**GRANT FUNDING OPPORTUNITY**

**Precipitation Enhancement and Environmental Research for Hydropower Generation (PEER-Hydro)**

 **EPIC Program**



**GFO-22-306**

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

**State of California**

**California Energy Commission**

[~~March~~] **May** 2023

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| **Attachments**

| Attachment Number | Title of Section |
| --- | --- |
| 1 | Executive Summary  |
| 2 | Project Narrative  |
| 3 | Project Team  |
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| 5 | Project Schedule |
| 6 | Budget  |
| 7 | CEQA Compliance Form  |
| 8 | References and Work Product |
| 9 | Commitment and Support Letters ***(require signature)*** |
| 10 | Project Performance Metrics |
| 11 | Applicant Declaration ***(require signature)*** |

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# I. Introduction

## Purpose of Solicitation

The purpose of this solicitation is to fund applied research to advance strategies for managing California’s hydropower resources for optimal contribution to grid operations. Research funded by this solicitation will foster cost-effective, robust approaches to balance anticipated needs for zero-carbon, fast-ramping resources with environmental protection.

The proposed energy-related environmental research contributes to implementation of the Electric Program Investment Charge (EPIC) 2021-2025 Investment Plan and responds to the strategic objective: “Inform California's Transition to an Equitable, Zero-Carbon Energy System that is Climate-Resilient and Meets Environmental Goals” (Chapter 7). Specifically, this solicitation supports the following initiatives:

* + Initiative 44, “Integrating Climate Resilience in Electricity System Planning” and
	+ Initiative 45, “Advancing the Environmental Sustainability of Energy Deployments”.

Hydroelectric power is an important source of zero-carbon, dispatchable power in California. It is a critical element of the state’s electricity system and in-state generation, providing peaking reserve, spinning reserve, and load following capacity, as well as transmission line support (Somani, et al., 2021). The percentage of the state’s electricity supplied by hydropower varies, as hydropower resources are strongly dependent on snowmelt runoff and rainfall. Between 2012 and 2021, in-state hydro-production, including imports, has provided an average of 9 percent of the total electricity use (CEC 2022).

As the state continues to contend with drought and other climate-driven impacts on water and hydropower resource availability, as well as develop more sustainable water management practices (CA Water Action Plan, 2014), the proposed research will identify opportunities for increasing and sustaining hydropower generation. Specifically, the research will contribute to more effective precipitation enhancement (cloud seeding) strategies and will provide better information and tools to reduce the environmental effects of hydropower operations.

To ensure opportunity for stakeholder input regarding the scope and organization of this solicitation, CEC staff held the following workshops to present initial ideas and elicit input:

* Staff workshop on Cloud Seeding for Precipitation Enhancement to explore the science and current practice of cloud seeding for precipitation enhancement as a means of augmenting water resources and hydropower potential in California, held on November 16, 2021, in collaboration with Department of Water Resources staff;
* Staff Workshop on Advancing Precipitation Enhancement Strategies, held on September 29, 2022, to inform an anticipated EPIC 4 solicitation; and
* Staff Workshop on Research to Inform the Hydropower Relicensing Process, held on December 21, 2022, to inform an anticipated EPIC 4 solicitation.

CEC appreciates the participation of the attendees at these workshops, including representation from investor-owned utilities (IOUs), the academic research community, research programs, state agencies, members of the public, industry, and private consultants. Links to the workshop materials, including the presentations and recordings, are available in the “Reference Documents” section of this solicitation manual.

Projects must fall within the following project groups:

* **Group 1**: Advancing Precipitation Enhancement Strategies.
* **Group 2:** Research to Inform the FERC Hydropower Relicensing Process.

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

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

## 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. |
| 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 specialize in and are dedicated to diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.
 |
| CEC | State Energy Resources Conservation and Development Commission or, the California Energy Commission. |
| CEQA | California Environmental Quality Act, California Public Resources Code Section 21000 et seq. |
| Cloud seeding | The strategic dispersal of aerosols in clouds to stimulate more precipitation than would otherwise occur. |
| Days | *Days refers to calendar days.* |
| Disadvantaged Community |  These are communities designated pursuant to Health and Safety Code section 39711 as representing the top 25% scoring census tracts from CalEnviroScreen along with other areas with high amounts of pollution and low populations as identified by the California Environmental Protection Agency. (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40) |
| DWR | California Department of Water Resources |
| 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. |
| FERC | Federal Energy Regulatory Commission |
| 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

* **Group 1: Advancing Precipitation Enhancement Strategies**

Research supported by this group will support advancement of the science and practice of precipitation enhancement (cloud seeding) for augmenting hydropower generation, reducing electricity consumption associated with groundwater pumping, and enhancing water resources for California’s electricity sector more broadly as the state contends with drought and other climate-driven impacts on water availability. Specifically, research will contribute to more effective cloud-seeding practices in a changing climate by helping improve understanding of the efficacy and benefits of cloud seeding in California and may provide insights to help tailor cloud seeding strategies.

As applied in California, cloud seeding is the strategic dispersal of aerosols in clouds to stimulate more precipitation than would otherwise occur. Wintertime orographic cloud seeding has been practiced in the state since the 1950s (DWR 2016), typically by energy and water utilities. The CEC has sponsored cloud seeding research in the past (e.g., Hunter 2007), but important research questions remain.

