



# **GFO-23-306 Pre-Application Workshop**

Grid-Supportive Transportation Electrification

Energy Research and Development Division, California Energy Commission

Katelynn Dinius, Air Resources Engineer

January 18, 2024



# Agenda

Time	Item
9:00 am	Welcome and Introduction
9:05 am	Solicitation Background <ul style="list-style-type: none"><li>• EPIC Research Program</li><li>• Purpose of Solicitation</li><li>• Available Funding and Match Requirements</li></ul>
9:25 am	Application Requirements <ul style="list-style-type: none"><li>• Project Group Requirements</li><li>• Attachments</li><li>• Submission Process</li><li>• Evaluation Process</li></ul>
10:00 am	Q&As
11:00 pm	Adjourn



# Housekeeping

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- This workshop will be recorded.
- Participants will be muted during the presentation until the Q&A session.
- You can send questions using the Zoom Q&A window.
- Updates on solicitation documents including this presentation will be posted at the Grant Funding Opportunity's webpage: [GFO-23-306 - Grid-Supportive Transportation Electrification](#)



# Commitment to Diversity

The California Energy Commission (CEC) adopted a resolution strengthening its commitment to diversity in our funding programs. CEC continues to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, CEC staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the CEC's funding opportunities.
- Assist applicants in understanding how to apply for funding from CEC's programs.
- Survey participants to measure progress in diversity outreach efforts.



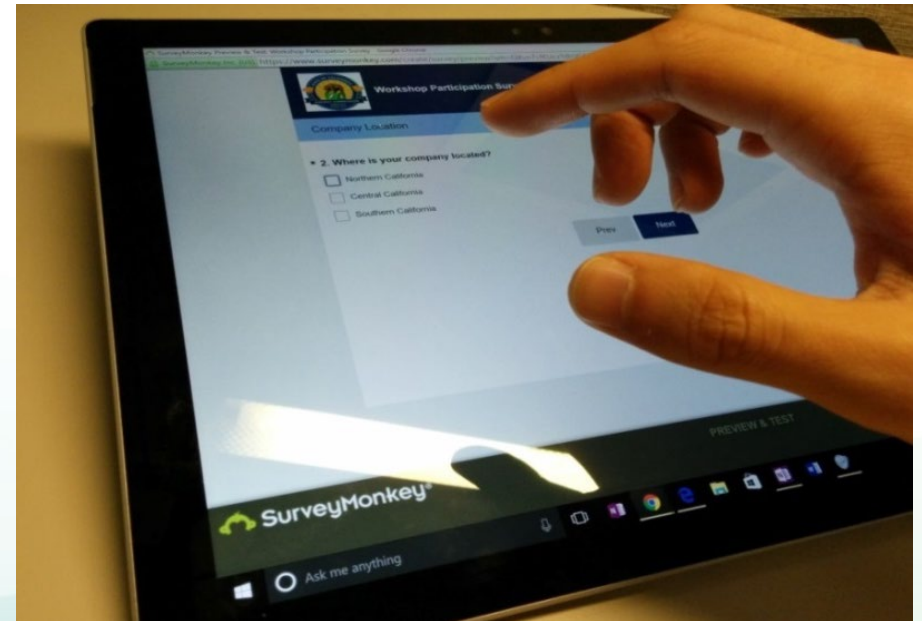
# We Want to Hear From You!

## Participation Survey

Survey responses will be summarized anonymously to track attendance of underrepresented groups in our workshops for public reporting purposes.

