

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



Request for Comments on Draft Solicitation Solar +: Taking the Next Steps to Enable Solar as a Distribution Asset

California Energy Commission staff is developing a competitive Grant Funding Opportunity (GFO) through the Electric Program Investment Charge (EPIC) Program¹ to advance the deployment and grid integration of distributed solar resources through the use of energy storage, smart inverters, and advanced forecasting and modeling techniques. This will be a one-phase solicitation that combines applied research and development (ARD) and technology demonstration and deployment (TDD) funds. Energy Commission staff plans to release the GFO in the fourth quarter of 2016.

The increased penetration of distributed solar on California's grid creates many benefits to individual customers, the environment, and the distribution grid. Distributed solar in particular locations can delay costly upgrades to transmission and distribution equipment and save money for utilities and their ratepayers. In some cases, however, the distributed solar penetration is too high for the local circuit to effectively manage, leading to potential outages and damaged equipment. To ensure that distributed solar is an asset to the grid, costs must be reduced and integration must be improved through holistic forecasting, energy storage, smart inverters, and identifying prime locations for solar and storage installations.

The value of distributed solar to both the customer and the electric grid can be dramatically increased by the inclusion of energy storage, advanced inverters, and other enabling technologies at or near the site of generation. Combining solar with storage behind a shared inverter reduces conversion losses and costs when compared to standalone solar and standalone energy storage. Yet many California utility customers, particularly those in disadvantaged communities, are unable to host onsite solar and/or storage systems. Community-scale installations may offer the highest potential to cost-effectively open the distributed solar and storage market to these customer groups, but specific configurations and ownership models have yet to be widely demonstrated.

The proposed activities support a number of California Public Utilities Commission (CPUC) proceedings, including the Assembly Bill 2514 (Bradford, Chapter 609, Statutes of 2012) proceeding, energy storage proceeding, Distribution Resources Plan (DRP) proceeding, Integrated Distributed Energy Resources (IDER) proceeding, and the Enhanced Community Renewables / Green Tariff Shared Renewables program. Specifically, these and other efforts have highlighted the need for a standardized integrated solar + storage solution that can be widely deployed across California's communities and buildings, demonstrate the ability to provide distribution grid services

¹ The Electric Program Investment Charge: Proposed 2015-2017 Triennial Investment Plan:
<http://www.energy.ca.gov/2014publications/CEC-500-2014-038/CEC-500-2014-038-CMF.pdf>.

(with the inclusion of smart inverters), and determine appropriate valuation strategies for those grid services to the customer and utility.

To implement this solicitation, the following project groups are proposed:

1. Pilot Demonstration of Advanced Solar + Storage Technologies for Community-Scale Applications
2. Pilot Demonstration of Advanced Solar + Storage Technologies for Building-Scale Applications
3. Enhanced Modeling Tools to Maximize Solar + Storage Benefits
4. Advanced Smart Inverter Capabilities to Support High-Penetration Solar
5. Holistic Forecasting to Support High-Penetration Solar Grid Operations
6. Energy Storage Deployment to Facilitate Storage Interconnection and Enable Integration of High-Penetration Distributed Solar

Energy Commission staff is seeking input from interested stakeholders on the attached sections of the draft GFO (Attachment A). Specifically, staff seeks responses and comments on the following questions:

1. Are the performance metrics for all project groups appropriate? Particularly, please indicate whether any percentages should be changed or whether the draft GFO should focus on different metrics.
2. Are the project groups structured to achieve the overall goal of improved integration and reduced overall costs for distributed solar? If not, please provide specific changes.
3. Would successful projects under this draft GFO be likely to lead to replicable, scalable business models for distributed solar + storage?
4. The draft GFO includes a preference for projects in groups 1 and 2 that are located in disadvantaged communities. Is there a better way to target low income participants in disadvantaged communities?
5. Are there suggestions to better complement data needs associated with CPUC proceedings related to distributed solar, energy storage, and interconnection requirements? Are funding levels for all groups appropriate? If not, please provide specific recommendations and rationale.
6. Are the capacity minima and maxima for groups 1 and 2 appropriate? If not, please provide specific suggestions for changes and explain.

EPIC Program Background

EPIC is a ratepayer surcharge authorized by the California Public Utilities Commission (CPUC). In December 2011, the CPUC adopted Decisions 11-12-035, as modified by Decision 13-01-016, authorizing the collection of EPIC funds for the benefit of electricity

ratepayers of Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE). In May 2012, the CPUC adopted Decision 12-05-037, as modified by Decision 13-04-030, establishing the purposes and governance for the EPIC Program and designating the Energy Commission as one of its administrators. On November 14, 2013, the CPUC adopted Decision 13-11-025, which modified and approved the Energy Commission's Proposed 2012-2014 EPIC Investment Plan. The plan sets the framework for providing investments in applied research and development, technology demonstration and deployment, and market facilitation of clean energy technologies and approaches. Additionally, Senate Bill 96 (Committee on Budget and Fiscal Review, Chapter 356, Statutes of 2013) provides that in administering the EPIC Program, the Energy Commission will fund research, development, and demonstration programs and projects that lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory energy goals, and result in advancements on the most significant technological challenges.

The Energy Commission is committed to supporting the inclusion of a diverse group of participants in the EPIC program including women, minorities, and disabled veterans.

To learn how to apply for EPIC solicitations please see:

http://www.energy.ca.gov/research/notices/2014-06-17_workshop/2014-06-17_EPIC_solicitations_presentation.pdf.

For additional information on the EPIC Program, please see:

www.energy.ca.gov/research/epic/index.html.

Written Comments

Comments should be submitted to Angie Gould by **5 p.m. on Friday, September 23, 2016**. The Energy Commission encourages comments by e-mail. 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). Please include the title of the EPIC Draft Solicitation: Solar +: Taking the Next Steps to Enable Solar as a Distribution Asset in the subject line. Send comments to: angela.gould@energy.ca.gov.

If you prefer, you may send a paper copy of your comments to:

Angie Gould
California Energy Commission
Energy Research and Development Division
1516 Ninth Street, MS-43
Sacramento, CA 95814-5512

Public Adviser and Other Commission Contacts

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission proceedings. If you want information on how to participate in this forum, please contact the Public Adviser, Alana Mathews, at PublicAdviser@energy.ca.gov or (916) 654-4489, toll free at (800) 822-6228.

If you have a disability and require assistance to participate, please contact Poneh Jones at poneh.jones@energy.ca.gov or (916) 654-4425 at least five days in advance.

Media inquiries should be sent to the Media and Public Communications Office at mediaoffice@energy.ca.gov or (916) 654-4989.

Mail Lists: epic