**GRANT FUNDING OPPORTUNITY**

**Climate Scenarios and Analytics to Support Electricity Sector Vulnerability Assessment and Resilient Planning**

**EPIC Program**



**GFO-19-311**

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

**State of California**

**California Energy Commission**

June 2020

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| **Attachments**

| Attachment Number | Title  |
| --- | --- |
| 1 | Application Form ***(requires signature)*** |
| 2 | Executive Summary  |
| 3 | Project Narrative  |
| 4 | Project Team  |
| 5 | Scope of Work  |
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| 8 | CEQA Compliance Form  |
| 9 | References and Work Product |
| 10 | Commitment and Support Letters ***(require signature)*** |
| 11 | Project Performance Metrics |
| 12 | Applicant Declaration ***(require signature)*** |

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# I. Introduction

**NOTE ABOUT SIGNATURES**

**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**](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.**

## Purpose of Solicitation

The purpose of this solicitation is to fund applied research and development projects that will support the development of next-generation climate projections to support electricity sector resilience and delivery of data in a manner that informs energy sector planning and research through stakeholder engagement, development of rigorous analytics, and development of a data platform. Research products will contribute to the foundation for California’s anticipated Fifth Climate Change Assessment.

The *2018-2020 Electric Program Investment Charge (EPIC) Triennial Investment Plan* includes the research subtheme S7.2 “Increase the Resiliency of the Electricity System to Climate Change and Extreme Weather Events.” The proposed research is intended to provide crucial support for electricity sector resilience by supporting two initiatives associated with this subtheme:

* Initiative S7.2.1 Improved Understanding of Climate- and Weather-Related Risks and Resilience Options.
* Initiative S7.2.3 Integrate Climate Readiness into Electricity System Operations, Tools, and Models

California’s rapidly evolving energy sector presents opportunities to build a climate-safe energy infrastructure as the state progresses toward its 2030 and 2045 climate goals. The proposed research intends to contribute to a scientific foundation for anticipating and adapting to climate and weather-related challenges.

The state of California has been working to continually improve understanding of its vulnerability to climate change for more than 30 years, starting with a legislatively mandated report on *The Impacts of Global Warming on California* published in 1989. Since 2006, four California Climate Change Assessments (Assessments) have provided crucial support for legislation and policy (http://climateassessment.ca.gov/about/). The First Assessment is recognized as having contributed to the passage of the Global Warming Solutions Act of 2006. In 2009, the Second Assessment affected a shift in the policy landscape by making clear that adaptation is a crucial complement to aggressive measures to reduce GHG emissions (Franco et al, 2011).

One of the key products of the Assessments has been regionally downscaled climate projections. The Second Assessment produced projections at 1/8 degree (ca. 12 x 12 km grid) and more recently, the Fourth Assessment contributed to development of higher-resolution projections that were better able to capture spatial distribution and extremes associated with temperature and precipitation. These two generations of downscaled climate projections have been the basis of the state’s prior and ongoing efforts to make climate projections freely available via an interactive, publicly available website. This GFO provides crucial support for an anticipated Fifth Assessment. Specifically, it provides the next generation of climate projections and the analytics to facilitate use of the projections in energy sector planning and research, as outlined below.

Cal-Adapt 1.0, released in 2011, was the first state-funded resource for providing climate projections to the public. Cal-Adapt 1.0 provided access to primary data and interactive tools for exploring climate projections at the local level. Cal-Adapt 1.0 was widely used—with visualizations and downloaded data directly supporting climate action plans by city, county, and tribal entities throughout the state (Koy et al., 2014). In 2016, an enhanced version of Cal-Adapt was released to showcase projections developed to support the Fourth Assessment and enhance functionality based on feedback from the prior generation. Cal-Adapt 1.0 helped local actors understand climate-related risks; Cal-Adapt 2.0 gave legislators and state agencies a key resource to rely on for evolving policy, and it gave energy utilities and local governments a resource for starting to incorporate adaptation concerns into vulnerability assessments, infrastructure design, siting, and local planning (Thomas et al. 2018).

Adaptation policy and practice in the state is rapidly evolving in ways that demand more sophisticated climate projections and analytics, and the purpose of this solicitation is to meet these demands. For example, on November 1, 2019, the California Public Utilities Commission issued a decision (Decision 19-10-054) on its adaptation rulemaking (R.18-04-019). This rulemaking applies to the investor-owned utilities (IOUs) that provide electricity and natural gas to the vast majority of California’s population. Decision 19-10-054 directs California’s IOUs to the Assessment process for acceptable data and acknowledges the state’s role in selecting a tractable subset of recommended scenarios for consideration in planning and research. Additionally, in September 2019, Governor Newsom issued Executive Order N-19-19, which calls for leveraging more than $700 billion in state pension and transportation investments to strengthen resiliency. It is expected that the research agreements funded through this GFO will engage relevant agencies on their technical advisory committees, so that implementation of E.O. N-19-19 can leverage projections, data, and analytics developed through this GFO.

This solicitation will provide climate projections that leverage the most current climate models and deliver key parameters of interest relevant to the electricity system—including those that have been elusive due to limitations in prior generations of models, as well as observed historical data—at spatial and temporal resolutions that are meaningful to inform electricity sector vulnerability assessment, resilience strategies, and infrastructure planning (delivered through Group 1). The solicitation will also complement prior and ongoing achievements of Cal-Adapt by providing rigorous analytics to reduce a vast dataset—potentially hundreds of terabytes—to fulfill decision support needs identified through targeted stakeholder engagement (delivered through Group 2).