Although cloud seeding operations have been conducted for more than 70 years, only in the last several years has the full process, from initiation and growth of seeded ice crystals within clouds to snowfall, been scientifically documented through a combination of ground-based radar and in situ measurements using research aircraft. Such recent scientific advances provide a much better ability to understand the mechanisms of cloud seeding and assess its effectiveness compared to a decade ago (e.g., Flossmann et al. 2019). The discoveries raise the possibility of renewed scientific investigation of cloud seeding in California for the purpose of augmenting available hydropower and water resources in the broader context of drought, which is leading to diminishing snowpack, run-off, and hydropower generation in the western United States.

Research supported by this solicitation aims to improve the efficacy of cloud seeding efforts in California. Successful applicants **must demonstrate**:

* A clearly articulated and scientifically justified approach that describes how the research will lead to enhanced validation of the efficacy of specific cloud seeding efforts;
* A well-articulated approach to the assessment of benefits of cloud seeding using meaningful metrics (e.g., $/acre-foot) and including, but not limited to, hydropower generation and water resources relevant to the electricity sector; and
* Expertise in coordinating with relevant precipitation enhancement and electricity sector experts and stakeholders, including descriptions of coordination efforts in a clearly articulated approach.

Specific research projects *may* include:

* Assessment of the effects of background aerosols on precipitation enhancement strategies;
* Assessment of precipitation enhancement strategies in the context of higher temperatures due to climate change;
* Assessment of new seeding and transport agents, especially those that are effective at higher temperatures;
* Identification of optimal concentrations of seeding agents;
* Development of new strategies and tools to forecast, detect, and recognize seeding opportunities in real time; or
* Development of new tools to improve targeting and transport modeling, especially for ground-based seeding efforts.

**Group 2: Research to Inform the FERC Hydropower Relicensing Process**

Hydropower plays a critical role in supporting the state’s electricity grid, and its provision of fast-ramping, zero-carbon electricity generation will be critical as California transitions toward a zero-carbon grid. However, there is substantial evidence that hydropower is a significant contributor to the decline of California’s freshwater fish, amphibians, and other species. In addition, more than 70 percent of California’s native freshwater fish populations are extinct or in decline (Quiñones and Moyle 2015, Leidy and Moyle 2021).

Hydropower operations alter the hydrologic and sediment processes that are critical for the maintenance of aquatic ecosystems. The flow regime’s magnitude, frequency, duration, timing, and rate of change downstream of the dam are altered. These alterations can lead to insufficient flows to sustain stable aquatic communities, increases in water temperature, fish stranding, and other effects. Dams block the downstream movement of sediment, leading to physical alteration of downstream channels; impede fish movement; and result in fragmented habitats.

In California, all non-federal hydropower projects are subject to licensing by the Federal Energy Regulatory Commission (FERC). These licenses are for either 30 or 50 years. Approximately 50 permitted facilities in California, representing 2,471 MW in aggregate, will begin the relicensing process in the next 13 years (FERC 2022a). The FERC relicensing process is a complex procedure that typically takes eight years to complete, with some projects taking a decade or more (Levine, et al., 2021). The relicensing process requires that sufficient environmental information be submitted to ensure that the requirements of the National Environmental Policy Act of 1969, Endangered Species Act of 1973, Federal Power Act, and other regulations are met (Levine, et. al., 2021). Disagreements about these environmental studies are a major cause for significant delays in the relicensing process. Relicensing requires numerous studiesand involves participation among operators; federal, state, and local agencies; non-governmental organizations; and private parties. FERC requires that available information be used in the relicensing process (FERC 2022b), and while our understanding of aquatic and terrestrial ecosystems has drastically improved in recent decades, there remains a significant need for improved knowledge and tools.

Given the length of the permits, the relicensing process offers the best window of opportunity to support reducing the effects of hydropower operations on aquatic ecosystems while ensuring the adaptive, proactive management of hydropower as part of California’s resilient zero-carbon generation portfolio. The purpose of this research is to provide participants in the FERC relicensing process additional information and tools to support making informed decisions on how best to address environmental effects on freshwater species while balancing other ecological and energy concerns. The research must address aquatic ecosystems, including both biotic and abiotic components. It could advance research on topics such as, but not limited to, the following:

* Innovative approaches to instream flow determinations, including demonstrations;
* Water releases for managing downstream biotic and abiotic factors;
* Ways to manage sediment accumulation downstream and upstream of dams;
* The thermal tolerance of native fish and amphibian species and how they use thermal refugia;
* How thermal refugia are affected by different instream flow levels;
* Improved accuracy of water year determinations; and
* New or improved innovative environmental assessment and monitoring tools and techniques.

Applications must address and describe a clear approach to how the proposed research will inform, contribute to, and improve the processes or amendments relevant to the FERC hydropower licensing process, relicensing process, or both.

Applicants are encouraged to refer to relevant documents available on the FERC hydropower licensing webpage (https://www.ferc.gov/licensing), such as the general guidance on preparing environmental documents (FERC, 2022b).

