**GRANT FUNDING OPPORTUNITY**

**Advanced Pre-Fabricated Zero Carbon Homes**

**EPIC Program**



**GFO-22-305**

http://www.energy.ca.gov/contracts/index.html

**State of California**

**California Energy Commission**

January 2023

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| **Attachments**   | Attachment Number | Title of Section | | --- | --- | | 1 | Application Form ***(requires signature)*** | | 2 | Executive Summary | | 3 | Project Narrative | | 4 | Project Team | | 5 | Scope of Work | | 6 | Project Schedule | | 7 | Budget | | 8 | CEQA Compliance Form | | 9 | References and Work Product | | 10 | Commitment and Support Letters ***(require signature)*** | | 11 | Project Performance Metrics | | 12 | Applicant Declaration ***(require signature)*** | | 13 | References for Calculating Energy End-Use and GHG Emissions | |

# I. Introduction

## Purpose of Solicitation

The intent of this solicitation is to develop, test and demonstrate zero-carbon or near-zero-carbon (collectively “ZC”), cost-effective, modular and manufactured homes (collectively “prefabricated homes”) that can be readily deployed, particularly in under-resourced communities including California Native American Tribes.

The prefabricated housing industry generally has minimal research and product innovation, except in meeting code requirements. By involving key prefabricated and manufactured home industry stakeholders in the development process, they share ownership of the results, and increase the opportunity to gain widespread and immediate market acceptance. Economically integrating energy efficiency solutions at the factory with advancements in manufacturing processes can reduce production costs and make the homes affordable. The results of projects funded by this solicitation can increase cost-effectiveness of energy efficient prefabricated homes in under-resourced communities, including in fire-prone areas.

The purpose of this solicitation is to fund the demonstration of prefabricated homes that integrate advanced energy efficiency and renewable energy features that meet all the following objectives:

* are all electric, using no fossil fuel;
* include solar photovoltaic (PV) system with energy storage;
* have the capability to provide backup power to the home during power outages;
* be affordable from a first cost and operation perspective, such as, have a 10-year cost of ownership that is less than or equal to a home built to Housing and Urban Development (HUD) standards for manufactured homes or the 2022 Title 24 Building Energy Efficiency Standards for modular construction.

This solicitation is based on the EPIC interim Investment plan and allocates $15M for ZC prefabricated homes. The motivation for this initiative was to address home affordability and create and demonstrate resilient, ZC energy efficient prefabricated homes. This research initiative focuses on the following two types of prefabricated homes:

* **Manufactured homes:** These homes are built on steel chassis and transported to the site. The destination of these homes are mobile home parks and private lots. These homes are built quickly and more affordably in a factory setting compared to standard construction. However, these manufactured homes only need to meet the U.S. Housing and Urban Development’s (HUD) efficiency standards, which are less energy efficient than the California 2019 Title 24 Building Energy Efficiency Standards. As a result, ratepayers in this sector, who are often low-income, pay twice as much in energy costs (per square foot) than those who live in homes that are built to current Title 24 Building Energy Efficiency Standards. These homes are financed using chattel loans because the underlying land is generally rented or leased and not part of the loan financing. Chattel loans are secured by the manufactured home and not the land. As a result, interest rates are higher than for conventional site built/modular homes which include the building and the land.
* **Modular homes:** These homes are created in sections and then transported to the home site for construction and installation. These are typically installed and treated like a standard house for financing, appraisal, and construction purposes. Although the sections of the house are prefabricated, the sections or modules, are put together at the construction site. These homes must meet California’s Title 24 Building Energy Efficiency Standards. Modular construction enables home customization to include standardized energy-efficiency measures and can serve as a path to increasing all electric, ZC-home penetration. Modular construction can create a tight, well-insulated and air-sealed building envelopes, resulting in downsizing heating, ventilation, and air-conditioning (HVAC) systems and reducing building energy consumption and can reduce construction costs compared to standard construction.

By reducing the amount of energy needed in buildings through energy-efficient design, replacing on-site combustion appliances with high-efficiency heat pumps, and reducing the carbon content of on-site energy resources (e.g., solar PV and storage), this research initiative has the potential to achieve other co-benefits, such as:

* Improve indoor air quality in the homes due to elimination of appliances burning fossil gas. Air quality is further improved by mechanical ventilation. Both of these measures could reduce health risks.
* Result in more comfortable and affordable homes that improve the quality of life for low income residents.
* Improve ambient air quality through reduction in the need for electricity produced by fossil power plants.

Projects must fall within the following project groups:

* **Group 1**: Develop, Test and Demonstrate Innovative Manufactured Homes; and
* **Group 2**: Develop, Test and Demonstrate Innovative Modular Homes.

See Part II of this solicitation for project eligibility requirements. Applications will be evaluated as follows: Stage One proposal screening and Stage Two proposal scoring. Applicants may submit multiple applications, though each application must address only one of the project groups identified above. If an applicant submits multiple applications that address the same project group, each application must be for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work).

Prospective applicants looking for partnering opportunities for this funding opportunity should register on the California Energy Commission’s Empower Innovation website at [www.empowerinnovation.net](http://www.empowerinnovation.net)

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| Applicant | The entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. |
| Authorized Representative | *Authorized Representative*, the person signing the application form who has authority to enter into an agreement with the CEC. |
| CAM | *Commission Agreement Manager,* the person designated by the CEC to oversee the performance of an agreement resulting from this solicitation and to serve as the main point of contact for the Recipient. |
| California Tribal Organization | A corporation, association, or group controlled, sanctioned, or chartered by a California Native American tribe that is subject to its laws, the laws of the State of California, or the laws of the United States. |
| California Native American Tribe/Tribe | A Native American Tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004. |
| CAO | Commission Agreement Officer |
| CBO | Community Based Organization. A public or private nonprofit organization of demonstrated effectiveness that:   1. Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve. 2. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community. 3. Has an official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities. 4. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit. |
| CEC | State Energy Resources Conservation and Development Commission or , the California Energy Commission. |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| Cost of Ownership | This includes the following ownership cost: home loan payment, installation/construction, operation, maintenance, utilities, insurance and rental space (if applicable for manufactured homes). Home loan payment includes the initial cost of the manufactured/modular home including interest. If the manufactured home requires a larger rental space, the additional rent may also be required for a complete cost comparison. For modular homes, the home loan will include the home and the land. |
| Days | *Days* refer to calendar days*.* |
| Disadvantaged Community | These are communities that represent the 25% highest scoring census tracts in CalEnviroScreen 4.0, census tracts previously identified in the top 25% in CalEnviroScreen 3.0, census tracts with high amounts of pollution and low populations, and federally recognized tribal areas as identified by the Census in the 2021 American Indian Areas Related National Geodatabase.  (https://oehha.ca.gov/calenviroscreen/sb535) |
| Energy Equity | The fair distribution of benefits and burdens from energy production and consumption. |
| EPIC | *Electric Program Investment Charge,* the source of funding for the projects awarded under this solicitation. |
| Home Loan Costs | Loans for manufactured homes are often much higher than traditional homes that include land ownership. For context, this refers to the increase in purchase price from applying energy efficiency measures, renewable energy, storage or other costs related to this project. The increase in first cost may disqualify a low income buyer from a loan. The energy savings must exceed the increase in monthly loan cost to be considered cost effective. |
| HUD Standards | *U.S Department of Housing and Urban Development’s Manufactured Home Construction and Safety Standards (the Standards.* The Standards cover Body and Frame Requirements, Thermal Protection, Plumbing, Electrical, Fire Safety, and other aspects of the home. The Standards are published in the Code of Federal Regulations under 24 CFR Part 3280.”[[1]](#footnote-2) |
| IOU | *Investor-owned utility,* an electrical corporation as defined in in California Public Utilities Code section 218. For purposes of this EPIC solicitation, it includes Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. |
| Low Income Community | *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 the applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development. (https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml) |
| LMI | Low-to-Moderate Income (LMI) means any census tract (or equivalent geographic area defined by the Bureau of the Census) in which at least 50% of households have an income less than 60 percent of the Area Median Gross Income (AMGI), or which has a poverty rate of at least 25%. |
| Manufactured Home | Homes that are built on a chassis, delivered to a mobile home park or a private lot, and are typically the lowest cost unsubsidized home available. They are currently built to HUD standards that are substantially less efficient than Title 24. |
| Modular Home | Homes that are built in sections and assembled onsite. These homes must meet title 24 and local building codes. They are more expensive than manufactured homes on a chassis but could be less than the price of a traditional stick built home constructed on site. |
| NOPA | *Notice of Proposed Award,* a public notice by the CEC that identifies award recipients. |
| Pre-Commercial Technology | *Pre-commercial Technology* means a technology that has not reached commercial maturity or been deployed at scales sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable the appraisal of operational and performance characteristics, or of financial risks. |
| Prefabricated Homes | Residential buildings which are manufactured off-site in advance, usually in standard sections that can be easily shipped and assembled. These can include modular or manufactured homes. |
| Photovoltaic | An electrical device that converts the energy of light directly into electricity by the photovoltaic effect |
| Pilot Test | *Pilot test* means small scale testing in the laboratory or testing on a small portion of the production line of the affected industry. Pilot tests help to verify the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations |
| Principal Investigator | The technical lead for the applicant’s project, who is responsible for overseeing the project; in some instances, the Principal Investigator and Project Manager may be the same person. |
| Project Manager | The person designated by the applicant to oversee the project and to serve as the main point of contact for the CEC. |
| Project Partner | An entity or individual that contributes financially or otherwise to the project (e.g., match funding, provision of a test, demonstration or deployment site), and does not receive CEC funds. |
| R-value | A unit of thermal resistance used for comparing insulating values of different material. It is a measure of the effectiveness of insulation in stopping heat flow. The higher the R-value number, a material, the greater its insulating properties and the slower the heat flow through it. The specific value needed to insulate a home depends on climate, type of heating system and other factors. |
| Recipient | An entity receiving an award under this solicitation. |
| Solicitation | This entire document, including all attachments, exhibits, any addendum and written notices, and questions and answers (“solicitation” may be used interchangeably with “Grant Funding Opportunity”). |
| State | State of California |
| Title 24 | *Building Energy Efficiency Standards (Title 24, Parts 6 and 11)*. For the recent 2022 standards refer to: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards |
| TRL | Technology readiness levels are a method for estimating the maturity of technologies during the acquisition phase of a program.  Source: U.S. Department of Energy, “Technology Readiness Assessment Guide”. <https://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf> |
| Under-Resourced Communities | Under-resourced communities refer to communities that lack energy-related resources and who should be prioritized for investments to increase those resources |
| ZC | *Zero-Carbon* is defined as zero onsite operating carbon emissions |

## Project Focus

### The project focuses on developing an integrated portfolio of energy solutions to increase energy efficiency and reduce ownership and operating cost for prefabricated homes, This may include advanced envelopes, high efficiency heat pumps, smart electric panels, and use of advance innovative manufacturing technologies or processes for prefabricated homes. The goals are to: 1) create a model for energy efficient and resilient prefabricated home that builders can use and adopt in their own processes, 2) increase construction sector adoption and use of these models by showing costs and benefits, and 3) reduce the cost of home construction and home ownership while increasing the availability of energy efficient affordable housing. Affordable refers to the purchase price of the home as this is the largest barrier to overcome for low to moderate income (LMI) home buyers.