California has clear and ambitious goals for providing clean energy for the state. The climate projections, analytics, and data platform provided by research described in this solicitation manual will support the integration of resilience considerations into decision-making for the evolving energy system through sophisticated climate projections and targeted analytics that reduce vast amounts of data into useful information. The projections and data-driven analytics provided by the state through this research have a clearly defined audience of energy sector utilities who are expected to consider these products in investment and planning.

To ensure opportunity for stakeholder input regarding the scope and organization of this solicitation, California Energy Commission (CEC) staff held a staff workshop on December 16, 2019, to present initial ideas and elicit input. CEC appreciates the participation of approximately 90 attendees, including representation from IOUs, the academic research community, national laboratories and research programs, federal agencies, state agencies, industry, and private consultants. Links to the workshop materials, including the presentation and recording, are available in the “Reference documents” section of this solicitation manual.

Projects must fall within one of the following project groups:

* **Group 1**: Development of Climate Projections for California and Identification of Priority Projections; and
* **Group 2**: Analytics and Data Platform to Facilitate Electricity Sector Adaptation.

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

Prospective applicants looking for partnering opportunities for this funding opportunity should register on the CEC’s Empower Innovation website at www.empowerinnovation.net

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| Applicant | The entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. Also referred to as “Proposal”. |
| Authorized Representative | *Authorized Representative*, the person signing the application form who has authority to enter into an agreement with the CEC.  |
| CAM | *Commission Agreement Manager,* the person designated by the CEC to oversee the performance of an agreement resulting from this solicitation and to serve as the main point of contact for the Recipient. |
| CAO | Commission Agreement Officer |
| CBO | Community Based Organization. A public or private nonprofit organization of demonstrated effectiveness that: 1. Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve.
2. Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community.
3. Has an official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.
4. Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.
 |
| CEC | California Energy Commission. |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| CMIP6 | Coupled Model Intercomparison Project Phase 6 |
| Days | *Days refers to calendar days.* |
| Disadvantaged Community | These are communities in the top 25% scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations.(https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30)  |
| 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. |
| Fifth Assessment  | California’s Fifth Climate Change Assessment |
| GCM | Global Circulation Model |
| IOU | *Investor-owned utility,* an electrical corporation as defined in in California Public Utilities Code section 218. For purposes of this EPIC solicitation, it includes Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. |
| Low Income Community | *Low-income Communities* are defined as communities within census tracts with median household incomes at or below 80 percent of the statewide median income or the applicable low-income threshold listed in the state income limits updated by the Department of Housing and Community Development. (https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml)  |
| NOPA | *Notice of Proposed Award,* a public notice by the CEC that identifies award recipients. |
| Pre-Commercial Technology | *Pre-commercial Technology* means a technology that has not reached commercial maturity or been deployed at scales sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable the appraisal of operational and performance characteristics, or of financial risks. |
| 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 |
| TRL | Technology readiness levels, are a method for estimating the maturity of technologies during the acquisition phase of a program.Source: U.S. Department of Energy, “Technology Readiness Assessment Guide”. <https://www2.lbl.gov/dir/assets/docs/TRL%20guide.pdf> |

## Project Focus

* 1. **Group 1: Development of Climate Projections for California and Identification of Priority Projections (maximum award amount $1,500,000):**

Research funded under Group 1 will develop climate change projections that will be available for energy sector planning and as a foundation for California’s anticipated Fifth Assessment by April 2022. These projections are expected to leverage the next generation of Global Circulation Model (GCM) realizations that contribute to the Coupled Model Intercomparison Project Phase 6 (CMIP6) of the Intergovernmental Panel on Climate Change. In addition to basic climate variables such as temperature and precipitation, the projections will also provide improved understanding of key variables of importance to California’s energy sector—such as wind speed and direction, and surface solar radiation.

Another primary contribution of the research funded by Group 1 is the identification of a subset of priority downscaled climate projections (priority projections henceforth) for use by Fifth Assessment researchers as well as energy sector stakeholders. The priority projections will represent a multiplicity of possible futures and, *if appropriate and taking stakeholder input into consideration*, preferentially prioritize models based on their level of skill in portraying California’s climate. In addition to the downscaled projections developed under this research grant, the pool of projections considered as possible priority projections should include peer-reviewed climate projections contributed by groups funded externally to this research effort, if those projections align with the requirements (e.g., timeline, needed variables) of the Fifth Assessment.

Development of the methodology for selecting priority projections must be informed by the climate research community and energy sector stakeholders through targeted and deliberate stakeholder engagement and, as noted above, may involve collaboration with efforts funded external to this work. Draft priority projections and the rationale for whether, and if so, how, to prioritize models must be presented to, and respond to input from, research teams and management involved with energy-related resilience research and other efforts contributing to the Fifth Assessment. Commission agreement manager approval is required for finalization of priority projections, as well as the determination of whether and how to prioritize models based on their level of skill in portraying California’s climate.

As noted in Section I.A. Purpose of Solicitation, the landscape defining the state’s approach to adaptation—in terms of policy, rulemakings, and practice—has advanced substantially in recent years. Decision 19-04-019 of the CPUC’s Adaptation rulemaking R.18-04-019 articulates that projections contributing to California’s Climate Change Assessments are acceptable data for IOU investment planning and recognizes the role of the state in identifying recommended climate models and scenarios. Accordingly, research funded under Group 1 is expected to contribute to a rigorous scientific foundation for adaptation planning and investments by California’s electricity and natural gas IOUs.

**Successful applicants must demonstrate**:

* A skilled, **well-resourced** management team to ensure coordination between the different aspects of the proposed research as well as coordination between related research efforts.
* The capacity for coordination with the research team that is funded by Group 2, which will use outputs from this (Group 1) project.
* A clearly articulated approach to stakeholder engagement, including dedicated funding and expertise.

