**GRANT FUNDING OPPORTUNITY**

**EVALUATING BI-DIRECTIONAL ENERGY TRANSFERS AND DISTRIBUTED ENERGY RESOURCE INTEGRATION FOR MEDIUM- AND HEAVY-DUTY FLEET ELECTRIFICATION**



**GFO-20-304**

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

**State of California**

**California Energy Commission**

September 2020

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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 ***(requires signature)*** | | 11 | Project Performance Metrics | | 12 | Applicant Declaration ***(requires signature)*** | | 13 | References for Calculating Energy End-Use and GHG Emissions | |

# I. Introduction

## Purpose of Solicitation

The purpose of this solicitation is to fund technology demonstration and deployment (TD&D) research projects that enable and evaluate resilience, renewable integration, and cost management use cases for medium- and heavy-duty (MDHD) plug-in electric vehicles (PEVs). Electrification of these large weight-class vehicles is challenging and costly due in part to their high-power charging needs and more demanding duty cycles as compared to light-duty vehicles. Up to $22M in funding is available for projects that: advance hardware and software tools for managed bi-directional energy transfer from electric school buses (Group 1); or advance hardware and/or software to integrate MDHD PEVs and charging equipment with a behind-the-meter distributed energy resource (DER) package that includes distributed generation, stationary storage, and an energy management system (Groups 2-3). In each group, projects will improve the functionality of key enabling technologies and aim to reduce equipment and integration costs, leading to improved total cost of ownership for MDHD PEV fleets. This solicitation supports the 2018-2020 Electric Program Investment Charge (EPIC) Investment Plan Initiatives: S2.3.1 “Development of Customers’ Business Proposition to Accelerate the Integrated Distributed Storage Market” and S3.2.1 “Grid-friendly Plug-in Electric Vehicle Mobility.”

**Background**

Transportation electrification is a key strategy for achieving California’s greenhouse gas and air quality mandates. Tailpipe emissions account for more than 40 percent of greenhouse gas (GHG) releases statewide, with trucks and buses being responsible for about 20 percent of the state’s transportation GHG emissions.[[1]](#footnote-2) Fossil-fueled MDHD vehicles also emit significant criteria pollutants and contribute to local air quality impacts associated with adverse health outcomes that disproportionately burden disadvantaged and low-income communities. To address these impacts, the state is implementing regulations and programs to accelerate the deployment of zero emission MDHD vehicles, such as the California Air Resources Board’s Innovative Clean Transit Program and Advanced Clean Trucks Program, as well as the California Energy Commission’s School Bus Replacement Program.[[2]](#footnote-3),[[3]](#footnote-4),[[4]](#footnote-5)

Adoption of MDHD PEVs into fleet operations can be challenging due in part to differences in vehicle characteristics (e.g., weight, range, and torque requirements), operational needs (e.g., schedule, route, and available downtime), and infrastructure requirements (e.g., available distribution capacity and locations of charging stations). MDHD vehicles typically have large capacity batteries that need either high-power charging or long periods of down time to charge at low-power. High-power charging requires more expensive hardware, can lead to costly demand charges on site’s electricity bills, and may necessitate upgrades to facility or distribution infrastructure.[[5]](#footnote-6),[[6]](#footnote-7)

Deploying behind-the-meter energy management systems and co-locating DERs may help address some of these barriers. Several microgrids and other DER deployments in California are at the early stages of incorporating managed charging of MDHD vehicles, with fewer demonstrating bi-directional energy transfer from vehicles to the grid or grid-connected facilities. However, there is wide variability in the components, communication and control systems, and use cases evaluated. Fleet operators face challenges achieving interoperability of sub-systems (e.g., fleet management, charger management, and building or site energy management); navigating interconnection processes; and ensuring secure communication of price, asset availability, and other signals among equipment, software, third party aggregators, and grid operators. Capital expenses including hardware, site engineering, and commissioning remain high, and demonstrations require significant site-specific customization. There is a lack of publicly available cost and performance data for customers to evaluate potential business cases.

This solicitation funds TD&D projects that will assess, advance, and find potential cost efficiencies of secure behind-the-meter DER packages that meet MDHD fleet mobility needs or optimize vehicle charging and discharging for one of three different use cases. The solicitation is divided into three groups, recognizing that different MDHD fleets will require different charging and site energy management approaches.

**Group 1: Bi-Directional Energy Transfers from Electric School Buses**

Group 1 projects will develop and demonstrate technologies for controlled, bi-directional energy transfer between electric school bus batteries and end-loads, grid-connected facilities, or distribution systems. To date there have been relatively few demonstrations of managed discharging of electric vehicle batteries in California.[[7]](#footnote-8),[[8]](#footnote-9),[[9]](#footnote-10),[[10]](#footnote-11) While these have demonstrated technical feasibility, further evaluation and data collection is necessary to understand implementation strategies, costs, and benefits for specific use cases. These demonstrations will inform other school districts deciding whether to include bi-directional capabilities in school bus procurements as well as electric vehicle charging service providers evaluating business models that include bi-directional capabilities, among other stakeholders. Reflecting decision maker needs for this information, demonstration of bi-directional energy transfers for resilience benefits is a priority consensus recommendation contained in the Joint Agencies Vehicle Grid Integration Working Group Final Report.[[11]](#footnote-12) Group 1 focuses on electric school buses in part because there are multiple commercially available products designed and warrantied for bi-directional operation. These buses are currently being purchased by California school districts, including through the Energy Commission’s School Bus Replacement Program.

