

Attachment A

Introduction and Eligibility

GRANT FUNDING OPPORTUNITY DRAFT



GFO-DRAFT

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

State of California
California Energy Commission
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ATTACHMENTS

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>)
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8	CEQA Compliance Form
9	References and Work Product Form
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I. Introduction

A. PURPOSE OF SOLICITATION

The purpose of this Electric Program Investment Charge (EPIC) solicitation is to fund applied research and development projects that will result in energy efficiency and/or demand response benefits for the State of California.

The emphasis can be individual technologies or integration of multiple energy efficiency technologies that together result in energy and cost savings for these industries. This solicitation will focus on funding research associated with developing, validating, and documenting electricity and demand savings from pre-commercial energy efficiency technologies and strategies that support the goals of Senate Bill 350 and Assembly Bill 32.

Energy efficiency is defined as using less energy to provide the same level of performance for products and services. Energy efficiency is the most cost-effective strategy for reducing the state's energy expenditures and greenhouse gas (GHG) impacts. Innovations in technology and process are necessary to meet the state's aggressive energy efficiency and GHG emission reduction targets.

Targeted sectors include:

- Industrial
- Agriculture
- Water/Wastewater

Each application must fall within one of the following project focus groups:

- **Group 1: Pilot Tests of Innovative Energy Efficiency Technologies**

This group will focus on the development and pilot testing of innovative and pre-commercial technologies or strategies that result in direct energy efficiency and demand response benefits to industrial, agriculture or water/wastewater sectors. The pilot tests or strategies should provide data and analysis to estimate energy savings, demand response potential, water savings and other benefits, and customer costs. All technologies must result in direct reductions in electricity use through energy efficiency and not as a result of energy generation or storage.

- **Group 2: Develop and Validate of Innovative Technologies**

This group will focus on identifying demand response and load shifting potential in the industrial, agricultural and water/wastewater sectors, developing new technologies and innovative applications of existing technologies that facilitate load control automation, and identifying and pilot testing strategies and best practices that facilitate demand response program participation and customer cost optimization under available tariffs structures.

B. KEY WORDS/TERMS

Word/Term	Definition
Applicant	The respondent to this solicitation
Application	An applicant's formal written response to this solicitation
Applied Research and Development	<i>Applied Research and Development</i> is defined as the systematic application of knowledge or understanding necessary to determine the means and production of useful materials, devices, and systems or methods, include design, development, and improvement of prototypes and new processes to meet specific requirements.
Basic Research	<i>Basic research</i> determines that a particular technology or strategy has demonstrated preliminary feasibility, then a pilot-scale demonstration or test is used to validate results and provide proof that a concept works in practice.
Bench-Scale Demonstration	<i>Bench-scale demonstrations</i> are typically small laboratory set-ups used to verify certain research concepts or processes. Bench-scale demonstrations take basic research one step further, to perform preliminary demonstration tests.
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
EPIC	<i>Electric Program Investment Charge</i> , the source of funding for the projects awarded under this solicitation
Energy Commission	California Energy Commission
IOU	<i>Investor-owned utility</i> , including 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 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 operating environments to enable the appraisal of operational and performance characteristics, or of financial risks.
Pilot Scale Demonstration	<i>Pilot scale demonstration</i> means a small, laboratory model-size demonstration that is larger than a bench-scale demonstration and smaller than a full-size demonstration. Pilot demonstrations test the design and validity of an approach, and adjustments can be made at this stage before full-scale demonstrations.
Principal Investigator	The lead scientist or engineer 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

Word/Term	Definition
Project Partner	An entity or individual that contributes financially or otherwise to the project (e.g. provision of a demonstration site), and does not receive Energy Commission funds
RD&D	Research, Development & Demonstration
Recipient	The recipient of an award under this solicitation
Solicitation	This entire document, including all attachments and exhibits (“solicitation” may be used interchangeably with “program opportunity notice”)
State	State of California

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 terms and conditions located at: <http://www.energy.ca.gov/research/contractors.html>.