## Funding

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

There is **up to $3,500,000** 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: Advancing Precipitation Enhancement in California | $2,000,000 | $1,800,000 | $2,000,000 | 5% |
| Group 2: Research to Inform the FERC Hydropower Relicensing Process | $1,500,000 | $250,000 | $500,000 | 5% |

1. **Match Funding Requirement**

Match funding is required in the amount of at least **5%** 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 California Energy Commission (CEC) reserves the right to:

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

## Key Activities Schedule

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

| ACTIVITY | DATE | TIME[[1]](#footnote-2)  |
| --- | --- | --- |
| Solicitation Release | 3/08/2023 |  |
| **Pre-Application Workshop** | **3/21/2023** | **10:30 a.m.** |
| **Deadline for Written Questions[[2]](#footnote-3)** | [**~~4/05/2023~~**] **4/27/2023** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers | [~~4/26/2023~~] **5/10/2023** |  |
| **Support for Application Submission in ECAMS** | Ongoing until [~~05/10/2023~~]**6/07/2023** | **5:00 p.m.[[3]](#footnote-4)** |
| **Deadline to Submit Applications** | [~~5/10/2023~~]**6/07/2023** | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | Week of [~~July 10, 2023~~] **August 7, 2023** |  |
| Anticipated Energy Commission Business Meeting Date | [~~September 13, 2023~~]**October 18, 2023** |  |
| Anticipated Agreement Start Date | [**~~October 1~~**~~, 2023~~]**November 1, 2023** |  |
| Anticipated Agreement End Date  | [~~March 31, 2026~~]**April 28, 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. Applicants may attend the workshop via the internet (Zoom, see instructions below), or via conference call on the date and at the time and location listed below. Please refer to the CEC's website at www.energy.ca.gov/contracts/index.html to confirm the date and time.

**Date and time:** Mar 21, 2023, 10:30 AM Pacific Time (US and Canada)

**Zoom Instructions:**

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

**Webinar ID:** 844 5317 9540

**Meeting Password:** hydro

**Telephone Access Only:**

Call **1-888 475 4499** (Toll Free) or **1-877 853 5257** (Toll Free). When prompted, enter the meeting number above. International callers may select a number from the Zoom International Dial-in Number List at: [https://energy.zoom.us/u/keySdedTSD](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fenergy.zoom.us%2Fu%2FkeySdedTSD&data=05%7C01%7C%7C1081760542e64afe8d7608db191c7361%7Cac3a124413f44ef68d1bbaa27148194e%7C0%7C0%7C638131382212213476%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=jxp0yvO0zoJEmPjtL3J%2Fzigz2Km%2FtzfRu5G0aL3YXY0%3D&reserved=0)

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 Pre-Application Workshop:**

* For assistance with problems or questions about joining or attending the meeting, please call Zoom Technical Support at **1-888-799-9666 ext. 2**. You may also contact the CEC’s Public Advisor’s Office at publicadvisor@energy.ca.gov, or 800-822-6228.
* System Requirements: To determine whether your computer is compatible, visit:

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

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

## Questions

During the solicitation process, for questions only related to submission of application in the new ECAMS system, please contact ECAMS.SalesforceSupport@energy.ca.gov. Through that email address applicants will be able to access a team of technical assistants who can answer questions about application submission. Please also see Section III.B for additional information about the ECAMS system.

For all other questions, including technical and administrative questions that are not related to submission of applications in the ECAMS system, please contact the Commission Agreement Officer listed below:

Crystal Willis, Commission Agreement Officer

California Energy Commission

715 P, MS-18

Sacramento, California, 95814

Telephone: (916) 529-1108

E-mail: crystal.willis@energy.ca.gov

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

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

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

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

## 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, 2024.  This means that the CEC must approve proposed awards at a business meeting (usually held monthly) prior to June 30, 2024, in order to avoid expiration of the funds. Prior to approval and encumbrance, the CEC must comply with the California Environmental Quality Act (CEQA). To comply with CEQA, the Commission must have CEQA-related information from applicants and sometimes other entities, such as local governments, in a timely manner. Unfortunately, even with this information, the Commission may not be able to complete its CEQA review prior to the encumbrance deadline for every project. For example, if a project requires an Environmental Impact Report, the process to complete it can take many months. For these reasons, it is critical that applicants organize project proposals in a manner that minimizes the time required for the Commission to comply with CEQA and provide all CEQA-related information to the Commission in a timely manner such that the Commission is able to complete its review in time for it to meet its encumbrance deadline.
* Reservation of right to cancel proposed award. In addition to any other right reserved to it under this solicitation or that it otherwise has, if the CEC determines, in its sole and absolute discretion, that the CEQA review associated with a proposed project would not likely be completed prior to the encumbrance deadline referenced above, and that the Commission’s ability to meet its encumbrance deadline may thereby be jeopardized, the CEC may cancel a proposed award and award funds to the next highest scoring applicant, regardless of the originally proposed applicant’s diligence in submitting information and materials for CEQA review. Examples of situations that may arise related to CEQA review include but are not limited to:
* Example 1: If another state agency or local jurisdiction, such as a city or county, has taken the role of lead agency under CEQA, the CEC’s review may be delayed while waiting for a determination from the lead agency.
* Example 2: If the proposed work is part of a larger project for which a detailed environmental analysis has been or will be prepared by another state agency or local jurisdiction, the CEC’s review may be delayed as a result of waiting for a supplemental or initial analysis, respectively, from the other agency.
* Example 3: If the nature of the proposed work is such that a project is not categorically or otherwise exempt from the requirements of CEQA, and an initial study or other detailed environmental analysis appears to be necessary, the CEC’s review, or the lead agency’s review, may take longer than the time available to encumber the funds. If an initial study or environmental impact report has already been completed by another state agency or a local jurisdiction, serving as the lead agency, the applicant must ensure that such an analysis covers the work in the proposed project, or must obtain a revised analysis and determination from the lead agency reviewing the proposed project.
* Example 4: If the proposed project clearly falls under a statutory or categorical exemption, or is a 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

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

This solicitation will award projects funded by the EPIC, an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.[[4]](#footnote-5) The purpose of the EPIC program is to benefit the ratepayers of three 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 meet the guiding principles of (1) improving safety, (2) increasing reliability, (3) increasing affordability, (4) improving environmental sustainability, and (5) improving equity, all as related to California's electric system.[[5]](#footnote-6) In addition to providing IOU ratepayer benefits, funded projects must lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state’s statutory energy goals.[[6]](#footnote-7) The EPIC program is administered by the CEC and the IOUs.