### Proposals submitted to both funding groups, as described in Section I.A. of this solicitation, must meet all the following minimum requirements in their home designs:

* all electric, using no fossil fuels;
* include solar PV with energy storage;
* have the capability to provide backup power to critical systems during power outages;
* have lower annual energy use and costs than prefabricated homes currently on the market that use existing construction methods;
* partner with a pre-fabricated building manufacturer;
* modular homes must meet 2022 Title 24 Building Energy Efficiency Standards;
* be located in areas that have high potential for energy and cost savings such as climate zones 10,11,12,13 and 14.

The CEC grant will pay for the incremental cost difference between a standard home versus the zero carbon home. All homes resulting from this solicitation must be located in under-resourced communities.

The energy using technologies must be right sized, and maintain operating cost effectiveness through lowered utility bills compared to the baseline (e.g., standard construction). By installing major energy using systems at or mostly at the factory there could be a reduction in labor required at the site. Potential for solar PV and energy storage installation at the factory, rather than site installation, will be investigated.

Additional features may include:

* Exceed 2022 Title 24 Building Energy Efficiency Standards;
* Use building simulation tools, such as CBECC-Res to validate cost and energy savings during and after the development of the demonstration based on the advanced energy measures selected. Use of CBECC-Res is preferred because this is the program used in the Title-24 Building Energy Efficiency standards;
* Use of low-GWP refrigerant for heat pumps (HVAC and water heating);
* Use of improved construction or installation processes that reduce air emissions;
* Use construction and/or installation practices that reduce manufacturing cost (manufactured home) or construction cost (modular home) compared to standard practice;
* Use materials that exceed minimum fire code for the building installation;
* Ability to island the home from the grid during power outages;
* Use load flexible controls to shift electrical usage to benefit the grid and reduce cost.

1. **Group 1: Develop, Test and Demonstrate Innovative Manufactured Homes**

This group funds advancements in improving manufacturing capabilities to improve efficiency and reduce cost of construction **and** the development, testing and demonstration of advanced manufactured homes that include the requirements in Section I.C. In addition, manufactured homes must meet or exceed the HUD standard established in 1994 and must have a 10-year cost of ownership that is less than or equal to baseline HUD similar building. The increased energy cost savings from energy efficiency and PV must offset the increase in home loan costs.

The Project Narrative (Attachment) must discuss the following in the sections identified:

* Technical Merit:
  + The baseline cost of an affordable HUD manufactured home;
  + The proposed production cost and energy savings of the manufactured home that is near, meets or exceeds Title 24 requirements;
  + Estimated performance metrics such as R-value and equipment sizing of the HUD and the advanced manufactured home;
  + How the proposed solution will interact with the grid and provide backup power during outages and reduce electrical load when needed to benefit the grid; and
  + Provide assumptions used in determining energy and energy cost savings of the advanced manufactured home, including present and future tariffs used to determine cost effectiveness and simple payback. Simple payback is the incremental cost difference between the advanced home versus the standard HUD home divided by the annual energy cost savings.
* Technical Approach:
  + Identify the manufacturing facility advancements and/or low carbon construction practices that will be implemented to reduce construction costs and reduce GHG emissions. For each advancement, provide all assumptions used to determine construction cost reductions, and the impact they would have on construction cost and GHG emission reductions when compared to standard HUD practice. CEC funds can only be used for innovative improvements to the manufacturing process and cannot be used for improvements to the manufacturing facility (e.g., building upgrades to improve energy efficiency).
  + Describe the specific advancements to be included in the homes that will meet the requirements in Section I.C. Discuss how these advancements will affect the cost of the home when compared to the standard practice and include a table comparing the costs. Note the CEC grant will only pay for the incremental cost difference between standard HUD practice and advanced manufactured home. Features of the advanced manufactured home can include pre-commercial and emerging technologies, or those that are commercially available but not widely used in HUD homes. Advanced equipment does not include commercially available equipment that is already used in new manufactured homes sold in California.
  + Discuss the construction cost of the advanced home at commercial scale and the path to commercialization and large scale deployment in California and elsewhere. Provide all assumptions.
  + Discuss how the proposal will meet the requirement that the advanced homes will have a 10-year cost of ownership that is less than or equal to baseline HUD similar building
  + Please state timeframe, assumptions with references, and calculations for estimations for all items listed in the technical approach.
  + Specify the location of the factory and the number of homes to be located in under-resourced communities in electric IOU service areas. If the homes are not to be located in climate zones 10,11,12,13 or 14, provide a justification for these other climate zones and why they have potential for uptake by under-resourced communities.
  + Please discuss the disposition of the homes at the end of the grant and how these homes and the project would benefit under-resourced communities.

1. **Group 2: Develop, Test and Demonstrate Innovative Modular Homes.**

This group funds advancements in improving manufacturing capabilities at the factory to improve efficiency and reduce cost of construction **and** the development, testing and demonstration of advanced modular homes with the requirements in Section I.C. In addition, modular homes must meet or exceed the 2022 Title 24 Building Efficiency Standards. Demonstrated modular homes must have a 10 year cost of ownership that is less than or equal to a 2022 Title 24 compliant building. The cost savings due to increased energy efficiency and PV must offset any increase in home loan costs.

The Project Narrative (Attachment) must discuss the following in the sections identified:

* Technical Merit:
  + The baseline cost of an affordable 2022 Title-24 modular home.
  + The proposed production cost and energy savings of the modular home exceeding T-24 requirements.
  + Estimated performance metrics such as R-value and equipment sizing of the Title-24 compliant home and the advanced modular home that exceeds T-24
  + How the proposed solution will interact with the power grid and provide backup power during outages and reduce electrical load when needed to benefit the grid;
  + Provide assumptions used in determining energy and energy cost savings of the advanced modular home, including present and future tariffs used to identify cost effectiveness and simple payback. Simple payback is the incremental cost difference between the advanced modular home versus the standard Title 24 compliant home divided by the annual energy cost savings;
* Technical Approach:
  + Identify the manufacturing facility advancements and/or low carbon construction practices that will be implemented to reduce construction costs and reduce GHG emissions. For each advancement, provide all assumptions used to determine construction cost reductions, and the impact they would have on construction cost and GHG emission reductions when compared to 2022 Title 24 home. CEC funds can only be used for innovative improvements to the manufacturing process for modular homes and cannot be used for improvements to the manufacturing facility (e.g., building upgrades to improve energy efficiency).
  + Describe the specific advancements to be included in the homes that will meet the requirements in Section I.C. Discuss how these advancements will affect the cost of the home when compared to the standard practice and include a table comparing the costs. Note the CEC grant will only pay for the incremental cost difference between standard T24 practice and advanced modular home. Advanced equipment can include pre-commercial and emerging technologies, or those that are commercially available but not widely used in modular homes. Advanced equipment does not include commercially available equipment that is already used to meet the 2022 Title 24 building efficiency standards.
  + Discuss the construction cost of the advanced home at commercial scale and the path to commercialization and large scale deployment in California and elsewhere. Provide all assumptions.
  + Discuss how the proposal will meet the requirement that the advanced homes will have a 10-year cost of ownership that is less than or equal to baseline of a home built to the 2022 Title 24 standards.
  + Please state timeframe, assumptions with sources, and calculation for estimations.
  + Specify the location of the manufacturing facility and the number of homes to be located in under-resourced communities in electric IOU service areas. If the homes are not to be located in climate zones 10,11,12,13 or 14, provide a justification for these other climate zones and why they have potential for uptake by under-resourced communities.
  + Please discuss the disposition of the homes at the end of the grant and how these homes and the project would benefit under-resourced communities.

## Funding

1. **Amount Available and Minimum/ Maximum Funding Amounts**

There is **up to $7,500,000 per group** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below.

| Project Group | Available funding | Minimum award amount | Maximum award amount | Minimum match funding  (% of EPIC Funds Requested) |
| --- | --- | --- | --- | --- |
| Group 1: Develop, Test and Demonstrate Innovative Manufactured Homes | $7,500,000 | $2,000,000 | $7,500,000 | 0% |
| Group 2: Develop, Test and Demonstrate Innovative Modular Homes. | $7,500,000 | $2,000,000 | $7,500,000 | 0% |

1. **Match Funding Requirement**

No match is required since all proposed projects must be located in and benefitting under-resourced communities within IOU electric service territories. However,applications that include match funding will receive additional points during the scoring phase (see Scoring Criteria in Section IV F).

For the definition of match funding see Section I K.

1. **Change in Funding Amount**

Along with any other rights and remedies available to it, the California Energy Commission (CEC) reserves the right to:

* Increase or decrease the available funding and the minimum/maximum award amounts described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* Reallocate funding between any of the groups.
* Reduce funding to an amount deemed appropriate if the budgeted funds do not provide full funding for agreements. In this event, the Recipient and Commission Agreement Manager will reach agreement on a reduced Scope of Work commensurate with available funding.