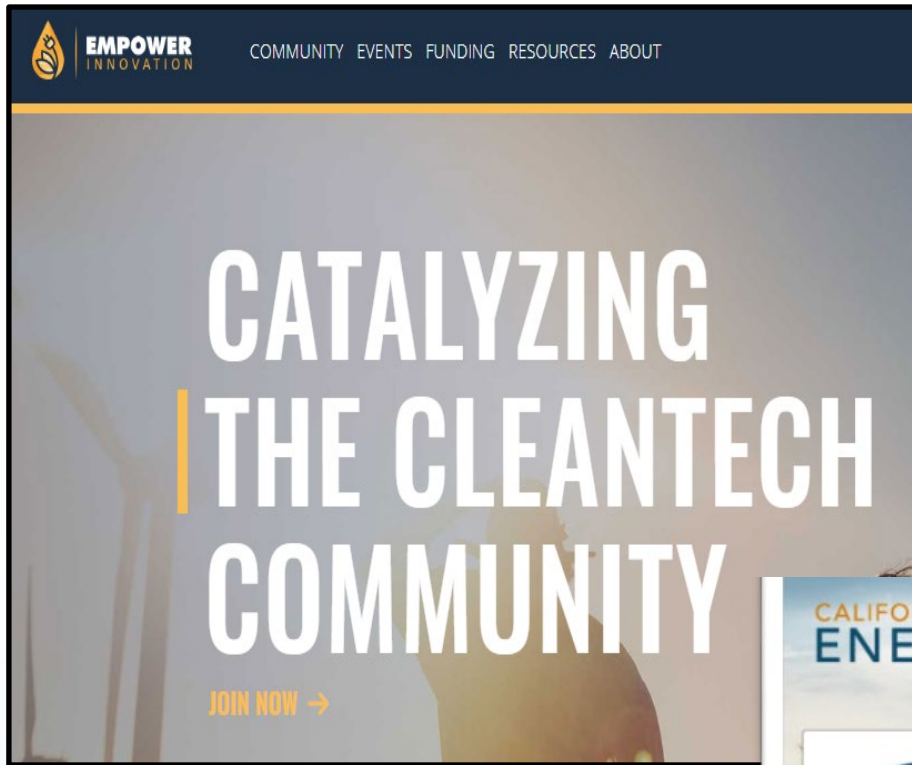
- Online participants, please use this link:  
<https://forms.office.com/g/FFHN9ENchH>

Thanks!





# Connect With Us



[Facebook](#)



[TikTok](#)



[X \(Formerly Twitter\)](#)



[Instagram](#)



[Youtube](#)



[LinkedIn](#)





# Find a Partner on EmpowerInnovation.net

Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from CEC and other funding providers, curated resources and events, and connections to people and organizations.

## FIND A PARTNER

Announce your interest in this funding opportunity and message other interested parties to find potential partners.

## RESOURCES & TOOLS

Browse the collection of resources for clean tech innovators including Resource Libraries, Funding Sources, Tools, and Databases.

<https://www.empowerinnovation.net/en/custom/funding/view/41250>



# EmpowerInnovation.net







# EPIC Program Background

- The Electric Program Investment Charge (EPIC) program is funded by an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.
- Invests in research leading to technological advancements and scientific breakthroughs supporting California's clean energy goals.
- Benefit electricity ratepayers\* by improving safety, reliability, affordability, environmental sustainability, and equity.



CALIFORNIA  
ENERGY COMMISSION



California Energy Commission  
**COMMISSION REPORT**

## **The Electric Program Investment Charge Proposed 2021–2025 Investment Plan**

EPIC 4 Investment Plan

Gov. Gavin Newsom, Governor  
November 2021 | CEC-500-2021-048-CMF

\*Specifically, ratepayers of CA investor-owned utilities: PG&E, SDG&E, and SCE

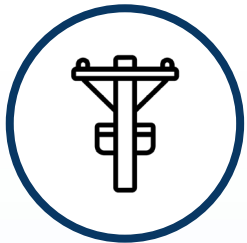


# Policy Drivers



## **EO N-79-20:**

- All new passenger vehicle CA sales to be zero-emission by 2035;
- All medium- and heavy-duty vehicles to be zero-emission by 2045 where feasible and by 2035 for drayage trucks;
- All off-road vehicles and equipment to be zero-emission by 2035 where feasible.



**Assembly Bill (AB) 2127:** Assess the electric vehicle charging infrastructure needed to meet state goals

**Senate Bill (SB) 676 – Electric Vehicle Grid Integration:** Establish strategies to maximize the use of feasible and cost-effective electric vehicle grid integration



