**GRANT FUNDING OPPORTUNITY**

**Valuation of Investments in Electricity Sector Resilience**

 **EPIC Program**



**GFO-22-302**

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

**State of California**

**California Energy Commission**

November 2022

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| **Attachments**

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

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# I. Introduction

## Purpose of Solicitation

The purpose of this solicitation is to fund applied research to collect data and apply methods that contribute to the practical understanding and valuation of electricity system resilience for the purpose of guiding investments by Investor-Owned Utilities (IOUs) and informing electricity resilience improvements overall. The proposed research is an energy-related environmental research project under the EPIC Interim Investment Plan 2021 initiative “Valuation of Investments in Electricity System Resilience.”[[1]](#footnote-2) It will support two themes articulated in that plan:

* Resilience and Reliability;
* Equity.

In U.S. energy system planning, power outages have traditionally been seen from a technology reliability perspective, where reliability performance is expressed in terms of the frequency and cumulative duration of outages for utility customers (Shadle 2020; please see “Reference Documents” below for documents and resources referenced in this solicitation). Formal accounting of outage costs has focused on direct business costs with little distinction as to the extent of interruption. Recent climate-related incidents in California, such as Public Safety Power Shutoff (PSPS) events initiated to reduce the risk of wildfire and the August 2020 heat wave-induced rotating outages (CAISO, CPUC, and CEC 2021), underscored a need for reliability approaches that better align energy system planning with both increased weather-related risks and a transition to a decarbonized energy supply. The state’s electricity reliability planning processes are being updated accordingly (Erne et al. 2022; Gill et al. 2021; CEC, CPUC, and CAISO 2021).

Even with bolstered reliability planning, major outages may still occur. Emergency procedures have long been in place to help serve critical societal needs during power outages. These offset certain social costs but are not failsafe or adapted to extended outages, expected levels of future climate-related stresses, current technical vulnerabilities, or new technological opportunities (Finzi Hart and Moser 2018; NAS 2017; NIAC 2018). They also do not cover most everyday energy uses (such as refrigeration, charging phones, or internet access at home), so they do not protect against many indirect costs of outages. These costs range from inconveniences to increased safety risks to potentially devastating social, health, and financial consequences, including those that can occur when sustained outages coincide with weather-related conditions that themselves challenge people and infrastructure, such as extreme heat, wildfire threat, and smoke. People living in poverty or in poor health are often at greater risk for adverse consequences (Casey et al. 2021; Fothergill and Peek 2004).

To ensure opportunity for stakeholder input regarding the scope and organization of this solicitation, California Energy Commission (CEC) held a staff workshop on November 5, 2021, to present initial ideas and elicit input. CEC appreciates the participation of approximately 90 attendees, including representatives from IOUs, other industry, national laboratories, and community-based organizations. The workshop materials are publicly available.[[2]](#footnote-3) Informed by this workshop and literature review, CEC staff oriented the solicitation to address gaps in current knowledge and practices. These gaps point to the need for an empirically-based understanding of community and individual experiences during extended weather-related power outages, including the conditions and technologies that shape these experiences, their impacts across a range of demographic, technical, and environmental circumstances, and the roles of community and individual preparation. This detailed understanding of vulnerabilities and resilience can help identify and prioritize across a range of strategies and investments to reduce negative impacts when extended outages occur.

For this solicitation, identification and development of robust, efficient strategies to better avoid, cope with, or mitigate the consequences of power outages is referred to as electricity resiliency planning. Widespread long-duration outages occurring simultaneously with extreme heat, wildfires, and other weather-related challenges are of specific interest. The research should identify and evaluate societal benefits and costs—with a focus on costs and benefits that are not currently priced by markets or regulatory frameworks—of resilience strategies across a range of time (both near term and a few decades out) and social/spatial (societal, community, customer) scales. Improvements to society’s capacity to retain or substitute for energy services when power outages occur can reduce the disruption and damage that may otherwise result; characterization of the nature and value of the disruption and damages potentially avoided can inform what measures to take. Technologies and practices that contribute to electricity resilience may contribute to grid reliability (e.g., through improved demand flexibility or distributed generation) and improved hazards resilience overall (Clavin et al. 2020).

Definitions of electricity resilience are evolving, and there are no widely accepted sets of resilience metrics. Applicants may wish to refer to the definition of resiliency provided in “Microgrids and resiliency staff concept paper” (CPUC 2020, pp. 11-15, see “Reference Documents” below). Many recent studies offer progress in characterizing resilience and in developing methods to quantify the value of resilience investments in terms of the costs they potentially help avoid (e.g., Anderson et al. 2021; Frick et al. 2021; Gorman 2022; GMLC 2021; Jasi­ünas et al. 2021; Rickerson et al. 2022). Recent literature has identified needs for more granular information and for improved methods of estimating customer costs for longer-duration and widespread interruptions (e.g., LaCommare and Eto 2018; Baik et al. 2021; Zamuda et al. 2019).