**Projects in this group must, at a minimum:**

1. **Produce spatially and temporally comprehensive, downscaled climate projections** for California. These projections must:
	1. include variables of relevance to the electricity sector, such as temperature, precipitation, surface solar radiation, vector wind (speed and direction), relative humidity, and a suite of hydrologically relevant variables;
	2. provide sub-daily resolution for, at a minimum, temperature, precipitation, and vector wind;
	3. provide downscaled projections of as complete a set of CMIP6 models as practicable and appropriate;
	4. demonstrate improvements relative to prior downscaled projections’ representation of key variables such as wind speed and direction as well as surface solar radiation;
	5. include both a gridded product spanning all of California and point projections at a suite of meteorological stations that are relevant to California electric IOU planning (as indicated through stakeholder engagement); and
	6. spatial resolution will be on the order of 1/16 degrees.
2. **Identify a subset of priority downscaled climate projections for use in the Fifth Assessment,** where the priority projections provide a more computationally tractable (reduced) set for researchers to work with. Applicants must explain and justify their approach to identification of priority projections.
3. **Coordinate with related research efforts** that contribute to the Fifth Assessment.

Additionally, applicants must be explicit regarding how proposed downscaling methods will or will not take bias correction into consideration. Preference will be given for projections that are temporally complete over an historical period through end of century (e.g., 1950 to 2099). If applicants present a different temporal framework, they must be explicit as to how it would meet the needs of an anticipated Fifth Assessment. Applicants should also describe whether, and if so how, they will provide updated probabilistic sea level rise projections for California. Additionally, applicants should specify whether or not the Outer Continental Shelf will be included in their geographic domain, given the importance of wind speed and direction in this area to future development of offshore wind resources.

Related research: Ongoing research funded by CEC is developing improved methods to address limitations in prior approaches to projecting how California’s climate will change.

Through an ongoing EPIC grant (EPC-16-063), the Scripps Institution of Oceanography is working to develop and report on improved hybrid downscaling techniques to provide improved resolution of California’s highly variable (in space and time) winds, aerosols and coastal cloudiness, and selected hydrological systems including surface and ground water and irrigation practices. Hybrid dynamical and statistical techniques are being developed to take advantage of the physical processes that are involved in producing the complex spatial and temporal variability that characterizes California’s climate. These downscaled simulations of key elements are needed to quantify changes in these measures and their variability historically and in future decades through the 21st Century.

Early results from EPC-16-063 are publicly available [here](https://efiling.energy.ca.gov/GetDocument.aspx?tn=232882): https://efiling.energy.ca.gov/GetDocument.aspx?tn=232882. These research results have been made available so that all applicants can benefit from preliminary findings of ongoing CEC-funded research. However, the approach that will be funded by this competitive grant funding opportunity has not been predetermined.

Another ongoing research project funded by CEC (grant number EPC-18-026 with Spatial Informatics Group) is providing an improved empirical basis for understanding wildfire behavior in California’s changing climate in the context of widespread tree mortality, as well as providing improved near-term wildfire behavior and risk models and longer-term projections of wildfire-related risks. The research funded under Group 1 of this solicitation must be closely coordinated with EPC-18-026 and other research efforts that contribute to the Fifth Assessment.

It is anticipated that, in addition to research funded by CEC to support energy-related technical reports for the Fifth Assessment, additional funds for non-energy research may be available. It is expected that clarity regarding non-energy research funds for the Fifth Assessment will be forthcoming with the State of California’s FY 2020-2021 Budget and with clarification regarding distribution of Cap-and-Trade auction proceeds through the Greenhouse Gas Reduction Fund.

1. **Group 2: Analytics and Data Platform to Facilitate Electricity Sector Adaptation (maximum award amount $3,500,000):**

Research funded by Group 2 will provide California’s energy sector stakeholders with access to data and analytically rigorous approaches that help identify how climate data and projections can be used to foster climate adaptation and provide an interactive, publicly available, open-source data platform.

 This research will develop:

* Rigorous analytics to fulfill decision support needs identified through targeted stakeholder engagement, and
* An open data platform to make climate projections and data publicly available.

Projections to be made available on the data platform will include those developed by the state (a core task of Group 1) as well as any externally developed projections identified as priorities for energy sector planning and Fifth Assessment research (another task of Group 1). In addition to climate projections, observed data identified through stakeholder engagement as important to support stakeholder needs should also be included in the data platform. Proposals may also consider development of analytics that leverage earth observation data for short- or intermediate-term probabilistic forecasting in support of energy sector adaptation. This research will meet new imperatives and expectations for the use of climate projection data in vulnerability assessments, development of resilience strategies, and infrastructure investment. For example, this research will provide analytics for use by IOU’s, researchers, agencies, and others to support climate resilient planning and infrastructure investment. For example, the analytics will support IOUs’ adaptation planning processes and is expected to support implementation of CPUC’s ongoing adaptation rulemaking R. 18-04-019. Analytics developed through this research will also provide support—for example, by reducing large geospatial datasets into parameters that inform risk assessment—for energy-related resilience research that contributes to an anticipated Fifth Assessment.

The data platform—in addition to providing access to primary data—will enable users to apply rigorous analytics that transform large datasets into knowledge that can be used to inform energy sector research and planning. For example, analytics are expected to illuminate climate-relevant planning parameters (such as the maximum daily summertime temperature that has only a 10% chance of being exceeded in a given year for a location of concern) that have historically relied on observed climate data, but must account for projected climate in order to support resilient planning. Additionally, the platform will facilitate data download, support development of analytical approaches, and provide interactive visualizations of climate data, if and where deemed necessary through stakeholder engagement. This research will complement the state’s past and ongoing efforts to provide public access to data and visualizations through Cal-Adapt. Specifically, the data platform and analytics developed through this effort could become the foundation for a next-generation version of Cal-Adapt, or they could stand independently.