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

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

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

In addition, projects must fall within one of the general focus areas (**“strategic objectives”**) identified in the CEC’s EPIC Investment Plans[[7]](#footnote-8) [[8]](#footnote-9) [[9]](#footnote-10) 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 initiatives:

**2021- 2025** **Electric Program Investment Charge (EPIC) Fourth Investment Plan.**

* **Program Area**: Applied Research and Development
* **Strategic Objective** Inform California's Transition to an Equitable, Zero-Carbon Energy System that is Climate-Resilient and Meets Environmental Goals
	+ **Funding Initiative 44:** Integrating Climate Resilience in Electricity System Planning
	+ **Funding Initiative 45:** Advancing the Environmental Sustainability of Energy Deployments

**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[[10]](#footnote-11) - 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 designates the California Air Resources Board (CARB) as the state agency charged with monitoring and regulating sources of greenhouse gas (GHG) emissions and requires CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. CARB must update the plan at least once every five years.

Additional information: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=200520060AB32; https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan

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

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

SB 32 expands on AB 32 by requiring that CARB ensure statewide GHG emissions are reduced to 40% below the 1990 level by no later than December 31, 2030. SB 32 further requires that these emission reductions are achieved in a manner that benefits the state’s most disadvantaged communities and is transparent and accountable to the public and the Legislature.

Additional information: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=201520160SB32

Applicable Law: California Health and Safety Code § 38566.

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

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

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

Policies/Plans

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

California Public Resources Code Section 25302 requires the Energy Commission 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 Energy Commission 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.

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

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

* **SB 100 Joint Agency Report: Charting a Path to a 100% Clean Energy Future**

The 2021 SB 100 Joint Agency Report (2021 Report) includes a review of the policy to provide 100 percent of electricity retail sales and state loads from renewable and zero-carbon resources in California by 2045. The report assesses various pathways to achieve the target and an initial assessment of costs and benefits. The report includes results from capacity expansion modeling and makes recommendations for further analysis and actions by the joint agencies.

Additional Information:

<https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=70349>

Reference Documents

Refer to the documents below for information about CEC research and related activities associated with advancing science-based strategies for precipitation enhancement and information and tools to reduce the environmental effects of hydropower operations:

* California Energy Commission Staff Workshop on *Cloud Seeding for Precipitation Enhancement* to explore the science and current practice of cloud seeding for precipitation enhancement for augmenting water resources and hydropower potential in California, held on November 16, 2021, in coordination with Department of Water Resources staff.
	+ Staff workshop information located here:

https://www.energy.ca.gov/event/workshop/2021-11/staff-workshop-cloud-seeding-precipitation-enhancement

* California Energy Commission Staff Workshop on *Advancing Precipitation Enhancement Strategies,* held on September 29, 2022.
	+ Staff workshop information located here:

https://www.energy.ca.gov/event/workshop/2022-09/staff-workshop-advancing-precipitation-enhancement-strategies-augment

* California Energy Commission Staff Workshop on *Research to Inform the Hydropower Relicensing Process,* held December 21, 2022.
	+ Staff workshop information located here:

https://www.energy.ca.gov/event/workshop/2022-09/staff-workshop-advancing-precipitation-enhancement-strategies-augment

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

* California Energy Commission. 2022. California Electrical Energy Generation, Energy Almanac. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/california-electrical-energy-generation.
* California Water Action Plan, 2014.The Plan sets forth objectives to develop more sustainable water management within the state. The three objectives are: 1) more reliable water supplies; 2) restoration of important species and habitat, and 3) a more resilient sustainable managed water resources system. Additional information: <https://wildlife.ca.gov/Conservation/Watersheds/Instream-Flow/Action-Plan>
* DWR (California Department of Water Resources), 2016. Precipitation Enhancement: A Resource Management Strategy of the California Water Plan. July 29th. <https://cawaterlibrary.net/wp-content/uploads/2016/07/CWP-RMS-Ch-10-Precipitation_Enhancement_July2016.pdf>
* Federal Energy Regulatory Commission, 2022. Website with information concerning the (re)licensing activities. <https://www.ferc.gov/licensing>. Includes quick links to:
1. Expected relicense Projects FY2022-2036: https://www.ferc.gov/sites/default/files/2022-04/ExpectedRelicenseProjectsFY2022-FY2036.xlsx
2. General Guidance on Preparing Environmental Documents. e.g., see Chapter 3, p. 39.: <https://www.ferc.gov/sites/default/files/2020-04/PreparingEnvironmentalDocuments.pdf>
* Flossmann, A. I., Manton, M., Abshaev, A., Bruintjes, R., Murakami, M., Prabhakaran, T., & Yao, Z. 2019. Review of Advances in Precipitation Enhancement Research, Bulletin of the American Meteorological Society, 100(8), 1465-1480.
* Hunter, S.M., 2007. Optimizing Cloud Seeding for Water and Energy in California. CEC-500-2007-008. Prepared for the California Energy Commission.
* Leidy, R.A., and Moyle, P.B. , 2021. *Keeping up with the status of freshwater fishes: A California (USA) perspective.* Conservation Science and Practice, 3(8), 1– 10.
* Levine, Aaron, Brenda Pracheil, Taylor Curtis, Ligia Smith, Jesse Cruce, Matt Aldrovandi, Christa Brelsford, Heather Buchanan, Emily Fekete, Esther Parish, Rocio Uria-Martinez, Megan Johnson, and Debjani Singh. 2021. An Examination of the Hydropower Licensing and Federal Authorization Process. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-79242. https://www.nrel.gov/docs/fy22osti/79242.pdf
* Quiñones R.M., and Moyle P.B., 2015. *California’s freshwater fishes: status and man-
agement*. FiSHMED Fishes in Mediterranean Environments 2015.001: 20p.
* Somani, Abhishek, Datta, Sohom, Kincic, Slaven, Chalishazar, Vishvas H., Vyakaranam, Bharat GNVSR, Samaan, Nader A., Colotelo, Alison H. A., Zhang, Yichen, Koritarov, Vladimir, McJunkin, Timothy, Mosier, Thomas, Novacheck, Joshua, Emmanuel, Michael, Schwarz, Marty, Markel, Larry, and O'Reilley, Christopher. 2021. *Hydropower’s Contributions to Grid Reliability and Resilience*. United States: N. p. Web. doi:10.2172/1826380.