Efforts to improve energy resilience have emphasized hardware, rather than a more coordinated consideration of technical and social systems together, as the determinant of energy resilience (Ellingwood et al. 2019; Eyer and Rose 2019; Heidenstrøm and Hansen 2020; Tariq et al. 2021). So far there has been little empirical work regarding these dynamics that could be systematically applied to improve knowledge on how energy vulnerabilities and resilience manifest in real circumstances and how this knowledge can inform energy resilience actions that protect against negative consequences in foreseeable and novel situations.

The research approach should reflect the varying circumstances that contribute to energy vulnerabilities and resilience. For example, some households are especially vulnerable to high temperatures due to home construction, cooling equipment and practices, or health conditions. Renters in multifamily dwellings will be less able than homeowners to acquire or use electricity backup systems. Others may lack a vehicle they could use to seek resources, be unable or unwilling to access community resilience centers, or have inadequate financial buffer to withstand losses from extended outages. Those in areas with poor mobile coverage may have difficulty accessing emergency services or other critical information. Some locations have robust local resources to draw on, such as vibrant local businesses or well-staffed emergency response services, while others do not. Strategies for improved energy resilience must recognize that most situations are not average.

Research supported by this solicitation will evaluate the distribution of outage events, impacts, and resilience resources among ratepayers, with specific consideration of equity concerns and impacts on Disadvantaged Vulnerable Communities (DVCs) as defined by CPUC for the climate-vulnerability context and IOU adaptation planning.[[3]](#footnote-4) The research will provide guidance in identifying different types of investments and adaptation measures suitable for different geographic, sociodemographic, technical, and environmental conditions. Results will ultimately contribute to valuation estimates reflecting the impact on ratepayers from extended electricity outages and the benefits of improved resilience, reliability, and avoidance of outages. Ideally, the research should also complement recent and ongoing work focused on [~~large-scale]~~ estimates of **the costs of large-scale** outage**s** (see Baik et al. 2021), e.g., as related to the DOE-sponsored Resiliency Node Cluster Analysis Tool (ReNCAT).[[4]](#footnote-5)

Research supported by this solicitation will also illuminate approaches to energy use flexibility in acute situations so as to avoid or minimize energy service disruptions through combinations of technology investments (for example, microgrids and storage), improved built infrastructure (for example, heat resilience), operational strategies including demand response and business-driven resilience services, and contingency planning measures applicable to technology funding in a variety of sectors (such as water, public health, and communications) given their deep dependencies on electricity.

In summary, researchers supported by this solicitation will:

1. conduct empirically-based analysis of societal costs of widespread long-duration power outages related to weather events, including impacts related to health and public safety risks, financial losses, productivity losses, and any other important disruptions;
2. characterize these social impacts, with special attention to Disadvantaged Vulnerable Communities as defined by CPUC (Decision 20-08-046);
3. analyze these results in a manner that informs electricity system and community resilience planning and investments beyond traditional benefit-cost paradigms—that is, the results should translate into a framework that can broadly inform the design, development, and selection of resilience and reliability measures; and
4. be relevant to ongoing regulatory, planning, technology, research, and valuation efforts related to energy resiliency and reliability, thus producing pertinent research products and communications in this rapidly-evolving area.

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. If an applicant submits multiple applications, each application must be for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work).

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

## Key Words/Terms

| **Word/Term** | **Definition** |
| --- | --- |
| Applicant | The entity that submits an application to this solicitation. |
| Application | An applicant’s written response to this solicitation. |
| Authorized Representative | *Authorized Representative*, the person signing the application form who has authority to enter into an agreement with the CEC.  |
| CAM | *Commission Agreement Manager,* the person designated by the CEC to oversee the performance of an agreement resulting from this solicitation and to serve as the main point of contact for the Recipient. |
| CAO | Commission Agreement Officer |
| CBO  | Community Based Organization. A public or private nonprofit organization of demonstrated effectiveness that:  Has an office in the region (e.g., air basin or county) and meets the demographic profile of the communities they serve.Has deployed projects and/or outreach efforts within the region (e.g., air basin or county) of the proposed disadvantaged or low-income community.Has an official mission and vision statements that expressly identifies serving disadvantaged and/or low-income communities.Currently employs staff member(s) who specialized in and are dedicated to – diversity, or equity, or inclusion, or is a 501(c)(3) non-profit.  |
| 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. |
| Days | *Days refers to calendar days.* |
| Disadvantaged Vulnerable Community (DVC) | As defined for CPUC R.18-04-019, a DVC consists of communities in the 25% highest scoring census tracts according to the most current versions of the California Communities Environmental Health Screening Tool (CalEnviroScreen; see https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40), as well as all California tribal lands, census tracts that score in the highest 5% of Pollution Burden within CalEnviroScreen, but do not receive an overall CalEnviroScreen score due to unreliable public health and socioeconomic data, and census tracts with median household incomes less than 60% of state median income. See <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M345/K697/345697117.PDF> for further details.  |
| Energy Equity | The fair distribution of benefits and burdens from energy production and consumption. |
| EPIC | *Electric Program Investment Charge,* the source of funding for the projects awarded under this solicitation. |
| IOU | *Investor-owned utility,* an electrical corporation as defined in in California Public Utilities Code section 218. For purposes of this EPIC solicitation, it includes Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. |
| 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. |
| PSPS | Public Safety Power Shutoffs (PSPS) are actions in which utilities temporarily turn off power in specific areas to reduce the risk of fires caused by electric infrastructure.  |
| 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 |