Given the importance of stakeholder engagement to the success of this research, a collaborative research approach/method must be clearly articulated. Stakeholder engagement must be adequately resourced and must facilitate input from stakeholders to project teams throughout the entire research process.

**Successful applicants must demonstrate**:

* A skilled, well-resourced management team to ensure coordination between the different aspects of the proposed research;
* The capacity for coordination with the research team that is funded by Group 1, which will produce data that this (Group 2) project must make publicly available and usable by stakeholders; and,
* A clearly articulated approach to stakeholder engagement, including dedicated funding and expertise.

**Projects in this group must, at a minimum:**

1. **Vigorously engage stakeholders** to provide the following with sufficient clarity to inform development of quantitative approaches to support stakeholder needs:
	1. Clear articulation of the ways in which energy sector researchers involved in the Fifth Assessment need to use climate projection data to support their investigations.
	2. Clear articulation of ways in which California’s IOUs need to use climate projection data to support adaptation planning.
	3. Documentation of stakeholder engagement process and outcomes, including lessons learned, suggestions to improve future efforts, and strategic prioritization of stakeholder needs.
2. **Develop analytical methods and approaches** for providing data products that support stakeholder needs, including but not limited to:
	1. Quasi-probabilistic interpretations of climate projections where needed and appropriate, and/or an alternative approach to facilitate decision-making under uncertainty.
	2. Indicators of uncertainty (qualitative and/or quantitative).
	3. Climate scenarios for stress-testing the energy system.
3. **Deliver data and analytics** through an interactive, publicly available data platform that:
	1. Is driven by needs identified through stakeholder engagement and provides stakeholders with easy access to scientifically rigorous analytics.

*Note*: The developers of the data platform will leverage the current version of Cal-Adapt, consult with stakeholders, and coordinate with the CEC to determine the data platform architecture and design.

* 1. Develops appropriate data structures and a data management strategy to manage delivery and visualization of data associated with projections for the Fifth Assessment.
	2. Incorporates both Group 1 and externally developed projections identified by the state as priorities for energy sector planning and Fifth Assessment research.
	3. Provides for download of the climate projections for the Fifth Assessment.

*Note*: Users must be able to specify their area (spatially and temporally) of interest, so that the data platform provides an appropriately sized data set.

Additional considerations:

The timeline for platform development must be such that the data platform is ready to receive and serve the climate projections to research teams contributing to the Fifth Assessment by April 2022. This effort will also coordinate with Group 1 on identification and use of priority projections.

The research team will also be expected to coordinate, through the CEC, with the team that is currently managing development of the Cal-Adapt website. In alignment with American Geophysical Union’s Position Statement on Data, the research team must “recognize that the science ecosystem should be flexible enough to adapt to a changing landscape of research practices, technology innovation, and demonstrations of impact.” For example, the research team will work with CEC’s nascent open data initiative regarding the ultimate location of the data platform and hosted data.

The research team must take into consideration the substantial size of anticipated data sets. For context, to support the Fourth Assessment, 32 GCMs were downscaled to 1/16 degree spatial resolution, daily temporal resolution (Pierce et al 2018). Spatial coverage was statewide for climate and hydrological variables (n~25), and temporal coverage was approximately 1950-2100. The size of the California subset of the full North American data is about 12 terabytes, and the full domain is approximately 40 terabytes. It may be reasonable to anticipate data of at least an order of magnitude greater size, given the large number of GCM realizations that will contribute to CMIP6, stakeholders expressed desire for downscaling all or as many as possible of the GCMs, and the requirement for provision of sub-daily variables.

## Funding

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

There is **up to $5,000,000** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below.

| Project Group | Available funding | Minimum award amount | Maximum award amount | Minimum match funding(% of EPIC Funds Requested) |
| --- | --- | --- | --- | --- |
| Group 1: Development of Climate Projections for California and Identification of Priority Projections  | $1,500,000 | $1,300,000 | $1,500,000 |  5% |
| Group 2: Analytics and Data Platform to Facilitate Electricity Sector Adaptation  | $3,500,000 | $3,150,000 | $3,500,000 |  5% |

1. **Match Funding Requirement**

Match funding is required in the amount of at least **5% minimum** of the requested project funds.For the definition of match funding see Section I K.

1. **Change in Funding Amount**

Along with any other rights and remedies available to it, the CEC reserves the right to:

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

## Key Activities Schedule

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

| **ACTIVITY** | **DATE** | **TIME[[1]](#footnote-2)**  |
| --- | --- | --- |
| Solicitation Release | June 1, 2020 |  |
| **Pre-Application Workshop** | **June 18, 2020** | **10:00 a.m.** |
| **Deadline for Written Questions[[2]](#footnote-3)** | **June 22, 2020** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers  | week of July 13, 2020 |  |
| **Deadline to Submit Applications** | **August 31, 2020** | **5:00 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | October 16, 2020 |  |
| Anticipated Energy Commission Business Meeting Date | January 15, 2021 |  |
| Anticipated Agreement Start Date | January 16, 2021 |  |
| Anticipated Agreement End Date  | March 31, 2026 |  |

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss the solicitation with potential applicants. Participation is optional but encouraged. The Pre-Application Workshop will be held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from the California Department of Public Health to encourage physical distancing to slow the spread of COVID-19. Applicants may attend the workshop via the internet (Zoom, see instructions below), or via conference call on the date and at the time and 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:** June 18, 2020 10:00 a.m.

