationally recognized clean transportation consortium. In that role, he oversaw government relations and regulatory affairs for the western states. Orville has spent the last decade working at the intersection of clean transportation, clean energy, and health equity. He has worked for Governor Jerry Brown's administration and the California High-Speed Rail Authority, helped with successful campaigns to fund road and bridge repair, and helped pass a \$1.5 billion clean transportation program reauthorization in the California Legislature.

Panel on Workforce Development: Growing to Meet Demand

Themes we will explore:

How is the EVSE industry growing to meet the challenge of reliability? What data needs must still be addressed? How could grant programs incentivize better outcomes?

What are the characteristics of successful existing training programs?

How can we build out additional parts of the pipeline beyond training? What is the role of local jurisdictions?

A Q&A session will follow. Please hold questions until the end of the panel presentations.











Bay Area EV Coordinating CouncilWorkforce Development Needs for ZEV Infrastructure

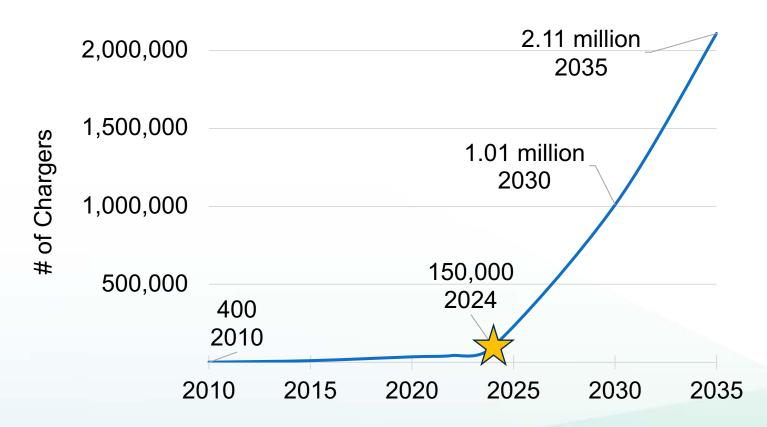
Jana McKinny

Energy Commission Specialist, Fuels and Transportation Division



California Charger Goals

150,000 EV charger milestone!



Sources: California Energy Commission, Alternative Fuels Data Center. <u>Assembly Bill 2127</u> <u>Second Electric Vehicle Charging Infrastructure Assessment: Assessing Charging Needs to Support Zero-Emission Vehicles in 2030 and 2035.</u>



Charger Installation

Electric Vehicle Infrastructure Training Program (EVITP)

- \$275, 20-hour, online training program
- Valid for three years

Curriculum

- Electrical codes, regulations, load requirements
- Installation of DCFC, inductive charging, vehicle-to-grid applications
- Best practices for charger installation and maintenance

EVITP Fund – stipends available through the Employment Training Panel.



Charger Reliability Legislation

Assembly Bill 2061, 2022

- Develop uptime recordkeeping and reporting standards
- Regularly assess infrastructure reliability

Assembly Bill 126, 2023

- Adopt tools to increase charging station uptime
 - Uptime requirements
 - Operation and maintenance requirements
- Public reporting standards for charger availability and accessibility





Proposed Reliability Requirements

Uptime - the percentage of time that a charger is functional

• 97% uptime for 6 years (Charger installed after January 1, 2024)

Successful Charge Attempt Rate (SCAR) - customer initiated charging sessions must last at least five minutes.

• 90% successful charge rate for 6 years (Charger installed after January 1, 2026)







California Energy Commission
SECOND DRAFT STAFF REPORT

Tracking and Improving Reliability of California's Electric Vehicle Chargers

Regulations for Improved Electric Vehicle Charger Recordkeeping and Reporting, Reliability, and Data Sharing

April 9, 2024 | CEC-600-2023-055-D2

Tracking and Improving Reliability of California's Electric Vehicle Chargers



Charger Downtime

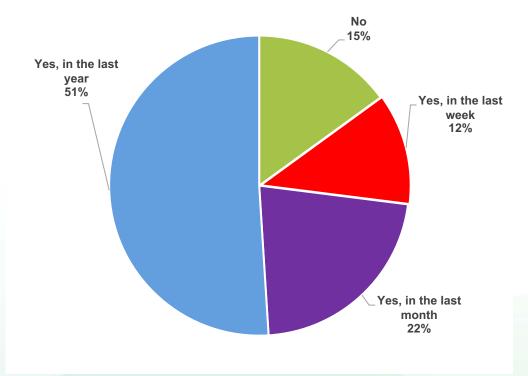
EV Drivers (Plug In America)

- 40% unsatisfied with chargers
- 68% encountered broken charger

Charging Stations

- 8% of stations unavailable (Alternative Fuel Data Center)
- 15-18% of test charges failed (ChargerHelp!)

