

GRANT FUNDING OPPORTUNITY

Developing non-Lithium Ion Energy Storage Technologies to Support California's Clean Energy Goals



GFO-19-305

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

State of California

California Energy Commission

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Table of Contents

I.	INTRODUCTION	1
A.	PURPOSE OF SOLICITATION	1
B.	KEY WORDS/TERMS	2
C.	APPLICANTS' ADMONISHMENT	4
D.	ADDITIONAL REQUIREMENTS	4
E.	BACKGROUND	5
F.	FUNDING	10
G.	KEY ACTIVITIES SCHEDULE	13
H.	NOTICE OF PRE-APPLICATION WORKSHOP	14
I.	QUESTIONS	15
II.	ELIGIBILITY REQUIREMENTS	16
A.	APPLICANT REQUIREMENTS	16
B.	PROJECT REQUIREMENTS	17
III.	APPLICATION ORGANIZATION AND SUBMISSION INSTRUCTIONS	23
A.	APPLICATION FORMAT, PAGE LIMITS, AND NUMBER OF COPIES	23
B.	PREFERRED METHOD FOR DELIVERY	24
C.	HARD COPY DELIVERY	24
D.	APPLICATION ORGANIZATION AND CONTENT	25
IV.	EVALUATION AND AWARD PROCESS	31
A.	APPLICATION EVALUATION	31
B.	RANKING, NOTICE OF PROPOSED AWARD, AND AGREEMENT DEVELOPMENT	31
C.	GROUND TO REJECT AN APPLICATION OR CANCEL AN AWARD	32
D.	MISCELLANEOUS	33
E.	STAGE ONE: APPLICATION SCREENING	34
F.	STAGE TWO: APPLICATION SCORING	36

ATTACHMENTS

Attachment Number	Title
1	Application Form <i>(requires signature)</i>
2	Executive Summary Form
3	Fact Sheet Template
4	Project Narrative Form
5	Project Team Form
6	Scope of Work Template
6a	Scope of Work Template: Project Schedule <i>(Excel spreadsheet)</i>
7	Budget Forms <i>(Excel spreadsheet)</i>
8	CEQA Compliance Form <i>(requires signature)</i>
9	Reference and Work Product Form
10	Contact List Template
11	Commitment and Support Letter Form <i>(letters require signature)</i>
12	Applicant Declaration <i>(requires signature)</i>
13	References for Calculating Energy End-Use and GHG Emissions
14	Special Terms and Conditions for Native American Tribes and Tribal Corporations with Sovereign Immunity

I. Introduction

A. PURPOSE OF SOLICITATION

The purpose of this solicitation is to fund innovative energy storage research projects that meet the following objectives:

SB-350 (de León, Chapter 547, Statutes of 2015) and SB-100 (de León, Chapter 312, Statutes of 2018) cannot be met with currently fielded technologies alone, because they do not have the energy density, daily cycle capability, longevity, safety, and price to be viable for the diverse set of applications that will be needed in the State. SB-1369 (Skinner, Chapter 567, Statutes of 2018) identifies the need for the Energy Commission to “consider green electrolytic hydrogen an eligible form of energy storage, and shall consider other potential uses of green electrolytic hydrogen.”

The timing is right for supporting emerging technologies that can out-perform existing energy storage technologies because a substantial amount of the energy storage in California was installed in the last few years and will need to be upgraded or replaced in the next 7-15 years. Additionally, as the State makes changes to the electric grid to accommodate higher levels of renewables and a carbon free future by 2045, the need for cost effective and high performing energy storage solutions are expected to increase and be diversified. This means that developing new and emerging technologies now will enable them to be positioned for substantial upcoming market opportunities.

This solicitation aims to fund the development and field testing of emerging energy storage technologies for the purpose of raising the Technology Readiness Level (TRL) and accelerating market penetration.

- **Group 1:** Develop and validate new and emerging non-Lithium ion energy storage technologies that focus on customer side of the meter applications.

This group will focus on supporting energy storage technologies that are in the early stages of development. Group 1 will support the development and field testing of emerging and prototype energy storage systems.

- **Group 2:** Develop and validate green electrolytic hydrogen storage systems in customer side of the meter applications with an electricity-in and electricity-out capability.

This group will focus specifically on green electrolytic hydrogen systems. Group 2 will be open to Applied Research applications of green electrolytic hydrogen as a stationary energy storage system that is comparable in performance to other stationary energy storage systems (like advanced batteries, flywheels, thermal storage, and compressed air systems). The hydrogen systems must demonstrate an electricity-in and electricity-out solution in customer side of the meter applications (not just generate electrolytic hydrogen). Additional services (such as heat, oxygen, compressed air or other non-electricity products) can be proposed as long as they have value to the customer and the primary input and output is electricity and the overall system is projected to be cost effective when it reaches the scale necessary for future commercialization.

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

B. KEY WORDS/TERMS

Word/Term	Definition
Applicant	The entity that submits an application to this solicitation
Application	An applicant's written response to this solicitation
CAM	<i>Commission Agreement Manager</i> , the person designated by the Energy Commission 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
CEQA	California Environmental Quality Act, California Public Resources Code Section 21000 et seq.
Days	<i>Days refers to calendar days</i>
Disadvantaged Community	These are communities defined as areas representing census tracts scoring in the top 25 % in <i>CalEnviroScreen 3.0</i> . (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30)
Green electrolytic hydrogen	As defined in SB-1369 (Skinner, Chapter 567, Statutes of 2018): "green electrolytic hydrogen" means hydrogen gas produced through electrolysis and does not include hydrogen gas manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock.
EPIC	<i>Electric Program Investment Charge</i> , the source of funding for the projects awarded under this solicitation
California Energy Commission (CEC)	State Energy Resources Conservation and Development Commission or as commonly called, the California Energy Commission
IOU	<i>Investor-owned utility</i> , 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.
NOPA	<i>Notice of Proposed Award</i> , a public notice by the Energy Commission that identifies award recipients
Pre-Commercial	<i>Pre-commercial Technology</i> means a technology that has not reached commercial maturity or been deployed at scales sufficiently large and in conditions sufficiently reflective of anticipated actual

Word/Term	Definition
	operating environments to enable the appraisal of operational and performance characteristics, or of financial risks.
Pilot Test	<i>Pilot test</i> means small scale testing in the laboratory or testing on a small portion of the production line of the affected industry. Pilot tests help to verify the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations
Principal Investigator	The technical lead for the applicant's project, who is responsible for overseeing the project; in some instances, the Principal Investigator and Project Manager may be the same person
Project Manager	The person designated by the applicant to oversee the project and to serve as the main point of contact for the Energy Commission
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 Energy Commission funds
Recipient	An entity receiving an award under this solicitation
Solicitation	This entire document, including all attachments, exhibits, any addendum and written notices, and questions and answers ("solicitation" may be used interchangeably with "Grant Funding Opportunity")
State	State of California
TRL	Technology Readiness Level

C. 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: <https://www.energy.ca.gov/funding-opportunities/funding-resources>.

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.

D. ADDITIONAL REQUIREMENTS

1. Time is of the essence. Funds available under this solicitation have encumbrance deadlines as early as June 30, 2020. This means that the Energy Commission must approve proposed awards at a business meeting (usually held monthly) no later than June 10, 2020 in order to avoid expiration of the funds. Prior to approval and encumbrance, the Energy Commission 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. Due to the encumbrance deadline for applicable funding, the status of lead agency CEQA approval for the proposed project, if any, must be included with the application and all final CEQA approval documents must be received in time to make the schedule for the June 2020 Business Meeting. Applications with energy storage technologies that (1) fall under a statutory or categorical CEQA exemption, or (2) are already approved, or (3) can be easily approved, by any applicable lead agency are highly encouraged and will be scored accordingly.
2. 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 Energy Commission 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 Energy Commission 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 Energy Commission'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 Energy Commission'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 Energy Commission'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 Energy Commission 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.

