



# GFO-23-310 Pre-Application Workshop

*Non-Energy Impacts and Process Evaluation of Integrated Energy Retrofit Packages in California's Residential Buildings*

Energy Research and Development Division, California Energy Commission

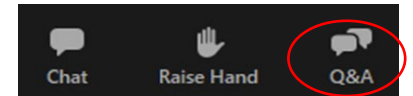
Presenter: Maninder Thind, PhD, Research Manager

Date: March 29, 2024



# Housekeeping

- This workshop will be recorded and posted to the CEC website.
- Attendees will be muted during the presentation.
- Please type your question using the Q&A window.
- Updates to solicitation documents will be posted at the Grant Funding Opportunity's webpage:



<https://www.energy.ca.gov/solicitations/2024-03/gfo-23-310-non-energy-impacts-and-process-evaluation-integrated-energy>



# Agenda

Time	Item
10:00 am	Welcome and Introduction
10:05 am	Solicitation Background <ul style="list-style-type: none"><li>• EPIC Research Program</li><li>• Purpose of Solicitation</li><li>• Available Funding</li></ul>
10:25 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>
11:00 am	Q&As
12:00 pm	Adjourn



# Commitment to Diversity

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

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

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



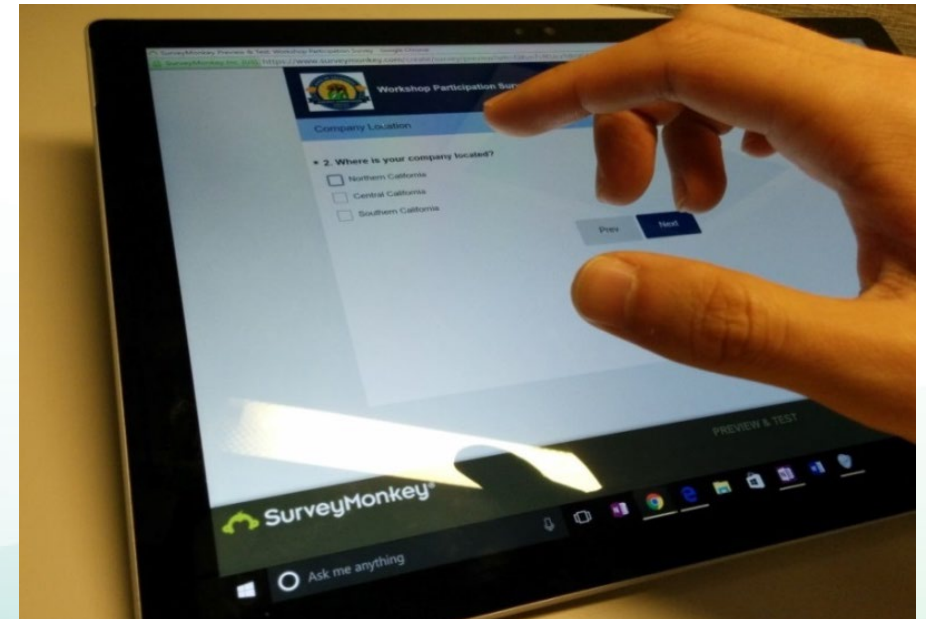
# We Want to Hear From You!

## 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/DzNhZ7LxkJ>

Thanks!





# Connect With Us

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## CATALYZING THE CLEANTECH COMMUNITY

JOIN NOW →

**CALIFORNIA ENERGY COMMISSION**

California Energy Commission  
Government Organization

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# Find a Partner on EmpowerInnovation.net

Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from the Energy Commission 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/42420>



# EmpowerInnovation.net







# Research Program Background

- This solicitation will award projects funded by the **Electric Program Investment Charge (EPIC) Program**; an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.
- The purpose of the EPIC program is to benefit the ratepayers of three investor-owned utilities (IOUs), including Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co.
- The EPIC funds clean energy technology projects that promote greater electricity reliability, lower costs, and increased safety.
- See CPUC “Phase 1” Decision 11-12-035, December 15, 2011, [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/FINAL\\_DECISION/156050.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/156050.PDF)
- See CPUC “Phase 2” Decision 12-05-037, May 24, 2012, [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/FINAL\\_DECISION/167664.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).