Have you ever tried to initiate a charging session at a public fast charger and been unsuccessful?



Source: Plug In America, The Public Charging Experience



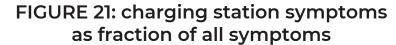
Estimating Charger Maintenance Workforce Needs

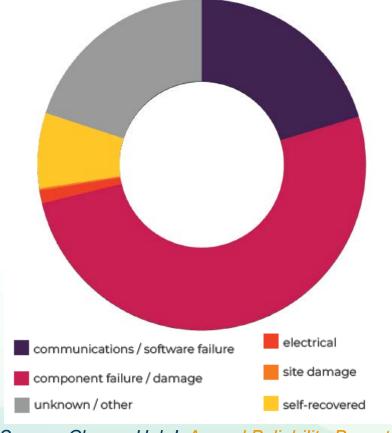
Job Skills

- Electrical
- Computer
- Registered Service Agents
 https://www.cdfa.ca.gov/dms/pdfs/Charger_RSA_FAQ.pdf

Annual Workforce Needs (ICCT)

- Hardware 0.65 person-day, per charger
- Software 1 person-day, per charger





Source: ChargerHelp!, Annual Reliability Report



CEC Charger Initiatives

- EVITP Fund, Employment Training Panel
- ZEV Infrastructure Workforce Assessment
- Charger Maintenance Training Incentive Program

Draft Staff Report - Zero-Emission Vehicle Workforce Training and Development Strategy, A Roadmap for Clean Transportation Program Funding





California Energy Commission. January 2024. Assembly Bill 2127 Second Electric Vehicle Charging Infrastructure Assessment: Assessing Charging Needs to Support Zero-Emission Vehicles in 2030 and 2035. https://efiling.energy.ca.gov/GetDocument.aspx?tn=254869

California Energy Commission. June 2024. Draft Staff Report - Zero-Emission Vehicle Workforce Training and Development Strategy, A Roadmap for Clean Transportation Program Funding. Draft Staff Report - Zero-Emission Vehicle Workforce Training and Development Strategy, A Roadmap for Clean Transportation Program Funding

California Energy Commission. April 2024. Tracking and Improving Reliability of California's Electric Vehicle Chargers: Regulations for Improved Electric Vehicle Charger Recordkeeping and Reporting, Reliability, and Data Sharing https://www.energy.ca.gov/publications/2023/tracking-and-improving-reliability-californias-electric-vehicle-chargers

California Department of Food and Agriculture, Division of Measurement Standards. July 2024. Frequently Asked Questions (FAQ) Registered Service Agency (RSA) and Service Agent Requirements for Electric Vehicle Fueling Systems (EVFS) / Electric Vehicle Supply Equipment (Charger) Used for Commercial Purposes. https://www.cdfa.ca.gov/dms/pdfs/Charger RSA FAQ.pdf

ChargerHelp!. June 2024. Tracking and Improving Reliability of California's Electric Vehicle Chargers - The State of EV Charging and the Driver Experience. https://www.chargerhelp.com/2024-annual-reliability-report.

Electric Vehicle Infrastructure Training Program (EVITP). https://evitp.org/

Governor Gavin Newsom. August 2024. California surpasses 150,000 electric vehicle chargers. https://www.gov.ca.gov/2024/08/28/california-surpasses-150000-electric-vehicle-chargers

International Council on Clean Transportation. January 2024. Charging up America: The Growth of United States Electric Vehicle Charging Infrastructure Jobs. https://theicct.org/wp-content/uploads/2024/01/ID-28-----U.S.-infra-jobs-report-letter-70112-ALT-v6.pdf

Plug In America. May 2024. The Public Charging Experience. https://pluginamerica.org/wp-content/uploads/2024/05/2024.05-Q1-Quarterly-Survey-Public-Charging-.pdf