**Zoom Instructions:**

**Access by Computer:**

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

**Meeting ID:** 940 0150 1767

**Meeting Password:** 490594

**Access by Telephone Only:**

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

**Access by Mobile Device:**

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

**Technical Support:**

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

please call Zoom Technical Support at **1-888-799-9666 ext. 2.** You may also contact Martine Schmidt-Poolman at (916) 327-3424.

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

 https://support.zoom.us/hc/en-us/categories/200101697-Getting-Started

* 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 and electronic mail. However, all **technical** questions must be received by the deadline listed in the “Key Activities Schedule” above. Questions received after the deadline may be answered at the CEC's discretion. **Non-technical** questions (e.g., questions concerning application format requirements or attachment instructions) may be submitted to the Commission Agreement Officer (CAO) at any time prior the application deadline.

The questions and answers will also be posted on the CEC’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 CEC 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 CAO.**

## 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, 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 CEC 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 CEC 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 CEC to comply with CEQA and provide all CEQA-related information to the CEC in a timely manner such that the CEC 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 CEC’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.[[3]](#footnote-4) The purpose of the EPIC program is to benefit the ratepayers of three investor-owned utilities (IOUs), including Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. The EPIC funds clean energy technology projects that promote greater electricity reliability, lower costs, and increased safety.[[4]](#footnote-5) In addition to providing IOU ratepayer benefits, funded projects must lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.[[5]](#footnote-6) The EPIC program is administered by the CEC and the IOUs.

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

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

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

In addition, projects must fall within one of the general focus areas (**“strategic objectives”**) identified in the CEC’s EPIC Investment Plans[[6]](#footnote-7) [[7]](#footnote-8) and within one or more specific focus areas (**“funding initiatives”**) identified in the plan. This solicitation targets the following program area, strategic objective, and funding initiative(s):

**2018-2020 Electric Program Investment Charge (EPIC) Triennial Investment Plan**

* **Program Area**: Applied Research and Development
* **Strategic Objective** **S7:** Develop Tools and Analysis to Inform Energy Policy and Planning Decisions
	+ **Funding Initiative S7.2**  Increase the Resiliency of the Electricity System to Climate Change and Extreme Weather Events
		- Initiative 7.2.1 Improved Understanding of Climate- and Weather-Related Risks and Resilience Options
		- Initiative 7.2.3 Integrate Climate Readiness into Electricity System Operations, Tools, and Models
* **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[[8]](#footnote-9) - Global Warming Solutions Act of 2006**

AB 32created a comprehensive program to reduce greenhouse gas (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.leginfo.ca.gov/pub/15-16/bill/sen/sb\_0001-0050/sb\_32\_bill\_20160908\_chaptered.htm

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

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

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

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

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

SB 100 requires that 100 % of retail sales of electricity to California end-use customers and 100 % of electricity procured to serve all state agencies come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The bill requires the CPUC and the 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 greenhouse gas emissions (GHG) increases elsewhere in the western grid.

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

Policies/Plans

* **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 and provide 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 19-10-054, “Decision on Phase 1 Topics 1 and 2, Order Instituting Rulemaking to Consider Strategies and Guidance for Climate Change Adaptation. Rulemaking 18-04-019” (2019)**

The decision defines climate change adaptation for energy utilities in California; identifies the California Fourth Climate Assessment and any subsequent assessments as the primary source of climate projections and scientific studies; and establishes the criteria for any further data or models that energy utilities may develop to understand climate impacts.

Additional information: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M319/K075/319075453.PDF

* **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 % below 1990 levels by 2030, to ensure California meets its target of reducing greenhouse gas emissions to 80 % below 1990 levels by 2050. The Executive Order addresses the need to incorporate climate impacts into the state’s Five-Year Infrastructure Plan and planning and investment decisions.

Additional Information:

<https://www.ca.gov/archive/gov39/2015/04/29/news18938/index.html>

* **Executive Order N-19-19**

Governor Newsom’s Executive Order N-19-19 requires that “every aspect of state government redouble its effort to reduce greenhouse gas emissions and mitigate impacts of climate change while building a sustainable, inclusive economy.” It calls on the creation of a Climate Investment Framework that leverages the state’s $700 billion investment portfolio to advance the State’s climate leadership, protect taxpayers, and support the creation of high-road jobs.

Additional Information: https://www.gov.ca.gov/wp-content/uploads/2019/09/9.20.19-Climate-EO-N-19-19.pdf

* **Climate Change Research Plan for California**

Successfully negotiating climate change challenges will require integrating a sound scientific basis for climate preparedness into local planning, resource management, infrastructure, and public health, as well as introducing new strategies to reduce GHG emissions or increase carbon sequestration into nearly every sector of California’s economy. This Climate Change Research Plan presents a strategy for developing the requisite knowledge through a targeted body of policy-relevant, California-specific research. The plan calls for research to better estimate the impacts of climate change on the existing energy infrastructure (e.g., wildfires on electricity distribution networks).