**Group 2: Integrated DER packages for Charging MDHD Fleets**

Group 2 projects will tailor DER packages to fleets that are beginning to incorporate MDHD PEVs into their operations. Early adopters include transit agencies, ports, airports, railyards, and hub-and-spoke delivery operations. However, for PEVs to penetrate broadly into the MDHD market, fleets need better understanding of specific attributes. Important attributes include the cost and performance of these vehicles, the extent to which integrated DER packages can impact metrics such as total cost of ownership, and vehicle availability and downtime. Many of these fleets return to a central location to charge, but some may require en-route fast charging to extend vehicle range and minimize downtime. Group 2 projects may propose DER packages to support any combination of centralized and en-route charging with a focus on ease of integration and replicability at other sites. Specifically, the components and control systems should be interoperable, scalable, and replicable to the extent possible, all of which are important factors in the evaluation of technical merit and approach sections for proposals in this group. Drayage truck fleets including charging infrastructure to support drayage truck operations are not eligible for this solicitation. Please see the Energy Commission’s website for electric drayage truck related funding opportunities.

**Group 3: Integrated DER packages for Electric School Buses**

Group 3 projects will tailor DER packages for electric school bus charging, taking advantage of beneficial inherent attributes including long dwell times that are coincident with peak solar production, and well-defined duty cycles. Public schools often serve as community shelters during emergencies; thus, these projects may have a more targeted focus on increasing site and community resilience and should incorporate this community benefit into the value of lost load (VoLL) calculation. These demonstrations will inform decision makers as to whether to include DER charging for school buses and similar fleets as they become electrified. Note that all school bus projects should apply to either Group 1 if focused only on bi-directional energy transfer, or Group 3 if focused on DER integration. Bi-directional energy transfer is allowed in Group 3, but not required.

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).

## 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 |
| 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. 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. |
| CEC | State Energy Resources Conservation and Development Commission or as commonly called, the California Energy Commission |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| Days | *Days* refers to calendar days |
| DER | Distributed Energy Resource |
| Disadvantaged Community | These are communities in the top 25 percent scoring areas census tracts from CalEnviroScreen 3.0 along with other areas with high amounts of pollution and low populations.  (<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>) |
| EMS | *Energy management system* coordinates and controls distributed generation, storage, and loads |
| 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 |
| 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. |
| GHG | Greenhouse Gas |
| kW | kilowatt |
| kWh | kilowatt-hour |
| Low Income Community | 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. (<http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml>) |
| MDHD | Medium-duty and heavy-duty vehicles, inclusive of Class 3-8 (10,000 lbs gross vehicle weight rating and larger) |
| NOPA | *Notice of Proposed Award,* a public notice by the CEC that identifies award recipients |
| PEV | Plug-in Electric Vehicle |
| Pre-Commercial | *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. |
| 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 |
| 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 |
| TD&D | Technology Demonstration and Deployment |
| VoLL | Value of lost load |

## Project Focus

This solicitation funds development and demonstration projects to evaluate cost management, resilience, and renewable integration use cases for: bi-directional energy transfers from electric school buses (Group 1); or integrated DER packages tailored for MDHD fleet electrification (Groups 2 and 3). The goal of these demonstrations is to provide cost and performance data that can inform other MDHD PEV deployments, and to advance commercial offerings that accelerate MDHD fleet electrification.

**Requirements for all groups**

The following requirements must be discussed in the Project Narrative (Attachment 3) under Technical Approach, and in other attachments where specified.