Applicants are responsible for the cost of developing applications. This cost cannot be charged to the State. All submitted documents will become public 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 **July 1, 2017**. This means that the Energy Commission must approve proposed awards at a regularly scheduled business meeting prior to **July 1, 2017** 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.
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 which may arise related to CEQA review include but are not limited to:

- Example 1: If another jurisdiction, such as a city or county, has taken the role of lead agency, 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 agency, 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 another 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 a local jurisdiction, 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 local jurisdiction reviewing the proposed project.
- Example 4: If the proposed project clearly falls under a statutory or categorical exemption, or is work for which another agency has already adopted a CEQA finding, 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 18 general focus areas (“**strategic objectives**”) identified in the Energy Commission’s Second EPIC Investment Plan (2015-2017)⁴ and within one or more specific focus areas (“**funding initiatives**”) identified in the plan. This solicitation targets the following program area, strategic objective, and funding initiative:

- **Program Area:** Applied Research and Development
- **Strategic Objective S1:** Improve Energy Efficiency Technologies and Strategies in California’s Building, Industrial, Agriculture and Water Sectors.
 - **Funding Initiative S1.5:** Develop and Test Advanced Industrial, Agricultural, Water, and Demand Response Technologies and Strategies to Reduce Energy Use and Costs.

3. Applicable Laws, Policies, and Background Documents

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

Laws/Regulations

- **Assembly Bill (AB) 32 (“The Global Warming Solutions Act of 2006”)**

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

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

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

- **Senate Bill SB 7 (2009)**

Requires the State to achieve a 20% reduction in urban per capita water use by December 31, 2020. Requires all retail urban water suppliers to increase water use efficiency and to establish urban water use targets.

Additional Information: <http://www.bsc.ca.gov/>; <http://www.energy.ca.gov/appliances/>

Applicable Law: California Code of Regulations, Title 20, Division 2, Chapter 4, Article 4, §§ 1601 et. seq.

³ California Public Resources Code, Section 25711.5(a), <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=25001-26000&file=25710-25712>.

⁴ http://www.energy.ca.gov/research/epic/documents/final_documents_submitted_to_CPUC_2014/2014-04-28_EPIC_Application_to_CPUC.pdf

Policies/Plans

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

California Public Resources Code Section 25302 requires the Energy Commission to release a biennial report that provides an overview of major energy trends and issues facing the state. The IEPR assesses and forecasts all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and pricing. The Energy Commission uses these assessments and forecasts to develop energy policies.

Additional information: <http://www.energy.ca.gov/energypolicy>
Applicable Law: California Public Resources §§ 25300 et. seq.

- **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.

Additional information: <http://www.energy.ca.gov/energypolicy>
Applicable Law: California Public Resources §§ 25300 et. seq.

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

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

F. FUNDING

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

There is **up to \$20 million** available for grants awarded under this solicitation. The minimum funding amount for each project is \$1 million. The maximum funding amount for each project is \$3 million.

2. **Match Funding**

Match funding is not a requirement for this solicitation. But, additional points are available for match funding.

Project Group	Available Funding	Minimum Award Amount	Maximum Award Amount
Group 1: Pilot Tests of Innovative Energy Efficiency Technologies	\$8,000,000	\$1,000,000	\$3,000,000
Group 2: Development and Validation of Demand Response Technologies and Strategies	\$12,000,000	\$1,000,000	\$3,000,000

3. **Change in Funding Amount**

The Energy Commission reserves the right to:

- A. Increase or decrease the available funding and the group minimum/maximum award amounts described in this section.
- B. Allocate any additional or unawarded funds to passing applications, in rank order.
- C. 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
Solicitation Release	August 1, 2016	
Pre-Application Workshop	August 10, 2016	2:00 p.m.
Deadline for Written Questions⁵	August 15, 2016	5:00 p.m.
Anticipated Distribution of Questions and Answers	week of August 20	
Round 1 for Groups 1 and 2		
Deadline to Submit Applications	September 2016	3:00 p.m.
Anticipated Notice of Proposed Award Posting Date	October 2016	
Anticipated Energy Commission Business Meeting Date)	December 2016	
Agreement Start Date	January 2017	
Round 2 (if funds remain from Round 1)		
Deadline to Submit Applications	November 2016	3:00 p.m.
Anticipated Notice of Proposed Award Posting Date	December 2016	
Anticipated Energy Commission Business Meeting Date	March 2017	
Agreement Start Date	April 2017	
Round 3 (if funds remain from Round 2)		
Deadline to Submit Applications	January 2017	3:00 p.m.
Anticipated Notice of Proposed Award Posting Date	February 2017	
Anticipated Energy Commission Business Meeting Date	May 2017	