# California's Electric Program Investment Charge



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Electric Program Investment Charge (EPIC)  
Investment Plan 2021-25 strategic objective:

“Inform California’s Transition to an equitable,  
zero-carbon energy system that is climate-  
resilient and meets environmental goals”  
(Chapter 7)

This supports:

Initiative 43. Evaluating Air Quality, Health, and Equity in  
Clean Energy Solutions (pp. 210-215)

To access report:

<https://www.energy.ca.gov/publications/2021/electric-program-investment-charge-proposed-2021-2025-investment-plan-epic-4>

California Energy Commission

**COMMISSION REPORT**

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

EPIC 4 Investment Plan

Gavin Newsom, Governor

January 2023 | CEC-500-2021-048-CMF-REV



# Policy Drivers

- CEC’s Assembly Bill 3232 California Building Decarbonization Assessment report
  - Retrofit costs are a significant barrier to building decarbonization
- IEPR, 2021
  - Significant investments in retrofits needed to accelerate building decarbonization
  - “...the CEC and other relevant agencies should work to quantify the non-energy benefits of reducing building emissions”
- CEC’s Equitable Building Decarbonization Program
  - Includes a Direct Install Program



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California Energy Commission

**PROGRAM GUIDELINES**

**Equitable Building  
Decarbonization  
Direct Install Program:  
Draft Guidelines**

Gavin Newsom, Governor  
April 2023 | CEC-400-2023-003-D

Source: Kenney et al. 2021 California Building Decarbonization Assessment. California Energy Commission. Publication Number: CEC-400-2021-006-CMF.

CEC, Equitable Building Decarbonization Program, <https://www.energy.ca.gov/programs-and-topics/programs/equitable-building-decarbonization-program>

2021 IEPR Volume I - Building Decarbonization, <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report>



# Purpose of Solicitation

- Assess impact of consolidated packages of electrified retrofit measures on air quality and other related impact categories.
- Provide guidance on how these benefits could be considered in strategies and decisions to retrofit or replace gas-fueled appliances with electric.





# Available Funding

<b>Project</b>	<b>Available Funding</b>	<b>Minimum Award Amount</b>	<b>Maximum Award Amount</b>
<b>Non-energy Impacts and Process Evaluation of Integrated Energy Retrofit Packages in California's Residential Buildings</b>	\$3,000,000	\$2,900,000	\$3,000,000



# Match Funding

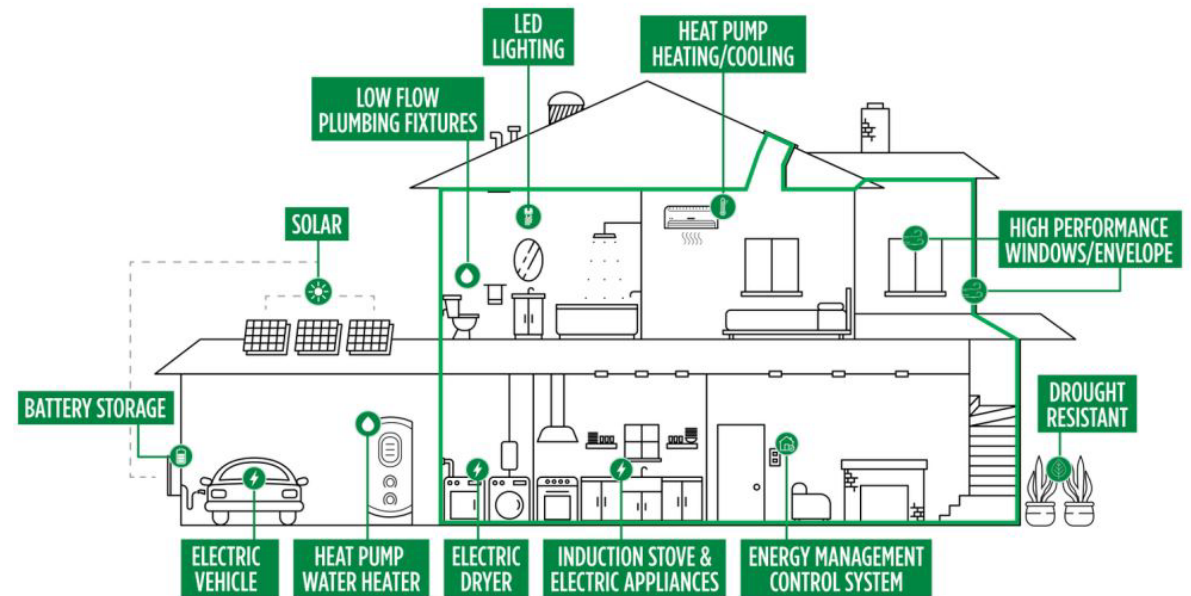
- Match funding requirement: 5% of requested CEC funds.
- Applications may receive additional points for match during scoring.
- Match funding contributors must submit match funding commitment letters that meet the requirements. Failure to do so will disqualify the match funding commitment from consideration.
- Refer to the Solicitation Manual for more details on match funding.