## Project Focus

Research supported by this solicitation will investigate the conditions and processes that shape community resilience and fragility with respect to weather-related widespread long-duration electric grid outages. It will focus on filling knowledge gaps facing electricity resilience planning by contributing to the development of methods and frameworks for recognizing, valuing, and achieving societal benefits—including economic, public health, and other benefits[[5]](#footnote-6)—of customer, community, and grid resilience investments. The desired result is not cost value estimates themselves, but instead developing a better understanding of factors contributing to energy vulnerability and resilience and a framework to help bring this understanding to bear on electricity resilience technology needs, investments, planning, and research (including value estimates developed in other efforts). Analysis should accommodate a variety of community and grid resilience measures. Outcomes should inform electricity system resilience planning relevant to both short-term (e.g., General Rate Case) and longer-term (20-30 years) adaptation timelines. The results will also contribute to California’s Fifth Climate Change Assessment.[[6]](#footnote-7)

This research should be based on empirical data collection, including analysis of recent weather-related events that have precipitated electricity power outages as a basis for understanding the types of impacts that could be seen and valued in the context of climate resilience investments by state and local governments. This should encompass, as relevant, consideration of the role of other energy outages (e.g., gas outages) that may coincide with electricity outages. Data collection should, where relevant, include assessment of investments and preparation improvements that have taken place after major outages. The approach should capture a wide variety of circumstances across communities, individuals, and environmental conditions. Characterization should reflect vulnerabilities across these different contexts, especially considering equity concerns and impacts in DVCs. Engagement with DVCs should incorporate efforts to identify strategies that strengthen the adaptive capacities of communities in situations such as extreme heat, fires, and power outages (complementing IOU obligations described in CPUC Decision 20-08-046 on climate adaptation in DVCs), and recognize that risks, capacities, cultures, and effective portfolios of solutions differ across communities and individuals.

Various methods may be used to collect data and develop analyses. For example, empirical data collection could combine data from existing sources and streams (e.g., mobile phone data) with new fieldwork (e.g., interviews and surveys). Creative approaches, especially those informed by a close coordination across social scientific and technological expertise, are encouraged. Surveys may be used, as noted, but they will not be considered sufficient as empirical analysis unless they clearly advance knowledge about resilience (versus, e.g., aggregate monetization). Applicants should defend the data collection method and interpretive approach, explaining how it contributes to understanding of electricity resilience, resilience measures, and associated planning.

Study design and communication of results should be tailored to inform electricity system technology needs, research, regulatory proceedings, as well as industry and community decision-making processes on electricity system resilience investments and their prioritization. These include assessment of technology options and other resilience measures, customization based on locational and demographic considerations, and assessments of distributional issues (e.g., specific population segments with elevated energy vulnerability, which parties are poised to undertake specific resilience measures, etc.).

**Successful applicants must demonstrate:**

* A clearly articulated and scientifically-justified approach to empirical data collection that advances knowledge toward improving future electricity resilience.
* Expertise in electric grid technologies and systems and consideration of social science insights relevant to energy resilience technology (e.g., from disaster research, sociology).
* How resilience and fragility in DVCs will be specifically considered, including any engagement with DVC communities and Community Based Organizations in DVCs.
* A skilled, well-resourced management team and plan to foster strong coordination between any different components of the proposed research (e.g., between a technology-oriented team and a social sciences team).
* The capacity to synchronize research with related research, planning, and tool development efforts (e.g., reliability efforts, CPUC Microgrids Rulemaking[[7]](#footnote-8) implementing the requirements of SB 1339, etc.) to the extent reasonable.

**Funded projects must, at a minimum:**

* Include empirical data collection that supports characterization of the social costs of power outages in California, especially widespread long-duration power outages associated with weather-related conditions, including analysis of how people, businesses, and other organizations cope with outages, emphasizing costs that are not currently priced by markets or regulatory frameworks.
* Analyze this data with respect to the range of measures for improved resilience and reliability, including electricity generation and storage technologies, improved functioning of electricity-dependent infrastructure and services, and other technical and social measures including community preparedness, considering both short-term and longer-term time scales.
* Analyze a broad spectrum of contexts, including across geography, populations, sectors, event characteristics (e.g., length and timing of outages), and criticality of load (e.g., critical, essential, and non-essential loads and refinements within these categories).
* Provide insights to CEC in a manner that is relevant to CPUC’s climate adaptation proceeding (CPUC Rulemaking 18-04-019); this could include, but is not limited to, organizing results in a framework or frameworks that are complementary to those used in that Rulemaking.