E. BACKGROUND

1. Electric Program Investment Charge (EPIC) Program

This solicitation will award projects funded by the EPIC, an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in December 2011.¹ 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.² In addition to providing IOU ratepayer

¹ See CPUC "Phase 1" Decision 11-12-035, December 15, 2011, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/156050.PDF.

² See CPUC "Phase 2" Decision 12-05-037, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF.

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.³ The EPIC program is administered by the California Energy Commission and the IOUs.

2. Program Areas, Strategic Objectives, and Funding Initiatives

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

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

In addition, projects must fall within one of the general focus areas ("**strategic objectives**") identified in the Energy Commission's EPIC Investment Plans^{4 5} and within one or more specific focus areas ("**funding initiatives**") identified in the plan. This solicitation targets the following program area(s), strategic objective(s), and funding initiative(s):

2018 - 2020 EPIC Investment Plan

- **Program Area:** Applied Research
 - **Strategic Objective S2** (See below)
 - Funding Initiative S2.3: Define and Improve the Customer's Business Proposition of Integrated Distributed Storage

3. Applicable Laws, Policies, and Background Documents

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

Laws/Regulations

- **Senate Bill (SB) 350 (De Leon) - Clean Energy and Pollution Reduction Act of 2015**

SB 350 requires the following: 1) the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased; 2) the California Energy Commission to establish annual targets for statewide energy efficiency savings in electricity and natural gas final end uses of retail customers; and

³ California Public Resources Code, Section 25711.5(a), https://california.public.law/codes/ca_pub_res_code_section_25711.5

⁴ 2012-14 EPIC Triennial Investment Plan, http://www.energy.ca.gov/research/epic/documents/final_documents_submitted_to_CPUC/2012-11-01_EPIC_Application_to_CPUC.pdf (Attachment 1), as modified and approved by CPUC Decision 13-11-025, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M081/K773/81773445.PDF>.

⁵ 2015-17 EPIC Triennial Investment Plan, <http://www.energy.ca.gov/2014publications/CEC-500-2014-038/CEC-500-2014-038-CMF.pdf>, as modified and approved by CPUC Decision 15-04-020, <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M151/K183/151183650.PDF>.

3) provide for transformation of the Independent System Operator into a regional organization.

Additional information: http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0301-0350/sb_350_bill_20151007_chaptered.htm

- **Senate Bill (SB) 100 (De León) - California Renewables Portfolio Standard Program: emissions of greenhouse gases.**

SB 100 established the State policy that renewable energy and zero-carbon resources supply 100 percent of California's electricity by 2045. The bill also increased the Renewables Portfolio Standard to 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030.

Additional information:

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100

- **Senate Bill (AB) 32 (Pavley) – Global Warming Solutions Act of 2016: emissions limit**

The California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code) requires the State Air Resources Board to reduce statewide emissions of greenhouse gases to at least the 1990 emissions level by 2020 and to maintain and continue reductions thereafter.

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

- **AB 2514 (Skinner) ⁶ - Energy Storage Systems**

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

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

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

- **AB 2868 (Gatto) – Energy Storage**

AB 2868 requires the CPUC, in consultation with the State Air Resources Board and the Energy Commission, to direct the State's 3 largest electrical corporations to file applications for programs and investments to accelerate widespread deployment of distributed energy storage systems.

Additional information:

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB2868

⁶ AB 2514 (Statutes of 2010, chapter 469).

- **SB-1369 (Skinner, Chapter 567, Statutes of 2018) - Energy: green electrolytic hydrogen**

SB-1369 requires the Energy Commission consider green electrolytic hydrogen an eligible form of energy storage, and shall consider other potential uses of green electrolytic hydrogen.

- **California Energy Code**

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

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

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

Policies/Plans

- **Governor's Clean Energy Jobs Plan (2011)**

In June 2011, Governor Jerry Brown announced a plan to invest in clean energy and increase efficiency. The plan includes a goal of producing 20,000 megawatts (MW) of renewable electricity by 2020 by taking the following actions: addressing peak energy needs, developing energy storage, creating efficiency standards for buildings and appliances, and developing combined heat and power (CHP) projects. Specific goals include building 8,000 MW of large-scale renewable and transmission lines, 12,000 MW of localized energy, and 6,500 MW of CHP.

Additional information, on page 2 of the Integrated Energy Policy Report 2011: <https://www2.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-CMF.pdf>

- **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. The 2015 IEPR included a multi-agency hearing on drought response and provided recommendations for future research and analysis areas.

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

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

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

The Decision establishes policies and mechanisms for energy storage procurement, as required by AB 2514 (described above). The IOU procurement target is 1,325

megawatts of energy storage by 2020, with installations required no later than the end of 2024.

Additional information:

[http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/about_us/organization/former_commissioners/peevey\(1\)/news_and_announcements/ferron_peevey_concurrence_stored1310040.pdf](http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/about_us/organization/former_commissioners/peevey(1)/news_and_announcements/ferron_peevey_concurrence_stored1310040.pdf)

- **New Residential Zero Net Energy Action Plan 2015-2020**

The Residential New Construction Zero Net Energy Action Plan supports the California Energy Efficiency Strategic Plan's goal to have 100 % of new homes achieve zero net energy beginning in 2020. The action plan provides a foundation for the development of a robust and self-sustaining zero net energy market for new homes.

Additional information: <http://www.californiaznehomes.com/>

- **California's Existing Buildings Energy Efficiency Action Plan**

The Existing Buildings Energy Efficiency Action Plan provides a 10-year roadmap to activate market forces and transform California's existing residential, commercial, and public building stock into high performing and energy efficient buildings. The Plan provides a comprehensive framework centered on five goals, each with an objective and a series of strategies to achieve it. Each strategy includes industry and/or government implementation partners. Water related items are addressed in several of the strategies from the Existing Buildings Energy Efficiency Action Plan including but not limited to strategies 1.5, 2.2, 4.1, and 5.7 from the plan.

Additional Information:

http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806_20150310T093903_California%E2%80%99s_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf

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

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

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

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

Reference Documents

Refer to the link below for information about past Energy Commission research projects and activities:

- Energy Commission R&D website: <http://www.energy.ca.gov/research/>
- Innovation showcase of EPIC funded projects: <http://innovation.energy.ca.gov/SearchHome.aspx?ti=636313946224224328>

- EPIC 2018-2020 Triennial Investment Plan:
<https://efiling.energy.ca.gov/getdocument.aspx?tn=217347>

F. FUNDING

1. Amount Available and Minimum/ Maximum Funding Amounts

There is **up to \$11,000,000** available for grants awarded under this solicitation. The total, minimum, and maximum funding amounts for each project group are listed below.

Project Group	Available funding	Minimum award amount	Maximum award amount	Minimum match funding amount (% of EPIC Funds Requested)
Group 1: Develop and validate non-Lithium energy storage technologies for customer side of the meter applications.	\$9,000,000	\$300,000	\$2,000,000	Not Required. Extra credit score for Match share up to 100 percent.
Group 2: Develop and validate green electrolytic hydrogen systems for customer side of the meter applications.	\$2,000,000	\$500,000	\$2,000,000	Not Required. Extra credit score for Match share up to 100 percent.