# Non-energy Impacts and Process Evaluation of Integrated Energy Retrofit Packages in California's Residential Buildings

## Background

- Decarbonization programs are expected to support installation of multiple technologies and building interventions.
- Many households are not aware of non-energy benefits of home electrification (e.g., health, comfort, and net costs).
- Need for demonstration and pilot projects to determine what works best for residents, understand impacts on indoor air quality and co-benefits.



Source: CEC, IEPR 2021



# Non-energy Impacts and Process Evaluation of Integrated Energy Retrofit Packages in California's Residential Buildings

## Successful applicants must:

- Design and implement a field study to measure and delineate impacts of integrated market-available retrofits in residential buildings.



Source: Wei et al. 2024 [CEC-500-2024-001](#)





# Non-energy Impacts and Process Evaluation of Integrated Energy Retrofit Packages in California's Residential Buildings

## Research must, at a minimum include:

- A meaningful sample size (with a preference for larger samples) with a majority of homes in low-income and/or disadvantaged communities.
  - A subset of homes in low-income and disadvantaged communities located near once-through cooling (OTC) power plants whose operations were recently extended to 2026.
- Methodology to select the equipment to include in the retrofit package(s) that will be tested.
- Identification and development of metrics that evaluate air quality and other impacts such as comfort, heat resilience, and energy costs.
- Measurement of performance of new interventions on air quality and related impacts such as comfort, energy efficiency, heat resilience, and household energy costs before and after the installations.
- Process evaluation to understand what works and does not work for residents and contractors and how programs can be improved.
- Assessment of residents' experiences and perceptions regarding the retrofitting process and its impacts, from early stages through operations.
- Research to illuminate how to scale up an integrated retrofitting approach and the associated costs, barriers, and benefits of scaling up.
- Based on the field data and observations, articulation of strategies for:
  - reducing cost and enhancing benefits of integrated retrofit packages in homes, especially for those in low-income and/or disadvantaged communities,
  - communicating the non-energy benefits of building decarbonization, and
  - best practices for stakeholders (residents, contractors, policymakers) to save energy and costs and to improve the indoor conditions that affect residents' health and comfort.



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## Research *may* include:

- Partnership with California's [Equitable Building Decarbonization Program](#), e.g., to recruit sample homes.
- Development and demonstration of a framework for recruiting households, selecting integrated retrofit upgrade packages, and installing integrated packages in a manner that targets improvements in air quality, energy efficiency, and heat resilience as well as the broader goal of electrification.
- Development and demonstration of pathways for retrofit upgrade implementation (e.g., rooftop solar, electric vehicles, and heat pump) that are economical for the residents.
- Assessment of individual electrification measures and their impacts on indoor and outdoor air quality.
- Quantification of the distribution of financial and energy burdens when switching from gas to electric appliances, including but not limited to households in low-income and/or disadvantaged communities.



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# Eligible Applicants

- This is an open solicitation for public and private entities.
- Applicants must accept applicable 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 the Energy Commission: <http://www.sos.ca.gov>



# Application Requirements

**Each Applicant must complete and including the following:**

- |                                 |   |
|---------------------------------|---|
| 1. Executive Summary (.docx)    | 8. Past Projects Information Form (.docx, .pdf) |
| 2. Project Narrative (.docx)    | 9. Commitment and Support Letters (.pdf)        |
| 3. Project Team (.docx, .pdf)   | 10. Project Performance Metrics                 |
| 4. Scope of Work (.docx)        | 11. Applicant Declaration (.docx)               |
| 5. Project Schedule (.xlsx)     |   |
| 6. Budget (.xlsx)               |   |
| 7. CEQA Compliance Form (.docx) |   |



# 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 term proposed
  - How will the project outcomes benefit electric ratepayers?
  - Address the requirements for your group as described in Section I.C.