## Key Activities Schedule

Key activities, dates, and times for this solicitation and for agreements resulting from this solicitation are presented below. An addendum will be released if the dates change for activities that appear in **bold.**

| ACTIVITY | DATE | TIME[[2]](#footnote-3) |
| --- | --- | --- |
| Solicitation Release | 01/11/2023 |  |
| **Pre-Application Workshop** | 01/31/2023 | 10:00 a.m. |
| **Deadline for Written Questions[[3]](#footnote-4)** | 02/03/2023 | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers | Week of 02/17/2023 |  |
| **Deadline to Submit Applications** | 03/17/2023 | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | 04/18/2023 |  |
| Anticipated Energy Commission Business Meeting Date | 06/14/2023 |  |
| Anticipated Agreement Start Date | 07/05/2023 |  |
| Anticipated Agreement End Date | 03/29/2027 |  |

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss the solicitation with potential applicants. Participation is optional but encouraged. The Pre-Application Workshop will be held remotely. Applicants may attend the workshop via the internet (Zoom, see instructions below), or via conference call on the date and at the time and location listed below. Please refer to the CEC's website at www.energy.ca.gov/contracts/index.html to confirm the date and time.

**Date and time:** 01/31/2023 10:00 a.m.

**Zoom Instructions:**

To join the Zoom meeting, go to <https://zoom.us/join> and enter the Meeting ID below and select “join from your browser.” Participants will then enter the meeting password listed below and their name. Participants will select the “Join” button.:

**Meeting ID:** 87010709925

**Meeting Password:** meeting@10

**Topic:** GFO-22-305 Advanced Pre-Fabricated Zero Carb Homes Pre-Application Workshop

**Telephone Access Only:**

Call **1-888 475 4499** (Toll Free) or **1-877 853 5257** (Toll Free). When prompted, enter the meeting number above. International callers may select a number from the Zoom International Dial-in Number List at: https://energy.zoom.us/u/adjzKUXvoy. To comment, dial \*9 to “raise your hand” and \*6 to mute/unmute your phone line.

**Access by Mobile Device:**

Download the application from the Zoom Download Center, https://energy.zoom.us/download.

**Technical Support:**

* For assistance with problems or questions about joining or attending the meeting,

please call Zoom Technical Support at **1-888-799-9666 ext. 2.** You may also contact the CEC’s Public Advisor’s Office at publicadvisor@energy.ca.gov, or 800-822-6228.

* System Requirements: To determine whether your computer is compatible, visit:

https://support.zoom.us/hc/en-us/articles/201362023-System-requirements-for-Windows-macOS-and-Linux.

* If you have a disability and require assistance to participate, please contact Erica Rodriguez by e-mail at Erica.Rodriguez@energy.ca.gov or (916) 764-5705 at least five days in advance.

## Questions

During the solicitation process, direct questions to the Commission Agreement Officer listed below:

Brad Worster, Commission Agreement Officer

California Energy Commission

715 P, MS-18

Sacramento, California, 95814

Telephone: (916) 897-1647

E-mail: brad.worster@energy.ca.gov

Applicants may ask questions at the Pre-Application Workshop, and may submit written questions via email. However, all **technical** questions must be received by the deadline listed in the “Key Activities Schedule” above. Questions received after the deadline may be answered at the CEC's discretion. **Non-technical** questions (e.g., questions concerning application format requirements or attachment instructions) may be submitted to the Commission Agreement Officer (CAO) at any time prior to 5:00 p.m. of the application deadline date.

The questions and answers will also be posted on the Commission’s website at: https://www.energy.ca.gov/funding-opportunities/solicitations

If an applicant discovers a **conflict, discrepancy, omission, or other error** in the solicitation at any time prior 5:00 p.m. of the application deadline date, the applicant may notify the CEC in writing and request modification or clarification of the solicitation. The CEC, at its discretion will provide modifications or clarifications by either an addendum to the solicitation or by written notice to all entities that requested the solicitation. At its discretion, the CEC may, in addition to any other actions it may choose, re-open the question/answer period to provide all applicants the opportunity to seek any further clarification required.

**Any verbal communication with a Commission employee or anyone else concerning this solicitation is not binding on the State and will in no way alter a specification, term, or condition of the solicitation. Therefore, all communication should be directed in writing to the assigned CAO.**

1. **Applicants’ Admonishment**

This solicitation contains application requirements and instructions. Applicants are responsible for **carefully reading** the solicitation, asking appropriate questions in a timely manner, ensuring that all solicitation requirements are met, submitting all required responses in a complete manner by the required date and time, and **carefully rereading** the solicitation before submitting an application. In particular, please carefully read the **Screening/Scoring Criteria and** **Grounds for Rejection** in Part IV, and the relevant EPIC Grant terms and conditions located at: http://www.energy.ca.gov/research/contractors.html.

Applicants are solely responsible for the cost of developing applications. This cost cannot be charged to the State. All submitted documents will become publicly available records upon the posting of the Notice of Proposed Award.

1. **additional requirements**

* Time is of the essence. Funds available under this solicitation have encumbrance deadlines as early as June 30, 2023.  This means that the CEC must approve proposed awards at a business meeting (usually held monthly) prior to June 30, 2023, in order to avoid expiration of the funds. Prior to approval and encumbrance, the CEC must comply with the California Environmental Quality Act (CEQA). To comply with CEQA, the Commission must have CEQA-related information from applicants and sometimes other entities, such as local governments, in a timely manner. Unfortunately, even with this information, the Commission may not be able to complete its CEQA review prior to the encumbrance deadline for every project. For example, if a project requires an Environmental Impact Report, the process to complete it can take many months. For these reasons, it is critical that applicants organize project proposals in a manner that minimizes the time required for the Commission to comply with CEQA and provide all CEQA-related information to the Commission in a timely manner such that the Commission is able to complete its review in time for it to meet its encumbrance deadline.
* Reservation of right to cancel proposed award. In addition to any other right reserved to it under this solicitation or that it otherwise has, if the CEC determines, in its sole and absolute discretion, that the CEQA review associated with a proposed project would not likely be completed prior to the encumbrance deadline referenced above, and that the Commission’s ability to meet its encumbrance deadline may thereby be jeopardized, the CEC may cancel a proposed award and award funds to the next highest scoring applicant, regardless of the originally proposed applicant’s diligence in submitting information and materials for CEQA review. Examples of situations that may arise related to CEQA review include but are not limited to:
* Example 1: If another state agency or local jurisdiction, such as a city or county, has taken the role of lead agency under CEQA, the CEC’s review may be delayed while waiting for a determination from the lead agency.
* Example 2: If the proposed work is part of a larger project for which a detailed environmental analysis has been or will be prepared by another state agency or local jurisdiction, the CEC’s review may be delayed as a result of waiting for a supplemental or initial analysis, respectively, from the other agency.
* Example 3: If the nature of the proposed work is such that a project is not categorically or otherwise exempt from the requirements of CEQA, and an initial study or other detailed environmental analysis appears to be necessary, the CEC’s review, or the lead agency’s review, may take longer than the time available to encumber the funds. If an initial study or environmental impact report has already been completed by another state agency or a local jurisdiction, serving as the lead agency, the applicant must ensure that such an analysis covers the work in the proposed project, or must obtain a revised analysis and determination from the lead agency reviewing the proposed project.
* Example 4: If the proposed project clearly falls under a statutory or categorical exemption, or is project for which another state agency or local jurisdiction has already adopted a CEQA finding that the project will cause no significant effect on the environment, the project will likely have greater success in attaining rapid completion of CEQA requirements.
* Example 5: If the proposed project will be conducted on tribal land, the Tribe having jurisdiction over the project may conduct environmental review under their own ordinances. The Energy Commission’s review may be delayed while waiting for a determination from the Tribe.

The above examples are not exhaustive of instances in which the CEC may or may not be able to comply with CEQA within the encumbrance deadline and are only provided as further clarification for potential applicants. Please plan project proposals accordingly.

1. **Background**
2. **Electric Program Investment Charge (EPIC) Program**

This solicitation will award projects funded by the EPIC, an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.[[4]](#footnote-5) 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.[[5]](#footnote-6) In addition to providing IOU ratepayer benefits, funded projects must lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.[[6]](#footnote-7) The EPIC program is administered by the CEC and the IOUs.

* **Program Areas, Strategic Objectives, and Funding Initiatives**

EPIC projects must fall within the following **program areas** identified by the CPUC:

* Applied research and development;
* Technology demonstration and deployment; and
* Market facilitation.

In addition, projects must fall within one of the general focus areas (**“strategic objectives”**) identified in the CEC’s EPIC Investment Plans[[7]](#footnote-8) [[8]](#footnote-9) and within one or more specific focus areas (**“funding initiatives”**) identified in the plan. This solicitation targets the following program area(s), strategic objective(s), and funding initiative(s):

[**Specify Investment Plan**]

* **Program Area**: Technology Demonstration & Deployment
* **Strategic Objective** **Interim Plan**
  + **Funding Initiative 1. Advanced Prefabricated Zero-Carbon Homes**

**Applicable Laws, Policies, and Background Documents**

This solicitation addresses the energy goals described in the following laws, policies, and background documents.

Laws/Regulations

* **Senate Bill (SB) 32 - California Global Warming Solutions Act of 2006: emissions limit**

AB 32 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of greenhouse gas (GHG) emissions. The state board is required to approve a statewide GHG emissions limit equivalent to the statewide GHG emissions level in 1990 to be achieved by 2020 and to adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG emissions reductions. This requires the state board to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030.

Additional information: https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm

**Senate Bill (SB) X1-2[[9]](#footnote-10) - Renewables Portfolio Standard,**

SB X1-2 expanded California’s Renewables Portfolio Standard (RPS) goals and requires retail sellers of electricity and local publicly owned electric utilities to increase their procurement of eligible renewable energy resources to 20 % by the end of 2013, 25 % by the end of 2016, and 33 % by the end of 2020.

Applicable Law: California Public Utilities Code § 399.11 et seq.

* **AB 758, Building Efficiency[[10]](#footnote-11)**

AB 758 requires the Energy Commission to collaborate with the California Public Utilities Commission and stakeholders to develop a comprehensive program to achieve greater energy and water savings in existing residential and nonresidential buildings. The Energy Commission developed the *Existing Buildings Energy Action Plan* in August 2015.

Additional information: https://ww2.energy.ca.gov/efficiency/existing\_buildings/documents/ab\_758\_bill\_20091011\_chaptered.pdf

Applicable Law: California Public Resources Code § 25943, California Public Utilities Code §§ 381.2 and 385.2

* **AB 2514[[11]](#footnote-12) - Energy Storage Systems,**

AB 2514 required the CPUC to determine targets for the procurement of viable, cost-effective energy storage systems by load-serving entities. The CPUC adopted the procurement targets in Decision 13-10-040, issued on October 17, 2013 (see the summary of Decision 13-10-040 in the “Policies/Plans” section below).