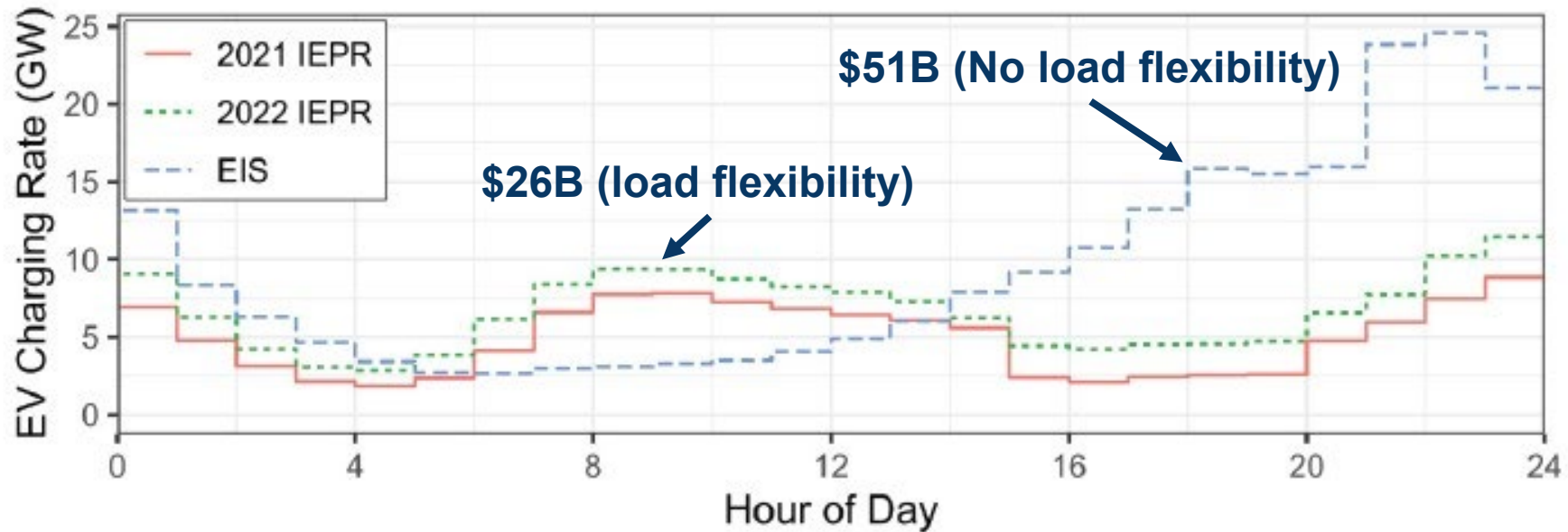
**SB 846:** Develop a goal for shifting load to reduce net peak electrical demand

**SB 410 – The Powering Up Californians Act:** Set reasonable target time periods for grid connections and upgrades



# Background and Motivation

2035 charging load profile and associated distribution upgrade costs



Source: CalAdvocates Distribution Grid Electrification Model Study and Report

- Unmitigated peak load increase from transportation electrification will drive the need for expensive distribution upgrades.
- Need to optimize distribution infrastructure needed for EV charging and ensure timely energization of new loads.



# Purpose of Solicitation

Advance technologies that enable grid-supportive transportation electrification by:

1. Shifting loads to avoid or defer customer and distribution grid upgrades that may otherwise be required to energize EV chargers.
2. Using DC architectures to improve efficiency and enable simpler distributed energy resource (DER) integration for high-power EV charging stations.
3. Improving opportunity charging solutions to shift loads to locations/times along an EV's duty cycle and make efficient use of available grid capacity.



# Available Funding

Project Group	Available Funding	Minimum Award Amount	Maximum Award Amount
<b>Group 1:</b> Technology Enablers for Flexible Transportation Electrification Connection	\$5,000,000	\$1,500,000	\$2,500,000
<b>Group 2:</b> DC Hubs for Efficient and Scalable High-Power Charging	\$8,000,000	\$2,000,000	\$4,000,000
<b>Group 3:</b> Innovative Opportunity Charging Solutions	\$8,000,000	\$2,000,000	\$4,000,000



# Match Funding

- Match funding is required in the amount of **at least 25%** of requested CEC funds.
- The match funding requirement is reduced to **at least 10%** of the requested CEC funds for projects located in and benefiting a California Native American Tribe, Disadvantaged Community (DAC), and/or Low-Income Community (LIC).
- Example calculation:
  - Applicant requests \$2,000,000 of CEC funds for a project.
  - \$500,000 of match share is required.
  - If the project is located in and benefiting a California Native American Tribe, DAC, or LIC, \$200,000 of match share is required.
- Applications with additional match and higher proportions of cash match will receive additional points during the scoring phase.
- Match funding contributors must submit match funding commitment letters that meet the requirements of **Attachment 9**. Failure to do so will disqualify the match funding commitment from consideration.



# Requirements for all Groups

- Advance technologies from TRL 5-6 to TRL 7-8 through technology demonstration and deployment projects
- Demonstrate technology in California IOU service territory (open to all electric vehicle types and classes)
- Partner with at least one Community Based Organization (CBO)
- Describe plan for equitable workforce development
- Comply with PUC section 740.20 requiring electrical vehicle charging infrastructure to be installed by someone with an Electric Vehicle Infrastructure Training Program (EVITP) certification.
- *Encouraged* to develop or incorporate interoperable hardware and software products that will support CEC's vision for charging interoperability:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=253106>