## Match Funding

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

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

Definitions of “match funding” categories are listed below:

* + - **“Cash”** **match** means funds that are in the recipient’s possession or proposed by match partner and clearly identified in a support letter, and are reserved for the proposed project, meaning that they have not been committed for use or pledged as match for any other project. Cash match can include funding awards earned or received from other agencies for the proposed technologies or study (but not for the identical work). Proof that the funds exist as cash is required. Cash match will be considered more favorably than in-kind contributions during the scoring phase.
		- **“In-Kind”** **match** is typically in the form of the value of personnel, goods, and services, including direct and indirect costs. This can include equipment, facilities, and other property as long as the value of the contribution is based on documented market values or book values, prorated for its use in the project, and depreciated or amortized over the term of the project using generally accepted accounting principles (GAAP).
* Match funds must be spent only during the agreement term, either before or concurrently with EPIC funds or in accordance with a Match Fund Spending Plan approved by the Commission Agreement Manager. 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 9, Commitment and Support Letter Form. Commitment and support letters must be submitted with the application to be considered.
* Any match amounts pledged in an application must be consistent. For example, in the ECAMS system and in the Budget Attachment applicants will be asked to enter the project’s total match funding. The amounts listed in those places should 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, the match amounts entered in the ECAMS system and in the Budget must match this amount). If the amounts listed in an application are inconsistent, the total amount pledged in the commitment letter(s) will be considered for match funding points.

Examples of preferred match share:

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

## 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.[[11]](#footnote-12) 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 submitting an application in the ECAMS system 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.

**If an applicant, by law, cannot agree to the (1), (2), or (3) terms and conditions listed above without negotiation, the applicant can apply and request to negotiate terms.  The CEC retains the sole right to refuse to agree to any terms changes.  Note: the ECAMS system will require applicants to agree to certain certifications before submitting an application, including certifying the applicant will conduct the proposed project according to the terms and conditions without negotiation.  Applicants that, by law, cannot agree to the terms and conditions will not be penalized for agreeing to the ECAMS system certifications.**

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

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.

EPIC's mandatory guiding principle is to provide ratepayer benefits, which are defined as (1) improving safety, (2) increasing reliability, (3) increasing affordability, (4) improving environmental sustainability, and (5) improving equity, all as related to California's electric system.[[13]](#footnote-14)

Accordingly, the Project Narrative Form (Attachment) and the “Goals and Objectives” section of the Scope of Work Template (Attachment) must describe how the project will: (1) benefit California IOU ratepayers by improving safety, increasing reliability, increasing affordability, improving environmental sustainability, and improving equity, all as related to California's electric system; 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). The Budget Forms (Attachment) should clearly distinguish funds dedicated for knowledge transfer.

1.

# III. Application Organization and Submission Instructions

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

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

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

|  |  |
| --- | --- |
| **Format** | * **Font:** 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters)
* **Margins:** No less than one inch on all sides (excluding headers and footers)
* **Spacing:** Single spaced, with a blank line between each paragraph
* **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)
 |
| **Maximum Page Limit Recommendations** | * **Executive Summary** (Attachment): **two** pages
* **Project Narrative Form** (Attachment): **twenty** pages excluding documentation for CEQA
* **Project Team Form** (Attachment): **two** pages for each resume
* **Reference and Work Product Form** (Attachment): **one** page for each reference, **two** pages for each project description
* **Commitment and Support Letter Form** (Attachment): **two** pages, excluding the cover page
* **Scope of Work** (Attachment): **thirty** pages
* **Project Schedule** (Attachment): **four** pages
* There are no page limits for the following:
	+ **Budget Forms** (Attachment)
	+ **CEQA Compliance Form** (Attachment)
	+ **Project Performance Metrics** (Attachment)
 |

## Method For Delivery

The only method of submitting applications to this solicitation is the Energy Commission Agreement Management System (ECAMS), available at: [https://ecams.energy.ca.gov/](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fecams.energy.ca.gov%2F&data=05%7C01%7C%7Ca62c25da44884f01948d08db1b503b48%7Cac3a124413f44ef68d1bbaa27148194e%7C0%7C0%7C638133803628762635%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=s48qMzt2ZmnHzm5WICm2tEf2KsWrBEOuowiZapsl02Y%3D&reserved=0).