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





# Scope of Work (Attachment 4)

- Tell us exactly what you are proposing to do in your project.
- Identify what will be deliver to the Energy Commission.
- Be sure to include in the technical tasks:
  - At least one product deliverable per task.
  - Address requirements in Section I.C. under 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 the Energy Commission funds and match funds will be spent to complete the project.
- Subrecipients receiving \$100,000 or more Energy Commission funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** estimated rates for the entire project term and any potential increases are included.
- Travel Restrictions:
  - CEC funds should be limited to project task specific in-state travel.
  - Travel to conferences are generally not considered applicable travel for projects and should not use CEC 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 **Applicant** (prime).
  - 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(s).
- 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

- Applicants must have or must create a user account to submit a solicitation application. To create an account, please see the guidance **User Registration Instructions** at:

<https://www.energy.ca.gov/media/7893>

Note: One account manager per organization, but users can be added by account manager

- Applications must be submitted through the Energy Commission Agreement Management System (ECAMS) at: <https://ecams.energy.ca.gov/>

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. Below the navigation bar is a 'Welcome!' message and a 'Funding Opportunities' section with a 'View Solutions' button. A large banner image shows a colorful bus, a wind turbine, solar panels, and a house. Below the banner 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 main content area features six tiles:

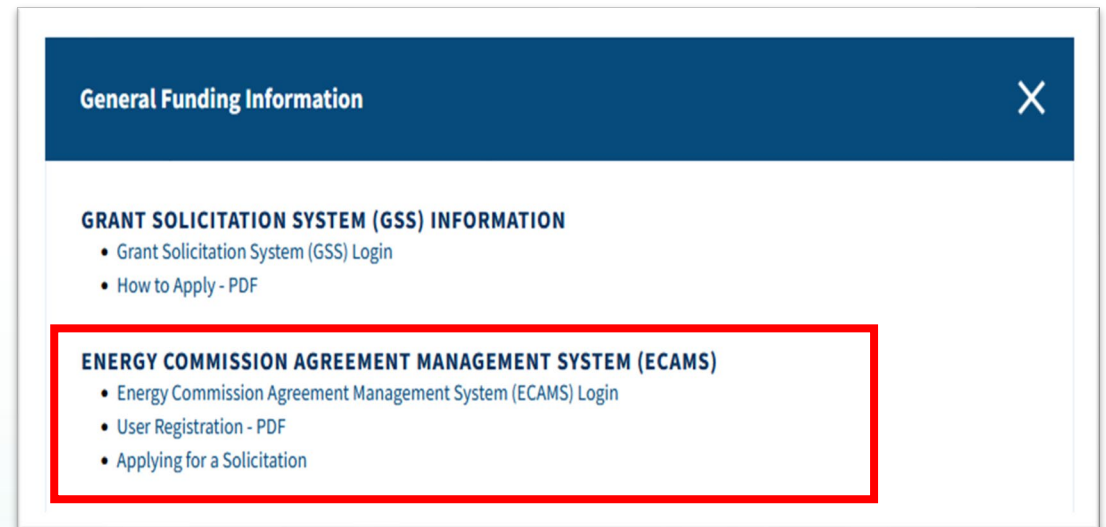
- Funding Workshops:** Find upcoming workshops to learn about solicitations, ask questions, network, and meet potential project partners.
- Awards:** Information about the California Energy Commission's awards, including notices of proposed awards and notices of selection.
- Funding Resources:** Guides, forms, templates, and other resources for individuals applying for funding opportunities that the California Energy Commission offers.
- ECAMS Grant Resources:** Templates, forms, and tools for the invoicing process and agreement management in general.
- Empower Innovation:** Empower Innovation is an initiative of the California Energy Commission, in partnership with leading California technology accelerators, fellowship programs, nonprofits, and private partners.
- Salesforce Training:** How to apply for solicitations and submit invoices.

At the bottom right, there is a 'Contact' section with the email address: [ecams.salesforcesupport@energy.ca.gov](mailto:ecams.salesforcesupport@energy.ca.gov)



# GFO Submission Requirements (cont.)

- For detailed instructions on application submittal, please see the *Applying for a Solicitation* at: <https://www.energy.ca.gov/media/7956>
- Both referenced guidance documents are available at: <https://www.energy.ca.gov/funding-opportunities/funding-resources> under General Funding Information.
- Questions with the ECAMS system should be directed to: [ECAMS.SalesforceSupport@Energy.ca.gov](mailto:ECAMS.SalesforceSupport@Energy.ca.gov)





# GFO Submission Requirements (cont.)

- Electronic files, other than those requiring signatures, must be consistent with the specific file format provided in the solicitation.
- Application documents should meet formatting requirements, and page recommendations as specified in the solicitation manual.
- Attachments requiring signatures (Application Form and Support/Commitment Letters) may be signed, scanned, and submitted in PDF format.