# Group 1

## Technology Enablers for Flexible Transportation Electrification Connection

**Funding Available:** \$5,000,000

**Funding Per Award:** \$1,500,000 - \$2,500,000

### Background:

- Develop and demonstrate technologies that dynamically manage residential or commercial charging loads
- Projects may also demonstrate management of vehicle-to-building (V2B) and/or vehicle-to-grid (V2G) discharge in response to distribution grid conditions
- Purpose is to avoid or defer customer and distribution grid upgrades





# Group 1 Requirements

## Technology Enablers for Flexible Transportation Electrification Connection

- Technology must be capable of:
  - Setting charging load limits to accommodate limited capacity of an electric service
  - Adjusting the charging load limit, time, and rate based on distribution grid conditions while meeting customer driving needs
- Commercial and multi-family residential demonstrations must include at least one commercial customer or multi-family residential service
- Single-family residential demonstrations must include multiple customers that share utilization of common distribution grid components such as a distribution transformer



# Group 1 Requirements Cont.

## Technology Enablers for Flexible Transportation Electrification Connection

- Inform infrastructure planning and flexible connection requirements
- Increase utilization of existing grid infrastructure and lower customer and ratepayer costs at scale
- Cut energization timelines
- See Section I.C Project Focus in the Solicitation Manual for a complete list of requirements for Group 1 projects



# Group 2

## DC Hubs for Efficient and Scalable High-Power Chargers

**Funding Available:** \$8,000,000

**Funding Per Award:** \$2,000,000 - \$4,000,000

### Background:

- Develop and demonstrate DC hub architectures for high-power electric vehicle charging where the AC-DC conversion is centralized
- Purpose is to achieve higher efficiencies, a smaller equipment footprint, and streamlined DER integration compared to conventional AC hub architectures



# Group 2 Requirements

## DC Hubs for Efficient and Scalable High-Power Chargers

- Identify customer segment being represented
- Demonstrate technology at site with charging capacity of at least 1MW
- Projects that integrate DERs and demonstrate DC microgrid capabilities are highly *encouraged* and may start from a lower TRL of 3-6
- Evaluate business models for scalability and cost competitiveness with AC-hub approaches, including roles and responsibilities of participating entities
- Monitor reliability and resilience to build utility/industry confidence
- Inform future infrastructure planning and emerging standards
- See Section I.C Project Focus in the Solicitation Manual for a complete list of requirements for Group 2 projects



# Group 3

## Innovative Opportunity Charging Solutions

**Funding Available:** \$8,000,000

**Funding Per Award:** \$2,000,000 - \$4,000,000

### Background:

- Develop and demonstrate innovative opportunity charging solutions with grid-supportive benefits such as enabling off-peak charging with minimal deviation from that duty cycle or route, deferring upgrades, or enhancing operational efficiency
- Includes pre-commercial charging technologies (example, wireless, curbside, mobile, battery swap, etc.)
- Purpose is to enable shifting of PEV charging loads and encourage PEV adoption for challenging duty cycles



# Group 3 Requirements

## Innovative Opportunity Charging Solutions

- Demonstrate with specific use case that would benefit from the proposed opportunity charging solution
- Projects that integrate with DERs and/or load management systems are highly *encouraged*
- Quantify customer and grid benefits for the demonstration use case and scale-up scenarios (e.g., charging load shifted to daytime, bill savings, increased opportunities for participation in grid services)
- Inform development of standards for non-traditional charging solutions
- See Section I.C Project Focus in the Solicitation Manual for a complete list of requirements for Group 3 projects



# Application Submission and Scoring Process



# Eligible Applicants

- This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities.
- Applicants must accept the EPIC terms and conditions. Standard, UC, and DOE T&Cs available online:  
<https://www.energy.ca.gov/funding-opportunities/funding-resources>
- Applicants are encouraged to register with the California Secretary of State, as all recipients must be registered and in good standing to enter into an agreement with CEC:  
<http://www.sos.ca.gov>





# Application Requirements

Each Applicant must complete and	including the following:
1. Executive Summary (.docx)	7. CEQA Compliance Form (.docx)
2. Project Narrative (.docx)	8. References and Work Product Form (.docx, .pdf)
3. Project Team (.docx, .pdf)	9. Commitment and Support Letters (.pdf)
4. Scope of Work (.docx)	10. Project Performance Metrics (.docx)
5. Project Schedule (.xlsx)	11. Applicant Declaration (.docx)
6. Budget (.xlsx)	

\*Please review addendum #1 to see recent file changes.



