



Energy Research & Development Division

Scoping Workshop:
2018-2020 EPIC Investment Plan
February 3, 2017



Imagine. Innovate. Energize.





Housekeeping

- In case of emergency
- Facilities
- Public comment protocol
- Today's presentation can be found at:

<http://www.energy.ca.gov/research/epic/17-EPIC-01/documents/>



Agenda

Item	Time
Welcome and Overview <ul style="list-style-type: none">Laurie ten Hope – Deputy Director Energy Research and Development Division	5 minutes
California Energy Commission Staff Presentation <ul style="list-style-type: none">Anthony Ng, Erik Stokes – Energy Commission RD&D	30 minutes
Investor Owned Utilities Presentation <ul style="list-style-type: none">Aaron Renfro – Project Manager, Advanced Technology: Strategy & Policy, Southern California Edison	25 minutes
Public Comment	Remaining Time



Purpose of Workshop

- Provide an overview of the EPIC requirements and California Energy Policy Goals and how they inform the EPIC program.
- Discuss the schedule and framework for developing and approving the 2018 – 2020 EPIC Triennial Investment Plan.
- Provide guidance on how stakeholders can participate in the development of the 2018 – 2020 EPIC Triennial Investment Plan.
- Solicit stakeholder input on development of the 2018 – 2020 EPIC Triennial Investment Plan.



Overview of EPIC Program

- The Electric Program Investment Charge (EPIC) is funded by an electricity ratepayer surcharge established by the California Public Utilities Commission (CPUC) in 2011.
 - Annual program funds total \$162 million per year.
- The purpose of EPIC is to:
 - Benefit the ratepayers of the three largest electric investor-owned utilities, Pacific Gas and Electric Co., San Diego Gas and Electric Co., and Southern California Edison Co.
 - Fund clean energy technology projects that promote greater electricity reliability, lower costs, and increased safety.
 - Encourage technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state's statutory energy goals.



Guiding Principles

The primary and mandatory guiding principle of the Electric Program Investment Charge shall be to provide electricity ratepayer benefits, defined as promoting:

Greater Reliability, Lower Costs, and Increased Safety

The following also serve as a set of complementary guiding principles:

- Providing societal benefits
- Achieving GHG emission mitigation and adaptation in the electricity sector at the lowest possible cost
- Supporting the Loading Order
- Advancing low-emission vehicles and transportation
- Supporting economic development
- Using ratepayer funds efficiently



CEC and IOUs

Applied Research and
Development

CEC - \$55 million/yr

Technology
Demonstration and
Deployment

CEC - \$45 million/yr
IOUs - \$30 million/yr

Market Facilitation

CEC - \$15 million/yr

Electricity System Value Chain

Grid Operations and Market Design (CEC)

Transmission and Distribution (CEC & IOUs)

Generation (CEC)

Demand-Side Management (CEC)

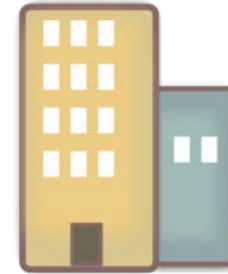


Illustrative Policy Goals

The Clean Energy and Pollution Reduction Act (SB 350) establishes significant clean energy targets for California:



Increase RPS to 50 % by 2030



Double Energy Efficiency Savings from Existing Buildings by 2030

SB 350 also seeks to increase among disadvantaged communities, access to:

- Solar PV and other renewable energy
- Energy Efficiency and weatherization investments
- Zero-emission and near-zero-emission transportation options



Illustrative Policy Goals

- SB 32 – Establishes the goal of reducing GHG emissions to 40% below 1990 levels by 2020
- AB 758 – Requires Energy Commission to develop a comprehensive program to achieve greater energy efficiency in the state’s existing buildings
- AB 2514 – Calls for procurement of viable and cost-effective energy storage. CPUC establishes goal of 1.3 gigawatts by 2020
- Executive Order B-16-12 – sets target of 1.5 million zero-emission vehicles in California by 2025
- Executive Order B-30-15 – Establishes a California GHG reduction target of 40% below 1990 levels by 2020
- Executive Order B-29-15 – Addresses extreme drought by investing in promising new technology that will make California more water efficient
- Proclamation of State of Emergency for Tree Die-Off – Targeting bioenergy demonstrations that utilize forest biomass from designated High Hazard Zones in California



Policy Guidance

SB 96 provides additional direction to the Energy Commission in its administration of EPIC

EPIC should award, “funds to projects that may lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state’s statutory energy goals and that may result in a portfolio of projects that is strategically focused and sufficiently narrow to make advancement on the most significant technological challenges.”

The Energy Commission shall, “use a sealed competitive bid as the preferred method to solicit project applications and award funds pursuant to the EPIC program.”