2. Funding Requirements in California

Projects under this solicitation must spend 60 percent or more of EPIC funds in California.

“Spend or spent in California” means that: (1) Funds under the “Direct Labor” category and all categories calculated based on direct labor (Prime and Subcontractor Labor Rates) are paid to individuals who pay California State income taxes on wages received for work performed under the agreement; and/or (2) Business transactions (e.g., material and equipment purchases, leases, rentals, and contractual work) are entered into with a business located in California.

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., hotel and food) and airline travel originating and ending in California are considered funds “spent in California.”

3. Match Funding Requirement

Match funding is not required for this solicitation. However; applications that include Match funding may receive additional points during the scoring phase.

- **“Match funds”** include the following if used for project expenses: (1) “cash in hand” funds; (2) equipment; (3) materials; (4) information technology services; (5) travel; (6) subcontractor costs; (7) contractor/project partner in-kind labor costs; and (8) “advanced practice” costs. Match funding sources include the prime contractor, subcontractors, and pilot testing/demonstration/deployment sites (e.g., test site staff services).

“Match funds” do not include: Energy Commission 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 in hand” Funds** means funds that are in the recipient’s possession 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 in hand” funds 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 in hand funds will be considered more favorably than other types of match funding during the scoring phase.
- **“Equipment”** means an item with a unit cost of at least \$5,000 and a useful life of at least one year. **Purchasing equipment with match funding is encouraged** because there are no disposition requirements at the end of the agreement for such equipment. Typically, grant recipients may continue to use equipment purchased with Energy Commission funds if the use is consistent with the intent of the original agreement.
- **“Materials”** means tangible project items that cost less than \$5,000 and have a useful life of less than one year.
- **“Information Technology Services”** means the design, development, application, implementation, support, and management of computer-based information systems directly related to the tasks in the Scope of Work. All information technology services in this area must comply with the electronic file format requirements in Subtask 1.1 (Products) of the Scope of Work.
- **“Travel”** means all travel required to complete the tasks identified in the Scope of Work. Travel includes in-state and out-of-state travel, and travel to conferences. EPIC funds should be limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage). Use of match funds for out-of-State travel is encouraged, because the Energy Commission might not approve the use of its funds for such travel. If an applicant plans to travel to conferences, including registration fees, they must use match funds. Applicants should be aware of, and adhere to, specific travel restrictions when using State funds for travel to other States pursuant to AB 1887 (2016) and codified at California Government Code Section 11139.8. All applicants are encouraged to go to the Attorney General’s website <https://oag.ca.gov/ab1887> for a current list of States subject to travel restrictions. Grants awarded under

this solicitation shall not contain travel paid for with Commission funds (applicants can instead use match funds) to the listed States unless the Commission approves in writing that the trip falls within one of the exceptions under the law.

- **“Subcontractor Costs”** means all costs incurred by subcontractors for the project, including labor and non-labor costs.
- **“Contractor/Project Partner In-Kind Labor Costs”** means contractor or project partner labor costs that are not charged to the Energy Commission.
- **“Advanced Practice’ Costs”** means costs not charged to the Energy Commission that represent the incremental cost difference between standard and advanced practices, measures, and products used to implement the proposed project. For example, if the cost of purchasing and/or installing insulation that meets the applicable building energy efficiency standard is \$1/square foot and the cost of more advanced, energy efficient insulation is \$3/square foot, the Recipient may count up to \$2/square foot as match funds.
- Match funds may be spent only during the agreement term, either before or concurrently with EPIC funds. Match funds also must be reported in invoices submitted to the Energy Commission.
- All applicants providing match funds must submit commitment letters 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 Commitment and Support Letter Form (Attachment 11). Commitment and support letters must be submitted with the application to be considered.

4. Change in Funding Amount

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

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

G. 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 ⁷
Solicitation Release	December 19, 2019	
Pre-Application Workshop	January 07, 2020	1:30 p.m.
Deadline for Written Questions⁸	January 09, 2020	5:00 p.m.
Anticipated Distribution of Questions and Answers	Week of January 13, 2020	
Deadline to Submit Applications	February 4, 2020	5:00 p.m.
Anticipated Notice of Proposed Award Posting Date	Week of March 2, 2020	
Anticipated Energy Commission Business Meeting Date	June 10, 2020	
Anticipated Agreement Start Date	June 30, 2020	
Anticipated Agreement End Date	December 31, 2023	

⁷ Pacific Standard Time or Pacific Daylight Time, whichever is being observed.

⁸ This deadline does not apply to non-technical questions (e.g., questions concerning application format requirements or attachment instructions) or to questions that address an ambiguity, conflict, discrepancy, omission, or other error in the solicitation. Such questions may be submitted to the Commission Agreement Officer listed in Section H at any time prior to the application deadline. Please see Section H for additional information.

H. NOTICE OF PRE-APPLICATION WORKSHOP

Energy Commission staff will hold one Pre-Application Workshop to discuss the solicitation with potential applicants. Participation is optional but encouraged. Applicants may attend the workshop in-person, via the internet (WebEx, see instructions below), or via conference call on the date and at the time and location listed below. Please call (916) 654-4381 or refer to the Energy Commission's website at www.energy.ca.gov/contracts/index.html to confirm the date and time.

Date and time: January 07, 2020, 1:30 pm

Location: California Energy Commission
1516 9th Street
Sacramento, CA 95814
1st Floor, Arthur Rosenfeld Hearing Room
Wheelchair Accessible

WebEx Instructions:

- To join the WebEx meeting, go to <https://energy.webex.com> and enter the meeting number and password below:
Meeting Number: 926 282 645
Meeting Password: workshop@cec2020
Topic: GFO-19-305 Pre-Application Workshop
- To Logon with a Direct Phone Number: After logging into WebEx, a prompt will appear on-screen for a phone number. In the "Number" box, enter your area code and phone number and click "OK" to receive a call for the audio of the meeting. International callers may use the "Country/Region" button to help make their connection.
- To Logon with an Extension Phone Number: After you login, a prompt will ask for your phone number. Select "CANCEL." Call **1-866-469-3239** (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and the unique Attendee ID number listed in the top left area of the screen after login. International callers may dial in using the "Show all global call-in numbers" link (also in the top left area).

Telephone Access Only:

Call **1-866-469-3239** (toll-free in the U.S. and Canada). When prompted, enter the meeting number above.

Technical Support:

- For assistance with problems or questions about joining or attending the meeting, please call WebEx Technical Support at **1-866-229-3239**.
- System Requirements: To determine whether your computer is compatible, visit: <http://support.webex.com/support/system-requirements.html>.
- Meeting Preparation: The playback of UCF (Universal Communications Format) rich media files requires appropriate players. Please determine whether the players are installed on your computer by visiting: <https://energy.webex.com/energy/systemdiagnosis.php>.

- 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.

I. QUESTIONS

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

Angela Hockaday, Commission Agreement Officer
California Energy Commission
1516 Ninth Street, MS-18
Sacramento, California 95814
Telephone: (916) 654-5186
FAX: (916) 654-4423
E-mail: Angela.Hockaday@energy.ca.gov

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

A question and answer document will be e-mailed to all parties who attended the Pre-Application Workshop and provided their contact information on the sign-in sheet. The questions and answers will also be posted on the Commission's website at: <https://www.energy.ca.gov/funding-opportunities/solicitations>.