# Executive Summary (Attachment 1)

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Two-page summary including:

- Project description
- Explanation of how the goals and objectives of the project will be achieved, quantified, and measured
- Description of the project tasks and agreement management
- Explanation of whether the project is located in and benefiting a California Native American Tribe, DAC, and/or LIC. **This will be used to qualify applications for the reduced minimum match requirement.**



# Project Narrative (Attachment 2)

This is your opportunity to explain the entirety of the project. The narrative should explain:

- Why is your project necessary and important to California?
- What is your project approach and how will each major task be implemented?
- How will the project be completed in the proposed term?
- How will the project outcomes benefit electricity IOU ratepayers?
- Address the requirements for your group as described in Section I.C. Project Focus.

Respond to the scoring criteria described in Section IV.F.



# Scope of Work (Attachment 4) and Project Schedule (Attachment 5)

- Tell us exactly what you are proposing to do in your project.
- Identify what will be delivered to the CEC.
- Be sure to include in the Scope of Work (Attachment 4) technical tasks:
  - At least one product deliverable per task.
  - Address requirements in Section I.C. Project Focus.
- Be sure to include in the Project Schedule (Attachment 5):
  - Product deliverables that correspond with the Scope of Work.
  - Realistic dates on when product deliverables can be completed.



# Budget (Attachment 6)

- Identify how CEC funds and match funds will be spent to complete the project.
- Subcontractors receiving \$100,000 or more CEC funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** rates for the entire project term.
- Travel Restrictions:
  - CEC funds should be limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage).
  - If an applicant plans to travel to conferences, including registration fees, they **must** use match funds.



# Commitment and Support Letter Forms (Attachment 9)

- Follow guidelines provided for commitment and support letters.
  - Commitment letters are required for entities or individuals that are committing match funding, testing/demonstration sites, including the **Prime applicant**.
  - Support letters describe a project stakeholder's interest or involvement in the project.
- All applicants must submit **at least one** support letter.
- Match funding must be supported by a match fund commitment letter.
- Any project partners that will make contributions to the project (other than match and sites) must submit a commitment letter.
- Limit to two pages per letter, excluding the cover page.



# GFO Submission Requirements

- Applications will be submitted through the Energy Commission Agreement Management System (ECAMS), available at: <https://ecams.energy.ca.gov/>
- **Applicants must have or create a user account in order to apply for this solicitation.** To create an account, please see the guidance document titled [User Registration Instructions](#)
- **Note:** One account manager per organization, but users can be added by account manager

The screenshot displays the California Energy Commission website. At the top left is the logo, and at the top right is a search bar and a 'Sign In' button. The main heading reads 'Welcome! Funding Opportunities' with a 'View Solutions' button. Below this is a paragraph: 'The California Energy Commission offers a variety of funding opportunities to advance the state's transition to clean energy and transportation through innovation, efficiency, and the development and deployment of advanced technologies.' The page features six content blocks: 'Funding Workshops' (with an image of an electric vehicle charging station), 'Awards' (with an image of a scientist), 'Funding Resources' (with an image of wind turbines), 'ECAMS Grant Resources' (with an image of a city skyline), 'Empower Innovation' (with the Empower Innovation logo), and 'Salesforce Training' (with an image of a classroom). A 'Contact' section at the bottom right provides the email address: [ecams.salesforcesupport@energy.ca.gov](mailto:ecams.salesforcesupport@energy.ca.gov).



# GFO Submission Requirements (cont.)

- For detailed instructions on how to submit an application, please see the [Applying for a Solicitation](#) guidance document.
- Both of the referenced guidance documents are available at [CEC Funding Resources](#) under General Funding Information.
- Any questions about the ECAMS system can be sent to [ECAMS.SalesforceSupport@Energy.ca.gov](mailto:ECAMS.SalesforceSupport@Energy.ca.gov)

A screenshot of a web page titled "General Funding Information" with a close button (X) in the top right corner. The page is divided into two main sections. The first section is "GRANT SOLICITATION SYSTEM (GSS) INFORMATION" and contains two bullet points: "Grant Solicitation System (GSS) Login" and "How to Apply - PDF". The second section is "ENERGY COMMISSION AGREEMENT MANAGEMENT SYSTEM (ECAMS)" and contains three bullet points: "Energy Commission Agreement Management System (ECAMS) Login", "User Registration - PDF", and "Applying for a Solicitation". The ECAMS section is highlighted with a red rectangular border.





# GFO Submission Requirements (cont.)

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- Electronic files, other than those requiring signatures, must be in the format that they are provided in the solicitation.
- Application documents should meet formatting requirements, and page recommendations provided in the Solicitation Manual.
- Attachments requiring signatures (Support/Commitment Letters) may be scanned and submitted in PDF format.