Additional information: http://www.cpuc.ca.gov/general.aspx?id=3462

Applicable Law: California Public Utilities Code §§ 2835 et. seq., and § 9620 (http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=200920100AB2514)

* **SB 350[[12]](#footnote-13) Clean Energy and Pollution Reduction Act of 2015,**

SB 350 does the following: 1) expands California’s RPS goals and requires retail sellers of electricity and local publicly owned electricity to increase their procurement of eligible renewable energy resources; 2) requires the Energy Commission to establish annual targets for statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; and 3) provide for transformation of the Independent System Operator into a regional organization.

Additional information: http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb\_0301-0350/sb\_350\_bill\_20151007\_chaptered.htm

* **Senate Bill (SB) 100 - The 100 Percent Clean Energy Act of 2018**

SB 100 requires that 100 % of retail sales of electricity to California end-use customers and 100 % of electricity procured to serve all state agencies come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The bill requires the CPUC and the Energy Commission, in consultation with the California Air Resources Board to ensure that California’s transition to a zero-carbon electric system does not cause or contribute to greenhouse gas emissions (GHG) increases elsewhere in the western grid.

Additional information: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\_id=201720180SB100

* **Appliance Efficiency Regulations**

The Energy Commission promulgates appliance efficiency regulations that require manufacturers of various new appliances sold or offered for sale in California to test them using specified test methods. Covered appliances include refrigerators, air conditioners, heaters, plumbing fitting/fixtures, lighting, washers, dryers, cooking products, electric motors, transformers, power supplies, televisions, and battery charger systems.

Additional information: http://www.bsc.ca.gov/; http://www.energy.ca.gov/appliances/

Applicable Law: California Code of Regulations, Title 20, Division 2, Chapter 4, Article 4, §§ 1601 et. seq.

* **California Energy Code**

The Energy Code is a component of the California Building Standards Code, and is published every three years through the collaborative efforts of state agencies including the California Building Standards Commission and the Energy Commission. The Code ensures that new and existing buildings achieve energy efficiency and preserve outdoor and indoor environmental quality through use of the most energy ef­ficient technologies and construction.

Additional information: http://www.energy.ca.gov/title24/

Applicable Law: California Code of Regulations, Title 24, Part 6 and associated administrative regulations in Part 1

Policies/Plans

* **CPUC Decision 13-10-040, “Decision Adopting Energy Storage Procurement Framework and Design Program” (2013)**

The Decision establishes policies and mechanisms for energy storage procurement, as required by AB 2514 (described above). The IOU procurement target is 1,325 megawatts of energy storage by 2020, with installations required no later than the end of 2024.

Additional information: http://www.cpuc.ca.gov/uploadedfiles/cpuc\_public\_website/content/about\_us/organization/former\_commissioners/peevey(1)/news\_and\_announcements/ferron\_peevey\_concurrence\_storaged1310040.pdf

* **2019 California Energy Efficiency Action Plan**

The Energy Efficiency Action Plan expands on the Existing Buildings Energy Action Plan and includes topics related to existing buildings’ energy efficiency, low-income barriers to energy efficiency, and doubling energy efficiency by 2030. The SB 350 Doubling of Energy Efficiency by 2030 report expands beyond existing buildings to include agriculture, industry, newly constructed buildings, conservation voltage reduction, and electrification. This report combines these topics with the Existing Buildings Energy Efficiency Action Plan to create a comprehensive statewide energy efficiency action plan.

Additional information: https://ww2.energy.ca.gov/efficiency/existing\_buildings/

Reference Documents

* **PIR-12-028: Advanced Envelope Systems for Factory Built Homes**

In 2017, the CEC completed a research project focused on pilot-testing advanced envelope designs for the manufactured housing industry and how to provide high-performance, cost-effective alternative envelope designs to factory homebuilders. [[13]](#footnote-14) This project demonstrated advanced building envelope technologies that are cost-effective, commercially-viable, and offer new manufactured home buyers a compelling value proposition: to pay a little more upfront but enjoy lower monthly energy bills and other benefits. The focus was manufactured homes, and the advanced envelope designs were offered as an option to potential homebuyers by participating manufactured housing industry representatives. [[14]](#footnote-15)

* **EPC-19-035: Advancing Energy Efficiency in Manufactured Homes Through High Performance Envelope; and EPC-19-043: Advanced Energy-efficient and Fire-resistive Envelope Systems Utilizing Vacuum Insulation for Manufactured Homes**

In 2020, the CEC awarded two EPIC grants focused on advanced building envelopes for all-electric manufactured homes. The CEC received more applications and passing proposals than available resources could fund. This research initiative would build on this solicitation by including pre-fabricated modular homes, other advancements, such as solar PV, energy storage, load flexible controls, and emphasize affordability. Like the 2020 solicitation, continuing elements would include fire resiliency, building envelope energy efficiency, and GHG reductions. [[15]](#footnote-16)

* **EPC-14-010: Solar-Reflective Cool Walls**[[16]](#footnote-17)

This completed project quantifies the energy savings, peak demand reduction, urban cooling, and air quality improvements associated with cool wall technology.

* **300-15-008: Research Gap Analysis for Zero-Net Energy Buildings[[17]](#footnote-18)**

This completed project identified high potential envelope technologies to meet the goals of Zero Net Energy (ZNE) in commercial and residential buildings. It also developed a prioritization framework to define ZNE scenarios and the context technologies.

1. **Match Funding**

* **“Match funds”** includes cash or in-kind (non-cash) contributions provided by the applicant, subcontractors, or other parties including pilot testing, demonstration, and/or deployment sites (e.g., test site staff services) that will be used in performance of the proposed project.

“Match funds” do not include CEC awards, EPIC funds received from other sources, future/contingent awards from other entities (public or private), the cost or value of the project work site, or the cost or value of structures or other improvements affixed to the project work site permanently or for an indefinite period of time (e.g., photovoltaic systems).

Definitions of “match funding” categories are listed below:

* + - **“Cash”** **match** means funds that are in the recipient’s possession or proposed by match partner and clearly identified in a support letter, and are reserved for the proposed project, meaning that they have not been committed for use or pledged as match for any other project. Cash match can include funding awards earned or received from other agencies for the proposed technologies or study (but not for the identical work). Proof that the funds exist as cash is required. Cash match will be considered more favorably than in-kind contributions during the scoring phase.
    - **“In-Kind”** **match** is typically in the form of the value of personnel, goods, and services, including direct and indirect costs. This can include equipment, facilities, and other property as long as the value of the contribution is based on documented market values or book values, prorated for its use in the project, and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP).
* Match funds must be spent only during the agreement term, either before or concurrently with EPIC funds. Match funds also must be reported in invoices submitted to the CEC.
* All applicants providing match funds must submit commitment letters, **including prime and subcontractors**, that: (1) identify the source(s) of the funds; (2) justify the dollar value claimed; (3) provide an unqualified (i.e., without reservation or limitation) commitment that guarantees the availability of the funds for the project; and (4) provide a strategy for replacing the funds if they are significantly reduced or lost. Please see Attachment 11, Commitment and Support Letter Form. Commitment and support letters must be submitted with the application to be considered.
* Any match pledged in Attachment 1 must be consistent with the amount or dollar value described in the commitment letter(s) (e.g., if $5,000 “cash in hand” funds are pledged in a commitment letter, Attachment 1 must match this amount). Only the total amount pledged in the commitment letter(s) will be considered for match funding points.

Examples of preferred match share:

* + - **“Travel”** refers to all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state, and travel to conferences. EPIC funds are limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage). Use of match funds for out-of-state travel is encouraged, as the CEC discourages and may not approve the use of its funds for such travel. If an applicant plans to travel to conferences, including registration fees, they must use match funds. Applicants shall adhere to travel restrictions of using state funds to travel to certain other states pursuant to AB 1887 (2016) and codified at California Government Code Section 11139.8. All applicants are encouraged to consider the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Awarded Grants under this solicitation shall not contain travel paid for with Commission funds (applicants can instead use match funds) to the listed states unless the Commission approves in writing that the trip falls within one of the exceptions under the law.
    - **“Equipment” is** an item with a unit cost of at least $5,000 and a useful life of at least one year. **Purchasing equipment with match funding is encouraged** as there are no disposition requirements at the end of the agreement for such equipment. Typically, grant recipients may continue to use equipment purchased with CEC funds if the use is consistent with the intent of the original agreement.
    - **“Materials”** under Materials and Miscellaneous are items under the agreement that do not meet the definition of Equipment (unit cost of at least $5,000 and a useful life of at least one year). **Using match funds for purchasing items such as laptops, notebooks and/or personal tablets is encouraged, as Energy Commission funds for these purchases is not allowed.**

1. **Funds Spent in California**

* Only CEC reimbursable funds counts towards funds spent in California total.
* "Spent in California" means that:
  + (1) Funds in the "Direct Labor category and all categories calculated based on direct labor (e.g., fringe benefits, indirect costs and profit) are paid to individuals that pay California state income taxes on wages received for work performed under the agreement. Payments made to out-of-state workers do not count as “funds spent in California.” However, funds spent by out-of-state workers in California (e.g., hotel and food) can count as “funds spent in California.”; AND
  + (2) Business transactions (e.g., material and equipment purchases, leases, and rentals) are entered into with a business located in California.
  + (3) Total should include any applicable subcontractors.
* Airline ticket purchases for out-of-state travel and payments made to out-of-state workers are not considered funds “spent in California.” However, funds spent by out-of-state workers in California (e.g. lodging) and airline travel originating and ending in California are considered funds “spent in California.” A business located in California means: 1) businesses registered with Secretary of State AND 2) transaction is with a location in California that is directly related to the grant project (e.g., direct purchase of material and equipment to be used in the grant) and results in the support of California business and jobs.
  + Example 1: Grant funds will be spent on temperature sensors.  The temperature sensors are manufactured in Texas. The recipient orders the temperature sensors directly from a CA based supply house.  The invoice shows that the transaction occurred with the CA based supply house. This transaction is eligible and can be counted as funds spent in CA.
  + Example 2: Grant funds will be spent on temperature sensors. The temperature sensors are manufactured in Texas. The recipient orders the temperature sensors directly from Texas.  The manufacturer has training centers in CA that instructs purchasers on how to use the sensors. The invoice shows that the transaction occurred in Texas. This transaction is not eligible and cannot be counted as funds spent in CA.

