Efficiency and Demand Side Management

Electric Program Investment Charge
Southern California Kickoff Workshop

August 9, 2012

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Energy Efficiency and Demand Side Management Goals

- Provide IOU electric ratepayer benefits
- Reduce costs of energy efficiency and demand side technologies
- Advance science and technology
- Help technologies overcome “valleys of death”
- Reduce both electricity use and demand, cost effectively
- Advance Building and Appliance Energy Efficiency Standards
- Reduce indoor air quality impacts
- Complement and leverage other public and private funding sources

Key Policy Drivers

- **Integrated Energy Policy Report** (IEPR)- Increase energy efficiency; reduce greenhouse gas emissions; support for efficiency standards and Zero Net Energy (ZNE) bldgs.
- **California Energy Efficiency Strategic Plan-** Achieve ZNE buildings; increase energy efficiency in the industrial and agricultural sectors.
- **California Public Resources Code 25402.8** –Indoor air pollution.

Questions

1. What are the major barriers to developing and commercializing clean energy technologies?
2. Where should funding be placed to maximize the deployment of clean energy technologies? (i.e. where is technology innovation needed versus where is support for commercial scale-up the critical need?)
3. What specific initiatives are recommended to advance innovative energy technologies that benefit ratepayers?
4. Define the ratepayer need for which EPIC investment should be targeted.
5. Prioritize initiatives and identify the benefits that should be anticipated and measured, such as:
   - Energy and cost savings, grid reliability, job creation, economic benefits, environmental benefits, likelihood of return on investment, other.
6. What areas are already well covered by DOE and private funding?

Potential Efficiency and Demand Side Management Investment Topics

- Building End-use Energy Efficiency
- Zero Net Energy (ZNE) Buildings
- Industrial, Agriculture, and Water Energy Efficiency
- Demand Response
- Demand Side Storage
- Environmental & Public Health Impacts
- Market Facilitation
- Others?

Building End-Use Energy Efficiency

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Potential Initiatives

- Lighting
- HVAC, Refrigeration
- Plug Loads (consumer electronics and appliances)
- Building Envelope
- Demand response and energy storage
- Consumer Behavior

Zero Net Energy (ZNE) Buildings

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Potential Initiatives

- Single family homes
- Multi-family buildings
- Commercial Buildings

Integration of Energy Efficiency/Renewable Energy/Storage

What mechanisms are needed to catalyze ZNE buildings, such as incentives, financing or others that will maximize deployment?

Industrial, Agriculture, and Water Energy Efficiency

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Potential Initiatives

- Industrial: process improvements, integration of renewables
- Agricultural: irrigation and post harvest processing
- Water/Wastewater: distribution, end use and process improvements

Demand Response

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Potential Initiatives

- Home Communication, Networks and Energy Information Systems
- Commercial Lighting and HVAC
- Industrial: Refrigerated Warehouses and Wastewater/ Water Treatment

Demand Side Storage

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Potential Initiatives

- Customer-side energy storage
- Renewable energy integration for ZNE and industrial applications
- Thermal energy storage (off peak)

Environmental & Public Health Impacts

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Potential Initiatives

- Indoor air quality
- Inform and advise future building and appliance efficiency standards
- Inform and advise future air and water regulations

Market Facilitation

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Potential Initiatives

- Innovation clusters
- Workforce development
- Others?

Full Discussion Tomorrow

Written Comments

Submit written comments by 8/17/12 to:

E-mail: Docket@energy.ca.gov
Include "Docket No. **12-EPIC-01"** in the subject line

OR

California Energy Commission
Dockets Office, MS-4
Re: Docket No. **12-EPIC-01**
1516 Ninth Street
Sacramento, CA 95814-5512