LACI Workforce Development

September 11, 2024



LACI'S MISSION IN ACTION

LACI is building an inclusive green economy, with a focus on Southern California

	PRIORITIES		STRATEGIES			IMPACT
		UNLOCKING INNOVATION through startups	MARKET TRANSFORMATION with partnerships	ENHANCING COMMUNITY on campus and in our neighborhoods		
	TRANSPORTATION Transit & freight systems that are connected, shared and electric	Incubating and accelerating clean tech startups and helping commercialize their technologies	Accelerating clean tech adoption and system change by engaging key stakeholders and decision makers	Working in collaboration with local communities, identifying sustainability challenges, creating opportunities and building a workforce pipeline	Š	ENVIRONMENTAL GHG reduction, renewable energy generation, water savings and waste diverted
		EXECUTIVES IN RESIDENCE Best-In-Class Coaching And Advice	TRANSPORTATION ELECTRIFICATION PARTNERSHIP	DIVERSITY & INCLUSION PROGRAM		
#	CLEAN ENERGY Integrated energy generation and storage systems	INVESTMENT PREP AND ASSISTANCE	ENERGY INNOVATION PROGRAM	GREEN JOBS WORKFORCE DEVELOPMENT TRAINING & FELLOWSHIP PROGRAMS	472	SOCIAL Employment for minorities and the previously excluded, Increased female employment
		STARTUP PILOTS	PILOTS & DEMONSTRATIONS	WOMEN IN CLEANTECH		, ,
M.	SMART, SUSTAINABLE CITIES Circular economy: resilient food, water & waste systems	IMPACT & DEBT FUNDS	STRATEGIC PARTNERSHIPS	STEM MIDDLE SCHOOL GIRLS PROGRAM	<u></u>	ECONOMIC Engagement with disadvantaged communities, jobs created, hiring from workforce development programs
		BUSINESS SUPPORT SERVICES & ACCESS TO HIGH-VALUE RESOURCES				



Green Jobs Workforce Development Programs

LACI's <u>Green Jobs Workforce Program</u> is a multi-tiered workforce training pipeline program which provides technical training, professional development, and industry-recognized certifications to help historically marginalized groups succeed in the green economy. Select participants are matched with LACI startups and partners for internships and potential job opportunities.









CAREER EXPLORATION DAY

Learn about LACI and Green Job Career Pathways

TECHNICAL BOOTCAMP

Classroom and Hands-on Training and earn industryrecognized certifications

PROFESSIONAL DEVELOPMENT

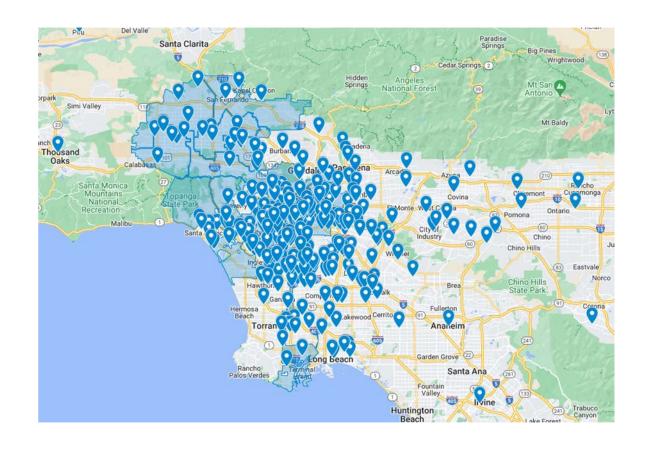
Career coaching from industry experts and soft skill development

PLACEMENT ASSISTANCE

Select participants advance to paid internships and all participants receive Job Placement Assistance for 3 - 12 months after program

PARTICIPANT RECRUITMENT CRITERIA

- 18 years of age and older
- Part of a historically marginalized group
- Currently under/unemployed
- High School diploma or equivalent
- Proof of low-to-moderate income status



Participants have come from all over Los Angeles County and the State of California. 230 of 410 (56.10%) participants are from the City of Los Angeles.

PROGRAM RESOURCES

- Free Laptop and/or Wifi Hotspot Rental for the Duration of the Program
- Transportation Assistance Stipend
- Paid Stipend During Technical Bootcamp and Internships
- Meals Provided During Technical Bootcamp
- Job Placement Services:
 - Access to a Job Directory
 - 1:1 Time with PIR and Jobs Pipeline Manager
 - Warm Introductions to Job Leads

GREEN JOBS WORKFORCE DEVELOPMENT PROGRAM IMPACT

Launched in **2019**

444Participants to Date

Placed in Gainful Employment or Pursuing Post-Secondary Education

88%
of Fellows have earned an Industry-Recognized
Credential



"Since participating in the [Green Jobs] Fellowship Program, I've had the chance to learn about the benefits of EVs and maintenance of the charging stations. I worked in all the local oil refineries in the city. Now...I'm excited to go back to my community and surrounding areas and educate them on the benefits of clean technology."