# II. Eligibility Requirements

## Applicant Requirements

1. **Eligibility**

This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities.[[18]](#footnote-19) In accordance with CPUC Decision 12-05-037, funds administered by the CEC may not be used for any purposes associated with local publicly owned electric utility activities.

1. **Terms and Conditions**

Each grant agreement resulting from this solicitation will include terms and conditions that set forth the recipient’s rights and responsibilities. By signing the Application Form (Attachment 1), each applicant agrees to enter into an agreement with the CEC to conduct the proposed project according to the terms and conditions that correspond to its organization, without negotiation: (1) University of California and California State University terms and conditions; (2) U.S. Department of Energy terms and conditions; (3) special terms and conditions for Tribes and tribal corporations; and (4) standard terms and conditions. All terms and conditions are located at http://www.energy.ca.gov/research/contractors.html, with the exception of special terms and conditions for California Native American Tribe (Tribe) or a California Tribal Organization (Tribal Organization), which will be posted on this GFO website. Please refer to the applicable EPIC Grant terms and conditions. Failure to agree to the terms and conditions by taking actions such as failing to sign the Application Form or indicating that acceptance is based on modification of the terms will result in **rejection** of the application. Applicants **must** **read** the terms and conditions carefully.The CEC reserves the right to modify the terms and conditionsprior to executing grant agreements.

If a Tribe or Tribal Organization with sovereign immunity is listed as a proposed awardee in the Notice of Proposed Awards (NOPA), CEC staff must receive the following before bringing the proposed award to Business Meeting:

1. A resolution or other authorizing document by the governing body of the Tribe or Tribal Organization authorizing the Tribe or Tribal Organization to enter into the proposed agreement, including accepting the Special Terms and Conditions for California Native American Tribes and California Tribal Organizations with Sovereign Immunity (see Attachment 14).

2. A limited waiver of sovereign immunity in the form and manner required by tribal law; and

3. A resolution or other authorizing document delegating authority to execute the agreement to an appropriate individual.

The above requirements may be provided in one or more documents. The document(s) will be included as an exhibit to the resulting grant agreement.

Delay in award. Any delay in the Tribe or Tribal Organization’s ability to provide such documentation may result in delayed award of the grant agreement.

1. **Reservation of right to cancel proposed award**

Funds available under this solicitation have encumbrance deadlines which the CEC must meet in order to avoid expiration of the funds. In addition to any other rights reserved to it under this solicitation or that it otherwise has, the CEC reserves the right to cancel a proposed award if it determines, in its sole and absolute discretion, that the documentation described above would likely not be provided prior to an encumbrance deadline, and that the CEC’s ability to meet its encumbrance deadline may thereby be jeopardized. In this instance, the CEC may cancel the proposed award and award funds to the next highest scoring applicant.

1. **California Secretary of State Registration**

All corporations, limited liability companies (LLCs), limited partnerships (LPs) and limited liability partnerships (LLPs) that conduct intrastate business in California are required to be registered and in good standing with the California Secretary of State prior to its project being recommended for approval at an CEC Business Meeting.  If not currently registered with the California Secretary of State, applicants are encouraged to contact the Secretary of State’s Office as soon as possible to avoid potential delays in beginning the proposed project(s) (should the application be successful).  For more information, contact the Secretary of State’s Office via its website at www.sos.ca.gov.  Sole proprietors using a fictitious business name must be registered with the appropriate county and provide evidence of registration to the CEC prior to their project being recommended for approval at an CEC Business Meeting.

1. **Disadvantaged & Low-income Communities**

At least 25% of available Electric Program Investment Charge (EPIC) technology demonstration and deployment funding must be allocated to project sites located in, and benefiting, disadvantaged communities; and an additional minimum 10% of funds must be allocated to projects sites located in and benefiting low-income communities.[[19]](#footnote-20) The Energy Commission in administering EPIC must also take into account adverse localized health impacts of proposed projects to the greatest extent possible,[[20]](#footnote-21) and give preference for funding to clean energy projects that benefit residents of low-income or disadvantaged communities.[[21]](#footnote-22)

The California Energy Commission is committed to ensuring all Californians have an opportunity to participate in and benefit from programs and services. While it is not required that Group 1 and Group 2 projects complete the demonstration within a DAC/LIC and/or Tribe, demonstration projects located and benefiting DACs/LICs and/or Tribes will be eligible for preference points under the scoring criteria for this GFO.

Disadvantaged Communities are those designated pursuant to Health and Safety Code section 39711 as representing the 25% highest scoring census tracts in CalEnviroScreen or other areas with high amounts of pollution and low populations as identified by CalEPA. Please see https://calepa.ca.gov/envjustice/ghginvest/ for the most current CalEPA designations.

“Low-income communities” are defined as communities within census tracts with median household incomes at or below either of the following levels:

1. Eighty percent of the statewide median income.
2. The applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development and filed with the Office of Administrative Law pursuant to subdivision (c) of Section 50093 of the Health and Safety Code.

Visit the California Department of Housing & Community Development site for the current HCD State Income Limits at: http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml. Disadvantaged communities are defined as areas representing census tracts scoring in the top 25% in CalEnviroScreen. For more information on disadvantaged communities and to determine if your project is in a disadvantaged community, use the California Communities Environmental Health Screening tool (CalEnviroScreen) at:

https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

Another resource is the Healthy Places Index Tool for California, located at: https://healthyplacesindex.org/

## Project Requirements

1. **Technology Demonstration and Deployment Stage**

Projects must fall within the “technology demonstration and deployment” stage, which involves the installation and operation of pre-commercial technologies or strategies at a scale sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable appraisal of operational and performance characteristics, and of financial risks.**[[22]](#footnote-23)**

1. **Technology Transfer Expenditures**

To maximize the impact of EPIC projects and to promote the further development and deployment of EPIC-funded technologies, a minimum of 5 percent of CEC funds requested should go towards technology transfer activities. Appropriate technology transfer activities for this solicitation are listed in the Scope of Work Template (Attachment). The Budget Forms (Attachment) should clearly distinguish funds dedicated for technology transfer.

1. Measurement and Verification Plan

The Project Narrative (Attachment) must include a Measurement and Verification Plan that describes how actual project benefits will be measured and quantified, such as by pre- and post-project energy use (kilowatt hours, kilowatts), water use (million gallons), and cost savings for energy, water, and other benefits. The activities proposed in the Measurement and Verification Plan must be included in the “Technical Tasks” section of the Scope of Work Template (Attachment)

1. Community Based Organizations and/or Tribal Engagement

In TD&D solicitations with set aside funding for proposed projects located in and benefiting low-income, disadvantaged communities within IOU service territories, the project must allocate appropriate funding for CBO and/or tribal engagement for relevant tasks under the scope of work.

The CBO should meet, and will be evaluated on the following criteria for this solicitation:

1. Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve.
2. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community.
3. Have official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
4. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.

For projects located in and benefitting Tribes, the Tribe must be included on the project team and within the project budget.

# III. Application Organization and Submission Instructions

## Application Format, Page Limits, and Number of Copies

The following table summarizes the application formatting and page limit recommendations:

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

|  |  |
| --- | --- |
| **Format** | * **Font:** 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters) * **Margins:** No less than one inch on all sides (excluding headers and footers) * **Spacing:** Single spaced, with a blank line between each paragraph * **Signatures**: Wet signatures only (i.e., not electronic) * **File Format:** MS Word version 2007 or later (.doc or .docx format), excluding Excel spreadsheets and commitment or support letters (PDF files are acceptable for the letters) * **File Storage:** Electronic files of the application must be submitted on a USB memory stick when submitting via **hard copy.** |
| **Maximum Page Limit Recommendations** | * **Executive Summary** (Attachment): **two** pages * **Project Narrative Form** (Attachment): **twenty** pages excluding documentation for CEQA * **Project Team Form** (Attachment): **two** pages for each resume * **Reference and Work Product Form** (Attachment): **one** page for each reference, **two** pages for each project description * **Commitment and Support Letter Form** (Attachment): **two** pages, excluding the cover page * **Scope of Work** (Attachment): **thirty** pages * **Project Schedule** (Attachment): **four** pages * There are no page limits for the following:   + **Application Form** (Attachment)   + **Budget Forms** (Attachment)   + **CEQA Compliance Form** (Attachment)   + **Project Performance Metrics** (Attachment) |

## Method For Delivery

The only method of submitting applications to this solicitation is the CEC Grant Solicitation System (GSS), available at: https://gss.energy.ca.gov/. This online tool allows applicants to submit their electronic documents to the CEC prior to the date and time specified in this solicitation. Electronic files must be in Microsoft Word XP (.doc format) or newer and Excel Office Suite formats unless originally provided in the solicitation in another format.  Attachments requiring signatures may be scanned and submitted in PDF format.  Completed Budget Forms, (Attachment), must be in Excel format.

The deadline to submit grant applications through the CEC’s GSS is 11:59 p.m. The GSS system automatically closes at 11:59 pm. If the full submittal process has not been completed before 11:59 p.m., your application will not be considered. NO EXCEPTIONS will be entertained.

The CEC strongly encourages Applicants to upload and submit all applications by 5:00 p.m. because CEC staff will not be available after 5:00 p.m. or on weekends to assist with the upload process. And please note that while we endeavor to assist all would-be applicants, we can’t guarantee staff will be available for in-person consultation on the due date, so please plan accordingly.

Please give yourself ample time to complete all steps of the submission process: do not wait until right before the deadline to begin the process. Due to factors outside the CEC’s control and unrelated to the GSS system, upload times may be much longer than expected. For example, some past applicants experienced unexpected issues on their end, causing long delays that prevented timely submission. They spent significant time and resources on applications the CEC will not consider. Please plan accordingly. For instructions on how to apply using the GSS system, please see the How to Apply document available on the CEC website at: https://www.energy.ca.gov/media/1654.

First time users must register as a new user to access the system. Applicants will receive a confirmation email after all required documents have been successfully uploaded. A tutorial of the system will be provided at the pre-application workshop, and you may contact the Commission Agreement Officer identified in the Questions section of the solicitation for more assistance.