Additional Information:

https://energyarchive.ca.gov/climatechange/climate\_action\_team/reports/CAT\_research\_plan\_2015.pdf

Reference Documents

Refer to the documents below for information about CEC research and related activities associated with development of climate projections for California as well as development of a publicly available platform (Cal-Adapt) for making projections available:

* California Energy Commission staff. 2019. Chapter 5: “Climate Change Adaptation” Final 2019 Integrated Energy Policy Report. California Energy Commission. Publication Number: CEC-100-2019-001-CMD.
* California Energy Commission Staff Workshop: Hourly Temperature Data on Cal-Adapt (December 18, 2019)
	+ Staff Workshop information located here: https://www.energy.ca.gov/event/workshop/2019-12/staff-workshop-hourly-temperature-data-cal-adapt
	+ Docket containing public comments located here: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ERDD-01

The documents and resources below are referred to in this solicitation manual:

* American Geophysical Union (AGU). “Position Statement on Data.” November 2019 Revision. Link to AGU’s Position Statement on Data: https://www.agu.org/Share-and-Advocate/Share/Policymakers/Position-Statements/Position\_Data
* [Committee Report, California Energy Commission. Technology Evaluation Office. Intergovernmental Relations Committee.](https://www.worldcat.org/search?q=au%3ACalifornia+Energy+Committee.+Technology+Evaluation+Office.+Intergovernmental+Relations+Committee.&qt=hot_author) (1989) *The Impacts of Global Warming on California : interim report*. P500-89-004. https://cepsym.org/documents/Impacts-Global-Warming-CEC-June-1989.pdf
* California Energy Commission Staff Workshop: Request for Comments on Forthcoming Solicitation Regarding Climate Scenarios and Analyses (December 16, 2019)
	+ Staff Workshop documentation located [here:](https://efiling.energy.ca.gov/GetDocument.aspx?tn=230888)

https://ww2.energy.ca.gov/research/notices/#12162019

* + Docket containing public comments located [here:](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ERDD-01) https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-ERDD-01
* Franco, G., D. R. Cayan, S. Moser, M. Hanemann, and M.-A Jones. (2011). “Second California Assessment: integrated climate change impacts assessment of natural and managed systems. Guest editorial.” *Climatic Change*.
* Koy, Kevin; Maggi Kelly; Brian Galey. (Geospatial Innovation Facility). 2014. *Cal-Adapt: Visualizing Climate Change Risk and Adaptation Options for California*. California Energy Commission. Publication number: CEC-500-2016-046.
* Office of Planning and Research. Budget Change Proposal: Cap and Trade Expenditure Plan: Climate Resilience Research, Regional Collaboration, and Implementation. 1/10/2020. https://esd.dof.ca.gov/Documents/bcp/2021/FY2021\_ORG0650\_BCP3734.pdf
* Pierce, D. W., D. R. Cayan, and B. L. Thrasher, 2014: Statistical downscaling using localized constructed analogs (LOCA). J. Hydrometeorology, v. 15, p. 2558, doi:10.1175/JHM‐D‐14‐0082.1
* Pierce, D. W., J. F. Kalansky, and D. R. Cayan, (Scripps Institution of Oceanography). 2018. *Climate, Drought, and Sea Level Rise Scenarios for the Fourth California Climate Assessment*. California’s Fourth Climate Change Assessment, California Energy Commission. Publication Number: CNRA-CEC-2018-006.
* Thomas, Nancy, Mukhtyar, Shruti, Galey, Brian, Kelly, Maggi. (University of California Berkeley). 2018. *Cal-Adapt: Linking Climate Science with Energy Sector Resilience and Practitioner Need*. California’s Fourth Climate Change Assessment, California Energy Commission. Publication Number: CCCA4-CEC-2018-015.

## Match Funding

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

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

Definitions of “match funding” categories are listed below:

* + - **“Cash”** **match** means funds that are in the recipient’s possession or proposed by match partner and clearly identified in a support letter, and are reserved for the proposed project, meaning that they have not been committed for use or pledged as match for any other project. Cash match can include funding awards earned or received from other agencies for the proposed technologies or study (but not for the identical work). Proof that the funds exist as cash is required. Cash match will be considered more favorably than in-kind contributions during the scoring phase.
		- **“In-Kind”** **match** is typically in the form of the value of personnel, goods, and services, including direct and indirect costs. This can include equipment, facilities, and other property as long as the value of the contribution is based on documented market values or book values, prorated for its use in the project, and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP).
* Match funds 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.

Examples of preferred match share:

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

## Funds Spent in California

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

# II. Eligibility Requirements

## Applicant Requirements

1. **Eligibility**

This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities.[[9]](#footnote-10) 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 http://www.energy.ca.gov/research/contractors.html. 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.

## Project Requirements

1. **Applied Research and Development Stage**

Projects must fall within the “applied research and development” stage, which includes activities that support pre-commercial technologies and approaches that are designed to solve specific problems in the electricity sector. Applied research and development activities include early, pilot-scale testing activities that are necessary to demonstrate the feasibility of pre-commercial technologies. By contrast, the “technology demonstration and deployment” stage 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 the operational and performance characteristics and the financial risks.**[[10]](#footnote-11)**

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.**[[11]](#footnote-12)** 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.**[[12]](#footnote-13)**

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.

1. **Knowledge Transfer Expenditures**

To maximize the impact of EPIC projects and to promote the further development and deployment of EPIC-funded technologies, a minimum of 5 percent of CEC funds requested should go towards knowledge transfer activities. Appropriate knowledge 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 knowledge transfer.

# III. Application Organization and Submission Instructions

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

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

|  |  |
| --- | --- |
| **Format** | * **Font:** 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters)
* **Margins:** No less than one inch on all sides (excluding headers and footers)
* **Spacing:** Single spaced, with a blank line between each paragraph
* **Signatures**: Wet signatures only (i.e., not electronic)
* **File Format:** MS Word version 2007 or later (.doc or .docx format), excluding Excel spreadsheets and commitment or support letters (PDF files are acceptable for the letters)
* **File Storage:** Electronic files of the application must be submitted on a USB memory stick when submitting via **hard copy.**
 |
| **Maximum Page Limit Recommendations** | * **Executive Summary** (Attachment 2): **two** pages
* **Project Narrative Form** (Attachment 3): **twenty** pages excluding documentation for CEQA
* **Project Team Form** (Attachment 4): **two** pages for each resume
* **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
* **Scope of Work** (Attachment 5): **thirty** pages
* **Project Schedule** (Attachment 6): **four** pages
* There are no page limits for the following:
	+ **Application Form** (Attachment 1)
	+ **Budget Forms** (Attachment 7)
	+ **CEQA Compliance Form** (Attachment 8)
	+ **Project Performance Metrics** (Attachment 11)
 |
| **Number of Copies of the Application** | For Hard Copy Submittal Only:* **One** hard copy (with signatures)
* **One** electronic copy (On USB memory stick)
 |

## Preferred Method For Delivery

The preferred method of delivery for this solicitation is the CEC 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 XP (.doc format) 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. Contact the Commission Agreement Officer identified in the Questions section of the solicitation for more assistance.