* Projects must report baseline vehicle utilization and operational costs (e.g., schedule, route, energy requirements, annual maintenance and fuel costs) and document the potential for managed (dis)charging (e.g., time, duration, location, kWh/kW) that doesn’t compromise operational requirements. Plug-in hybrid electric vehicles are not allowed in this solicitation.
* At least one demonstration & deployment site must be located in a Disadvantaged Community per CalEnviroScreen 3.0, and in a California electric investor-owned utility (IOU) service territory. Provide the site address and CalEnviroScreen score in the Application Form (Attachment 1).
* Projects must collect and report cost, performance, and operational data from the installed system and MDHD vehicles for a minimum of one year of use, quantifying benefits and tradeoffs for at least one of the following three use-cases. Projects that demonstrate multiple use cases are encouraged. Additional details on data collection and reporting can be found in the Group-Specific Requirements below and in Section II under Measurement and Verification Plan. The three use cases with example metrics are described below.
  + **Cost management:** The ability to optimize system design and (dis)charging of MDHD vehicles based on rate or other cost structures (e.g., demand charges, capacity upgrades) to minimize total site costs compared to fossil fueled and unmanaged charging baselines. Example metrics to quantify this use case include: total cost of charging, total cost of ownership, $/kWh, $/mile, avoided facility or distribution system upgrades, and savings in $/vehicle-year.
  + **Resilience:** The ability to provide power to buildings or end loads independent of the utility grid or during outages such as public safety power shutoffs. Example metrics to quantify resilience benefits include: kWh and kW available during outage (real or simulated); type and duration of critical services enabled; community engagement and participation (e.g., number of community members aware of and with access to backup power).
  + **Renewable integration:** The ability to reduce electric sector greenhouse gas emissions by charging MDHD vehicles mid-day when solar PV generation is high, and discharge later for mobility or other energy needs at times of system peak demand or higher GHG intensity (e.g., between 5:00-8:00 P.M.). Example metrics to quantify increased renewable integration include: kWh of onsite distributed generation consumed, offset fossil generation, gallons of gasoline equivalent, and kg carbon dioxide equivalents avoided.
* Proposals must describe a staged plan for site development and demonstration of the use cases above, including major milestones. Provide detail on how the site(s) will receive “permission to operate” and for interconnection to utility distribution systems, whether configured for export or non-export, including relevant safety standards and equipment for compliance with all applicable rules and regulations.
* Proposals must explain how the project may contribute to infrastructure and component standardization and enable replicability.
* Community-based organization involvement is required for all TD&D projects. Proposals must describe which community-based organization (CBO) they plan on working with and what they plan to accomplish. Examples of CBO activities include, but are not limited to: public awareness campaigns, direct public outreach, education on environmental justice, education on how to participate in the public process, etc. See section II.B.5 of this document for more information. Applicants should detail a “community engagement strategy” for implementation of their proposed project. The Community Engagement Strategy should detail planned collaboration and outreach with community-based organizations and community residents, and describe how community input is reflected in the project.

Applicants are encouraged, but not required, to:

* Include in the project narrative a description of how the project will benefit disadvantaged or low-income communities.
* Include a letter of support from a professional group associated with the demonstration site. For example, if the demonstration site is a transit agency, a letter of support from the California Transit Association would be appropriate; if the site is a school, a letter from the school board would be appropriate.
* Include a letter of support from the electric IOU that serves the site.
* Propose projects at sites that are identified as capacity constrained through consultation with an electric IOU or using publicly available data sources such as utility integrated capacity analysis maps.

**Group-Specific Requirements**

**Group 1: Bi-directional Energy Transfer from Electric School Buses**

Projects funded under Group 1 will develop and demonstrate hardware (e.g., bi-directional PEV chargers, inverters or power converters for mobile power) and software technologies to conduct managed bi-directional energy transfers from electric school buses that allow export of energy from vehicle batteries to building(s) and/or other end loads. Using these technologies, projects will implement strategies to evaluate at least one of the three use cases described above (cost-management, resilience, and renewable integration), and to evaluate any impacts on vehicle battery degradation.

Successful projects in this Group will demonstrate controllable discharge of electric school bus batteries to facility circuits or end loads at a comparable cost ($/kW, $/kWh not including the vehicle cost) and performance on metrics such as lifetime, response time, and round trip efficiency to an equivalently-sized stationary storage system.

Proposals under Group 1 must discuss the following items in the Project Narrative (Attachment 3), under Technical Approach, along with interim deliverables and milestones to demonstrate the use cases above:

* Describe the bi-directional system and demonstration site, including anticipated vehicles (e.g., number, battery size, range, communication protocols), components (e.g., charging equipment, inverters, controllers, meters), site configuration (e.g., example line drawings, panel capacity), and any additional safety equipment and certifications.
  + If applicable, provide additional detail on the communications, controls, and system architecture describing any vehicle and fleet management tools (e.g., telematics, scheduling software) and how the system will relay price, asset availability, and other signals between the site and grid operators.
  + Utilize open standards for hardware and communications between the electric school bus, (dis)charging equipment, and with grid operators and third-party aggregators.
  + Describe technical performance metrics and targets for the bi-directional system (e.g., response time, latency, conversion efficiency, footprint) and how the recipient will work with members of the Technical Advisory Committee to refine metrics and progress toward targets.
* Describe a detailed data collection and reporting plan that covers, at a minimum, project approach for measuring, documenting, and reporting (see Section II.B.4 Measurement and Verification for additional details):
  + Electric school bus availability and usage characteristics, on 15 minute intervals for 1 year, including operating time and duration, operational energy requirements, time and duration connected to charger, and charger load profiles.
  + Performance of the bi-directional system in the use cases above, with appropriate metrics.
  + Vehicle battery state of health and any degradation associated with cycling for non-transportation uses, regularly throughout the agreement.
* Describe plans for advancing the demonstrated bi-directional system to commercial availability for other schools or sites at the end of the project.
* Coordinate participation of key stakeholders, including school district(s), electric school bus manufacturer(s), electric IOU(s), charging equipment and/or service providers, and other awardees of CEC research funding focused on vehicle-grid integration.

**Group 2: Integrated DER packages for Charging MDHD Fleets, and Group 3:** **Integrated DER packages for Charging Electric School Buses**

Projects funded under Groups 2 and 3 will develop and demonstrate a DER package, with minimum-defined components, to serve the duty cycles and charging infrastructure requirements of a fleet of MDHD PEVs.