# APPLICATION WARNING

## START THE PROCESS EARLY!

- Applications must be fully submitted BEFORE the deadline listed in the solicitation manual
- The ECAMS system will not allow submission after the deadline
- Applications in the process of being submitted prior to the deadline will NOT be accepted after the deadline
- Applications will NOT be accepted after the deadline



# How will my Application be Evaluated?

## Application Screening

### Admin Screening Process

- CEC staff screens applications per criteria in Section IV.E.
- Criteria are evaluated on a pass/fail basis.
- Applicants must pass all screening criteria or the application will be disqualified.

### Some Reasons for Disqualification

- Application is not submitted by the specified due date and time.
- Application does not include one or more support letters.
- Application contains confidential material.



# How will my Application be Evaluated?

## Application Scoring

- Evaluation Committee applies the scoring scale to the scoring criteria.
- Applications must obtain a minimum passing score of 52.5 points for Criteria 1-4 to continue evaluation.
- Applications must obtain a minimum passing score of 70 points for Criteria 1-7 to continue evaluation.
- Applications must then obtain a minimum passing score of 35 points for Criteria 8 to be considered for funding.
- Review Section IV of the manual and ensure the application provides a clear and complete response to each scoring criteria.

Scoring Criteria	Maximum Points
1. Technical Merit	15
2. Technical Approach	25
3. Impacts and Benefits for CA IOU Ratepayers	20
4. Team Qualifications, Capabilities, and Resources	15
5. Budget and Cost-Effectiveness	10
6. CEC Funds Spent in California	10
7. Ratio of Direct Labor Costs to Indirect Costs	5
8. Benefits to Disadvantaged/Low-Income Communities and Localized Health Impacts	50
<b>Total</b>	<b>150</b>



# How will my Application be Evaluated?

## Application Scoring – Criteria 8

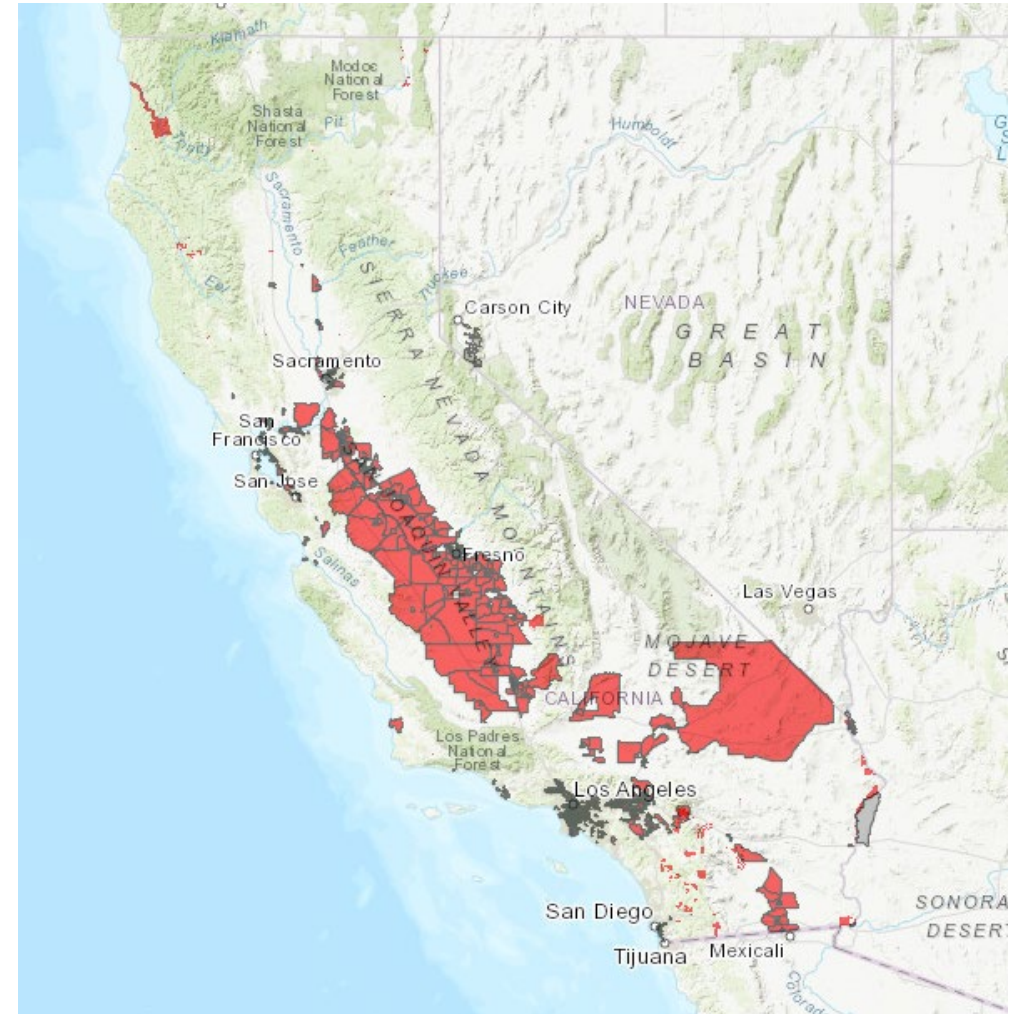
Scoring Criteria	Maximum Points
8. <i>Benefits to Disadvantaged/Low-Income Communities and Localized Health Impacts</i>	
8.1 Benefits to Disadvantaged/Low-Income Communities	15
8.2. Community Engagement Efforts	10
8.3. Localized Health Impacts	10
8.4. Technology Replicability	5
8.5. Project Support Letters	10
Total Possible Points for Criteria 8 (Minimum Passing Score for Criteria 8 is 70% or 35.00)	<b>50</b>