**Additionally, it is desirable that the funded research will:**

* Systematically consult potential users of research results, toward ensuring project outputs inform their applications and energy resilience going forward.

## Funding

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

There is **up to** **$1,200,000** available for grants awarded under this solicitation. The minimum funding amount is **$1,000,000**. The maximum funding amount is **$1,200,000.**

1. **Match Funding Requirement**

Match funding is required in the amount of at least **5% minimum** of the requested project funds.

For the definition of match funding see Section K.

1. **Change in Funding Amount**

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

* Increase or decrease the available funding and the minimum/maximum award amounts described in this section.
* Allocate any additional or unawarded funds to passing applications, in rank order.
* 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[[8]](#footnote-9)  |
| --- | --- | --- |
| Solicitation Release | 11/08/2022 |  |
| **Pre-Application Workshop** | **11/17/2022** | **10 a.m.** |
| **Deadline for Written Questions[[9]](#footnote-10)** | **11/30/2022** | **5:00 p.m.** |
| Anticipated Distribution of Questions and Answers  | Week of 12/12/2022 |  |
| **Deadline to Submit Applications** | **~~[1/11/2023]~~****January 31, 2023** | **11:59 p.m.** |
| Anticipated Notice of Proposed Award Posting Date | ~~[Week of 3/7/2023]~~**March 27, 2023** |  |
| Anticipated Energy Commission Business Meeting Date | ~~[5/10/2023]~~**June 14, 2023** |  |
| Anticipated Agreement Start Date | ~~[5/17/2023]~~ **June 15, 2023** |  |
| Anticipated Agreement End Date  | March 31, 2026 |  |

## Notice of Pre-Application Workshop

CEC staff will hold one Pre-Application Workshop to discuss the solicitation with potential applicants. Participation is optional but encouraged. The Pre-Application Workshop will be held remotely. 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:** November 17, 2022

**Zoom Instructions:**

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

**Meeting Link:** <https://energy.zoom.us/j/99603901864?pwd=aS9NL3FGOE9aeEJVUHdudWNSY1RSdz09>

**Meeting ID:** 996 0390 1864

**Meeting Password:** epic

**Topic:** GFO-22-302 Pre-Bid Workshop

**Telephone Access Only:**

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

**Access by Mobile Device:**

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

**Technical Support:**

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

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

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

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

* If you have a disability and require assistance to participate, please Erica Rodriguez by e-mail at Erica.Rodriguez@energy.ca.gov or (916) 654-4314 at least five days in advance.

## Questions

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

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.

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

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

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

1. **Applicants’ Admonishment**

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

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

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

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

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

This solicitation will award projects funded by the EPIC, an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.[[10]](#footnote-11) The purpose of the EPIC program is to benefit the ratepayers of three investor-owned utilities (IOUs), including Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co. The EPIC funds clean energy technology projects that promote greater electricity reliability, lower costs, and increased safety.[[11]](#footnote-12) 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.[[12]](#footnote-13) 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 (**“themes”** or **“strategic objectives”**) identified in CEC’s EPIC Investment Plans[[13]](#footnote-14) [[14]](#footnote-15) and within one or more specific focus areas (**“funding initiatives”**) identified in the plan. This solicitation targets the following program area, themes, and funding initiative:

**EPIC Interim Investment Plan 2021**

* **Program Area**: Applied Research and Development
* **Themes** as included in the EPIC Interim Investment Plan 2021:
	+ Resilience and Reliability;
	+ Equity.
* **Funding Initiative 6: Valuation of Investments in Electricity Sector Resilience**

**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[[15]](#footnote-16) - Global Warming Solutions Act of 2006**

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

Additional information: <https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32>

<https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm>

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

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

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

Additional information: <http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0001-0050/sb_32_bill_20160908_chaptered.htm>

<https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm>

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

SB 100 requires that 100 % of retail sales of electricity to California end-use customers and 100 % of electricity procured to serve all state agencies come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The bill requires the CPUC and the 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](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100%20)

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.

* **Microgrids Rulemaking**

The California Public Utilities Commission initiated a rulemaking to consider how to implement the requirements of SB 1339. As part of the rulemaking, a resiliency and microgrids working group was established.

Additional information: <https://www.cpuc.ca.gov/resiliencyandmicrogrids/>

<https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/resiliency-and-microgrids/resiliency-and-microgrids-events-and-materials>

<https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1339>

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

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

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

* **California’s Fifth Climate Change Assessment**

The state’s Fifth Climate Change Assessment will leverage diverse expertise throughout the state, the Fifth Assessment will contribute to the scientific foundation for understanding climate-related vulnerability throughout California. It will support on-the-ground implementation and decision-making at the local, regional, tribal, and state levels, focusing on the needs of communities most vulnerable to climate change impacts.

Additional information: https://opr.ca.gov/climate/icarp/climate-assessment/#fifth-assessment

* **Climate Change Research Plan for California**

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

Additional information:

<https://cawaterlibrary.net/wp-content/uploads/2017/10/CAT_research_plan_2015.pdf>

* **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

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

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* Baik, Sunhee, Nichole L. Hanus, Alan H. Sanstad, Joseph H. Eto, and Peter H. Larsen. 2021. A hybrid approach to estimating the economic value of enhanced power system resilience. February. Prepared for the U.S. Department of Energy. Lawrence Berkeley National Laboratory. Berkeley, CA.