~ Clyde Ellis, EVSE Technician Fellowship Graduate Currently: Field Service Manager - Chargerhelp!



EVSE Technician Fellowship

40 participants will focus on performing the maintenance, commissioning and troubleshooting of electric vehicle supply equipment (EVSE). During this paid 8-week technical training bootcamp, participants will gain an understanding of EVSE technical knowledge and electrical safety processes and procedures while engaging in hands-on experience to perform general maintenance needs.



Training Begins: July 24, 2024

- 8 week training
- Industry recognized certification
- Professional Development

Certifications:

- NFPA 70-E: An Electrical Safety Certification
- OSHA Lockout, Tagout (LOTO): A Control of Hazardous Energy Certification
- Opportunity to sit for SAE EVSE Field Technician Certification

Internships Begin: October 2024



Goals Of Our Internship Program For Fellows



Paid Cleantech Project/On-The-Job Experience + Skill Building



Match Fellows to Opportunities They Feel Passionate About



Meaningfully Contribute to a Startup's Growth + Work Directly with a Founder



Network & Resume Building +
Positioning Yourself for Future
Cleantech Internship & Job
Opportunities



Learning What You Like & Don't Like

2024 EVSE Fellowship: 3-month Internship Opportunities

EVSE Technician



Project Manager - EVSE Intern EVSE Field Operations Intern

EV & EVSE - Supportive



Technician/Warehouse Associate - optimizing power in EVs and battery storage



Operations Intern - Sales & Lead Generation



Registered Service Agent Intern
- Develop SOP for Techs doing
RSA protocol in field



EV Charging Field Operations Intern

EV Charging Field Technician Assistant



Business
Development/Account
Management



Electrician/Installation Assistant



Project Management, Software Development, Business Development

2024 EVSE Fellowship: Full Time Opportunities



EV Charging Field Technician min \$75K Jr. EV Charging Technician



E-bike Mechanic - \$20/hr



Utility Worker - \$25/hr Benefits



Tech Trainee to Service Technician

By The Numbers - LACI's Internship Program



LACI EVSE Project Management FellowshipEV and EVSE Placements Since 2022

Wendy Mullin LACI Founder CHRGSystem

Victor Singh

District Manager

General Motors

Michael Coleman
Consultant - Data
Architect
GreenWealth Energy

Manny Meza
Project Management,
Maintenance and Sales
Evolectric

Ernest Kwong Public Works/Fleet DivisionCity of Santa Monica

Irvine Rojas
Systems Implementation
/ Operations Assistant
HIVE

Kayla Mullins + Xiomara Rios Driver Onboarding Specialist HIVE

Tess Paige
Manager of Grants and
Incentives

*Now working for METRO as a Transportation Planner

Youth EVSE Technician Fellowship EV and EVSE Placements Since 2022

Jesus Gutierrez

Mobile Service Technician

Ford

Alexis Gallardo

Mechanical Engineering
Student

CSULA

*After finishing Internship as a Tech Trainee at Tesla Jeffrey Leyva

Field Assistant

GreenWealth Energy

Electrician Program

Long Beach City College

Brian Martinez Delivery TechnicianSparkCharge

Eduardo Pasaye

Assistant Parts
Dispatcher

Velocity Vehicle Group

Jacob Mattle Mechanic

Three Rivers Trucking

Since 2022 LACI placed 30 Fellows from EVSE Programs into full time employment and 14 were in EVSE-related positions



THE ORIGIN: Green Jobs Regional Partnership

As a recommendation from our 2021 Green Jobs Report, LACI will convene a regional Partnership to mobilize key stakeholders to work together to achieve green jobs targets by the 2028 Olympic and Paralympic Games in LA, and 2050 goal of growing from 338,000 green jobs in 2018 to 600,000 green jobs by 2050 county-wide by setting and pursuing milestones, targets, and actions needed for success.