Agreement Start Date	June 2017	
Anticipated Agreement End Date for <u>all</u> phases <i>(All work on projects must be completed in 42-48 months or less)</i>	January 2020	

II. Eligibility Requirements

A. APPLICANT REQUIREMENTS

1. Eligibility

This solicitation is open to all public and private entities and individuals with the exception of publicly-owned utilities. In accordance with CPUC Decision 12-05-037, funds administered by the Energy Commission may not be used for any purposes associated with publicly-owned utility activities.

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 terms and conditions; (2) U.S. Department of Energy terms and conditions; or (3) standard terms and conditions. The standard terms and conditions are located at <http://www.energy.ca.gov/research/contractors.html>. All these terms and conditions are located at <http://www.energy.ca.gov/research/contractors.html>.

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.

3. California Secretary of State Registration

California business entities and non-California business entities that conduct intrastate business in California and are required to register with the California Secretary of State must do so and be in good standing in order to enter into an agreement with the Energy Commission. If not currently registered with the California Secretary of State, applicants should contact the Secretary of State's Office as soon as possible. For more information, visit the Secretary of State's website at: www.sos.ca.gov.

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. 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

Group 1: Pilot Tests of Innovative Energy Efficiency Technologies

This group will focus on the development and pilot testing of innovative and pre-commercial technologies or methods with direct energy efficiency and demand response benefits to industrial, agriculture or water/wastewater applications. The pilot tests must provide data and analysis to estimate energy savings, demand response potential, water savings and/or other benefits, and customer costs. All technologies must result in direct reductions in electricity use through energy efficiency and not as a result of energy generation or storage. Potential research project areas include:

- **General Industrial Energy Efficiency Process Improvements**
 - Develop and test advanced manufacturing technologies and/or advanced process technologies for energy intensive industries such as glass, cement, chemical, and food processing
 - Develop and test advanced sensors and controls including the integration of smart meter and other on-line monitoring software in conjunction with energy using equipment and systems
 - Develop and test advanced motors, pumps, fans, and compressed air systems
 - Develop integrated approaches that combine multiple energy efficiency technologies, such as technology and controls
- **Data Centers**
 - Develop and test server utilization and power scaling/power management technologies that result in a reduction in energy usage and costs
 - Develop and test advance cooling technologies that result in at least 25% reduction in energy usage
- **Agricultural and Water Process Technologies**
 - Develop and test potential energy efficient technologies for moving water in transport and distribution systems
 - Develop and test advanced, cost-effective and energy saving means of cleaning agricultural/industrial customer wastewater/process water for reuse, or improve disinfection technologies to allow for water re-use

Group 2: Develop and Validate of Demand Response Technologies and Strategies

This group will focus on identifying demand response and load shifting potential in the industrial, agricultural and water/wastewater sectors, developing new technologies and innovative applications of existing technologies that facilitate load control automation, and identifying and pilot testing strategies and best practices that facilitate demand response program participation and customer cost optimization under available tariffs structures. Examples are listed below:

- **Industrial Processes**

- Develop and test control systems that are applicable to general industrial processes for managing loads to minimize peak demand or shift processes in response to demand response and price signals
- Develop and test control systems that are applicable to a specific set of production steps, or individual production phases that are based on the manufacturing and preparation of end use product(s) and that manage loads to minimize peak demand or to shift processes in response to demand response and price signals
- **Agricultural and Water Process Technologies**
 - Develop and test control systems for managing loads to minimize peak demand or shift processes in response to demand response and price signals