Successful applicants and projects will design a modular solution that can: scale to achieve significant market participation by 2035; accommodate multiple vehicle types, duty cycles, and use cases; and achieve a less expensive system as compared to a grid-connected unmanaged charging system over the expected useful life of all equipment. The less expensive system needs to be estimated for at least one electric IOU, and plan to achieve parity for all three electric IOUs by 2035. Value of lost load (VoLL) is allowable in this calculation, though the value must be clear in the proposal.

Proposals should discuss which components are likely to achieve reduced costs as a result of the proposed project (e.g. hardware, software, balance of system and soft costs, financing, etc.). The EMS should be able to accommodate various applications of MDHD PEVs, and the system design should allow for various storage (e.g. battery chemistries) and distributed generation technologies (e.g. manufacturers, models, and renewable resources).

Proposals must discuss the following items in the Project Narrative (Attachment 3), under Technical Approach, along with interim deliverables and milestones to demonstrate the previously defined cost management, resilience, and renewable integration use cases. The objective for the demonstration is to advance the market-readiness and replicability of the demonstrated DER package for MDHD PEV applications.

* Describe the DER package, fleet, and demonstration site, including anticipated vehicles (number, battery size, range, standards), duty cycles, components (e.g., distributed generation, inverters, controllers), site configuration, and any additional safety equipment and certifications.
* Describe technical performance metrics that will be calculated in the project, technical target improvements for the system, and how the recipient will work with members of the Technical Advisory Committee to refine metrics and progress toward targets.
* Include at least the following components in the DER package:
  + distributed renewable generation, stationary storage, multiple MDHD PEVs, and charging equipment with multiple charging ports;
  + software and hardware to enable islanded operation; and
  + a secure behind-the-meter energy management system that optimizes and controls system components, allowing for response to price or dispatch signals from a utility, third-party aggregator, or other grid operator.
* Provide additional detail on the communications, controls, and system architecture, including the EMS, describing any vehicle and fleet management tools (e.g., telematics, scheduling software), and how the system will relay price, asset availability, and other signals between the site and grid operators.
* Describe the project design. To the extent feasible, designs should be replicable, interoperable with various components, and scalable to meet the needs of growing fleets.
* Describe a detailed data collection and reporting plan that covers, at a minimum, project approach for measuring, documenting, and reporting (see Section II.B.4 Measurement and Verification for additional details):
  + Vehicle availability and usage characteristics, on 15 minute intervals for at least 1 year, including operating time and duration, operational energy requirements, time and duration connected to charger, and charger load profiles.
  + Performance of the DER system in the use cases above, with appropriate metrics.
* Include in the cost management use case, a comparison to hydrogen fuel cell vehicle alternatives in addition to the fossil fueled and un-managed charging baselines. Example metrics to quantify this use case include: total cost of charging, total cost of ownership, $/kWh or $/mile, avoided distribution network upgrades, and costs in $/vehicle-year.
* Describe the proposed method to calculate the minimum VoLL to cover the difference between the cost and benefit of the DER system over its lifetime.
* Provide a plan to identify and document process efficiencies and lessons learned that are applicable to other fleets and may lead to cost reductions and performance improvements.
* Describe a plan to document a replicable business case for the DER package, as well as a plan to leverage the demonstration to pursue future applications or commercial opportunities.
* Describe a plan to identify early and future target markets for the DER package and include anticipated timelines to reach each market.

Applicants are encouraged, but not required, to:

* Propose the use of commercially available charging technologies.
* Propose the use of an existing DER optimization tool(s) to design the DER package.
* Plan to analyze how the DER package could be scaled to support chargers that operate at 1 megawatt (MW) or greater.

## Funding

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

There is **up to $22,000,000** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below. Applications will be scored and ranked within each specific group; scores will not be compared across groups.

For all groups, a maximum of 70 percent of the EPIC funding may be used for equipment purchases, including charging equipment, stationary storage, distributed renewable generation, smart-inverters, and associated software. This funding limit does not apply to balance-of-system costs. EPIC funds cannot be used to purchase vehicles for the proposed project, although applicants may use match funds to purchase vehicles. See Match Funding in Section I.K for more information.

| Project Group | Available funding | Minimum award | Maximum award | Minimum match funding |
| --- | --- | --- | --- | --- |
| Group 1: Bi-Directional Energy Transfer from Electric School Buses | $6,000,000 | $1,000,000 | $3,000,000 | 20% |
| Group 2: Integrated DER packages for Charging MDHD Fleets | $12,000,000 | $1,500,000 | $4,000,000 | 50% |
| Group 3: Integrated DER packages for Charging Electric School Buses | $4,000,000 | $2,000,000 | $4,000,000 | 20% |

**2. Match Funding Requirement**

Match funding is required in the amount of at least **20** percentof the requested project funds in Groups 1 and 3; and at least **50** percent of the requested project funds in Group 2. Applications that include additional match funding will receive additional points during the scoring phase (see Scoring Criteria in Section IV).

For the definition of match funding see Section I.K.