## Application Content

Below is a general description of each required section of the application. Please reference each individual attachment for a detailed description of the information requested by that attachment. Completeness in submitting all the information requested in each attachment will be factored into application scoring.

1. Application Form (Attachment 1)

This form requests basic information about the applicant and the project. The application must include an original Application Form that includes all requested information. The Application Form must be signed by an authorized representative of the applicant’s organization or will be failed as indicated in Section IV.E.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

1. Executive Summary Form (Attachment 2)

The Executive Summary includes: a project description; the project goals and objectives to be achieved; an explanation of how the goals and objectives will be achieved, quantified, and measured; and a description of the project tasks and overall management of the agreement.

1. Project Narrative Form (Attachment 3)

This form will include the majority of the applicant’s responses to the Scoring Criteria in Section IV, including the following which must be addressed for both Applied Research & Technology Demonstration projects:

* 1. **Group Specific Questions**
     + Include required group specific information (see Section I.C.) in the specified sections.
  2. **Project Readiness**
     + Include information about the permitting required for the project and whether or not the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction CEQA review and project approval is not complete, applications must include information documenting progress towards and a schedule for achieving compliance under CEQA within the timeframes specified in this solicitation (see Section I.E). All supporting documentation must be included in Attachment 8.

1. Project Team Form (Attachment 4)

Identify by name all key personnel[[23]](#footnote-24) assigned to the project, including the project manager and principal investigator (if applicable), and individuals employed by any major subcontractor (a major subcontractor is a subcontractor receiving at least 25% of Commission funds or $100,000, whichever is less). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages, printed double-sided).

1. Scope of Work Template (Attachments 5)

Applicants must include a completed Scope of Work for each project, as instructed in the template. The Scope of Work identifies the tasks required to complete the project. See requirements in section III.A.

Electronicfiles for the Scope of Work must be in **MS Word** file format**.**

1. Project Schedule (Attachment 6)

The Project Schedule includes a list of all products, meetings, and due dates. All work must be scheduled for completion by the “Key Dates” section of this solicitation manual.

Electronic files for the Project schedule must be in MS Excel file format.

1. Budget Forms (Attachment 7)

The budget forms are in MS Excel format. Detailed instructions for completing them are included at the beginning of Attachment 7.  **Read the instructions before completing the worksheets**. Complete and submit information on **all** budget worksheets. The salaries, rates, and other costs entered on the worksheets will become a part of the final agreement.

1. All project expenditures (match share and reimbursable) must be made within the approved agreement term. Match share requirements are discussed in Part I of this solicitation. The entire term of the agreement and projected rate increases must be considered when preparing the budget.
2. The budget must reflect estimates for **actual** costs to be incurred during the agreement term. The CEC may only approve and reimburse for actual costs that are properly documented in accordance with the grant terms and conditions. Rates and personnel shown must reflect the rates and personnel the applicant would include if selected as a Recipient.
3. The proposed rates are considered capped and may not change during the agreement term. The Recipient will only be reimbursed for **actual** rates up to the rate caps.
4. The budget must NOT include any Recipient profit from the proposed project, either as a reimbursed item, match share, or as part of overhead or general and administrative expenses (subcontractor profit is allowable, though the maximum percentage allowed is 10 % of the total subcontractor rates for labor, and other direct and indirect costs as indicated in the Category Budget form). Please review the terms and conditions and budget forms for additional restrictions and requirements.
5. The budget must allow for the expenses of all meetings and products described in the Scope of Work. Meetings may be conducted at the CEC or by conference call, as determined by the Commission Agreement Manager.
6. Applicants must budget for permits and insurance. Permitting costs may be accounted for in match share. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement with CEC funds, with the exception of costs incurred by University of California recipients.
7. The budget must NOT identify that EPIC funds will be spent outside of the United States or for out-of-country travel.  However, match funds may cover these costs if there are no legal restrictions.
8. All applicants should go to the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Grants awarded under this solicitation shall not contain travel paid for with Commission funds (applicants can instead use match funds) to the listed states unless the Commission approves in writing that the trip falls within one of the exceptions under the law.
9. **Prevailing wage requirement:** Projects that receive an award of public funds from the CEC often involve construction, alteration, demolition, installation, repair or maintenance work over $1,000. For this reason, projects that receive an award of public funds from the CEC are likely to be considered public works under the California Labor Code. See Chapter 1 of Part 7 of Division 2 of the California Labor Code, commencing with Section 1720 and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000.

Projects deemed to be public works require among other things the payment of prevailing wages, which can be significantly higher than non-prevailing wages.

By accepting this grant, Recipient as a material term of this agreement shall be fully responsible for complying with all California public works requirements including but not limited to payment of prevailing wage. Therefore, as a material term of this grant, Recipient must either:

(a) Proceed on the assumption that the project is a public work and ensure that:

1. prevailing wages are paid; and
2. the project budget for labor reflects these prevailing wage requirements; and
3. the project complies with all other requirements of prevailing wage law including but not limited to keeping accurate payroll records, and complying with all working hour requirements and apprenticeship obligations.

or,

(b) Timely obtain a legally binding determination from the Department of Industrial Relations or a court of competent jurisdiction before work begins on the project that the proposed project is not a public work.

1. California Environmental Quality Act (CEQA) Compliance Form (Attachment 8)

The CEC requires the information on this form to facilitate its evaluation of proposed activities under CEQA (California Public Resources Code Section 21000 et. seq.), a law that requires state and local agencies in California to assess the potential environmental impacts of their proposed actions. The form will also help applicants to determine CEQA compliance obligations by identifying which proposed activities may be exempt from CEQA and which activities may require additional environmental review. If proposed activities are exempt from CEQA (such as paper studies), the worksheet will help to identify and document this. This form must be completed regardless of whether the proposed activities are considered a “project” under CEQA.

Failure to complete the CEQA process in a timely manner after the CEC’s Notice of Proposed Award may result in the cancellation of a proposed award and allocation of funding elsewhere, such as to the next highest-scoring project.

1. Reference and Work Product Form (Attachment 9)
   * 1. Section 1: Provide applicant and subcontractor references as instructed.
     2. Section 2: Provide a list of past projects detailing technical and business experience

of the applicant (or any member of the project team) that is related to the proposed work. Identify past projects that resulted in market-ready technology, advancement of codes and standards, and/or advancement of state energy policy. Include copies of up to three of the applicant or team member’s recent publications in scientific or technical journals related to the proposed project, as applicable.

1. Commitment and Support Letter Form (Attachment 10)

A commitment letter commits an entity or individual to providing the service or funding described in the letter. A support letter details an entity or individual’s support for the project. Commitment and Support Letters must be submitted with the application. Letters that are not submitted by the application deadline will not be reviewed and counted towards meeting the requirement specified in the solicitation.

* + 1. Commitment Letters

Applicants wishing to include match funding must submit a **match funding** commitment letter signedby eachrepresentative of the entity or individual that is committing to providing match funding. The letter must: (1) identify the source(s) of the funds; and (2) guarantee the availability of the funds for the project.

* If the project involves **demonstration** activities, the applicant must include a site commitment letter signed by an authorized representative of the proposed demonstration site. The letter should: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) which must be consistent with Attachments 1 and 8. and (2) commit to providing the site for the proposed activities.
* **Project partners** that are making contributions other than match funding or a demonstration site, and are not receiving CEC funds, must submit a commitment letter signed by an authorized representative that: (1) identifies how the partner will contribute to the project; and (2) commits to making the contribution.
  + 1. Support Letters

All applicants must include at least one support letter from a project stakeholder (i.e., an entity or individual that will benefit from or be involved in the project) that: (1) describes the stakeholder’s interest or involvement in the project; (2) indicates the extent to which the project has the support of the relevant industry and/or organizations; and (3) describes any support it intends (but does not necessarily commit) to provide for the project, such as funding or the provision of a demonstration site.

The CEC may have waived the requirement for a signature on application materials for this solicitation. If a notice regarding CEC’s waiver of the signature requirement appears here: https://www.energy.ca.gov/funding-opportunities/solicitations, the waiver applies to this solicitation. In the event of a conflict between the notice and any language in this solicitation regarding signatures, the notice will govern.

1. Project Performance Metrics (Attachment 11)

The purpose of this questionnaire is to identify and document 5-7 performance targets for the project. The performance targets should be a combination of scientific, engineering and techno-economic metrics that provide the most significant indicator of the research or technology’s potential success.

1. Applicant Declaration (Attachment 12)

This form requests the applicant declare that they: are not delinquent on taxes nor suspended by the California Franchise Tax Board; are not currently being sued by any entity (public or private) or individual, and are not aware of any information that reasonably indicates they may be sued by any entity or individual during the proposed agreement term, that might reasonably be expected to materially impact the applicant’s ability to perform the proposed project; are in compliance with the terms of all settlement agreements, if any, entered into with the Energy Commission or another public agency or entity; are in compliance with all judgments, if any, issued against the Applicant in any matter to which the Energy Commission or another public agency or entity is a party; are complying with any demand letter made on the Applicant by the Energy Commission or another public agency or entity; and are not in active litigation with the Energy Commission regarding the Applicant’s actions under a current or past contract, grant, or loan with the Energy Commission. The declaration must be signed under penalty of perjury by an authorized representative of the applicant’s organization.

The CEC may request additional information from potential awardees before the CEC approves awards at a business meeting.

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1. References for Calculating Energy End-Use and GHG Emissions (Attachment 13)

Any estimates of energy savings or GHG impacts described in the application should be calculated as specified on this form, to the extent that the references apply to the proposed project.

# IV. Evaluation and Award Process

## Application Evaluation

Applications will be evaluated and scored based on responses to the information requested in this solicitation and on any other information available, such as on past performance of CEC agreements. To evaluate applications, the CEC will organize an Evaluation Committee that consists primarily of CEC staff. The Evaluation Committee may use technical expert reviewers to provide an analysis of applications. Applications will be evaluated in two stages:

1. **Stage One: Application Screening**

The Contracts, Grants, and Loans Office and/or the Evaluation Committee will screen applications for compliance with the Screening Criteria in **Section E** of this Part. **Applications that fail any of the screening criteria will be rejected.**The Evaluation Committee may conduct optional telephone **Clarification Interviews** with applicants during the screening process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.