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

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

II. Eligibility Requirements

A. APPLICANT REQUIREMENTS

1. Eligibility

This solicitation is open to all entities and individuals with the exception of local publicly owned electric utilities⁹. Additionally, the energy storage technology provider must meet the TRL technical limits in the range of TRL 4-5 and not based on Lithium-Ion (Li) technology. In accordance with CPUC Decision 12-05-037, funds administered by the Energy Commission may not be used for any purposes associated with local publicly owned electric utility activities. The energy storage technology limits in this Grant Funding Opportunity are based on the large existing investments the State of California and the California Energy Commission have already placed in Li based technology solutions.

2. 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 Energy Commission to conduct the proposed project according to the terms and conditions that correspond to its organization, without negotiation: (1) University of California and California State University terms and conditions; (2) U.S. Department of Energy terms and conditions; (3) special terms and conditions for Native American Tribes and tribal corporations; and (4) standard terms and conditions. All terms and conditions are located at <http://www.energy.ca.gov/research/contractors.html>, with the exception of special terms and conditions for Native American tribes and tribal corporations, which are attached to this agreement as Attachment 14. 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 Energy Commission reserves the right to modify the terms and conditions prior to executing grant agreements.

If a Native American tribe or Tribal Corporation with sovereign immunity is proposed as an awardee under this solicitation, the tribe must, prior to agreement execution, pass a resolution agreeing to accept the terms and conditions and delegating authority to execute the agreement to an appropriate individual (see Attachment 14).

3. 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 Energy Commission 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

⁹ A local publicly owned electric utility is an entity as defined in California Public Utilities Code section 224.3.

business name must be registered with the appropriate county and provide evidence of registration to the Energy Commission prior to their project being recommended for approval at an Energy Commission Business Meeting.

4. Disadvantaged Communities

In 2017, the Legislature passed Assembly Bill 523 (Reyes) directing that at least 25% of available Electric Program Investment Charge (EPIC) technology demonstration and deployment at sites located in, and benefiting, disadvantaged communities, and an additional 10% of funds in and benefiting low-income communities. The AB523 also requires the Energy Commission's EPIC program, to take into account adverse localized health impacts of proposed projects to the greatest extent possible, and give preference for funding to clean energy projects that benefit residents of low-income or disadvantaged communities.

The California Energy Commission is committed to ensuring all Californians have an opportunity to participate in and benefit from programs and services. While it is not required to complete the project within a disadvantaged community, demonstration projects located and benefiting disadvantaged and/or low-income communities will be considered under the scoring criteria for this GFO.

Low-income communities and households are defined as the census tracts and households, respectively, that are either at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development (HCD). Visit the California Department of Housing & Community Development site for the current HCD State Income Limits: <http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml>. Disadvantaged communities are defined as areas representing census tracts scoring in the top 25 % in CalEnviroScreen 3.0. For more information on disadvantaged communities and to determine if your project is in a disadvantaged community, use the California Communities Environmental Health Screening tool (CalEnviroScreen 3.0): <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>.

B. 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. By contrast, the “technology demonstration and deployment” stage involves the installation and operation of pre-commercial technologies or strategies at a scale sufficiently large and in conditions sufficiently reflective of anticipated actual operating environments to enable appraisal of the operational and performance characteristics and the financial risks.¹⁰ Applied research and development activities include early, pilot-scale testing activities that are necessary to demonstrate the feasibility of pre-commercial technologies.

2. Project Focus

¹⁰ See CPUC “Phase 2” Decision 12-05-037 at pp. 36 and 90, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF.

This solicitation will have two groups that focus on providing new and emerging non-Li energy storage technologies the opportunity to develop and operate a complete system that provides value to the end customer, ratepayer, and grid operators.

a. Group 1: This group will develop and validate new and emerging **non-Lithium** energy storage technologies that focus on customer side of the meter applications. The solutions proposed must take the technology from laboratory demonstration to prototype testing in a customer application. The proposed system will provide a customer side of the meter solution that addresses improved energy density, increased cycle performance and critical energy needs such as resiliency, reliability, improved safety, lower costs than currently fielded systems, and better long term or lifecycle performance.

1. Proposed systems must demonstrate an expected value to the end customer.
2. Candidate technologies include advanced chemistry batteries, flow batteries, flywheels, thermal storage systems, compressed air systems, and other non-lithium energy storage technologies that can provide an electricity-in/electricity-out capability and represent an improvement over current technology capabilities and performance. The proposed energy storage system must provide a complete system that is considered an electricity-in and electricity-out solution. Technologies such as thermal storage, compressed air, and other proposed systems must provide all associated equipment necessary to receive and store electricity and provide electricity as an input and output. Systems that provide additional services other than electricity (such as heat, compressed air or other non-electricity products) can be proposed as long as the primary input and output is electricity and the overall system is cost effective to the end customer.
3. No more than two grants from Group 1 will be awarded to a single candidate technology type, described in number 2 above.
4. No energy storage technology provider may submit more than one proposal for this solicitation. The energy storage technology provider may submit as either: (1) the prime applicant, or (2) as a key subcontractor, but not both.
5. Applicants' proposals will identify specific applications or use cases for which the technology is most ideally suited once fielded and define the value this specific technology provides over currently fielded technologies (i.e. energy storage technology systems that are best suited for high power and short durations are better suited for different use cases than energy storage technology systems that provide long duration energy storage services). The recipient must clearly state the baseline being used for comparison. This information will provide future projections on cost and performance that illustrate why the technology being field tested will have the ability to compete in the future energy storage marketplace based on cost, performance, safety, expected lifetime and any other criteria that makes the proposed technology competitive.
6. The proposal will provide quantification of current laboratory test system performance and provide numerical performance objectives to be achieved in the project to illustrate the desired performance numbers needed to make the technology commercially competitive in the future.
7. Given that Li technology is by far the most fielded technology in California, proposed technology providers in the group must provide details on how their technology can compete once commercialized with the expected price and performance of future Li

- technology systems. For example, current Li technology systems are selling in the price range of \$300 to \$400 per kWh with an expected selling price range of less than \$200 per kWh within a decade. However, Li technology also has thermal challenges that provides safety concerns, limits on the number and depth of daily cycles, performance degradation over time and environmental justice concerns on how some of the key materials used in Li batteries are obtained. For this solicitation, the applicant must explain how their technology will compete when commercial on price, performance, reliability, use of rare materials and other factors to illustrate that there is a commercial market for the proposed non-Li technology system.
8. Existing or newly developed energy storage solutions based on Lithium-ion chemistry will not be considered as eligible for this group, because there is substantial national research funding already being applied to further develop Lithium-ion chemistry based technologies. Any proposal for a new energy storage technology solution that uses Lithium as part of their solution must clearly demonstrate how the technology is both different to, and an improvement upon, currently fielded Lithium-ion chemistry based technologies, or it will not be considered as eligible for this solicitation.
 9. No fossil fuels may be consumed as part of the proposed energy storage system. The proposed energy storage system cannot rely on any fossil-fueled generator as any element of the proposed solution or use fossil fuels in any way during its operation.
 10. All technologies proposed for consideration shall be pre-commercial and have a technical readiness level (TRL) of in the range of 4 to 5. The proposal will identify the current TRL of the technology and provide detailed justification for the assignment of this TRL. The proposal will identify the expected final TRL after the agreement term and provide details to describe how the project will help achieve this TRL. The goal of this funding is for the technology to advance to TRL 6 or 7 by the end of the grant. Energy storage technologies that have already exceeded TRL level 6 may apply to this solicitation if there is a substantial design improvement and a redesign of their technology that provides significant improvements in performance, reliability or costs. In this case, the proposer must clearly define how this new configuration lowers the TRL level to 4 or 5 and how they will reach TRL level 6 or 7 by the end of the grant performance period.
 11. The applicant's proposal must define the value of the EPIC funds to the grant recipient. The proposal will define how these funds will be used to advance the technology status and improve the ability of the company to attract new customers and investors in the future.
 12. Match Share is not required, however, extra scoring credit will be provided for match share up to 100 percent.
 13. In addition to responding to the specific questions in this section, the applicant must explain in detail how their proposal meets each criterion listed in the Scoring Criteria 2-5 (see Section IV.F) and include that information in the Project Narrative (Attachment 4).
 14. The proposed project must meet all CEQA requirements (refer to Attachment 8) in time for the encumbrance of the EPIC funds by June 2020. Due to the encumbrance deadline for applicable funding, the status of lead agency CEQA approval for the proposed project, if any, must be included with the application and all final CEQA