**IMPORTANT**: This is the first CEC solicitation to use the ECAMS system for application submission. A tutorial of the system will be provided at the Pre-Application Workshop and will be available after the workshop at[**https://www.energy.ca.gov/solicitations/2023-03/gfo-22-306-precipitation-enhancement-and-environmental-research-hydropower**](https://www.energy.ca.gov/solicitations/2023-03/gfo-22-306-precipitation-enhancement-and-environmental-research-hydropower)[~~https://www.energy.ca.gov/solicitations/2023-05/peer-hydro-precipitation-enhancement-and-environmental-research-hydropower~~]. Additionally, a User Register manual is available at <https://www.energy.ca.gov/media/7893>.

The CEC is providing a team of technical assistants to support applicants with this new process. Please email**ECAMS.SalesforceSupport@energy.ca.gov** for support.

ECAMS allows applicants to complete and submit their application to the CEC prior to the date and time specified in this solicitation. Files uploaded to the system must be in Microsoft Word XP (.doc format) or newer and Excel Office Suite formats unless originally provided in the solicitation in another format.  Attachments requiring signatures, such as match funding commitment letters, may be scanned and submitted in PDF format.  Completed Budget Forms, (Attachment), must be in Excel format.

The deadline to submit applications through ECAMS system is 11:59 p.m. on the Deadline to Submit Applications date shown in the Key Activities Schedule (Section I.E.). ECAMS automatically closes at 11:59 pm. If the full submittal process has not been completed before 11:59 p.m., your application will not be considered.

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

Please give yourself ample time to complete all steps of the submission process: do not wait until right before the deadline to begin the process. Due to factors outside the CEC’s control and unrelated to ECAMS, upload times may be much longer than expected. For example, unexpected issues could occur, causing long delays that prevent timely submission. Please plan accordingly. For instructions on how to apply using ECAMS system, please see the How to Apply document available on the CEC website at: <https://www.energy.ca.gov/funding-opportunities/funding-resources>, under General Funding Information, Energy Commission Agreement Management System (ECAMS).

First time users must register as a new user to access the system. There will be two types of user accounts to establish: 1) An organizational account, for the entity applying to the solicitation; and 2) user accounts for individuals who will be submitting the application on behalf of the organization.

Applicants will be required to upload all attachments marked “required” in the system in order for the application to be submitted.

## Application Content

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

1. Executive Summary Form (Attachment 1)

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 2)

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

* 1. **Group Specific Questions**
		+ Include required group specific information (see Section I.C.) in the specified sections.
	2. **Project Readiness**
		+ Include information about the permitting required for the project and whether or not the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction CEQA review and project approval is not complete, applications must include information documenting progress towards and a schedule for achieving compliance under CEQA within the timeframes specified in this solicitation (see Section I.E). All supporting documentation must be included in Attachment 7.
1. Project Team Form (Attachment 3)

Identify by name all key personnel[[14]](#footnote-15) 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 $100,000 Commission funds). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages, printed double-sided).

1. Scope of Work Template (Attachments 4)

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 5)

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

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

1. Budget Forms (Attachment 6)

Because this solicitation is utilizing the new ECAMS system for submitting applications, applicants have two options for uploading a budget:

1. **Option 1: Prime Applicant’s budget is keyed directly into ECAMS; Major Subrecipient budgets are uploaded as MS Excel attachments.** The new ECAMS system allows applicants to build the prime applicant’s budget directly into the system.

At this time, there is no way to input major subrecipient budgets directly into the system: major subrecipient budgets must be uploaded in MS Excel format. Instructions for inputting budget items into the ECAMS system can be found in Budget Category Guidance at the ECAMS Resources webpage (<https://www.energy.ca.gov/funding-opportunities/funding-resources/ecams-resources>) .

1. **Option 2: Upload all budgets (Prime and Major Subrecipients) as MS Excel attachments** and leave the ECAMS budget sections blank.

Instructions for completing the budgets can be found in Budget Category Guidance at the ECAMS Resources webpage.  **Read the detailed instructions tab on the MS Excel attachments (**Attachment 6) **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.

The Applicant must submit information on all tabs of the budget forms. The salaries, rates, and other costs entered must reflect the salaries, rates, and other costs the Applicant would include if selected as a grant recipient. A separate set of complete budget forms is required for the Applicant and for each subaward containing $100,000 or more of CEC funds.