1. **Stage Two: Application Scoring**

Applications that pass Stage One will be submitted to the Evaluation Committee for review and scoring based on the Scoring Criteria in **Section F** of this Part.

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* Clarification Interviews: The Evaluation Committee may conduct optional telephone interviews with applicants during the evaluation process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.
* **A minimum score of 105.0 points** is required for criteria 1-8 to be eligible for funding. In addition, the application must receive a minimum score of **52.50 points for criteria 1−4, and 70.00 points for criteria 1-7** to be eligible for funding.

## Ranking, Notice of Proposed Award, and Agreement Development

1. **Ranking and Notice of Proposed Award**

Applications that receive at least the minimum required score for all criteria will be ranked according to their score.

* CEC staff will post a **Notice of Proposed Award (NOPA)** that includes: (1) the total proposed funding amount; (2) the rank order of applicants; and (3) the amount of each proposed award. The CEC will post the NOPA at its headquarters in Sacramento and on its website, and will mail it to all entities that submitted an application. Proposed awards must be approved by the CEC at a business meeting.
* **Debriefings:** Unsuccessful applicants may request a debriefing after the release of the

NOPA by contacting the Commission Agreement Officer listed in Part I. A request for debriefing must be received **no later than 30 calendar days** after the NOPA is released.

* In addition to any of its other rights, the CEC reserves the right to:
  + Allocate any additional funds to passing applications, in rank order; and
  + Negotiate with successful applicantstomodify the project scope, schedule, project team entity that will receive the award, location and/or level of funding.

1. **Agreements**

Applications recommended for funding will be developed into a proposed grant agreement to be considered at a CEC Business Meeting. Recipients may begin the project only after full execution of the grant agreement (i.e., approval at a CEC business meeting and signature by the Recipient and the CEC).

* **Agreement Development:** The Contracts, Grants, and Loans Office will send the Recipient a grant agreement for approval and signature. The agreement will include the applicable terms and conditions and will incorporate this solicitation and the application by reference. The CEC reserves the right to modify the award documents (including the terms and conditions) prior to executing any agreement.
* **Failure to Execute an Agreement:** If the CEC is unable to successfully execute an agreement with an applicant in a timely manner, it reserves the right to cancel the pending award and use the funds elsewhere, such as to fund the next highest-ranked, eligible application.

## Grounds to Reject an Application or Cancel an Award

Applications that do not pass the screening stage will be rejected. In addition, the CEC reserves the right to reject an application and/or to cancel an award for any reason, including any of the following:

* The application contains false or intentionally misleading statements or references that do not support an attribute or condition contended by the applicant.
* The application is intended to erroneously and fallaciously mislead the State in any way.
* The application does not comply or contains caveats that conflict with the solicitation, and the variation or deviation is material.
* The applicant has previously received funding through an EPIC or Public Interest Energy Research (PIER) agreement, has received the royalty review letter (which the CEC annually sends out to remind past recipients of their obligations to pay royalties), and has not responded to the letter or is otherwise not in compliance with repaying royalties.
* The applicant has received unsatisfactory agreement evaluations from the CEC or another California state agency.
* The applicant is a business entity required to be registered with the California Secretary of State and is not in good standing.
* The applicant has not demonstrated that it has the financial capability to complete the project.
* The applicant fails to meet CEQA compliance within sufficient time for the CEC to meet its encumbrance deadline or any other deadlines, as the CEC in its sole and absolute discretion may determine.
* The applicant has included a statement or otherwise indicated that it will not accept the terms and conditions, or that acceptance is based on modifications to the terms and conditions.
* The application contains confidential information or identifies any portion of the application as confidential.

## Miscellaneous

1. **Solicitation Cancellation and Amendment**

It is the policy of the CEC not to solicit applications unless there is a bona fide intention to award an agreement. However, if it is in the State’s best interest, the CEC reserves the right, in addition to any other rights it has, to do any of the following:

* Cancel this solicitation;
* Revise the amount of funds available under this solicitation;
* Amend this solicitation as needed; and/or
* Reject any or all applications received in response to this solicitation.

If the solicitation is amended, the CEC will send an addendum to all entities that requested the solicitation, and will also post it on the CEC’s website at: www.energy.ca.gov/contracts. The CEC will not reimburse applicants for application development expenses under any circumstances, including cancellation of the solicitation.

1. **Modification or Withdrawal of Application**

Applicants may withdraw or modify a submitted application before the deadline to submit applications by sending a letter to the Commission Agreement Officer listed in Part I. Applications cannot be changed after that date and time. An Application cannot be “timed” to expire on a specific date. For example, a statement such as the following is non-responsive to the solicitation: “This application and the cost estimate are valid for 60 days.”

1. **Confidentiality**

Though the entire evaluation process from receipt of applications up to the posting of the NOPA is confidential, **all submitted documents will become publicly available records** after the CEC posts the NOPA or the solicitation is cancelled. **The CEC will not accept or retain applications that identify any portion as confidential.**

1. **Solicitation Errors**

If an applicant discovers any ambiguity, conflict, discrepancy, omission, or other error in the solicitation, the applicant should immediately notify the CEC of the error in writing and request modification or clarification of the solicitation. The CEC will provide modifications or clarifications by written notice to all entities that requested the solicitation. The CEC will not be responsible for failure to correct errors.

1. **Immaterial Defect**

The CEC may waive any immaterial defect or deviation contained in an application. The CEC’s waiver will not modify the application or excuse the successful applicant from full compliance with solicitation requirements.

1. **Disposition of Applicant’s Documents**

Upon the posting of the NOPA, all applications and related materials submitted in response to this solicitation will become property of the State and publicly available records. Unsuccessful applicants who seek the return of any materials must make this request to the Agreement Officer listed in Part I, and provide sufficient postage to fund the cost of returning the materials.

## Stage One: Application Screening

| **Screening Criteria**  *The Application must pass ALL criteria to progress to Stage Two.* | **Pass/Fail** |
| --- | --- |
| 1. The application is received by the CEC’s Contracts, Grants, and Loans Office by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation and is received in the required manner (e.g., no emails or faxes). | Pass  Fail |
| 1. The application Form (Attachment 1) is signed where indicated. | Pass  Fail |
| 1. The Applicant Declaration Form (Attachment 12) is signed where indicated. | Pass  Fail |
| 1. The application addresses only one of the eligible project groups, as indicated on the Application Form. | Pass  Fail |
| 1. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment).   *If the projects are not distinct and the applications were submitted at the same time, only the first application screened by the CEC will be eligible for funding. If the applications were submitted separately, only the first application received by the CEC will be eligible for funding.* | Pass  Fail |
| 1. The Application includes Commitment Letters for home sites and optional match share funds. | Pass  Fail |
| 1. *If the project involves technology demonstration/ deployment activities:*  * The Application identifies one or more demonstration/ deployment site locations. * All demonstration/ deployment sites are located in a California electric IOU service territory (PG&E, SDG&E, or SCE). * The proposal includes a site commitment letter (Section III.C.12) for each demonstration/ deployment site. | Pass  Fail |

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## Stage Two: Application Scoring

Proposals that pass ALL Stage One Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria on the next page and the Scoring Scale below (with the exception of criteria 6−7, which will be evaluated as described in each criterion). Each criterion has an assigned number of possible points, and is divided into multiple sub-criteria. The sub-criteria are not equally weighted. The Project Narrative (Attachment) must respond to each sub-criterion, unless otherwise indicated.

**Scoring Scale**

| **% of Possible Points** | **Interpretation** | **Explanation for Percentage Points** |
| --- | --- | --- |
| 0% | Not Responsive | Response does not include or fails to address the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 10-30% | Minimally Responsive | Response minimally addresses the requirements being scored. The omission(s), flaw(s), or defect(s) are significant and unacceptable. |
| 40-60% | Inadequate | Response addresses the requirements being scored, but there are one or more omissions, flaws, or defects or the requirements are addressed in such a limited way that it results in a low degree of confidence in the proposed solution. |
| 70% | Adequate | Response adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 75% | Between Adequate and Good | Response better than adequately addresses the requirements being scored. Any omission(s), flaw(s), or defect(s) are inconsequential and acceptable. |
| 80% | Good | Response fully addresses the requirements being scored with a good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 85% | Between Good and Excellent | Response fully addresses the requirements being scored with a better than good degree of confidence in the applicant’s response or proposed solution. No identified omission(s), flaw(s), or defect(s). Any identified weaknesses are minimal, inconsequential, and acceptable. |
| 90% | Excellent | Response fully addresses the requirements being scored with a high degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 95% | Between Excellent and Exceptional | Response fully addresses the requirements being scored with a better than excellent degree of confidence in the applicant’s response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations. |
| 100% | Exceptional | All requirements are addressed with the highest degree of confidence in the applicant’s response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution. |

**Scoring CRITERIA**

**The following scoring criteria is for Groups 1 and 2.**

**Additional Screening Criteria for Past Performance**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with Energy Commission**  The applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the Energy Commission (e.g., contract, grant, or loan) and entered into an agreement(s) with the Commission and demonstrated **severe performance issues** characterized by significant negative outcomes including:   * Significant deviation from agreement requirements; * Termination with cause; * Demonstrated poor communication, project management, and/or inability, due to circumstances within its control, from materially completing the project; * Quality issues with deliverables including poorly written final report that prevents publishing; and * Severe unresolved negative audit findings. |  |
| **Must pass to continue with Scoring Criteria** | **Pass/Fail** |

**Scoring CRITERIA**

**The Project Narrative (Attachment)** must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy End-Use and GHG Emissions (Attachment), to the extent that the references apply to the proposed project