approval documents must be received in time to make the schedule for the June 2020 Business Meeting. Applications with energy storage technologies that (1) fall under a statutory or categorical CEQA exemption, or (2) are already approved, or (3) can be easily approved, by any applicable lead agency are highly encouraged and will be scored accordingly.

b. Group 2: This group will only focus on validating emerging electrolytic hydrogen energy storage technologies as complete systems that provide value to the end customer, ratepayers, and/or grid operator. The solutions proposed must support customer side of the meter applications, taking the technology from laboratory prototype to field testing in a customer application. The proposed system will provide a customer side of the meter solution that addresses improved energy storage system performance and critical energy needs such as resiliency, reliability, improved safety, lower costs than currently fielded systems, and better long term or lifecycle performance.

1. Proposed systems must demonstrate an expected value to the end customer.
2. Group 2 is limited to electrolytic hydrogen energy storage technology systems. The proposed hydrogen system must provide a complete system that is considered an electricity-in and electricity-out solution. Additional services (such as heat, oxygen, compressed air or other non-electricity products) can be proposed as long as they have value to the customer and the primary input and output is electricity and the overall system is projected to be cost effective when it reaches the scale necessary for future commercialization.
3. No energy storage technology provider may submit more than one proposal for this solicitation. The energy storage technology provider may submit as either: (1) the prime applicant, or (2) as a key subcontractor, but not both.
4. Applicants' proposals will identify specific applications or use cases for which the technology is most ideally suited once fielded and define the value this specific technology provides over currently fielded technologies (i.e. energy storage technology systems that are best suited for high power and short durations are better suited for different use cases than energy storage technology systems that provide long duration energy storage services). The recipient must clearly state the baseline being used for comparison. This information will provide future projections on cost and performance that illustrate why the technology being field tested will have the ability to compete in the future energy storage marketplace based on cost, performance, safety, expected lifetime and any other criteria that makes the proposed technology competitive.
5. The proposal will provide quantification of current laboratory test system performance and provide numerical performance objectives to be achieved in the project to illustrate the desired performance numbers needed to make the technology commercially competitive in the future.
6. Given the growth in the energy storage market in California, proposed electrolytic hydrogen technology providers for Group 2 must provide details on how their energy storage technology solution can compete, once commercialized, with the expected price and performance of future alternative energy storage technologies.
7. No fossil fuels may be consumed as part of the proposed energy storage system. The proposed energy storage system cannot rely on any fossil-fueled generator as

any element of the proposed solution or use fossil fuels in any way during its operation.

8. For purposes of this solicitation, the definition listed in SB-1369 will be used as what is qualified for any proposed electrolytic hydrogen energy storage systems. *“Green electrolytic hydrogen” means hydrogen gas produced through electrolysis and does not include hydrogen gas manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock.*
9. All technologies proposed for consideration shall be pre-commercial and have a technical readiness level (TRL) of in the range of 4 to 5. The proposal will identify the current TRL of the technology and provide detailed justification for the assignment of this TRL. The proposal will identify the expected final TRL after the agreement term and provide details to describe how the project will help achieve this TRL. The goal of this funding is for the technology to advance to TRL 6 or 7 by the end of the grant. Energy storage technologies that have already exceeded TRL level 6 may apply to this solicitation if there is a substantial design improvement and a redesign of their technology that provides significant improvements in performance, reliability or costs. In this case, the proposer must clearly define how this new configuration lowers the TRL level to 4 or 5 and how they will reach TRL level 6 or 7 by the end of the grant performance period.
10. The applicant’s proposal must define the value of the EPIC funds to the grant recipient. The proposal will define how these funds will be used to advance the technology status and improve the ability of the company to attract new customers and investors in the future.
11. Match Share is not required, however, extra scoring credit will be provided for Match share up to 100 percent.
12. In addition to responding to the specific questions in this section, the applicant must explain in detail how their proposal meets each criterion listed in the Scoring Criteria 2-5 (see Section IV.F) and include that information in the Project Narrative (Attachment 4).
13. The proposed project must meet all CEQA requirements (refer to Attachment 8) in time for the encumbrance of the EPIC funds by June 2020. Due to the encumbrance deadline for applicable funding, the status of lead agency CEQA approval for the proposed project, if any, must be included with the application and all final CEQA approval documents must be received in time to make the schedule for the June 2020 Business Meeting. Applications with energy storage technologies that (1) fall under a statutory or categorical CEQA exemption, or (2) are already approved, or (3) can be easily approved, by any applicable lead agency are highly encouraged and will be scored accordingly.

3. Ratepayer Benefits, Technological Advancements, and Breakthroughs

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

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

The CPUC defines “ratepayer benefits” as greater reliability, lower costs, and increased safety.¹¹ The CPUC has also adopted the following guiding principles as complements to the key principle of electricity ratepayer benefits: societal benefits; GHG emissions mitigation and adaptation in the electricity sector at the lowest possible cost; the loading order; low-emission vehicles/transportation; economic development; and efficient use of ratepayer monies.¹²

Accordingly, the Project Narrative Form (Attachment 4) and the “Goals and Objectives” section of the Scope of Work Template (Attachment 6) 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.

4. Measurement and Verification Plan

Proposers for both Group 1 and 2 must provide a Measurement and Verification Plan that includes (1) an assessment of expected benefits, as described in Section II.B.3, Ratepayer Benefits, Technical Advancements, and Breakthroughs; (2) sufficient budget to evaluate benefits by responding to three benefits questionnaires that will be provided by Energy Commission staff (one at project kickoff, one around mid-project, and one at project’s end). Any estimates of energy savings or GHG impacts should be calculated as specified in the **References for Calculating Energy End-Use and GHG Emissions (Attachment 13)**, to the extent that the references apply to the proposed project. Benefits questionnaires will include, but not be limited to, the following:

- a. Reliability, resiliency and sustainability improvements as provided by the energy storage system.
- b. Expected net impacts on the end customer or larger grid’s load as provided by the energy storage system.
- c. Expected GHG reductions as provided by the energy storage system, compared to using the utility grid for the electricity, and also GHG reductions as provided by the operation of the proposed energy storage system.
- d. The projected dollar value of energy savings as provided by the energy storage system on an annual basis.
- e. The dollar value of any co-benefits that may accrue to the project on an annual basis.
- f. Cost savings or increments compared to business as usual, as provided by the energy storage system and over the grant period. This includes technology and installation costs, operations and maintenance, and energy use.
- g. Projected benefit metrics for the energy storage system as being applied in the proposed application or use case that identifies the different value streams provided, how they will be measured, the expected value and any actual data to be collected and reported.