**3. 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 group 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[[12]](#footnote-13) |
| --- | --- | --- |
| Solicitation Release | September 23, 2020 |  |
| **Pre-Application Workshop** | **October 14, 2020** | **1:00 p.m.** |
| **Deadline for Written Questions[[13]](#footnote-14)** | **October 21, 2020** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers | November 6, 2020 |  |
| **Deadline to Submit Applications** | **December 30, 2020** | **5:00 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | February 5, 2020 |  |
| Anticipated CEC Business Meeting Date | March 2021 |  |
| Anticipated Agreement Start Date | April 2021 |  |
| Anticipated Agreement End Date | March 31, 2025 |  |

## 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. 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 call (916) 654-4381 or refer to the CEC's website at www.energy.ca.gov/contracts/index.html to confirm the date and time.

**Date and time:** October 14, 2020 at 1:00 PM (Pacific Time (US and Canada)

**Location:** Online and Telephone only

**Zoom Instructions:**

To join the meeting, go to <https://zoom.us/join> and enter the meeting number and select “join from your browser.”

OR go to the following URL: <https://energy.zoom.us/j/93396845837?pwd=VkNmWDlRMENnNDQ1cVZxaStITGtpZz09>

* Participants will then be prompted to enter their name and meeting password listed below. Then click “Join.”

**Meeting Number:** 933 9684 5837

**Password:** 500861

**Topic:** GFO-20-304 MDHD Pre-Application Workshop

**Telephone Access Only:**

US: +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 312 626 6799 or +1 929 436 2866 or +1 301 715 8592 or 888 475 4499 (Toll Free) or 877 853 5257 (Toll Free)

Webinar ID: 933 9684 5837

International numbers available: https://energy.zoom.us/u/acACvPyzli

**Technical Support:**

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

please call Zoom Technical Support at 1-888-799-9666. You may also contact the CEC’s Public Advisor’s Office at publicadvisor@energy.ca.gov, or 800-822-622

* 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 Erica Rodriguez by e-mail at Erica.Rodriguez@energy.ca.gov or (916) 654-4314 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

1516 Ninth Street, MS-18

Sacramento, California 95814

Telephone: (916) 654-4299

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

Applicants may ask questions at the Pre-Application Workshop, and may submit written questions via mail, electronic mail, and by FAX. 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 at any time prior the application deadline.

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 to the application deadline, 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 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 Commission Agreement Officer.**

## 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.

## Additional Requirements

* Time is of the essence. Funds available under this solicitation have encumbrance deadlines as early as June 30, 2021. This means that the CEC must approve proposed awards at a business meeting (usually held monthly) prior to June 30, 2021 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.

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.

## Background

**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.[[14]](#footnote-15) The purpose of the EPIC program is to benefit the ratepayers of three electric 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. In addition to providing electric 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. The EPIC program is administered by the CEC and the electric 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[[15]](#footnote-16) [[16]](#footnote-17) and within one or more specific focus areas (**“funding initiatives”**) identified in the plan. This solicitation targets the following program area, strategic objectives, and funding initiatives:

**EPIC 2018-2020 Triennial Investment Plan**

* **Program Area:** Technology demonstration and deployment
* **Strategic Objective: S2** Accelerate Widespread Customer Adoption of Distributed Energy Resources
  + **Funding Initiative:** **S2.3.1** Development of Customer’s Business Proposition to Accelerate Integrated Distributed Storage Market
* **Strategic Objective:** **S3** Increase Grid System Flexibility and Stability from Low-Carbon Resources
  + **Funding Initiative: S3.2.1** Grid-friendly Plug-In Electric Vehicle Mobility

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

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

Laws/Regulations

* **Assembly Bill (AB) 32[[17]](#footnote-18) - Global Warming Solutions Act of 2006**

AB 32created a comprehensive program to reduce GHG emissions in California. GHG reduction strategies include a reduction mandate of 1990 levels by 2020 and a cap-and-trade program. AB 32 also required the California Air Resources Board (ARB) to develop a Scoping Plan that describes the approach California will take to reduce GHGs. ARB must update the plan every five years.

Additional information: http://www.arb.ca.gov/cc/ab32/ab32.htm

Applicable Law: California Health and Safety Code §§ 38500 et. seq.

* **AB 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 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 percent below the 1990 level by 2030.

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

* **SSX1-2**[[18]](#footnote-19) **- 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 percent by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.

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

* **AB 2514[[19]](#footnote-20) - 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[[20]](#footnote-21) 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 to 40 percent by the end of 2024, 45 percent by the end of 2027, and 50 percent by the end of 2030; 2) requires the CEC 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

* **SB 100 - The 100 Percent Clean Energy Act of 2018**

SB 100 requires that 100 percent of retail sales of electricity to California end-use customers and 100 percent 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 CEC, 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 GHG increases elsewhere in the western grid.

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

* **SB 110 – Clean Energy Job Creation Program and citizen oversight board of 2017**

SB 110 Chapter 55, Statutes of 2017, allocates up to $75 million to public school districts, county offices of education, and joint power authorities currently operating home-to-school transportation programs on behalf of local educational agencies for grants for school bus replacement through a program administered by the CEC, in consultation with the California Air Resources Board. SB 110 appropriated remaining funds in the Proposition 39 K-12 Grant Program Funds and established the Clean Energy Job Creation Program for the purpose of funding a new School Bus Replacement Program, in addition to two other school related energy efficiency programs.