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |
| 1. **Technical Merit** 2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals. 3. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost). 4. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project. 5. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project. 6. Describes at what scale the technology has been successfully demonstrated, including size or capacity, number of previous installations, location and duration, results, etc. 7. Describes how the proposed demonstration will lead to increased adoption of the technology in California. 8. Provides information described in Section I.C. | **15** |
| 1. **Technical Approach** 2. Proposal describes the technique, approach, and methods to be used in performing the work described in the Scope of Work. 3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative. 4. Proposal identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded. 5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g. loss of demonstration site, key subcontractor). Provides a plan to address them. 6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E. 7. Describes the technology transfer plan to assess and advance the commercial viability of the technology. 8. Provides a clear and plausible measurement and verification plan that describes how energy savings and other benefits specified in the application will be determined and measured. 9. Provides information documenting progress towards achieving compliance with the California Environmental Quality Act (CEQA) by addressing the areas in Section I.I and Section III.D.3., and Section III.D.8 10. Provides information described in Section I.C. | **25** |
| 1. **Impacts and Benefits for California IOU Ratepayers** 2. Explains how the proposed project will benefit California Investor-Owned Utility (IOU) ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits. Estimates the energy benefits including:    * annual electricity (EPIC) (kilowatt-hour), energy cost reductions, peak load reduction and/or shifting, infrastructure resiliency, infrastructure reliability.   **In addition, estimates the non-energy benefits including:**   * greenhouse gas emission reductions, air emission reductions (e.g. NOx), water savings and cost reduction, and/or increased safety.  1. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe. 2. Explains the path-to-market strategy including near-term (i.e. initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions. 3. Identifies the expected financial performance (e.g. payback period, ROI) of the demonstration at scale. 4. Identifies the specific programs which the technology intends to leverage. *(e.g. feed-in tariffs, IOU rebates, demand response, storage procurement) and extent to which technology meets program requirements.* | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**   Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. This can include contacting references.   1. Identifies credentials of prime and any subcontractor key personnel, including the project manager, principal investigator and technology and knowledge transfer lead *(include this information in the Project Team Form).* 2. Demonstrates that the project team including Community Based Organization has appropriate qualifications, experience, financial stability and capability to complete the project. 3. Explains the team structure and how various tasks will be managed and coordinated. 4. Describes the facilities, infrastructure, and resources available that directly support the project. 5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization. | **15** |
| **Total Possible Points for criteria 1− 4**  **(Minimum Passing Score for criteria 1− 4 is 70% or 52.50)** | **75** |
| 1. **Budget and Cost-Effectiveness** 2. Budget forms are complete for the applicant and all subcontractors, as described in the Budget instructions. 3. Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks. 4. Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subcontractors). 5. Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subcontractor profit, and other like costs). | **10** |
| 1. **CEC Funds Spent in California**   Projects that maximize the spending of CEC funds in California will receive points as indicated in the table below (see CEC Funds Spent in California section for more details).   |  |  | | --- | --- | | **Percentage of CEC funds spent in CA vs Total CEC funds requested**  (derived from budget Attachment ) | **Percentage of Possible Points** | | >60% | 20% | | >65% | 30% | | >70% | 40% | | >75% | 50% | | >80% | 60% | | >85% | 70% | | >90% | 80% | | >95% | 90% | | >98% | 100% | | **10** |
| 1. **Ratio of Direct Labor to Indirect Costs**   The score for this criterion will be calculated by the following formula:  This ratio will then be multiplied by the maximum possible points for this criterion and rounded to two decimal places.  NOTE: For the purposes of this criterion, the CEC will include the facility charges (e.g., rent, utilities, etc.), burdens and other like costs that are budgeted as direct costs into the indirect costs in the formula. | **5** |
| **Total Possible Points**  **(Minimum Passing Score for Criteria 1 – 7 is 70% or 70.00)** | **100** |
| 1. **Benefits to Disadvantaged/Low-Income Communities and Localized Health Impacts** |  |
| 8.1 Benefits to Disadvantaged/Low-Income Communities   1. Identifies and describes the energy and economic needs of the community based on project location, and what steps the applicant has taken to identify those needs. 2. Identifies and describes how the project will increase access to clean energy or sustainability technologies for the local community. 3. Identifies and describes how the proposed project will improve opportunities for economic impact including customer bill savings, job creation, collaborating and contracting with micro-, local, and small-businesses, economic development, and expanding community investment. 4. Identifies how the projects’ primary beneficiaries are residents of the identified disadvantaged/low income community(ies) and describes how they will directly benefit from the project outcomes. | 15 |
| * 1. Community Engagement Efforts  1. Identifies how community input was solicited and considered in the design of the project. 2. Identifies and describes how the impacted community will be engaged in project implementation. 3. Identifies and describes how the applicant will disseminate educational materials and career information to best support community understanding and engagement as applicable (e.g., culturally appropriate and translated materials, translation services, and considerate scheduling of stakeholder events as needed). 4. Identifies how the project, if successful, will build community capacity. | 10 |
| * 1. Localized Health Impacts  1. Summarizes the potential localized health benefits and impacts of the proposed project and provides reasonable analysis and assumptions to support the findings. 2. Identifies how the proposed project will reduce or not otherwise impact the community’s exposure to pollutants and the adverse environmental conditions caused by pollution and/or climate change. If projects have no impacts in this criterion, provide justification for why impacts are neutral. 3. Identifies health-related Energy Equity indicators and/or health-related factors in CalEnviroscreen 4.0[[24]](#footnote-25) that most impact the community and describes how the project will reduce or not otherwise impact the indicators or factors. | 15 |
| * 1. Technology Replicability  1. Identifies how the project, if successful, will lead to increased deployment of the technology or strategy in other disadvantaged or low-income communities. | 5 |
| * 1. Project Support Letters  1. Includes letters of support from technology partners, community based organizations, environmental justice organizations, or other partners that demonstrate their belief that the proposed project will lead to increased equity, and is both feasible, and commercially viable in the identified low-income and/or disadvantaged community. | 5 |
| **Total Possible Points for criteria 8**  **(Minimum Passing Score for Criteria 8 is 70% or 35.00 points)** | **50** |
| **Total Possible Points** | **150** |
| **Preference Points** Applications must meet all minimum passing scores (Scoring Criteria 1-4, 1-7, and 1-8) to be eligible for the additional points. | |

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. **Match Funds** 2. Cash match share is preferred; however, in-kind cost share is permitted and will be considered for solicitation match requirements. Points for this criterion will be evaluated based on the proposed cash match relative to the total match (cash + in-kind) contributions using the Cash Match Scoring Table:   **Cash Match Scoring Table**   | Percentage of Proposed Cash Match Funds | Score | | --- | --- | | 80 to 100% | 5 | | 60 to <80% | 4 | | 40 to <60% | 3 | | 20 to <40% | 2 | | 10 to <20% | 1 | | **5** |
| 1. Additional points will be awarded to applications that exceed the minimum match requirements based on the percentage amount above minimum using the Exceeds Minimum Match Scoring table:   **Exceeds Minimum  Match Scoring Table**   | Percentage above Minimum Match (cash and in-kind) | Score | | --- | --- | | 80% | 5 | | 60 to <80% | 4 | | 40 to <60% | 3 | | 20 to <40% | 2 | | 10 to <20 % | 1 | | **5** |

1. U.S Department of Housing and Urban Development. https://www.hud.gov/program\_offices/housing/rmra/mhs/factsheet [↑](#footnote-ref-2)
2. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-3)
3. This deadline does not apply to non-technical questions (e.g., questions concerning application format requirements or attachment instructions) or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the Commission Agreement Officer listed in Section G at any time prior to the application deadline. Please see Section G for additional information. [↑](#footnote-ref-4)
4. See CPUC “Phase 1” Decision 11-12-035, December 15, 2011, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/156050.PDF. [↑](#footnote-ref-5)
5. See CPUC “Phase 2” Decision 12-05-037, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-6)
6. California Public Resources Code, Section 25711.5(a), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=25001-26000&file=25710-25712. [↑](#footnote-ref-7)
7. 2012-14 EPIC Triennial Investment Plan, http://www.energy.ca.gov/research/epic/documents/final\_documents\_submitted\_to\_CPUC/2012-11-01\_EPIC\_Application\_to\_CPUC.pdf (Attachment 1), as modified and approved by CPUC Decision 13-11-025, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M081/K773/81773445.PDF> . [↑](#footnote-ref-8)
8. 2015-17 EPIC Triennial Investment Plan, http://www.energy.ca.gov/2014publications/CEC-500-2014-038/CEC-500-2014-038-CMF.pdf, as modified and approved by CPUC Decision 15-04-020, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M151/K183/151183650.PDF> . [↑](#footnote-ref-9)
9. SBX 1-2 (Statutes of 2011, first extraordinary session, chapter 1) [↑](#footnote-ref-10)
10. AB 758 (Statutes of 2009, chapter 470) [↑](#footnote-ref-11)
11. AB 2514 (Statutes of 2010, chapter 469) [↑](#footnote-ref-12)
12. SB 350 (Statutes of 2015, chapter 547 [↑](#footnote-ref-13)
13. Advanced Envelope Systems for Factory Built Homes, Publication Number CEC-500-2019-007, California Energy Commission Publication Database. [↑](#footnote-ref-14)
14. Agreement number PIR-12-028: Advanced Envelope Systems for Factory Built Homes. [↑](#footnote-ref-15)
15. EPC-19-035: Advancing Energy Efficiency in Manufactured Homes Through High Performance Envelope; and EPC-19-043: Advanced Energy-efficient and Fire-resistive Envelope Systems Utilizing Vacuum Insulation for Manufactured Homes. [↑](#footnote-ref-16)
16. Levinson, Ronnen, Haley Gilbert, Jiachen Zhang, George Ban-Weiss, Jan Kleissl, Matteo Pizzicotti, Weilong Zhang, Nathalie Dumas, Benjamin Kurtz, Yan Long, Negin Nazarian, Arash Mohegh, Yun Li, Xiaochen Tang, Sharon Chen, Marion Russell, Sébastien Houzé de l’Aulnoit, Paul Berdahl, Pablo Rosado, Jonathan Slack, Howdy Goudey, and Hugo Destaillats. 2019. Solar-Reflective “Cool” Walls: Benefits, Technologies, and Implementation. California Energy Commission. Publication Number: CEC-500-2019-040 [↑](#footnote-ref-17)
17. Gupta, Smita, Jeremy Smith. Itron, Inc. 2019. Research Gap Analysis for Zero-net Energy Buildings. California Energy Commission. Publication Number: CEC-500-2019-031. [↑](#footnote-ref-18)
18. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#footnote-ref-19)
19. Public Resources Code § 25711.6. [↑](#footnote-ref-20)
20. Public Resources Code § 25711.5. [↑](#footnote-ref-21)
21. Public Resources Code § 25711.6. [↑](#footnote-ref-22)
22. See CPUC “Phase 2” Decision 12-05-037 at pp. 39-40 and 90, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-23)
23. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-24)
24. https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40 [↑](#footnote-ref-25)