## Hard Copy Delivery by U.S. Mail

An applicant may also deliver a hard copy of an application by U.S. Mail. **In order to be consistent with orders and recommendations from state and local officials to encourage physical distancing to slow the spread of COVID-19, in-person delivery of applications will not be allowed.**

Applications submitted in hard copy by U.S. Mail must be delivered to the CEC Contracts, Grants and Loans Office according to the schedule in Section I.E. Applications received after the specified date and time shown in Section I.E are considered late and will not be accepted. There are **no exceptions** to this.  Postmark dates of mailing, E-mail and facsimile (FAX) transmissions are not acceptable in whole or in part, under any circumstances.  There is no need to submit a hard copy of an application that is submitted through the Grant Solicitation System as it will only cause confusion.

**Number of Copies**

Applicants submitting a hard copy application by U.S. Mail are only required to submit one paper copy.  Applicants must also submit electronic files of the application on **USB memory stick** along with the paper submittal.  **Electronic files submitted via e-mail will not be accepted**.

**Packaging and Labeling**

All hard copy applications submitted by U.S. Mail must be labeled "Grant Funding Opportunity GFO-19-311," and include the title of the application.

Include the following label information on the mailing envelope:

|  |  |
| --- | --- |
| Applicant’s Project Manager Applicant’s NameStreet AddressCity, State, and Zip Code |  |
|  | GFO-19-311Contracts, Grants, and Loans Office, MS-18California Energy Commission1516 Ninth Street, 1st FloorSacramento, California 95814 |

##

## Application Organization and Content

1. For all hard copy submittals, submit attachments in numerical order.
2. Label the proposal application cover “Grant Funding Opportunity GFO-19-311” and include: (a) the title of the application; and (b) the applicant’s name.
3. Separate each section of the application by Attachment number and section title indicated below.

Below is a description of each required section of the application. Completeness in submitting 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 must include an original Application 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.

1. Executive Summary Form (Attachment 2)

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

1. Project Narrative Form (Attachment 3)

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

* 1. **Group Specific Questions**
		+ Include required group specific information (see Section I.C.) in the specified sections.
	2. **Project Readiness**
		+ Include information about the permitting required for the project and whether or not the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction CEQA review and project approval is not complete, applications must include information documenting progress towards and a schedule for achieving compliance under CEQA within the timeframes specified in this solicitation ~~(see Section I.D)~~ **(see Section I.E)**. All supporting documentation must be included in Attachment 8.
1. Project Team Form (Attachment 4)

Identify by name all key personnel[[13]](#footnote-14) assigned to the project, including the project manager and principal investigator (if applicable), and individuals employed by any major subcontractor (a major subcontractor is a subcontractor receiving at least 25% of CEC 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 (Attachment 5)

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

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

1. Project Schedule (Attachment 6)

The Project Schedule includes a list of all product, meetings, and due dates. All work must be scheduled for completion by the Anticipated Agreement End Date listed in the “Key Activities Schedule” section of this solicitation manual.

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

1. Budget Forms (Attachment 7)

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

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

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

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

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

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

or,

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

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

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

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

1. Reference and Work Product Form (Attachment 9)
2. Section 1: Provide applicant and subcontractor references as instructed.
3. 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.
4. Commitment and Support Letter Form (Attachment 10)

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

1. Commitment Letters

Applicants must submit a **match funding** commitment letter signedby a representative of each entity or individual that is committing to providing match funding. The letter must: (1) identify the source(s) of the funds; (2) justify the dollar value claimed; (3) make an unqualified (i.e. without reservation or limitation) commitment in the letter that guarantees the availability of the funds for the project; and (4) include a strategy for replacing the funds if they are significantly reduced or lost.

* **Project partners** that are making contributions other than match funding and are not receiving CEC funds, must submit a commitment letter signed by an authorized representative that: (1) identifies how the partner will contribute to the project; and (2) commits to making the contribution.
1. Support Letters

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

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 make certain declarations, including that the applicant is: not delinquent on taxes or suspended by the Franchise Tax Board; properly registered to do business in California; not being sued by any public agency or entity; in compliance with all judgments, if any, issued against the Applicant in any matter to which the ECEC or another public agency or entity is a party; is complying with any demand letter made on the Applicant by the CEC or another public agency or entity; and is not in active litigation with the CEC regarding the Applicant’s actions under a current or past contract, grant, or loan with the CEC. See Attachment 12 for the full list of declarations. This form must be signed under penalty of perjury by an authorized representative of the applicant’s organization.

# IV. Evaluation and Award Process

## Application Evaluation

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

1. **Stage One: Application Screening**

The Contracts, Grants, and Loans Office and/or the Evaluation Committee will screen applications for compliance with the Screening Criteria in **Section E** of this Part. **Applications that fail any of the screening criteria will be rejected.**The Evaluation Committee may conduct optional 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 submitted to the Evaluation Committee for review and scoring based on the Scoring Criteria in **Section F** of this Part.

