Efficiency and Demand Side Management

EPIC Breakout Session

Secretary of State Building, 1500 11th Street

August 2nd, 2012

Beth Chambers and Silas Bauer

For Remote Access Participants:
https://energy.webex.com
Meeting Number: 925 022 284
Password: ch@4epic
Audio only: 866-469-3239

Purpose of Breakout Session

- Gather stakeholder input on investment areas and specific initiatives
- Provide feedback on proposed technology, resource, and strategy topic areas
- Prioritize investment topics
- Identify ways the Energy Commission can coordinate with organizations to leverage other efforts as well as avoid duplication

Breakout Session Expectations

- Speakers should identify their names and affiliation
- Speakers are limited to 3 minutes at a time
- Comments should be limited to the scope of CPUC EPIC decision
- Any additional input should be submitted in written comments by 8/10/12.

Schedule of Activities

1:00	Staff Overview of Potential Efficiency Demand Side Management Investment Priorities
1:15	Stakeholder Input on Investment Priorities
3:15	Final Discussion
3:30	Break
4:00	Reconvene in California Energy Commission, Hearing Room A (1516 9th Street)

Energy Innovation Pipeline

ENERGY INNOVATION PIPELINE

APPLIED RESEARCH AND DEVELOPMENT

CEC- $55 million/year

Pre-commercial development
Lab-scale demonstration
Pilot-scale demonstration

TECHNOLOGY DEMONSTRATION AND DEPLOYMENT

CEC - $45 million/year

Pre-commercial demonstration
Pre-commercial deployment

MARKET FACILITATION

CEC - $15 million/year

Regulatory assistance
Workforce development
Education and outreach
Program tracking
Market research

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.

Potential Efficiency and Demand Side Management Investment Topics

- Building End-use Energy Efficiency
- Zero Net Energy Buildings
- Industrial, Agriculture, and Water End-use Energy Efficiency
- Demand Response
- Demand-side storage
- Energy efficiency-related environmental/public health impacts

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?

Building End-Use Energy Efficiency

Potential Target Areas

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

Zero Net Energy (ZNE) Buildings

Potential Target Areas

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

} Energy Efficiency/ Renewable Energy/Storage Integration

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

Industrial, Agriculture, and Water Energy Efficiency

Potential Target Areas

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

Demand Response

Potential Target Areas

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

Demand Side Storage

Potential Target Areas

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

Environmental & Public Health Impacts

Potential Target Areas

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

Market Facilitation

Full Discussion Tomorrow

Potential Initiatives

- Innovation clusters
- Workforce development
- Others?

Summary and Additional Stakeholder Input

Summary of all breakout sessions to be held at workshop site:
CA Energy Commission, Hearing Room A, 1516 9th St

For Remote Access Participants:
https://energy.webex.com
Meeting Number: 927 450 996
Password: ch@t4epic
Audio only: 866-469-3239

Submit written comments by 8/10/2012 to the following:

California Energy Commission
Dockets Office, MS-4
Re: **Docket No. 12-EPIC-01**
1516 Ninth Street
Sacramento, CA 95814-5512
Or E-mail: **Dockets@energy.ca.gov**