Commitment to Diversity

The Energy Commission adopted a resolution strengthening its commitment to diversity in our funding programs. We continue to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, Energy Commission staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the Energy Commission's funding opportunities.
- Assist applicants in understanding how to apply for funding from the Energy Commission's programs.
- Survey participants to measure progress in diversity outreach efforts.



Tentative Schedule for Developing 2018-2020 EPIC Investment Plan

Activity	Time Frame
Scoping Workshop	February 3, 2017
Stakeholder Comments and Initiative Suggestions due	February 10, 2017
Energy Commission to post draft Investment Plan for Stakeholder Comments	Early March 2017
March Workshop on Staff Draft Investment Plan	Mid March 2017
Stakeholder Comments due on Draft Investment Plan	Mid March 2017
Energy Commission Business Meeting to Approve Final Investment Plan	April 12, 2017
Submit to CPUC	May 1, 2017



Draft Strategic Framework

Energy Commission staff developed a strategic framework to help guide its planning and implementation of the EPIC Program across triennial investment cycles.

The strategic framework is designed to:

- Communicate a consistent set of priorities to stakeholders
- Illustrate how individual projects funded through the EPIC Program contribute towards high level objectives for achieving the state's energy policy goals.
- Help facilitate strategic alignment of the Energy Commission's EPIC investments



Draft Strategic Framework

- R&D is an iterative process, building upon advancements and innovations conducted under previous efforts.
- Funding initiatives proposed in this plan seek to build upon investments made under the first two triennial investment plans.
- The Strategic Framework is comprised of eight themes designed to align investments across the three plans.
 1. Advance Technologies for Deep Energy Savings in Building and Facilities
 2. Accelerate Customer Adoption of Distributed Energy Resources
 3. Increase System Flexibility from Low-carbon Resources
 4. Improve the Cost-Competiveness of Renewable Generation
 5. Create a Statewide Ecosystem for Incubating New Energy Innovations
 6. Maximize Synergies in the Water-Energy-Food Nexus
 7. Develop Tools and Analysis to Inform Energy Policy and Planning Decisions
 8. Catalyze Clean Energy Investments in California's Underrepresented and Disadvantaged Communities
 9. Other – Stakeholder Input



Submitting Written Comments

Energy Commission staff has provided a form for stakeholders who wish to submit an idea for consideration in the 2018 – 2020 EPIC Triennial Plan

http://www.energy.ca.gov/research/epic/17-EPIC-01/documents/EPIC_Comment_Form.pdf

Completed forms should be submitted via the e-Comment system for Docket 17-EPIC-01

<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=17-EPIC-01>

Submit Comments by 5:00pm on February 10, 2017



Requested Information

Part 1. Initiative Description and Purpose:

1. Please provide a brief description of the proposed initiative:



Requested Information

2. What technical and/or market barriers would the proposed initiative help overcome? For scientific analysis and tools, what knowledge gaps would the proposed initiative help fill?



Requested Information

Part 2. Benefits and Impacts

3. If this initiative is successful, either fully or partially, what would be the expected impact?
Who are the primary users and/or beneficiaries?



Requested Information

4. Describe what quantitative or qualitative metrics or indicators would be used to evaluate the impacts of the proposed initiative:

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Requested Information

5. Please provide a list of peer-reviewed references that support the responses for questions 3 and 4. Proposed initiatives that include peer-reviewed references will be given stronger consideration.



Requested Information

6. (For technologies only) What competitive advantages does the proposed technology solution have over current benchmark technologies? If the technology is beyond the prototype stage, what strategies do you suggest to bring to scale?



Requested Information

Part 3. Connection to Energy Commission's EPIC Framework

Energy Commission staff have developed a draft strategic framework to guide the CEC's planning and implementation of EPIC across triennial investment cycles. One of the objectives of the draft strategic framework is to communicate a consistent set of priorities for organizing current and future EPIC investments.

7. Please indicate which of the following strategic framework themes you feel the proposed initiative best fits within:

- Advance Technology Solutions for Deep Energy Savings in Building and Facilities
- Accelerate Widespread Customer Adoption of Distributed Energy Resources
- Increase System Flexibility from Low-Carbon Resources
- Increase the Cost-Competitiveness of Renewable Generation
- Create a Statewide Ecosystem for Incubating New Energy Innovations
- Maximize Synergies in the Water-Energy-Food Nexus
- Develop Tools and Analysis to Inform Energy Policy and Planning Decisions
- Catalyze Clean Energy Investments in California's Underrepresented and Disadvantaged Communities

(Select One)

If Other, Please Specify



Submitting Written Comments

Stakeholder Comment Form available:

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Submit completed forms via the e-Comment system for Docket 17-EPIC-01:

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Submit Comments by 5:00pm on February 10, 2017



Stakeholder Comment

Comments will be taken from attendees in the room first

For attendees on WebEx, please indicate to the moderator you would like to make a comment and you will be called on

Please state your name and affiliation at the start of your comment

Any comments will become part of the public record