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* Clarification Interviews: The Evaluation Committee may conduct optional in-person

or 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 70.0 points is required for criteria 1-7** to be eligible for funding. In addition, the application must receive a minimum score of **52.50 points for criteria 1-4** to be eligible for funding.

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

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

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

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

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

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

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

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

## Grounds to Reject an Application or Cancel an Award

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

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

## Miscellaneous

1. **Solicitation Cancellation and Amendment**

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

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

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

1. **Modification or Withdrawal of Application**

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

1. **Confidentiality**

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

1. **Solicitation Errors**

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

1. **Immaterial Defect**

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

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

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

## Stage One: Application Screening

| **Screening Criteria** *The Application must pass ALL criteria to progress to Stage Two.* | **Pass/Fail** |
| --- | --- |
| 1. The application is received by the CEC’s Contracts, Grants, and Loans Office by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation and is received in the required manner (e.g., no emails or faxes).
 | [ ]  Pass [ ]  Fail |
| 1. The Application Form (Attachment 1) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The Applicant Declaration Form (Attachment 12) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The application addresses only one of the eligible project groups, as indicated on the Application Form.
 | [ ]  Pass [ ]  Fail |
| 1. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment 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 |

## Stage Two: Application Scoring

Proposals that pass ALL Stage One Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria on the next page and the Scoring Scale below (with the exception of criteria 6−8, 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**

| **Screening Criteria** |  |
| --- | --- |
| **Applicant Past Performance with Energy Commission**The applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the CEC (e.g., contract, grant, or loan) and entered into an agreement(s) with the CEC 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
* 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.  |

| **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. Describe how the proposed model/tool/study will be used by key stakeholders (e.g. policy-makers, project developers, other researchers, etc.).
4. Describes the advantage of the proposed model/tool/study over that currently being used by key stakeholders.
 | **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 knowledge transfer plan, including how key stakeholders and potential users will be engaged, and the plan to disseminate knowledge of the project’s results to those stakeholders and users.
8. Provides information described in Section I.C.
 | **25** |
| 1. **Impacts and Benefits for California IOU Ratepayers**
2. Explains how the proposed project will benefit California Investor-Owned Utility (IOU) ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits.
3. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
4. Identifies how outputs of the model/tool/study will benefit key stakeholders (e.g., streamline planning, help eliminate barriers, stimulate growth of applicable market sectors).
 | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**

Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. This can include contacting references.1. Identifies credentials of prime and any subcontractor key personnel, including the project manager, principal investigator and technology and knowledge transfer lead *(include this information in the Project Team Form).*
2. Demonstrates that the project team 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 52.5)** | **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) | **Percentage of Possible Points** |
| >60%  | 20% |
| >65%  | 30% |
| >70% | 40% |
| >75%  | 50% |
| >80% | 60% |
| >85%  | 70% |
| >90% | 80% |
| >95%  | 90% |
| >98% | 100% |

 | **10** |
| 1. **Ratio of Direct Labor to Indirect Costs**

The score for this criterion will be calculated by the following formula:$$\frac{Total Direct Labor}{Total Direct Labor + Total Fringe + Total Indirect + Total Profit}$$This ratio will then be multiplied by the maximum possible points for this criterion and rounded to two decimal places.NOTE: For the purposes of this criterion, the CEC will include the facility charges (e.g., rent, utilities, etc.), burdens and other like costs that are budgeted as direct costs into the indirect costs in the formula. | **5** |
| **Total Possible Points****(Minimum Passing Score for Criteria 1 – 7 is 70% or 70)** | **100** |
| **Total Possible Points** | **100** |
| **Preference Points** Applications must meet all minimum passing scores (Scoring Criteria 1-4 and 1-7) to be eligible for the preference points (criterion 8). |

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. **Match Funds**
2. Cash match share is preferred; however, in-kind cost share is permitted and will be considered for solicitation match requirements. Points for this criterion will be evaluated based on the proposed cash match relative to the total match (cash + in-kind) contributions using the Cash Match Scoring Table. Only the total amount pledged in the commitment letter(s) will be considered for match funding points.

**Cash Match Scoring Table**

| Percentage of Proposed Cash Match Funds Relative to Total Match | Score |
| --- | --- |
| 80 to 100% | 5 |
| 60 to <80% | 4 |
| 40 to <60% | 3 |
| 20 to <40% | 2 |
| 10 to <20% | 1 |

 | **5** |
| 1. Additional points will be awarded to applications that exceed the minimum match requirements based on the percentage above minimum using the Exceeds Minimum Match Scoring table. Only the total amount pledged in the commitment letter(s) will be considered for match funding points.

**Exceeds Minimum Match Scoring Table**

| Percentage above Minimum Match (cash and in-kind) | Score |
| --- | --- |
| $\geq $ 80% | 5 |
| 60 to <80% | 4 |
| 40 to <60% | 3 |
| 20 to <40% | 2 |
| 10 to <20 % | 1 |

  | **5** |

1. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-2)
2. This deadline does not apply to non-technical questions (e.g., questions concerning application format requirements or attachment instructions) or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the Commission Agreement Officer listed in Section G at any time prior to the application deadline. Please see Section G for additional information. [↑](#footnote-ref-3)
3. 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-4)
4. See CPUC “Phase 2” Decision 12-05-037, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-5)
5. California Public Resources Code, Section 25711.5(a), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=25001-26000&file=25710-25712. [↑](#footnote-ref-6)
6. 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-7)
7. 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-8)
8. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-9)
9. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#footnote-ref-10)
10. See CPUC “Phase 2” Decision 12-05-037 at pp. 90, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-11)
11. *Id.* at p. 19. [↑](#footnote-ref-12)
12. *Id.* at pp. 19-20. [↑](#footnote-ref-13)
13. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-14)