GREEN JOBS REGIONAL PARTNERSHIP VISION



Build out Career Pathways and Bolster Workforce Pipeline

Build capacity to create more responsive and nimble workforce training for future segments of the green economy



Advance Equity and Inclusion

Increase underrepresented populations in green industries through training for high-road employment opportunities



Clearly Define Green Jobs and Track Metrics

Improve evaluation of green industry performance metrics at the state and federal level



Spur Public and Private Investment

Drive green job creation
through public and private
investment alongside
continued federal workforce
and infrastructure investment

Strategies, Partnerships, Policies, Pilots and Funding



INDUSTRY SECTOR AND FOCUS for 2028 Roadmap EV + EVSE



TRANSPORTATION

Micro-EVs to Heavy Duty BEV

EVSE



CLEAN ENERGY

Energy Storage and Microgrids



SMART, SUSTAINABLE CITIES

Battery recycling

DEVELOPING A ROADMAP



May 2024

- ✓ Define industry sector
- √ Identify key stakeholders
- Document existing climate goals this work supports
- Establish values to ground this work

- Compile education + skills needs
- Explore successful workforce initiatives
- Determine workforce training gaps
- Identify relevant funding + resources

June 2024 – Oct 2024

Determine Workforce and Training Needs

Develop Initiatives and Roadmap

Nov 2024 -Jan 2025

- Set Roadmap goals and KPIs
- Identify roles and responsibilities
- → Mitigate risk
- Identify resource or policy change needs

- Develop communication plan
- Establish tracking + monitoring process and systems
- Determine next steps for the Partnership

Feb 2025

Communicate and Launch Roadmap



RESEARCH GROUP MEMBERSHIP

Education + Workforce Development





















LADOT

Philanthropies



EVSE + Energy + Transit Companies









Rejaule



Unions + Economic Development



The Research **Group** is composed of about 30 agencies, organizations, and companies spanning education + workforce development, unions, government entities, philanthropic organizations, and **EV-related** companies.





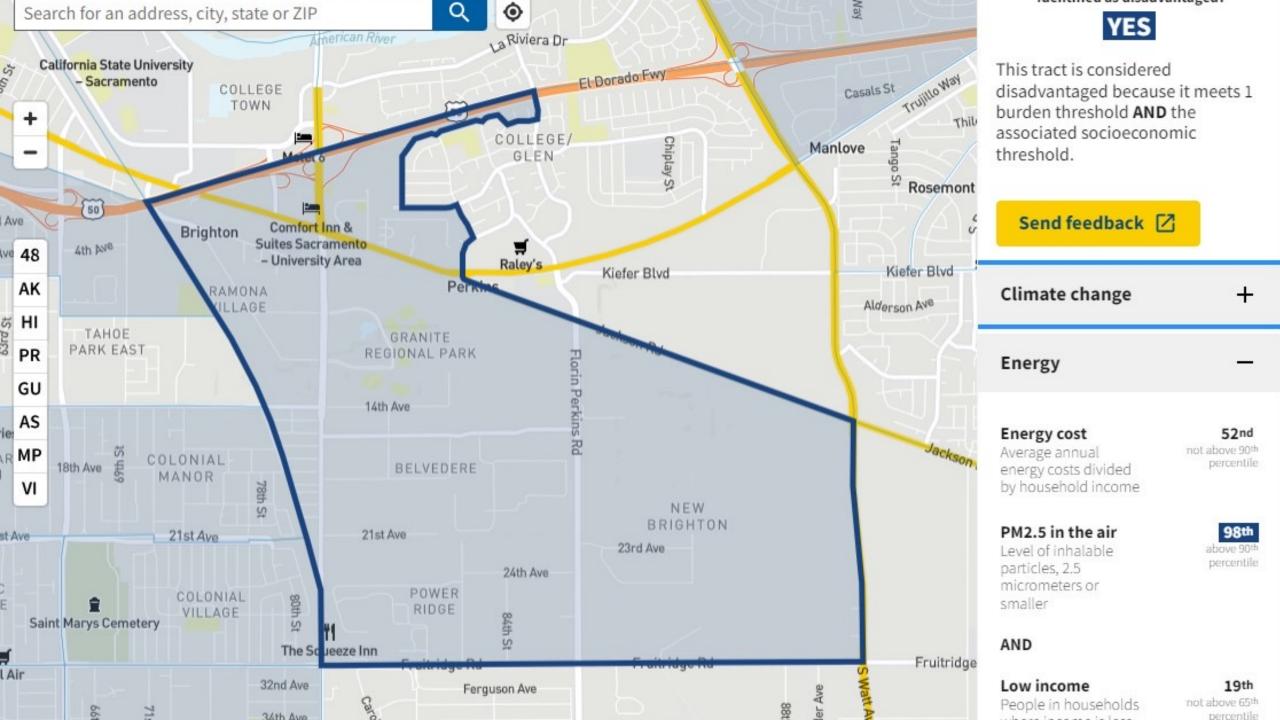












Energy, Power, and Zero-Emission Innovation Collaborative

Energy: Batteries, Fuel Cells, Mobile Power Units, Charging Reliability and Interoperability.