¹¹ *Id.* at p. 19.

¹² *Id.* at pp. 19-20.0

III. Application Organization and Submission Instructions

A. APPLICATION FORMAT, PAGE LIMITS, AND NUMBER OF COPIES

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

Format	• Font: 11-point, Arial (excluding Excel spreadsheets, original template headers and footers, and commitment or support letters) • Margins: No less than one inch on all sides (excluding headers and footers) • Spacing: Single spaced, with a blank line between each paragraph • Pages: Numbered and printed double-sided (when determining page limits, each printed side of a page counts as one page) • Signatures: Manual (i.e., not electronic) • Labeling: Tabbed and labeled as required in Sections B and C below • Binding: Original binder clipped; all other copies spiral or comb bound (binders discouraged) • File Format: MS Word version 1997-2003, or 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 CD-ROM or USB memory stick
Page Limit Recommendations	• Executive Summary (Attachment 2): two pages • Fact Sheet (Attachment 3): two pages • Project Narrative Form (Attachment 4): twenty pages excluding documentation for CEQA • Project Team Form (Attachment 5): two pages for each resume • Reference and Work Product Form (Attachment 9): one page for each reference, two pages for each project description • Commitment and Support Letter Form (Attachment 11): two pages, excluding the cover page The following attachments are recommended not to exceed seventy pages: ○ Executive Summary Form ○ Fact Sheet Template ○ Project Narrative Form ○ Scope of Work Template (Attachment 6 and 6a) • There are no page limits for the following: ○ Application Form (Attachment 1) ○ Budget Forms (Attachment 7) ○ CEQA Compliance Form (Attachment 8) ○ Contact List Template (Attachment 10)
Number of Copies of the Application	For Hard Copy Submittal Only: • 1 hard copy (with signatures) • One electronic copy (on a CD-ROM or USB memory stick)

B. PREFERRED METHOD FOR DELIVERY

The preferred method of delivery for this solicitation is the Energy Commission Grant Solicitation System, available at: <https://gss.energy.ca.gov/>. This online tool allows applicants to submit their electronic documents to the Energy Commission prior to the date and time specified in this solicitation. Electronic files must be in Microsoft Word XP (.doc format) and Excel Office Suite formats unless originally provided in the solicitation in another format. Attachments requiring signatures may be scanned and submitted in PDF format. Completed Budget Forms, (Attachment 7), must be in Excel format. The system will not allow applications to be submitted after the due date and time.

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

C. HARD COPY DELIVERY

An applicant may also deliver a hard copy of an application by:

- U.S. Mail
- In Person
- Courier service

Applications submitted in hard copy must be delivered to the Energy Commission Contracts, Grants and Loans Office according to the schedule in Section I.G. If applications are delivered prior to the due date shown on this schedule, then they can be delivered during normal business hours (8 am – 5 pm). Applications received after the specified date and time shown in Section I.G. are considered late and will not be accepted. There are **no exceptions** to this. Postmark dates of mailing, E-mail and facsimile (FAX) transmissions are not acceptable in whole or in part, under any circumstances. There is no need to submit a hard copy of an application that is submitted through the Grant Solicitation System as it will only cause confusion.

Number of Copies

Applicants submitting a hard copy application are only required to submit one paper copy. Applicants must also submit electronic files of the application on **CD-ROM or USB memory stick** along with the paper submittal. Electronic files must be in Microsoft Word XP (.doc format) and Excel Office Suite formats. Completed Budget Forms (Attachment 7) must be in Excel format. **Electronic files submitted via e-mail will not be accepted.**

Packaging and Labeling

All hard copy applications must be labeled "Grant Funding Opportunity GFO-19-305," and include the title of the application.

Include the following label information on the mailing envelope:

Applicant's Project Manager Applicant's Name Street Address City, State, and Zip Code	GFO-19-305 Contracts, Grants, and Loans Office, MS-18 California Energy Commission 1516 Ninth Street, 1st Floor Sacramento, California 95814
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D. APPLICATION ORGANIZATION AND CONTENT

1. For all hard copy submittals, submit attachments in the order specified below.
2. Label the proposal application cover "Grant Funding Opportunity GFO-19-305" and include: (a) the title of the application; and (b) the applicant's name.
3. Separate each section of the application by a tab that is labeled only with the tab number and section title indicated below.

Tab/Attachment Number	Title of Section
1	Application Form (<i>requires signature</i>)
2	Executive Summary
3	Fact Sheet
4	Project Narrative
5	Project Team
6 (<i>includes 6a</i>)	Scope of Work
7	Budget
8	CEQA Compliance Form (<i>requires signature</i>)
9	References and Work Product
10	Contact List
11	Commitment and Support Letters (<i>requires signature</i>)
12	Applicant Declaration (<i>requires signature</i>)
13	References for Calculating Energy End Use & GHG Emissions
14	Special Terms and Conditions for Native American Tribes and Tribal Corporations with Sovereign Immunity

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

1. Application Form (Attachment 1)

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

2. 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.

3. Fact Sheet Template (Attachment 3)

The project fact sheet presents project information in a manner suitable for publication (if the project receives funding, the Energy Commission may use the fact sheet to publicize the project). The fact sheet follows the template, which includes a summary of project specifics and a description of the issue addressed by the project, a project description, and anticipated benefits for the State of California.

4. Project Narrative Form (Attachment 4)

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 (Groups 1 and 2):

- a. **Group Specific Questions** (optional)
 - Include required group specific information (see Section II.B.3) in the specified sections.
- b. **Project Readiness**
 - Include information about the permitting required for the project and whether or not the permitting has been completed. If complete, provide appropriate documentation. If local jurisdiction CEQA review and project approval is not complete, applications must include information documenting progress towards and a schedule for achieving compliance under CEQA within the timeframes specified in this solicitation (see Section I.D). All supporting documentation must be included in Attachment 8.

5. Project Team Form (Attachment 5)

Identify by name all key personnel¹³ 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).

6. Scope of Work Template (Attachments 6 and 6a)

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. It includes a project schedule that lists all products, meetings, and due dates. All work must be scheduled for completion within 36 to 48 months of the project start date.

¹³ "Key personnel" are individuals that are critical to the project due to their experience, knowledge, and/or capabilities.

Electronic files for **Parts I-IV** of the Scope of Work are in **MS Word**. **Part V** (Project Schedule, Attachment 6a) is in **MS Excel**.

7. 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 Energy Commission 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 Energy Commission 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 (please see the discussion of permits in the Scope of Work, Attachment 6).
- 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) Applicants should be aware of and shall adhere to all State 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. Applicants should be aware and adhere to specific travel restrictions when using State funds for travel to other States pursuant to AB 1887 (2016) and codified at California Government Code Section 11139.8. All applicants are encouraged to go to the Attorney General's website <https://oag.ca.gov/ab1887> for a current list of States subject to travel restrictions. Grants awarded under this solicitation shall not contain travel paid for with Commission funds (applicants can instead use match funds) to the listed States unless the Commission approves in writing that the trip falls within one of the exceptions under the law.

- 9) **Prevailing wage requirement:** Projects that receive an award of public funds from the Energy Commission 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 Energy Commission 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:

- (i) prevailing wages are paid; and
- (ii) the project budget for labor reflects these prevailing wage requirements; and
- (iii) 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.

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

The Energy Commission 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 Energy Commission's Notice of Proposed Award may result in the cancellation of a proposed award and allocation of funding to the next highest-scoring project.

9. 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.

