

**CALIFORNIA ENERGY COMMISSION**

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# **Request for Information Electric Program Investment Charge (EPIC) Solicitation Development September 8, 2015**

**Purpose of Request:**

The purpose of this Request for Information (RFI) is to identify research gaps that need to be addressed in the Industrial, Agricultural, Water and Wastewater sectors in order to maximize energy efficiency and cost savings for these sectors. These sectors consume approximately 30 percent of California's electrical use and include energy intensive industries, such as chemicals, metals, cement and concrete, data centers, laboratories, wastewater treatment and food processing. Responses received to this Request for Information will be used to guide the development of the next solicitation.

Respondents are asked to address one or more of the following questions:

**Industrial**

- What research is needed in technologies or strategies to improve the energy efficiency of energy intensive industries? For instance: What specific research is needed to advance manufacturing technology, Energy Management Systems (EMS), industrial sector-specific energy efficiency technology (e.g., water reclamation and reuse in the food processing industry), waste heat utilization (i.e., in data centers)?
- Is there a need to develop technologies that substitute or materially change the underlying process (e.g., development of lower weight cements, replacements for electrical/intensive materials such as aluminum)? If so, what research is needed to overcome barriers to widespread use?

**Agriculture**

- What specific research is needed to advance on-farm water efficiency technologies and greenhouse gas emission reductions?
- Are there process improvements that appear promising but lack data or are not well demonstrated? If so, what are some examples?

**Water**

- The Energy Commission has funded advanced membranes for use in wastewater treatment and forward osmosis for wastewater and industrial applications. Is further research in advanced membrane filtration needed (e.g., microfiltration,

ultra-filtration, nano-filtration, reverse and forward osmosis)? If so, why and what barriers should be addressed?

- Are there data gaps on the savings potential and costs of alternative water disinfection systems?
- What research and data gaps exist in evaluating water reuse technologies at both centralized regional facilities and at individual industrial sites to substantiate the potential and benefits of water reuse? Is technical and economic data needed to show water, energy, and cost savings, both on-site and as part of the energy-water nexus (i.e., embedded energy in water)?
- What potential efficiency strategies exist to improve water movement within water treatment facilities and in transport and distribution systems to and from the treatment facility (e.g., pumps, canal technologies, leak detection and repair strategies, process improvement)?
- What research is needed to improve the energy efficiency of water production associated with desalination, water recycling or reuse?

### **Disadvantaged Communities**

- What research in these sectors (i.e., Industrial, Agriculture, and Water) can best bring benefits to disadvantaged communities?

All responses should be clear and address the following:

1. Identification and explanation of the needed research area.
2. The project opportunities falling within the aforementioned research areas.
3. A discussion of the benefits (e.g., energy savings, GHG reductions) which may be realized from inclusion of this research area.
4. A discussion on why funding is needed for this research area.
5. Web links or references to document the need for funding or opportunities available, including publications, other funding solicitations, and other relevant documentation.

***Respondents to this Request for Information should not include any proprietary, sensitive, or confidential information. This Request for Information will not consider the merits of individual projects or any requests for funding.***

***The Energy Commission will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party's expense. There is not any preclusion to future participation for not responding to this RFI.***

### **How to Comment:**

Comments should be submitted to Paul Robinson by 5 p.m. on **Friday, September 25**, 2015. Send comments to: [paul.robinson@energy.ca.gov](mailto:paul.robinson@energy.ca.gov). Please include your name and the name of the organization you represent. Comments should be in a downloadable, searchable format such as Microsoft® Word (.doc) or Adobe® Acrobat® (.pdf) and limited to three pages. Please

include the title of the ***Electric Program Investment Charge (EPIC) Solicitation Development in Industrial, Agricultural, Water and Demand Response Research*** in the subject line.

**EPIC Program Background:**

The California Energy Commission's EPIC Program invests about \$120 million annually in technologies that bring clean energy ideas to market to benefit the ratepayers of California's three largest electric investor-owned utilities. Funding for the EPIC program comes from rates charged the electricity customers of Pacific Gas & Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company.

The Energy Commission is committed to supporting the inclusion of a diverse group of participants in the EPIC program including disadvantaged and underrepresented businesses and communities

For additional information on the EPIC Program Second Triennial Investment Plan, please see (Initiative S1.5): [www.energy.ca.gov/research/epic/index.html](http://www.energy.ca.gov/research/epic/index.html).

For information on past-funded research projects please see <http://www.energy.ca.gov/research/iaw/projects.html>.