Additional information:

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\_id=201720180SB110

* **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 CEC. 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

* **California Sustainable Freight Action Plan**

Governor Brown’s Executive Order B-32-15 directed relevant State departments to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California’s freight system. The Plan’s vision for a sustainable freight transport system highlights the need to transport freight reliably and efficiently by zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean, low-carbon renewable fuels everywhere else.

Additional information: <https://ww2.arb.ca.gov/sites/default/files/2019-10/CSFAP_FINAL_07272016.pdf>

* **Integrated Energy Policy Report (Biennial)**

California Public Resources Code Section 25302 requires the CEC to release a biennial report that provides an overview of major energy trends and issues facing the state. The IEPR assesses and forecasts all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and pricing. The CEC uses these assessments and forecasts to develop energy policies. The 2015 IEPR included a multi-agency hearing on drought response and provided recommendations for future research and analysis areas.

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

Applicable Law: California Public Resources Code § 25300 et seq.

* **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 electric 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

* **Executive Order B-29-15**

Governor Brown’s Executive Order B-29-15 proclaims the severity of the drought conditions in California and directs the CEC to invest in new technologies that will achieve water and energy savings and greenhouse gas reductions.

* **Executive Order B-30-15**

Governor Brown’s Executive Order B-30-15 established a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.

Reference Documents

Refer to the links below for information about past research projects and related programs:

* California Energy Commission’s Energy Research and Development Page

<http://www.energy.ca.gov/research/>

* California Air Resources Board’s Innovative Clean Transit Program

<https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit>

* Advanced Clean Trucks Program

<https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>

* California Energy Commission’s School Bus Replacement Program <https://www.energy.ca.gov/programs-and-topics/programs/school-bus-replacement-program>
* California Air Resources Board’s Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)

<https://ww3.arb.ca.gov/msprog/lct/hvip.htm>

## 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).

Examples of preferred match share:

* **“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** because 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.
* **“Travel”** refers to all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state travel, 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, because the CEC might 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 should be aware of all state and 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 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.
* Match funds may 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 10, 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.

## Funds Spent in California

Only CEC reimbursable funds count 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.[[21]](#footnote-22) 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; or (3) standard terms and conditions. All terms and conditions are located at <https://www.energy.ca.gov/funding-opportunities/funding-resources> l. 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.

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**

This solicitation requires that at least one demonstration & deployment site be in a Disadvantaged Community. In 2017, the Legislature passed AB 523 (Reyes) directing that at least 25 percent of EPIC technology demonstration and deployment funding be allocated to projects at sites located in, and benefiting, disadvantaged communities; and an additional minimum 10 percent of funds be allocated to projects sites located in and benefiting low-income communities. The AB 523 also requires the CEC’s EPIC program, to take into account adverse localized health impacts of proposed projects to the greatest extent possible, and give preference for funding to clean energy projects that benefit residents of low-income or disadvantaged communities.

For more information on AB 523, see: <https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB523>

“Disadvantaged communities” are defined as the top 25 percent scoring areas census tracts from CalEnviroScreen 3.0 along with other areas with high amounts of pollution and low populations. For more information on disadvantaged communities and to determine if your project is located in one, use the CalEnviroScreen Tool and Interactive Map located at:  
https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

“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: <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 3.0. 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 3.0):

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

Another resource is the Healthy Places Index Tool for California, located at: [https://healthyplacesindex.org/](https://healthyplacesindex.org/%20)

## Project Requirements

1. **Technology Demonstration and Deployment Stage**

Projects must fall within the TD&D 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. **Ratepayer Benefits, Technological Advancements, and Breakthroughs**

California Public Resources Code Section 25711.5(a) requires EPIC-funded projects to:

* Benefit electricity ratepayers; and
* Lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.

The CPUC defines “ratepayer benefits” as greater reliability, lower costs, and increased safety.**[[23]](#footnote-24)** The CPUC has also adopted the following guiding principles as complements to the key principle of electricity ratepayer benefits: societal benefits; GHG emissions mitigation and adaptation in the electricity sector at the lowest possible cost; the loading order; low-emission vehicles/transportation; economic development; and efficient use of ratepayer monies.**[[24]](#footnote-25)**

Accordingly, the Project Narrative Form (Attachment 3) and the “Goals and Objectives” section of the Scope of Work Template (Attachment 5) must describe how the project will: (1) benefit California IOU ratepayers by increasing reliability, lowering costs, and/or increasing safety; and (2) lead to technological advancement and breakthroughs to overcome barriers to achieving the state’s statutory energy goals. Any estimates of energy and water savings or GHG impacts must be calculated using the References for Calculating Electricity End-Use, Electricity Demand, and GHG Emissions (Attachment 13).

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 five 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 5). The Budget Forms (Attachment 7) should clearly distinguish funds dedicated for technology transfer.

1. Measurement and Verification Plan

The Project Narrative (Attachment 3) must include a Measurement and Verification Plan that describes how actual project benefits will be measured and quantified. This plan should provide sufficient detail to document the project team’s ability to measure, store, and report data on costs and operating parameters from vehicles, installed components, and the integrated system. These data provide a foundation for documenting and calculating project benefits. Sufficient budget should be provided for these tasks, as well as responding to three benefits questionnaires provided by CEC staff over the course of the project. A plan and schedule for regularly reporting data to the CEC for a minimum of 12 months should be included. The activities proposed in the Measurement and Verification Plan must be included in the “Technical Tasks” section of the Scope of Work Template (Attachment 5).