10. Contact List Template (Attachment 10)

The list identifies the names and contact information of the project manager, administrator, accounting officer, and recipient of legal notices.

11. Commitment and Support Letter Form (Attachment 11)

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 that are proposing to provide match funding must submit a **match funding** commitment letter signed by each representative 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 any field testing activities or activities outside the laboratory, the applicant must include a site commitment letter signed by an authorized representative of the proposed testing or demonstration site. The letter must: (1) identify the location of the site (street address, parcel number, tract map, plot map, etc.) which must be consistent with Attachments 1 and 8. and (2) commit to providing the site for the proposed activities.
- **Project partners** that are making contributions other than match funding or a field testing or demonstration site, and are not receiving Energy Commission 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.

2) Support Letters

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

12. Applicant Declaration

This form requests the applicant declare that they are: not delinquent on; registered to do business in California with the California Secretary of State; not being sued by any public agency or entity; in compliance with all judgments, if any, issued against the Applicant in any matter to which the Energy Commission or another public agency or entity is a party; has neither refused to adhere to nor not taken action on any demand letter made on the Applicant by the Energy Commission or another public agency or entity; and is 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.

IV. Evaluation and Award Process

A. APPLICATION EVALUATION

Applications will be evaluated and scored based on responses to the information requested in this solicitation. To evaluate applications, the Energy Commission will organize an Evaluation Committee that consists primarily of Energy Commission staff. The Evaluation Committee may use technical expert reviewers to provide an analysis of applications. Applications will be evaluated in two stages:

1. Stage One: Application Screening

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

2. 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.
- **A minimum score of 70.00 points** is required for the application to be eligible for funding. In addition, the application must receive a minimum score of **49.00 points** for criteria **1–4** to be eligible for funding.
- **Clarification Interviews:** The Evaluation Committee may conduct optional in-person or telephone interviews with applicants during the evaluation process to clarify and/or verify information submitted in the application. However, these interviews may not be used to change or add to the content of the original application. Applicants will not be reimbursed for time spent answering clarifying questions.

B. RANKING, NOTICE OF PROPOSED AWARD, AND AGREEMENT DEVELOPMENT

1. Ranking and Notice of Proposed Award

Applications that receive a minimum score of 70.00 points for all criteria will be ranked according to their score.

- The Energy Commission 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 Commission will post the NOPA at its headquarters in Sacramento and on its website, and will mail it to all parties that submitted an application. Proposed awards must be approved by the Commission at a business meeting.
- **Debriefings:** Unsuccessful applicants may request a debriefing after the release of the

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

- In addition to any of its other rights, the Energy Commission reserves the right to:
 - Allocate any additional funds to passing applications, in rank order; and
 - Negotiate with successful applicants to modify the project scope, schedule, and/or level of funding.

2. Agreements

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

- **Resolution Requirement (for government agency recipients only):** Prior to approval of the agreement at a business meeting, government agency recipients (e.g., federal, State, and local governments; air/water/school districts; joint power authorities; and State universities) must provide a resolution that authorizes the agency to enter into the agreement and is signed by a representative authorized to execute the agreement and all documents related to the award.
Resolutions must include: (1) a brief description of the project; (2) the award amount; and (3) an acceptance of the award.
- **Agreement Development:** If approved at a business meeting the Contracts, Grants, and Loans Office will send the Recipient a grant agreement for approval and signature. The agreement will include the applicable terms and conditions and will incorporate this solicitation by reference. The Energy Commission 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 Energy Commission is unable to successfully execute an agreement with an applicant, it reserves the right to cancel the pending award and to fund the next highest-ranked, eligible application.
- **Agreement Amendment:** The executed agreement may be amended by mutual consent of the Energy Commission and the Recipient. The agreement may require amendment as a result of project review, changes in project scope, and/or availability of funding.

C. GROUNDS TO REJECT AN APPLICATION OR CANCEL AN AWARD

Applications that do not pass the screening stage will be rejected. In addition, the Energy Commission reserves the right to reject an application and/or to cancel an award in any of the following circumstances:

- The application contains false or intentionally misleading statements or references that do not support an attribute or condition contended by the applicant.
- The application is intended to erroneously and fallaciously mislead the State in its evaluation and the attribute, condition, or capability is a requirement of this solicitation.
- The application does not comply or contains caveats that conflict with the solicitation, and the variation or deviation is material.
- The applicant has previously received funding through a Public Interest Energy Research (PIER) or EPIC agreement, has received the PIER royalty review letter (which the Energy Commission 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 Energy Commission or another California State agency.
- The applicant is a business entity that is not in good standing with the California Secretary of State.
- The applicant has not demonstrated that it has the financial capability to complete the project.
- The applicant fails to meet CEQA compliance within sufficient time for the Energy Commission to meet its encumbrance deadline, as the Energy Commission in its sole and absolute discretion may determine.
- The applicant has included a statement or otherwise indicated that it will not accept the terms and conditions, or that acceptance is based on modifications to the terms and conditions.
- The application contains confidential information or identify any portion of the application as confidential.

D. MISCELLANEOUS

1. Solicitation Cancellation and Amendment

It is the policy of the Energy Commission 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 Energy Commission 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 Energy Commission will send an addendum to all parties who requested the solicitation, and will also post it on the Energy Commission's website at: www.energy.ca.gov/contracts. The Energy Commission will not reimburse applicants for application development expenses under any circumstances, including cancellation of the solicitation.

2. 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."

3. 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 Energy Commission posts the NOPA or the solicitation is cancelled. **The Energy Commission will not accept or retain applications that identify any portion as confidential.**

4. Solicitation Errors

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

5. Immaterial Defect

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

6. 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.

E. STAGE ONE: APPLICATION SCREENING

SCREENING CRITERIA	Pass/Fail
<i>The Application must pass ALL criteria to progress to Stage Two.</i>	
1. The application is received by the Energy Commission'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
2. The Application Form (Attachment 1) is signed where indicated.	☐ Pass ☐ Fail
3. The application addresses only one of the eligible project groups, as indicated on the Application Form.	☐ Pass ☐ Fail
4. The Applicant Declaration Form (Attachment 12) is signed where indicated.	☐ Pass ☐ Fail
5. If the applicant has submitted more than one application for the same project group, each application is for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work). <i>If the projects are not distinct and the applications were submitted at the same time, only the first application screened by the Energy Commission will be eligible for funding. If the applications were submitted separately, only the first application received by the Energy Commission will be eligible for funding.</i>	☐ Pass ☐ Fail

SCREENING CRITERIA <i>The Application must pass ALL criteria to progress to Stage Two.</i>	Pass/Fail
6. <i>If the project involves technology demonstration/ deployment activities</i> ○ The Application identifies one or more demonstration/ deployment site locations. ○ All demonstration/ deployment sites are located in a California electric IOU service territory (PG&E, SDG&E, or SCE). ○ The proposal includes a site commitment letter (Section III.D.11) for each demonstration/ deployment site.	☐ Pass ☐ Fail
7. <i>The application does not contain any confidential information or identify any portion of the application as confidential.</i>	☐ Pass ☐ Fail
8. <i>The applicant has not 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.</i>	☐ Pass ☐ Fail

F. STAGE TWO: APPLICATION SCORING

Proposals that pass ALL Stage One Screening Criteria and are not rejected as described in Section IV.C. will be evaluated based on the Scoring Criteria on the next page and the Scoring Scale below (with the exception of criteria 6–8, which will be evaluated as described in each criterion). Each criterion has an assigned number of possible points, and is divided into multiple sub-criteria. The sub-criteria are not equally weighted. The Project Narrative (Attachment 4) must respond to each sub-criterion, unless otherwise indicated.