<https://eta-publications.lbl.gov/sites/default/files/hybrid_paper_final_22feb2021.pdf>

* CAISO, CPUC, and CEC. 2021. *Root cause analysis: mid-August 20202 extreme heat wave*. <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>
* Casey, Joan A., Mihoka Fukurai, Diana Hernández, Satchit Balsari, and Mathew V. Kiang. 2020. “Power outages and community health: a narrative review.” *Current Environmental Health Reports* 7 (4): 371–83. <https://doi.org/10.1007/s40572-020-00295-0>.
* CEC, CPUC, and CAISO 2021. *Joint Agencies CAISO Balancing Authority Area electric reliability contingency plan.* August. <https://www.energy.ca.gov/sites/default/files/2021-11/August%202021%20Joint%20Agencies%20Contingency%20Plan_ADA.pdf>
* Clavin, Christopher, Avery D’Abreau, and Emily H. Walpole. 2020. *Resilience, adaptation, and sustainability plan assessment methodology: an annotated bibliography*. NIST Technical Note 2117. September. U.S. Department of Commerce. National Institute of Standards and Technology. Washington, DC.
* CPUC. 2020. “Microgrids and resiliency staff concept paper.” Attachment 2 in “Administrative law judge’s ruling requesting comment on the Track 2 Microgrid and Resiliency Strategies staff proposal, facilitating the commercialization of microgrids pursuant to senate Bill 1339 (Rulemaking 19-09-009). California Public Utilities Commission. San Francisco, CA. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M344/K038/344038386.PDF>
* Ellingwood, Bruce R., John W. van de Lindt, and Therese P. McAllister. 2019. “A fully integrated model of interdependent physical infrastructure and social systems.” *The Bridge* (Summer): pp. 43-51. <https://www.nae.edu/File.aspx?id=212260>
* Erne, David, Mark Kootstra, Tom Flynn, Christopher McLean, Angela Tanghetti, and Stephanie Bailey. 2022. *Final 2021 integrated energy policy report,* Volume II: Ensuring reliability in a changing climate. California Energy Commission. Publication Number: CEC-100- 2021-001-V2.
* Eyer, Jonathan and Adam Rose. 2019. “Mitigation and resilience tradeoffs in electricity outages”, in Larsen, Peter H., Alan H. Sanstad, Kristina H. LaCommare, and Joseph H. Eto, eds, *Frontiers in the economics of widespread, long-duration power interruptions: proceedings from an expert workshop.* Lawrence Berkeley National Laboratory. <https://eta-publications.lbl.gov/sites/default/files/long_duration_interruptions_workshop_proceedings.pdf>
* Fothergill, Alice, and Lori A. Peek. 2004. "Poverty and disasters in the United States: A review of recent sociological findings." *Natural Hazards* 32(1): 89-110.
* Frick, Natalie Mims, Juan Pablo Carvallo, and Lisa C. Schwartz. 2021. *Quantifying grid reliability and resilience impacts of energy efficiency: examples and opportunities*. December. Lawrence Berkeley National Laboratory. <https://eta-publications.lbl.gov/sites/default/files/ee_reliability_resilience_2021_12_03.pdf>
* Gill, Liz, Mark Kootstra, Elizabeth Huber, Brett Fooks, Chris McLean. 2021. *Midterm Reliability Analysis.* California Energy Commission. Publication Number: CEC-200-2021-009. <https://www.energy.ca.gov/publications/2021/midterm-reliability-analysis>
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* Grid Modernization Laboratory Consortium. 2020. *Grid modernization: metrics analysis (GMLC1.1) - reliability. Reference document. Vol 2.* April. PNNL-28566. Pacific Northwest National Laboratory. Richland, WA.
* Heidenstrøm, Nina, and Anders Rhiger Hansen. 2020. “Embodied competences in preparedness for blackouts: mixed methods insights from rural and urban Norwegian households.” *Energy Research & Social Science* 66 (August): 101498. <https://doi.org/10.1016/j.erss.2020.101498>
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* LaCommare, Kristina and Joseph H. Eto. LaCommare, Kristina Hamachi, Joseph H. Eto, Laurel N. Dunn, and Michael D. Sohn. 2018. “Improving the estimated cost of sustained power interruptions to electricity customers.” *Energy* 153 (June): 1038–47. <https://doi.org/10.1016/j.energy.2018.04.082>
* Moser, Susanne C. and Juliette Finzi Hart. 2018. *The adaptation blindspot:* teleconnected and cascading impacts of climate change on the electric grid and lifelines in Los Angeles. A report for California’s Fourth Climate Change Assessment. August. CCCA4-CEC-2018-008. <https://www.energy.ca.gov/sites/default/files/2019-11/Energy_CCCA4-CEC-2018-008_ADA.pdf>
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* [NIAC] National Infrastructure Advisory Council. 2018. *Surviving a catastrophic power outage: how to strengthen the capabilities of the nation.* December. Cybersecurity and Infrastructure Security Agency. <https://www.cisa.gov/sites/default/files/publications/NIAC%20Catastrophic%20Power%20Outage%20Study_FINAL.pdf>
* Rickerson, Wilson, Kiera Zitelman, and Kelsey Jones. 2022. *Valuing resilience for microgrids: challenges, innovative approaches, and state needs.* February. Washington, DC: NARUC and NASEO. <https://www.naseo.org/data/sites/1/documents/publications/NARUC_Resilience_for_Microgrids_INTERACTIVE_021122.pdf>
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* Tariq, Hisham, Chaminda Pathirage, and Terrence Fernando. 2021. “Measuring Community Disaster Resilience at Local Levels: An Adaptable Resilience Framework.” *International Journal of Disaster Risk Reduction* 62 (August): 102358. <https://doi.org/10.1016/j.ijdrr.2021.102358>.
1. **Match Funding**
* **“Match funds”** includes cash or in-kind (non-cash) contributions provided by the applicant, subcontractors, or other parties including pilot testing, demonstration, and/or deployment sites (e.g., test site staff services) that will be used in performance of the proposed project.