* Applicants shall describe how they will quantify installed system costs and savings, including development of appropriate baselines for comparison (e.g., conventional MDHD vehicles, unmanaged charging). Example metrics include, but are not limited to:
  + Equipment and installation costs, monthly operation and maintenance costs including fuel and electricity, avoided costs of facility or distribution system upgrades, and avoided costs of electricity.
* Applicants shall describe how they will measure MDHD PEV performance and operational energy requirements, including qualitative descriptions of driver and fleet operator satisfaction. Example metrics include, but are not limited to:
  + Time step of each data set (e.g. one minute, ten minute, hourly); trip distance (miles); GPS and location data; idling time and locations; energy consumption (kWh); energy efficiency (kWh/mile); PEV battery state of charge; and planned and unplanned vehicle downtime (hours).
* Applicants shall describe how they will measure and report data on MDHD PEV charging events. Projects demonstrating bi-directional energy transfers from PEVs must include a description of how they will measure vehicle battery degradation associated with bi-directional operation. Example metrics include, but are not limited to:
  + Time step of data (e.g. one minute, ten minute, hourly); charge session duration and location; energy delivered to vehicle (kWh) and power level (kW); cost of electricity during charging session ($/kWh); PEV battery degradation over time; and energy delivered to facility circuits, the grid, or other end loads (kWh) and power level (kW).
* Applicants shall describe how they will measure and report data on installed system performance at point of common coupling, including evaluation of how well the installed system met the operational needs of the fleet and performance during real or simulated grid outages. Example metrics include, but are not limited to:
  + Time step of data (e.g. one minute, ten minute, hourly); energy produced by distributed generation (kWh); energy delivered to and from stationary storage system (kWh) and power level (kW); energy produced by distributed generation delivered to MDHD PEVs, facility or other end loads, or the grid (kWh); and cost of electricity used ($/kWh) of offset.

1. **Community Based Organizations**

All proposed projects must allocate appropriate funding for Community Based Organizations (CBO) engagement for relevant tasks under the scope of work.

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

* Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve.
* Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community.
* Have official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
* 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.

# III. Application Organization and Submission Instructions

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

The following table summarizes the application formatting and page limit:

|  |  |
| --- | --- |
| **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, excluding Excel spreadsheets and commitment or support letters (PDF files are acceptable for the letters) |
| **Page Limit** | * **Executive Summary** (Attachment 2): **two** pages * **Project Narrative Form** (Attachment 3): **twenty** pages excluding documentation for CEQA * **Project Team Form** (Attachment 4): **two** pages for each resume * **Scope of Work** (Attachment 5): **thirty** pages * **Project Schedule** (Attachment 6): **four** pages * **Reference and Work Product Form** (Attachment 9): **one** page for each reference, **two** pages for each project description * **Commitment and Support Letter Form (Attachment 10): two pages, excluding the cover page** * **There are no page limits for the following:** * **Application Form (Attachment 1)** * **Budget Forms (Attachment 7)** * **CEQA Compliance Form (Attachment 8)** |

## Method For Delivery

The method of delivery for this solicitation is the Energy Commission Grant Solicitation System, 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 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 7, must be in Excel format. **The system will not allow applications to be submitted after the application due date and time.**

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 workshops. You may contact the Commission Agreement Officer identified in the Questions section of this solicitation for more assistance.

## Hard Copy Delivery

Due to COVID-19, hard copies will not be accepted for this solicitation. Please refer to the above section III. B. for online submission instructions.

## Application Organization and Content

* For all hard copy submittals, submit attachments in the order specified below.
* Label the proposal application cover “Grant Funding Opportunity GFO-20-304” and include: (a) the title of the application; and (b) the applicant’s name.
* Separate each section of the application by Attachment number and section title indicated below.

|  |  |
| --- | --- |
| **Attachment Number** | **Title of Document** |
| 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 ***(requires signature)*** |
| 11 | Project Performance Metrics |
| 12 | Applicant Declaration ***(requires signature)*** |

Below is a description of each required section of the application. Completeness in submitting are the required information requested in each attachment will be factored into the scoring:

1. Application Form (Attachment 1)

This form requests basic information about the applicant and the project. The application includes an original form that includes all requested information. The application 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 Technology Demonstration projects:

* 1. **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. All supporting documentation must be included in Attachment 8.

Electronicfiles for the Project Narrative must be in **MS Word** file format**.**

1. Project Team Form (Attachment 4)

Identify by name all key personnel[[25]](#footnote-26) 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 percent 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.

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 product, meetings, and due dates. All work must be scheduled for completion by the “Key Dates” section of the 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 percent 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:

* 1. Proceed on the assumption that the project is a public work and ensure that:
     + prevailing wages are paid; and
     + the project budget for labor reflects these prevailing wage requirements; and
     + 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,
  2. 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. 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 to the next highest-scoring project.

1. Reference and Work Product Form (Attachment 9)

Section 1: Provide applicant and subcontractor references as instructed.

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.

Commitment Letters

Applicants 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 siteactivities, the applicant must include a site commitment letter signed by an authorized representative of the proposed demonstration site. The letter must: (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.