- The minimum passing score for **criteria 1 is 6 points**
- The minimum passing score for **criteria 1–4 is 49.00 points and the total minimum passing score is 70.00 out of 100 points for criteria 1-7.**
- The points for criteria 5–7 will only be applied to proposals that achieve the minimum score for criteria 1–4. The points for criteria 8-10 will only be applied to proposals that achieve the minimum scores for criteria 1-4 and criteria 1-7.

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

% of Possible Points	Interpretation	Explanation for Percentage Points
		exceeding basic expectations.
95%	Between Excellent and Exceptional	Response fully addresses the requirements being scored with a better than excellent degree of confidence in the applicant's response or proposed solution. Applicant offers one or more enhancing features, methods or approaches exceeding basic expectations.
100%	Exceptional	All requirements are addressed with the highest degree of confidence in the applicant's response or proposed solution. The response exceeds the requirements in providing multiple enhancing features, a creative approach, or an exceptional solution.

SCORING CRITERIA

Scoring Criteria	Maximum Points
1. Project Team 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 through which the following performance was demonstrated: Severe performance issues (0-5 points): Severe performance issues are characterized by significant negative outcomes, which may include significant deviation from agreement requirements, termination with cause, and/or severe negative audit findings. Moderate performance issues (6-12 points): Moderate performance issues are characterized by noncompliance with agreement requirements, frequent poor performance and conduct, and/or the issuance of moderate audit findings. No/minor performance issues (13-15 points): No/minor performance issues are characterized by compliance with agreement requirements while demonstrating no minor performance issues, or the applicant has not received funds from the Energy Commission (e.g., contract, grant, or loan) through an agreement with the Energy Commission.	15
Total Possible Points for criteria (Minimum Passing Score is <u>6</u>)	15

The Project Narrative (Attachment 4) must respond to each criterion below. The responses must directly relate to the solicitation requirements and focus as stated in the solicitation. Any estimates of energy savings or GHG impacts should be calculated as specified in the References for Calculating Energy End-Use and GHG Emissions (Attachment 13), to the extent that the references apply to the proposed project.

Scoring Criteria	Maximum Points
2. Technical Merit a. 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. b. Describes the competitive advantages of the proposed technology over state-of-the-art (e.g., efficiency, emissions, durability, cost). c. Provides the proposed technical specifications and describe how the project will meet or exceed the technical specifications by the end of the project. d. Describes the technology readiness level (TRL) the proposed technology has achieved and the expected TRL by the end of the project. e. Describes at what scale the technology has been successfully demonstrated, including size or capacity, number of previous installations, location and duration, results, etc. f. Describes how the proposed demonstration will lead to increased adoption of the technology in California. g. Provides information described in Section II.B.2.	15
3. Technical Approach a. Proposal describes the technique, approach, and methods to be used in performing the work described in the Scope of Work. b. The Scope of Work identifies goals, objectives, and deliverables, details the work to be performed, and aligns with the information presented in Project Narrative. c. Proposal identifies the reliability that the project and site recommendations as described will be carried out if funds are awarded. d. 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. e. 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.G. f. Describes the technology transfer plan to assess and advance the commercial viability of the technology. g. Provides a clear and plausible measurement and verification plan that describes how energy savings and other benefits specified in the application	25

Scoring Criteria	Maximum Points
will be determined and measured. h. Provides information documenting progress towards achieving compliance with the California Environmental Quality Act (CEQA) by addressing the areas in Section I.D, and Section III.D.4, and Section III.D.8 i. Provides information described in Section II.B.2.	
4. Impacts and Benefits for California IOU Ratepayers a. 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 generation, energy storage charge/discharge, and loads (kilowatt-hours), 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. b. States the timeframe, assumptions with sources, and calculations for the estimated benefits, and explains their reasonableness. Include baseline or “business as usual” over timeframe. c. Explains the path-to-market strategy including near-term (i.e. initial target markets), mid-term, and long-term markets for the technology, size and penetration or deployment rates, and underlying assumptions.	20
5. Team Qualifications, Capabilities, and Resources Evaluations of ongoing or previous projects will be used in scoring for this criterion. a. Identifies credentials of prime and any subcontractor core personnel, including the project manager, principal investigator and technology and knowledge transfer lead (<i>include this information in the Project Team Form</i>). b. Demonstrates that the project team has appropriate qualifications, experience, financial stability and capability to complete the project. c. Explains the team structure and how various tasks will be managed and coordinated. d. Describes the facilities, infrastructure, and resources available that directly support the project. e. 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– 5 (Minimum Passing Score for criteria 1– 5 is 70% or <u>63.00</u>)	90

Scoring Criteria	Maximum Points
6. Budget and Cost-Effectiveness - Budget forms are complete for the applicant and all subcontractors, as described in the Budget instructions. - Justifies the reasonableness of the requested funds relative to the project goals, objectives, and tasks. - Justifies the reasonableness of direct costs (e.g., labor, fringe benefits, equipment, materials & misc. travel, and subcontractors). - Justifies the reasonableness of indirect costs (e.g., overhead, facility charges (e.g., rent, utilities), burdens, subcontractor profit, and other like costs).	10
7. EPIC Funds Spent in California Projects that maximize the spending of EPIC funds in California will be evaluated as indicated in the table below (see EPIC Funds Spent in California section for more details).	10

Percentage of EPIC funds spent in CA (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%

8. Ratio of Direct Labor to Indirect Costs The score for this criterion will be calculated by the following formula: $\frac{\text{Total Direct Labor}}{\text{Total Direct Labor} + \text{Total Fringe} + \text{Total Indirect} + \text{Total Profit}}$ 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 criteria, the Energy Commission 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 – 8 is 70% or <u>80.5</u>)	115

Preference Points Applications must meet both minimum passing scores (Scoring Criteria 1, 1-5, 1-8, and 9 for TD&D solicitations) to be eligible for the additional points

9. Match Funds

- a. 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 ratio of proposed Cash and In-Kind contributions using the Match Scoring Table below:

5

Match Scoring Table

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

- b. ~~Additional points will be awarded to applications that exceed the minimum match requirements up to 100 percent using the Exceeds Minimum Match Scoring table below:~~

5

Exceeds Minimum Match Scoring Table

<u>Percentage above Minimum Match (cash and in-kind)</u>	<u>Score</u>
<u>80 to 100%</u>	<u>5</u>
<u>60 to <80%</u>	<u>4</u>
<u>40 to <60%</u>	<u>3</u>
<u>20 to <40%</u>	<u>2</u>
<u>>10%</u>	<u>1</u>

Preference Points: For applications proposing projects located in and benefiting low-income and/or disadvantaged communities within IOU service territories. Applications must meet both minimum passing scores (Scoring Criteria 1, 1-5, and 1-8 to be eligible for the additional points.

10. Disadvantaged & Low-Income Communities

The project benefits the disadvantaged and low-income community in order to receive additional points.

- a. Proposal identifies how the target market(s) will benefit disadvantaged and low-income communities.
- b. Identifies economic impact on low-income and disadvantaged communities including customer bill savings, job creation, partnering and contracting with micro- and small-businesses, and economic development.
- c. Describes how the project will increase access to clean energy or sustainability technologies within disadvantaged or low-income communities and how the development will benefit the communities.
- d. Applicants have letters of support from technology partners, community based organizations, environmental justice organizations, or other partners that demonstrate equity, feasibility, and commercial viability in low-income and disadvantaged communities.

5