Power: Grid Preparedness and Strengthening, Vehicle to X power transfer, Hydrogen Production.

Zero-Emission Innovation: Light-, Medium-, and Heavy-Duty Vehicles, Aviation, Micro-Mobility, Autonomous Vehicles.

Infrastructure: Next-Generation Pavement and Asphalt



Current Plans

Partnerships, technology showcases, and pilot projects

- Using the CMC's current 25,000 square foot ramp up facility as an R&D lab, showcase for technology, and workforce development and training center.
- Partnerships focused on highlighting vehicle to grid capabilities from personal and commercial vehicles, battery energy storage systems, megawatt charging projects in the community, and maintenance training for EV chargers and zero-emission vehicles.
- Project partners with submitted letters of support include: Tesla, Rivian, Lion Electric (MHD zero-emission vehicles), Siemens, BOSCH, and others.
- Support for the project also received from the California Energy Commission, California Air Resources Board, and other federal partners.

Funding Plan

2024 requests for funding

- Requests are submitted for \$100 million in committed state funding by the end of 2024.
- U.S. Department of Energy has assessed the project as being eligible for over \$100 million in low- to no-interest loans based on the current project partners (with the ability to grow).
- Political uncertainty over presidential election in November positions the CMC as a rare, shovel-ready clean-energy and manufacturing project.





Thank you! Orville Thomas

Orville.Thomas@camobilitycenter.org

- What: User-friendly tool to simplify information for grants for EV-related projects including: light, medium and heavy-duty, public transit, fleet, micromobility, vehicle replacement, and charging infrastructure
- Who: Key stakeholders include city/county/special district governments, nonprofits, transportation agencies, Tribes, CBOs, NGOs, CCAs and utilities
- Why: Help identify funding opportunities for EV, electric mobility, and charging infrastructure projects
- Where: Available on BAAQMD EV Council web page: www.baaqmd.gov/EVCouncil
- When: Available NOW (launched September 11, 2024)