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.

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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 being sued by any public agency or entity; 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.

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# IV. Evaluation and Award Process

## Application Evaluation

Applications will be evaluated and scored based on responses to the information requested in this solicitation. 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 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 in-person or 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 screened for past performance by the Evaluation Committee. Those passing the past performance screening will go on for scoring by the Evaluation Committee. Scoring criteria are outlined 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, 70.00 points for criteria 1-7, and 35.00 points from criteria 8** 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.

* The CEC will post a **Notice of Proposed Award (NOPA)** that includes: (1) the total proposed funding amount; (2) the rank order of applicants within each group; and (3) the amount of each proposed award. The Commission 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 Commission 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, and/or level of funding.

1. **Agreements**

Applications recommended for funding will be developed into a grant agreement to be considered at an CEC Business Meeting. Recipients may begin the project only after full execution of the grant agreement (i.e., approval at an 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 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, it reserves the right to cancel the pending award and 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 in any of the following circumstances:

* 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 its evaluation and the attribute, condition, or capability is a requirement of this solicitation.
* 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 a Public Interest Energy Research (PIER) agreement, has received the PIER 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 that is not in good standing with the California Secretary of State.
* 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, 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 identify 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 5).   *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 that total the minimum of 20% (Groups 1&3) or 50% (Group 2)in match share of the total requested CEC 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). * At least one demonstration/deployment site is located in a Disadvantaged Community as defined in the solicitation manual. * The proposal includes a site commitment letter (Section III.D.11) 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.B.2. will be evaluated based on the screening criterion for past performance, the Scoring Criteria on the next page, and the Scoring Scale below (with the exception of criteria 6, 7, 9, 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 3) 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. |

**Additional Screening Criteria for Past Performance**

|  |  |
| --- | --- |
| **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 3)** 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 13), 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 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 and Section II.B. | **25** |
| 1. **Impacts and Benefits for California Electric IOU Ratepayers** 2. Explains how the proposed project will benefit California electric IOU ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits using the data in Attachment 13 where applicable. Estimates the energy benefits including:  * annual electricity savings, 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. Identifies the expected financial performance (e.g. payback period, ROI) of the demonstration at scale. 3. Identifies the specific programs which the technology intends to leverage (e.g. feed-in tariffs, 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. 2. Demonstrates that the project team including a 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 7) | **Possible Points** | | >55% | 1 | | >60% | 2 | | >65% | 3 | | >70% | 4 | | >75% | 5 | | >80% | 6 | | >85% | 7 | | >90% | 8 | | >95% | 9 | | >98% | 10 | | **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 criteria, 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-business, 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 that is appropriate for the culture, and in the language(s) that are primarily represented in the community. This includes whether any translating services will be used.      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 3.0[[26]](#footnote-27) 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 criterion 8**  **(Minimum Passing Score for Criterion 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 8) to be eligible for the additional points. | |

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. **Match Funds** (Preference Points) 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% | 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% to 100% | 5 | | 60% to <80% | 4 | | 40% to <60% | 3 | | 20% to <40% | 2 | | >10% | 1 | | **5** |
| **Preference Points:** Applications must meet all minimum passing scores (Scoring Criteria 1-4, 1-7, and 8) to be eligible for the additional points. | |

1. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\_2017/ghg\_inventory\_trends\_00-17.pdf [↑](#footnote-ref-2)
2. https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit [↑](#footnote-ref-3)
3. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks [↑](#footnote-ref-4)
4. https://www.energy.ca.gov/programs-and-topics/programs/school-bus-replacement-program [↑](#footnote-ref-5)
5. https://theicct.org/publications/charging-cost-US [↑](#footnote-ref-6)
6. https://rmi.org/insight/reducing-ev-charging-infrastructure-costs/ [↑](#footnote-ref-7)
7. https://nuvve.com/projects/ucsd-invent/ [↑](#footnote-ref-8)
8. https://nuvve.com/projects/torrance-electric-school-buses/ [↑](#footnote-ref-9)
9. https://ww2.energy.ca.gov/2018publications/CEC-500-2018-025/CEC-500-2018-025.pdf [↑](#footnote-ref-10)
10. https://www.pge.com/pge\_global/common/pdfs/about-pge/environment/what-we-are-doing/electric-program-investment-charge/PGE-EPIC-Project-2.03.pdf [↑](#footnote-ref-11)
11. https://gridworks.org/initiatives/vehicle-grid-integrationwg/ [↑](#footnote-ref-12)
12. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-13)
13. 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 H at any time prior to the application deadline. Please see Section H for additional information. [↑](#footnote-ref-14)
14. 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-15)
15. 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-16)
16. 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-17)
17. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-18)
18. SBX 1-2 (Statutes of 2011, first extraordinary session, chapter 1) [↑](#footnote-ref-19)
19. AB 2514 (Statutes of 2010, chapter 469) [↑](#footnote-ref-20)
20. SB 350 (Statutes of 2015, chapter 547 [↑](#footnote-ref-21)
21. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#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. *Id.* at p. 19. [↑](#footnote-ref-24)
24. *Id.* at pp. 19-20. [↑](#footnote-ref-25)
25. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-26)
26. https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 [↑](#footnote-ref-27)