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

Definitions of “match funding” categories are listed below:

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

Examples of preferred match share:

* + - **“Travel”** refers to all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state, and travel to conferences. EPIC funds are limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage). Use of match funds for out-of-state travel is encouraged, as the CEC discourages and may not approve the use of its funds for such travel. If an applicant plans to travel to conferences, including registration fees, they must use match funds. Applicants shall adhere to travel restrictions of using state funds to travel to certain other states pursuant to AB 1887 (2016) and codified at California Government Code Section 11139.8. All applicants are encouraged to consider the Attorney General’s website https://oag.ca.gov/ab1887 for a current list of states subject to travel restrictions. Awarded Grants under this solicitation shall not contain travel paid for with Commission funds (applicants can instead use match funds) to the listed states unless the Commission approves in writing that the trip falls within one of the exceptions under the law.
		- **“Equipment” is** an item with a unit cost of at least $5,000 and a useful life of at least one year. **Purchasing equipment with match funding is encouraged** as there are no disposition requirements at the end of the agreement for such equipment. Typically, grant recipients may continue to use equipment purchased with CEC funds if the use is consistent with the intent of the original agreement.
		- **“Materials”** under Materials and Miscellaneous are items under the agreement that do not meet the definition of Equipment (unit cost of at least $5,000 and a useful life of at least one year). **Using match funds for purchasing items such as laptops, notebooks and/or personal tablets is encouraged, as Energy Commission funds for these purchases is not allowed.**
1. **Funds Spent in California**
* Only CEC reimbursable funds counts towards funds spent in California total.
* "Spent in California" means that:
	+ (1) Funds in the "Direct Labor category and all categories calculated based on direct labor (e.g., fringe benefits, indirect costs and profit) are paid to individuals that pay California state income taxes on wages received for work performed under the agreement. Payments made to out-of-state workers do not count as “funds spent in California.” However, funds spent by out-of-state workers in California (e.g., hotel and food) can count as “funds spent in California.”; AND
	+ (2) Business transactions (e.g., material and equipment purchases, leases, and rentals) are entered into with a business located in California.
	+ (3) Total should include any applicable subcontractors.
* Airline ticket purchases for out-of-state travel and payments made to out-of-state workers are not considered funds “spent in California.” However, funds spent by out-of-state workers in California (e.g. lodging) and airline travel originating and ending in California are considered funds “spent in California.” A business located in California means: 1) businesses registered with Secretary of State AND 2) transaction is with a location in California that is directly related to the grant project (e.g., direct purchase of material and equipment to be used in the grant) and results in the support of California business and jobs.
	+ Example 1: Grant funds will be spent on temperature sensors.  The temperature sensors are manufactured in Texas. The recipient orders the temperature sensors directly from a CA based supply house.  The invoice shows that the transaction occurred with the CA based supply house. This transaction is eligible and can be counted as funds spent in CA.
	+ Example 2: Grant funds will be spent on temperature sensors. The temperature sensors are manufactured in Texas. The recipient orders the temperature sensors directly from Texas.  The manufacturer has training centers in CA that instructs purchasers on how to use the sensors. The invoice shows that the transaction occurred in Texas. This transaction is not eligible and cannot be counted as funds spent in CA.

# II. Eligibility Requirements

## Applicant Requirements

1. **Eligibility**

This solicitation is open to all public and private entities with the exception of local publicly owned electric utilities.[[16]](#footnote-17) In accordance with CPUC Decision 12-05-037, funds administered by the CEC may not be used for any purposes associated with local publicly owned electric utility activities.