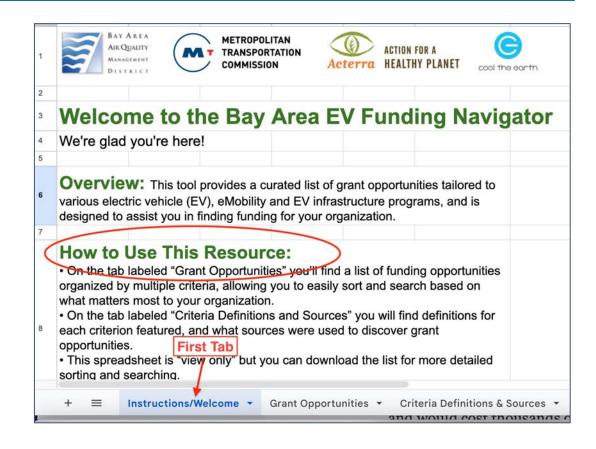






How to Use

- Download file
- Tab 1 instructions





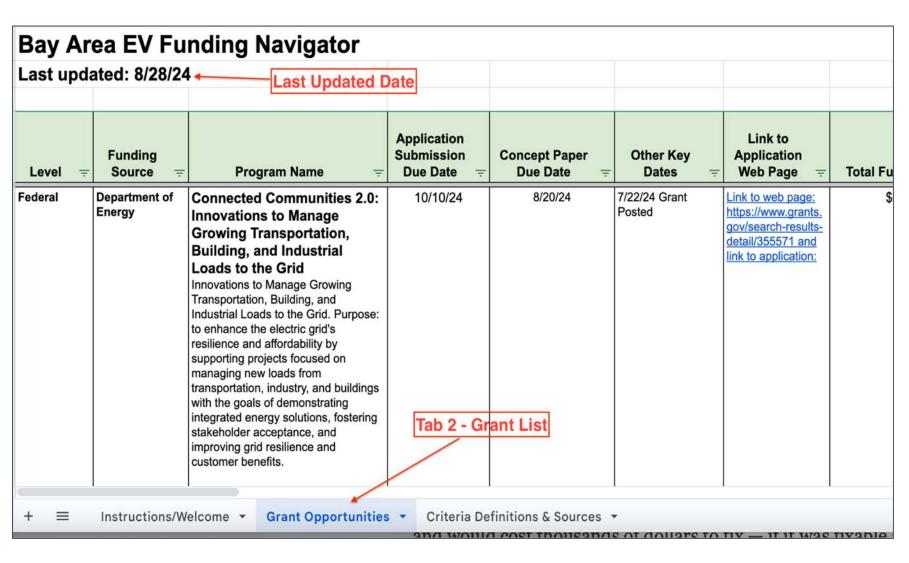






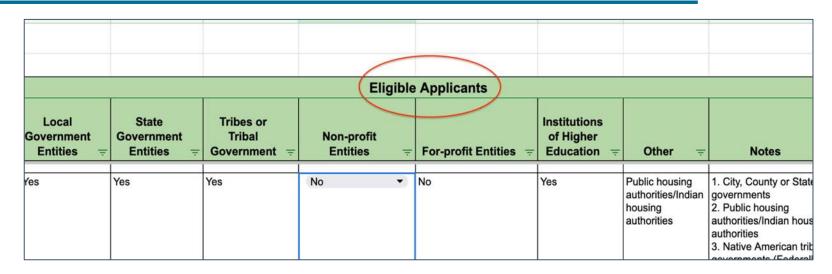
Grant List

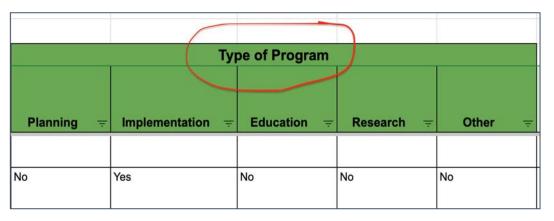
- Tab 2
- Multiple criteria
- Last updated date
- Sort as needed



Grant List

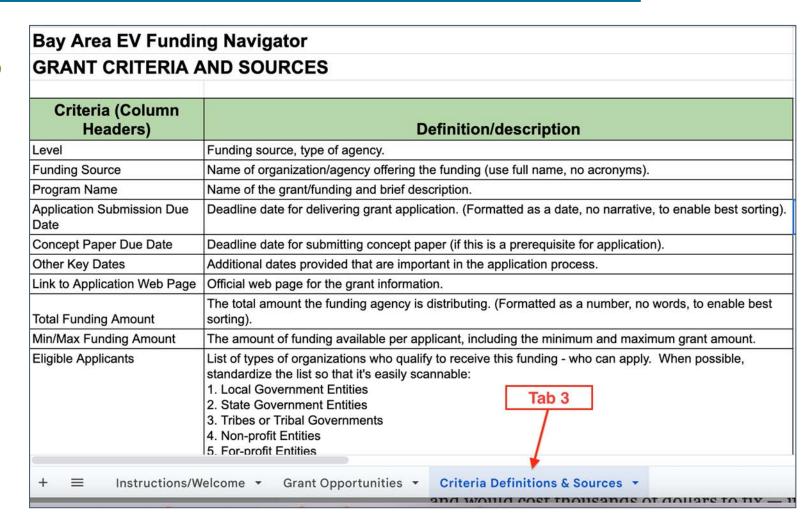
- Tab 2
- Eligible Applicants
- Types of Programs





Criteria Definitions

- Tab 3
- Source list



Future of This Tool

- Thank you to the Working Group members for their guidance
- Updates will be managed by Air District team, seeking volunteers
- If your organization has a grant you'd like to include on this list, please let us know by emailing: evcouncil@baaqmd.gov









Announcements

Mark your calendars for the next EV Council meeting:

- Thursday, November 7, 2024
- Topic: Curbside Charging
- Speakers: Luke Mairo, Voltpost; Tiya Gordon, itselectric

A link to today's meeting recording will be provided in the follow-up email.









Roundtable Updates

- Roundtable: Please raise your hand for the opportunity to speak.
- Following the updates, the virtual meeting will adjourn.