1. Rates and job descriptions shown must reflect rates and job descriptions charged under an agreement resulting from this solicitation. The salaries, rates, and other costs entered on these forms become a part of the final agreement. The entire term of the agreement and projected rate increases must be considered when preparing the budget. Unless a federally approved indirect rate is used, indirect rates proposed are considered capped and shall not change during the term of the agreement. The grant recipient shall only be reimbursed for their actual rates up to the indirect rate cap. A description of available indirect rate options is available on the [ECAMS Resources webpage](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.energy.ca.gov%2Ffunding-opportunities%2Ffunding-resources%2Fecams-resources&data=05%7C01%7C%7C71bdf956ecdc4681308d08db19656d34%7Cac3a124413f44ef68d1bbaa27148194e%7C0%7C0%7C638131695663536868%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=VOLzwFL7zm4UyNWOtGksYTnrNOPEpYluCDpIJ7utC4s%3D&reserved=0) under [Budget Category Guidance](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.energy.ca.gov%2Ffunding-opportunities%2Ffunding-resources%2Fecams-resources%2Fbudget-category-guidance%3FauHash%3DcEItgat6JNbO9BFGeVqe4E5T6koCOgTaqliFX6bmwtg&data=05%7C01%7C%7C71bdf956ecdc4681308d08db19656d34%7Cac3a124413f44ef68d1bbaa27148194e%7C0%7C0%7C638131695663536868%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=vZiYkn2SI02TAop%2BMbhZrGh7ZBSZTYA3%2F7otWiPUvzk%3D&reserved=0) for indirect rates. Unlike indirect rates, the rates for Direct Labor and Fringe Benefits are treated as estimates; a grant recipient can invoice at higher rates as long as it is only invoicing for actual expenditures it has made. The hourly or monthly rates provided shall be unloaded (before fringe benefits or indirect costs).
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. All applicants should go to the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Grants awarded under this solicitation shall not contain travel paid for with Commission funds or match funds to the listed states unless the Commission approves in writing that the trip falls within one of the exceptions under the law.
10. **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 7)

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 8)
	* 1. Section 1: Provide applicant and subcontractor references as instructed.
		2. Section 2: Provide a list of past projects detailing technical and business experience of the applicant (or any member of the project team) that is related to the proposed work. Identify past projects that resulted in market-ready technology, advancement of codes and standards, and/or advancement of state energy policy. Include copies of up to three of the applicant or team member’s recent publications in scientific or technical journals related to the proposed project, as applicable.
2. Commitment and Support Letter Form (Attachment 9)

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 signedbyan authorizedrepresentative of the entity or the 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 commitment in the letter ~~to~~ that guarantees the availability of the funds; and (4) [~~guarantee the availability of the funds for the project.]~~ **provide a strategy for replacing the funds if they are significantly reduced or lost.**

* If the project involves pilot testing activities, the applicant must include a site commitment letter signed by an authorized representative of the proposed test site. The letter should: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) which must be consistent with Attachments 7. and (2) commit to providing the site for the proposed activities.
* **Project partners** that are making contributions other than match funding or a test site, and are not receiving CEC funds, must submit a commitment letter signed by an authorized representative that: (1) identifies how the partner will contribute to the project; and (2) commits to making the contribution.
1. Support Letters

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

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

1. Project Performance Metrics (Attachment 10)

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 11)

This form requests the applicant declare that they: are not delinquent on taxes nor suspended by the California Franchise Tax Board; are not being sued by any public agency or entity; are in compliance with the terms of all settlement agreements, if any, entered into with the Energy Commission or another public agency or entity; are in compliance with all judgments, if any, issued against the Applicant in any matter to which the Energy Commission or another public agency or entity is a party; are complying with any demand letter made on the Applicant by the Energy Commission or another public agency or entity; and are not in active litigation with the Energy Commission regarding the Applicant’s actions under a current or past contract, grant, or loan with the Energy Commission. The declaration must be signed under penalty of perjury by an authorized representative of the applicant’s organization.

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# IV. Evaluation and Award Process

## Application Evaluation

Applications will be evaluated and scored based on responses to the information requested in this solicitation 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 **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 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 at its headquarters in Sacramento and on its website, and will mail it to all entities that submitted an application. Proposed awards must be approved by the CEC at a business meeting.
* **Debriefings:** Unsuccessful applicants may request a debriefing after the release of the

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

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

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

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

## Grounds to Reject an Application or Cancel an Award

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

* The application contains false or intentionally misleading statements or references that do not support an attribute or condition contended by the applicant.
* The application is intended to erroneously and fallaciously mislead the State in any way.
* The application does not comply or contains caveats that conflict with the solicitation, and the variation or deviation is material.
* The applicant has previously received funding through an EPIC or Public Interest Energy Research (PIER) agreement, has received the royalty review letter (which the CEC annually sends out to remind past recipients of their obligations to pay royalties), and has not responded to the letter or is otherwise not in compliance with repaying royalties.
* The applicant has received unsatisfactory agreement evaluations from the CEC or another California state agency.
* The applicant is a business entity required to be registered with the California Secretary of State and is not in good standing.
* The applicant has not demonstrated that it has the financial capability to complete the project.
* The applicant fails to meet CEQA compliance within sufficient time for the CEC to meet its encumbrance deadline or any other deadlines, as the CEC in its sole and absolute discretion may determine.
* The applicant has included a statement or otherwise indicated that it will not accept the terms and conditions, or that acceptance is based on modifications to the terms and conditions. **This bullet-point does not apply to an applicant that, by law, cannot agree to the terms and conditions listed in Section II.A.2.  Note: the ECAMS system will require applicants to agree to certain certifications before submitting an application, including certifying the applicant will conduct the proposed project according to the terms and conditions without negotiation.  Applicants that, by law, cannot agree to the terms and conditions will not be penalized for agreeing to the ECAMS system certifications.**
* 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 recall or modify a submitted application within ECAMS before the deadline to submit applications 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.

1. **ECAMS System and Fairness to Applicants**

Because this is the first CEC solicitation to use the ECAMS system for application submission, CEC may take certain actions to ensure the competitive process is fair to applicants. Accordingly, in addition to any other rights reserved to it under this solicitation, the CEC may take the following actions if significant, verifiable technical issues occur in the ECAMS system (not an applicant’s own system) which result in CEC not receiving application documents:

* Re-open the solicitation;
* Extend the submission deadline; and/or
* Work with applicants to receive application documents.