1. **Terms and Conditions**

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

1. **California Secretary of State Registration**

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

## Project Requirements

1. **Applied Research and Development Stage**

Projects must fall within the “applied research and development” stage, which includes activities that support pre-commercial technologies and approaches that are designed to solve specific problems in the electricity sector. Applied research and development activities include early, pilot-scale testing activities that are necessary to demonstrate the feasibility of pre-commercial technologies. By contrast, the “technology demonstration and deployment” stage involves the installation and operation of pre-commercial technologies or strategies at a scale sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable appraisal of the operational and performance characteristics and the financial risks.**[[17]](#footnote-18)**

1. **Ratepayer Benefits, Technological Advancements, and Breakthroughs**

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

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

The CPUC defines “ratepayer benefits” as greater reliability, lower costs, and increased safety.**[[18]](#footnote-19)** The CPUC has also adopted the following guiding principles as complements to the key principle of electricity ratepayer benefits: societal benefits; GHG emissions mitigation and adaptation in the electricity sector at the lowest possible cost; the loading order; low-emission vehicles/transportation; economic development; and efficient use of ratepayer monies.**[[19]](#footnote-20)**

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 increasing reliability, lowering costs, and/or increasing safety; and (2) lead to technological advancement and breakthroughs to overcome barriers to achieving the state’s statutory energy goals. Any estimates of energy and water savings or GHG impacts must be calculated using the References for Calculating Electricity End-Use, Electricity Demand, and GHG Emissions (Attachment.

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

## Method For Delivery

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

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

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

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

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

## Application Content

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

1. Application Form (Attachment 1)

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

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

1. Executive Summary Form (Attachment 2)

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

1. Project Narrative Form (Attachment 3)

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

1. Project Team Form (Attachment 4)

Identify by name all key personnel[[20]](#footnote-21) assigned to the project, including the project manager and principal investigator (if applicable), and individuals employed by any major subcontractor (a major subcontractor is a subcontractor receiving at least 25% of Commission funds or $100,000, whichever is less). Clearly describe their individual areas of responsibility. Include the information required for each individual, including a resume (maximum two pages, printed double-sided).

1. Scope of Work Template (Attachments 5)

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

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

1. Project Schedule (Attachment 6)

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

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

1. Budget Forms (Attachment 7)

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

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

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

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

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

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

or,

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

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

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

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

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

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

1. Commitment and Support Letter Form (Attachment 10)

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

* + 1. Commitment Letters

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

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

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

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

1. Project Performance Metrics (Attachment 11)

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

1. Applicant Declaration (Attachment 12)

This form requests the applicant declare that they: are not delinquent on taxes nor suspended by the California Franchise Tax Board; are not 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.

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.

# IV. Evaluation and Award Process

## Application Evaluation

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

1. **Stage One: Application Screening**

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

1. **Stage Two: Application Scoring**

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

* The scores for each application will be the average of the combined scores of all Evaluation Committee members.
* Clarification Interviews: The Evaluation Committee may conduct optional telephone interviews with applicants during the evaluation process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.
* **A minimum score of 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.
* The application contains confidential information or identifies any portion of the application as confidential.

## Miscellaneous

1. **Solicitation Cancellation and Amendment**

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

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

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

1. **Modification or Withdrawal of Application**

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

1. **Confidentiality**

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

1. **Solicitation Errors**

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

1. **Immaterial Defect**

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

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

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

## Stage One: Application Screening

| **Screening Criteria** *The Application must pass ALL criteria to progress to Stage Two.* | **Pass/Fail** |
| --- | --- |
| 1. The application is received by the CEC’s Contracts, Grants, and Loans Office by the due date and time specified in the “Key Activities Schedule” in Part I of this solicitation and is received in the required manner (e.g., no emails or faxes).
 | [ ]  Pass [ ]  Fail |
| 1. The application Form (Attachment 1) is signed where indicated.
 | [ ]  Pass [ ]  Fail |
| 1. The Applicant Declaration Form (Attachment 12) is signed where indicated.
 | [ ]  Pass [ ]  Fail |

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.

## 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. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy End-Use and GHG Emissions (Attachment), to the extent that the references apply to the proposed project. |

| **Scoring Criteria** | **Maximum Points** |
| --- | --- |
| 1. **Technical Merit**
2. The proposed project provides a clear and concise description of the technological, scientific knowledge advancement, and/or innovation that will overcome barriers to achieving the State’s statutory energy goals.
3. Describe how the proposed model/tool/study will be used by key stakeholders (e.g., policy-makers, project developers, other researchers, etc.).
4. Describes the advantage of the proposed model/tool/study over that currently being used by key stakeholders.
 | **15** |
| 1. **Technical Approach**
2. Proposal describes the technique, approach, and methods to be used in performing the work described in the Scope of Work.
3. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative.
4. Proposal identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded.
5. Identifies and discusses factors critical for success, in addition to risks, barriers, and limitations (e.g., loss of demonstration site, key subcontractor). Provides a plan to address them.
6. Discusses the degree to which the proposed work is technically feasible and achievable within the proposed Project Schedule and the key activities schedule in Section I.E.
7. Describes the knowledge transfer plan, including how key stakeholders and potential users will be engaged, and the plan to disseminate knowledge of the project’s results to those stakeholders and users.
 | **25** |
| 1. **Impacts and Benefits for California IOU Ratepayers**
2. Explains how the proposed project will benefit California Investor-Owned Utility (IOU) ratepayers and provides clear, plausible, and justifiable (quantitative preferred) potential benefits. Estimates the energy benefits including:
	* annual electricity (EPIC) and thermal savings (PIER NG) (kilowatt-hour), energy cost reductions, peak load reduction and/or shifting, infrastructure resiliency, infrastructure reliability.