# Identifying Disadvantaged Communities

Designated pursuant to Health and Safety Code section 39711 as representing the **top 25% scoring** census tracts from CalEnviroScreen along with other areas with high amounts of pollution and low populations as identified by the California Environmental Protection Agency.

<https://oehha.ca.gov/calenvirocreen/sb535>

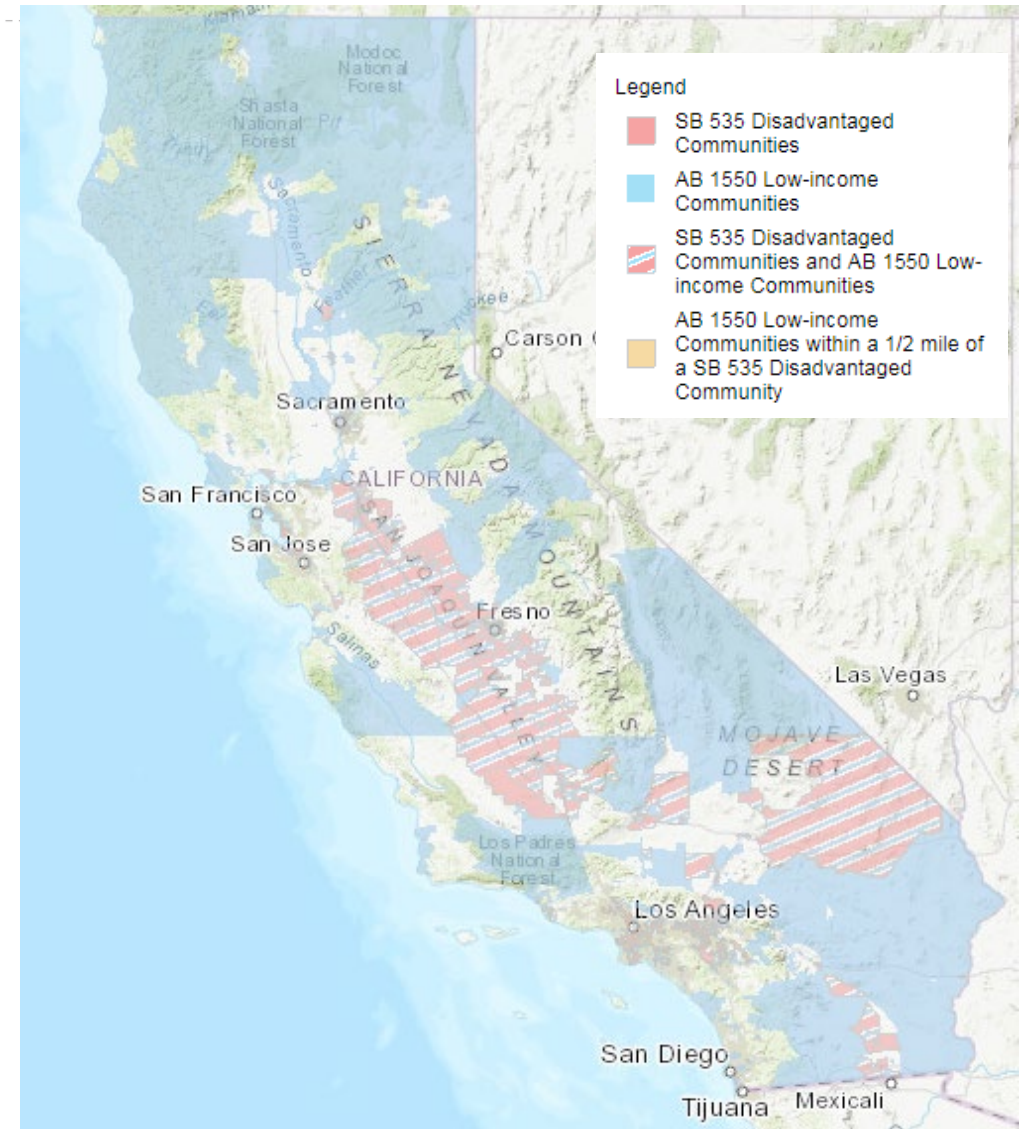




# Identifying Low-Income Communities

Communities within census tracts with **median household incomes at or below 80 percent of the statewide median income** or the applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development.