CEC has sole discretion to decide whether to take such actions.

## 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 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 Applicant Declaration Form (Attachment 11) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The application addresses only one of the eligible project groups, as indicated by the information the Applicant enters into the ECAMS system.
 | [ ]  Pass [ ]  Fail |
| 1. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment).

*If the projects are not distinct and the applications were submitted at the same time, only the first application screened by the CEC will be eligible for funding. If the applications were submitted separately, only the first application received by the CEC will be eligible for funding.* | [ ]  Pass [ ]  Fail |

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## Stage Two: Application Scoring

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

**Scoring Scale**

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

**Additional Screening Criteria for Past Performance**

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

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |
| 1. **Technical Merit**
2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals.
3. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost).
4. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project.
5. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project.
6. Describe how the proposed model/tool/study will be used by key stakeholders (e.g., policy-makers, project developers, other researchers, etc.).
7. Describes the advantage of the proposed model/tool/study over that currently being used by key stakeholders.
8. Provides information described in Section I.C.
 | **15** |
| 1. **Technical Approach**
2. Proposal describes the technique, approach, and methods to be used in performing the work described in the Scope of Work.
3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative.
4. Proposal identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded.
5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g., loss of demonstration site, key subcontractor). Provides a plan to address them.
6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E.

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.1. Provides information documenting progress towards achieving compliance with the California Environmental Quality Act (CEQA) by addressing the areas in Section I.I and Section III.D.3., and Section III.D.8.
2. 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. Explains the path-to-market strategy including near-term (i.e., initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions.
5. Identifies how outputs of the tool, study, or both 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 appropriate qualifications, experience, financial stability and capability to complete the project.
3. Explains the team structure and how various tasks will be managed and coordinated.
4. Describes the facilities, infrastructure, and resources available that directly support the project.
5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization.
 | **15** |
| **Total Possible Points for criteria 1− 4****(Minimum Passing Score for criteria 1− 4 is 70% or 52.50)** | **75** |
| 1. **Budget and Cost-Effectiveness**
2. Budget forms are complete for the applicant and all subcontractors, as described in the Budget instructions.
3. Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks.
4. Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subcontractors).
5. Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subcontractor profit, and other like costs).
 | **10** |
| 1. **CEC Funds Spent in California**

Projects that maximize the spending of CEC funds in California will receive points as indicated in the table below (see CEC Funds Spent in California section for more details).

|  |  |
| --- | --- |
| **Percentage of CEC funds spent in CA vs Total CEC funds requested**(derived from budget Attachment ) | **Percentage of Possible Points** |
| >60%  | 20% |
| >65%  | 30% |
| >70% | 40% |
| >75%  | 50% |
| >80% | 60% |
| >85%  | 70% |
| >90% | 80% |
| >95%  | 90% |
| >98% | 100% |

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

The score for this criterion will be calculated by the following formula:$$\frac{Total Direct Labor}{Total Direct Labor + Total Fringe + Total Indirect + Total Profit}$$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 70.00)** | **100** |
| **Preference Points** Applications must meet all minimum passing scores (Scoring Criteria 1-4, 1-7) to be eligible for the additional points. |

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

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

**Cash Match Scoring Table**

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

 | **5** |
| 1. Additional points will be awarded to applications that exceed the minimum match requirements based on the percentage amount above minimum using the Exceeds Minimum Match Scoring table:

**Exceeds Minimum Match Scoring Table**

| Percentage above Minimum Match (cash and in-kind) | Score |
| --- | --- |
| $\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), including questions regarding application submission in the ECAMS system, 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. Please see Section I.G Questions and Section III.B Method for Delivery for more information. [↑](#footnote-ref-4)
4. See CPUC “Phase 1” Decision 11-12-035, December 15, 2011, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/156050.PDF. [↑](#footnote-ref-5)
5. CPUC Decision 21-11-028, Appendix A https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M425/K515/425515575.PDF (revising former guiding principles within CPUC “Phase 2” Decision 12-05-037, Ordering Paragraph 2 http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF). [↑](#footnote-ref-6)
6. California Public Resources Code, Section 25711.5(a), http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=25001-26000&file=25710-25712. [↑](#footnote-ref-7)
7. 2012-14 EPIC Triennial Investment Plan, http://www.energy.ca.gov/research/epic/documents/final\_documents\_submitted\_to\_CPUC/2012-11-01\_EPIC\_Application\_to\_CPUC.pdf (Attachment 1), as modified and approved by CPUC Decision 13-11-025, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M081/K773/81773445.PDF. [↑](#footnote-ref-8)
8. 2015-17 EPIC Triennial Investment Plan, http://www.energy.ca.gov/2014publications/CEC-500-2014-038/CEC-500-2014-038-CMF.pdf, as modified and approved by CPUC Decision 15-04-020, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M151/K183/151183650.PDF. [↑](#footnote-ref-9)
9. 2021-2025 EPIC 4 Investment Plan, <https://efiling.energy.ca.gov/GetDocument.aspx?tn=240609> , as modified and approved by CPUC Decision 21-07-006, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M394/K265/394265545.PDF> [↑](#footnote-ref-10)
10. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-11)
11. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#footnote-ref-12)
12. 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-13)
13. CPUC Decision 21-11-028, Appendix A https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M425/K515/425515575.PDF (revising former guiding principles within CPUC “Phase 2” Decision 12-05-037, Ordering Paragraph 2 http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF ). [↑](#footnote-ref-14)
14. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-15)