# Submission Warning

## START THE PROCESS EARLY!

- Applications must be fully submitted BEFORE the deadline listed in the solicitation manual.
- The ECAMS system will reject applications submitted after the deadline.
- Applications in the process of being submitted prior to the deadline will NOT be accepted after the deadline.
- ECAMS support is ONLY available from 8am – 5pm PST Monday-Friday.



# Application Submission

- Register as a New User (if applicable)
- Log In
- 4-Step Application Submittal Process:
  1. Select Solicitation
  2. Enter Application Information
  3. Upload Files
    - Select documents for upload
    - Tag files with document type
    - Designate confidential documents (if applicable)
  4. Review and Submit
- Confirmation from ECAMS system that submission was successful

**All steps must be complete BEFORE the submission deadline**





# Application Reminders

We recommend you carefully review your application before submission.

- Verify that all necessary documents have been uploaded.
- Verify that all documents uploaded are the accurate version you intend to submit as your final.
- Verify that your documents are not marked "confidential" unless the solicitation allows specific material to be confidential. Most solicitations do not allow submission of confidential information.
- Verify that your match commitment letters accurately reflect the match amounts included in your budgets, including the match provided by the prime applicant.
- Verify that support and commitment letters are included, if required.
- Verify that amounts entered within the system's budget (if any) concur with information included on uploaded budget worksheets.



# How will my Application be Evaluated?

## Application Screening

### Admin Screening Process

- Energy Commission 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 in order to continue evaluation.**
- **Applications must obtain a minimum passing score of 70 points for Criteria 1-7 in order 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.**

<b>Scoring Criteria</b>	<b>Maximum Points</b>
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
<b>Total</b>	<b>100</b>
<b>Minimum Points to Pass</b>	<b>70</b>



# How will my Application be Evaluated?

## Scoring – Preference Points

- **Passing applications (score of 70 or more from Criteria 1-7) will be considered for bonus points. Criteria for bonus points include:**
  - **Match Funding**
  - **Disadvantaged Communities**

Scoring Criteria	Maximum Points
8. Match Funds	10
9. Disadvantaged & Low-income Communities	5
<b>Total Bonus Points</b>	<b>15</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.



# Disadvantaged & Low-Income Communities

- Projects with test sites located in disadvantaged and/or low-income communities and justifies how the project will benefit these communities may receive additional points.
  - A disadvantaged community is identified by census tract and represents the 25% highest scoring tracts in CalEnviroScreen 4.0 or later versions:  
<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>
  - Low-income communities are defined as communities within census tracts with median household incomes at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development.  
<http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml>



# 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:** The Energy Commission 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 an Energy Commission business meeting and signed by the Recipient and the Energy Commission).



# Key Dates

Activity	Date
Solicitation Release	March 8, 2024
Pre-Application Workshop	March 29, 2024 at 10 am
<b>Deadline for Written Questions</b>	<b>April 10, 2024 at 5:00 pm</b>
Anticipated Distribution of Questions and Answers	Week of April 29, 2024
Deadline for ECAMS Submission Support	Ongoing until May 31, 2024 at 5:00 pm
<b>Deadline to Submit Applications</b>	<b>May 31, 2024 at 11:59 pm</b>
Anticipated Notice of Proposed Award Posting	Week of July 15, 2024
Anticipated Energy Commission Business Meeting	July 31, 2024
Anticipated Agreement Start Date	August 12, 2024
Anticipated Agreement End Date	March 31, 2028





# Questions and Answers

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- Please type your question in the Question and Answers window or raise your hand and you will be called on to unmute yourself. Please remember to introduce yourself by stating your name and affiliation. (Feature found under the Participants panel)
- Keep questions under 2 minutes to allow time for others.
- Note that our official response will be given in writing and posted on the GFO webpage.



# Additional Questions

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Please send all questions related to GFO-23-310 to:

**Brad Worster**

Commission Agreement Officer

1516 Ninth Street, MS-18

Sacramento, CA 95814

(916) 897-1647

[Brad.worster@energy.ca.gov](mailto:Brad.worster@energy.ca.gov)

**Deadline to submit questions:**

**Wednesday, April 10, 2024 5:00 PM**



**Thank You!**