**In addition, estimates the non-energy benefits including:** * greenhouse gas emission reductions, air emission reductions (e.g., NOx), water savings and cost reduction, and/or increased safety.
1. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe.
2. Identifies how outputs of the study will benefit key stakeholders (e.g., streamline planning, help eliminate barriers, stimulate growth of applicable market sectors).
 | **20** |
| 1. **Team Qualifications, Capabilities, and Resources**

Evaluations of ongoing or previous projects including project performance by applicant and team members will be used in scoring for this criterion. This can include contacting references.1. Identifies credentials of prime and any subcontractor key personnel, including the project manager, principal investigator and technology and knowledge transfer lead *(include this information in the Project Team Form).*
2. Demonstrates that the project team has appropriate qualifications, experience, financial stability, and capability to complete the project.
3. Explains the team structure and how various tasks will be managed and coordinated.
4. Describes the facilities, infrastructure, and resources available that directly support the project.
5. Describes the team’s history of successfully completing projects in the past 10 years including subsequent deployments and commercialization.
 | **15** |
| **Total Possible Points for criteria 1− 4****(Minimum Passing Score for criteria 1− 4 is 70% or 52.50)** | **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** |
| **7. 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** |
| **Total Possible Points** | **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**
	1. 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 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]~~ 5** |

1. The approved *Electric Program Investment Charge Interim Investment Plan 2021* is available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=236882> . [↑](#footnote-ref-2)
2. Please see <https://www.energy.ca.gov/event/workshop/2021-11/staff-workshop-regarding-research-valuation-investments-electricity-sector>. [↑](#footnote-ref-3)
3. The concept of Disadvantaged Vulnerable Communities (DVC) outlined by CPUC recognizes climate vulnerability as a matter of both exposure to climate-driven impacts and socioeconomic characteristics; see Decision 20-08-046 [(https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M346/K285/346285534.PDF).](https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M346/K285/346285534.PDF) [↑](#footnote-ref-4)
4. For a description of ReNCAT, see <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resiliency-and-microgrids/resiliency-and-microgrids-events-and-materials/rencat050722track5slidedeckfinal.pdf>. [↑](#footnote-ref-5)
5. In addition to the primary guiding principle that EPIC shall provide electricity ratepayer benefits, defined as promoting greater reliability, lower costs, and increased safety, CPUC Decision D. 12-05-037 includes societal benefits and economic development among a set of complementary guiding principles for EPIC. Also, Decision 12-05-037 finds that applied research and development should include activities that address environmental and public health impacts of electricity-related activities among other topics. [↑](#footnote-ref-6)
6. For more information on California’s Fifth Climate Change Assessment, see [Climate Assessment, Science, and Research - Office of Planning and Research (ca.gov)](https://opr.ca.gov/climate/icarp/climate-assessment/). [↑](#footnote-ref-7)
7. See https://www.cpuc.ca.gov/resiliencyandmicrogrids/?msclkid=d2136446d13511ec88811942dfd849e0 [↑](#footnote-ref-8)
8. Pacific Standard Time or Pacific Daylight Time, whichever is being observed. [↑](#footnote-ref-9)
9. This deadline does not apply to non-technical questions (e.g., questions concerning application format requirements or attachment instructions) or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the Commission Agreement Officer listed in Section G at any time prior to the application deadline. Please see Section G for additional information. [↑](#footnote-ref-10)
10. 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-11)
11. See CPUC “Phase 2” Decision 12-05-037, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/167664.PDF. [↑](#footnote-ref-12)
12. 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-13)
13. *Electric Program Investment Charge Interim Investment Plan 2021*, <https://efiling.energy.ca.gov/GetDocument.aspx?tn=236882> [↑](#footnote-ref-14)
14. 2021-2025 EPIC 4 Investment Plan, <https://efiling.energy.ca.gov/GetDocument.aspx?tn=240609>, as modified and approved by CPUC Decision D.22-06-004, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M482/K684/482684526.PDF>. [↑](#footnote-ref-15)
15. AB 32 (Statutes of 2006, chapter 488) [↑](#footnote-ref-16)
16. A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3. [↑](#footnote-ref-17)
17. 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-18)
18. *Id.* at p. 19. [↑](#footnote-ref-19)
19. *Id.* at pp. 19-20. [↑](#footnote-ref-20)
20. “Key personnel” are individuals that are critical to the project due to their experience, knowledge, and/or capabilities. [↑](#footnote-ref-21)