<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm>

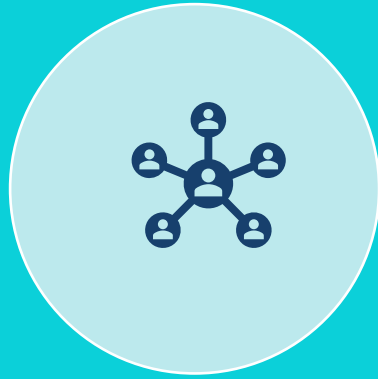




# Community Based Organization Requirements



Has an office in the region and meets the demographic profile of the communities they serve



Has deployed projects and/or outreach efforts within the region



Have official mission and vision statements that expressly identifies serving DAC or LI communities



Employs staff specialized in and dedicated to – diversity, equity, inclusion, or is a 501(c)(3) non-profit







# How will my Application be Evaluated?

## Application Scoring – Preference Points

- **Passing applications (score of 70 or more from Criteria 1-7 and a score of 35 points for Criteria 8) will be considered for bonus points.**

Scoring Criteria	Maximum Points
9. Match Funds	10
<b>Total Bonus Points</b>	<b>10</b>



# Match Funding Points

Applicants may receive up to 10 additional preference points based on the criteria below:

- Up to 5 points will be awarded based on the percentage of proposed cash relative to the total match contributions using the Match Scoring Table in the Scoring Criteria.
- The remaining 5 points may be awarded to applications that exceed the minimum match requirements up to 100 percent using the Exceeds Minimum Match Scoring table.
- Refer to the Solicitation Manual for more details on the match funding scoring criteria.



# Next Steps After Grant Award

- **Notice of Proposed Award:** Shows total proposed funding amounts, rank order of applicants by project group, and the amount of each proposed award.
- **Agreement Development:** Proposal documents will be processed into a legal agreement.
- **Failure to Execute:** CEC reserves the right to cancel the pending award if an agreement cannot be successfully executed with an applicant.
- **Project Start:** Recipients may begin work on the project **only** after the agreement is fully executed (approved at a CEC business meeting and signed by the Recipient and CEC).



# Key Dates

Activity	Date
Solicitation Release	01/02/2024
Pre-Application Workshop	01/18/2024 at 9:00 am (PST)
<b>Deadline for Written Questions</b>	<b>01/26/2024 at 5:00 pm (PST)</b>
Anticipated Distribution of Questions and Answers	02/09/2024
<b>Deadline to Submit Applications</b>	<b>03/29/2024 at 11:<u>59</u> pm</b>
Anticipated Notice of Proposed Award Posting	05/09/2024
Anticipated CEC Business Meeting	09/11/2024
Anticipated Agreement Start Date	10/01/2024
Anticipated Agreement End Date	10/01/2027



# Questions and Answers

## Three ways to ask questions:

### 1. Use the raise hand feature in Zoom:

- Zoom phone controls:
  - \*6 – Toggle mute/unmute
  - \*9 – Raise hand
- Introduce yourself by stating your name and affiliation
- Keep questions under 3 minutes to allow time for others

### 2. Type questions in the Q&A Box in Zoom:

- Please provide name and affiliation.

### 3. Submit written questions:

- Send written questions to [Natalie.johnson@energy.ca.gov](mailto:Natalie.johnson@energy.ca.gov) by **1/26/24 at 5:00 PM**

Note that an official CEC response will be provided in writing and posted on the GFO webpage in ~3 weeks.



# Additional Questions

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Please send all questions related to GFO-23-306 to:

**Natalie Johnson**

Commission Agreement Officer

715 P Street, MS-18

Sacramento, CA 95814

[Natalie.johnson@energy.ca.gov](mailto:Natalie.johnson@energy.ca.gov)

**Deadline to submit questions:**

**Friday, 1/26 at 5:00 PM (PST)**

**Deadline to submit applications:**

**Friday, 3/29 at 11:59 PM (PST)**



**Thank You!**

