

**CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLAN  
RESEARCH AND TECHNOLOGY ACTION PLAN  
WORKING MEETING NOTICE**

<b>Date</b>	<b>November 1<sup>st</sup> and 2<sup>nd</sup> , 2011</b>
<b>Time</b>	<b>Nov 1<sup>st</sup>: 10:00 am – 4:30 pm Nov 2<sup>nd</sup>: 9:30 am – 4:30 pm</b>
<b>Location/Conference Call Information</b>	<b>San Francisco, CA Please refer to the end of this notice for details</b>

**PURPOSE OF THE MEETING**

The purpose of this meeting is to facilitate information exchange and continue the development of the action plan for the Research and Technology (R&T) Chapter of the CEESP<sup>1</sup>.

The R&T Action Plan will be designed to help California achieve the Zero Net Energy (ZNE) and hot-dry climate HVAC technologies goals described in the California Long-term Energy Efficiency Strategic Plan (CEESP):

- 1. Research and Development to achieve incremental improvement in existing integrated demand side management (IDSM) technologies and breakthrough in advancing new and/or emerging DSM technologies***
- 2. Commercialization including demonstration, deployment and consumer acceptance to advance the market adoption of integrated DSM technologies***

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<sup>1</sup> CPUC, *The California Efficiency Strategic Plan* (January 2011 Update):

[http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan\\_Jan2011.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf)

**MEETING OBJECTIVES & EXPECTED OUTCOMES**

**Meeting Objectives**

**Discuss current and future opportunities and key actions needed to set the research agenda for IDSM<sup>2</sup> Research, Development, Demonstration and Deployment (RDD&D) to advance the BBEES goals of ZNE in residential and commercial sector as well as hot/dry HVAC. The R&T Action Plan will address actions that are needed to achieve both incremental (for existing and/or near-term technologies) and game-changing (for new and/or emerging technologies), technology innovations and functionality in the following technology areas:**

- Integrated Building Design including Whole Building Integrated Solutions and New Building Materials and Designs
- Building Management Systems and Diagnostics
- Plug Loads and Controls
- Hot/dry Climate HVAC
- Lighting
- Demand Response
- Renewable and Storage

**Expected Outcomes from the Meeting**

- **Review key actions identified in the July R&T Action Plan Workshop**
- **Develop additional key actions and timelines to achieve the milestones in the R&T chapter of the CAEESP for incremental and game-changing technology innovations and deployment**
- **Identify potential champions (individuals and/or organizations) to lead the implementation of the key actions**

**Meeting Structure**

**Day 1 (Nov 1st, 2011):**

The focus of the discussion during the first day meeting will be on: (a) Research and Development (R&D) in Existing and New/Emerging Technologies; (b) Pilots, Incubators and Demonstration; and (c) Consumer Acceptance and Decision Making & Market Intelligence.

**Day 2 (Nov 2nd, 2011):**

The focus of the discussion during the second day meeting will be on: (a) Deployment of Technologies in Residential and Commercial Sectors; and (b) Consumer Acceptance and Decision Making & Market Intelligence.

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<sup>2</sup> Integrated Demand Side Management includes energy efficiency, demand response and renewable energy.

**DAY 1: (NOV 1<sup>ST</sup>, 2011)**

**WORKSHOP AGENDA**

<u>TOPIC</u>	<u>TIME</u>
<b><u>Morning (10:00 am - 12:30 pm)</u></b>	
<u>Introductions &amp; Overview</u> 1. Purpose 2. Overview of R&T Action Plan 3. Overview of Breakout Sessions	10:00 am - 10:30 am
<u>Breakout Sessions*</u> 1. R&D in Existing & Emerging/New Technologies 2. Pilots, Incubators & Demonstration	10:30 am - 12:30 pm
<b><u>Lunch Break (12:30 pm - 1:30 pm)</u></b>	
<b><u>Afternoon (1:30 pm – 4:30 pm)</u></b>	
<b>Breakout Sessions Prepare for Reporting</b>	1:30 pm – 1:45 pm
<u>Report Back from Breakout Sessions</u> 1. R&D in Existing & Emerging/New Technologies 2. Pilots, Incubators & Demonstration	1:50 pm – 2:15 pm 2:15 pm – 2:40 pm
<u>Group Working Session</u> <b>Consumer Acceptance and Decision Making &amp; Market Intelligence (R&amp;D and Pilot/Demonstration Phase)</b>	2:45 pm – 3:15 pm
<b><u>Coffee Break (3:15 pm – 3:30 pm)</u></b>	
<u>Group Discussion</u> 1. Summary of Key Actions 2. Schedule & Timeline	3:30 pm - 4:00 pm
<u>Wrap-up/Next Steps</u>	4:00 pm - 4:15 pm

**\*Expected tasks to be covered by the Breakout Sessions' Working Group**

- Review key actions from July WS
- Identify key actions for the R&T milestones and timelines to achieve milestones
- Develop implementation recommendations
- Identify potential champions
- Develop inventory of progress to date (if time allows)

**DAY 2: (NOV 2<sup>ND</sup>, 2011)**
**WORKSHOP AGENDA**

<u>TOPIC</u>	<u>TIME</u>
<b><u>Morning (9:30 am - 12:30 pm)</u></b>	
<u>Introductions &amp; Overview</u> 1. Purpose 2. Overview of Outputs from Day 1 3. Overview of Breakout Sessions	9:30 am – 10:00 am
<u>Breakout Sessions*</u> 1. Deployment of Technologies in Residential Sector 2. Deployment of Technologies in Commercial Sector	10:00 am - 12:30 pm
<b><u>Lunch Break (12:30 pm - 1:30 pm)</u></b>	
<b><u>Afternoon (1:30 pm – 4:30 pm)</u></b>	
<b>Breakout Sessions Prepare for Reporting</b>	1:30 pm – 1:45 pm
<u>Report Back from Breakout Sessions</u> 1. Deployment of Technologies in Residential Sector 2. Deployment of Technologies in Commercial Sector	1:50 pm – 2:15 pm 2:15 pm – 2:40 pm
<u>Group Working Session</u> <b>Consumer Acceptance and Decision Making &amp; Market Intelligence (Deployment Phase)</b>	2:45 pm – 3:15 pm
<b><u>Coffee Break (3:15 pm – 3:30 pm)</u></b>	
<u>Group Discussion</u> 1. Summary of Key Actions 2. Schedule & Timeline	3:30 pm - 4:00 pm
<b><u>Wrap-up/Next Steps</u></b>	4:00 pm - 4:15 pm

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Meeting Location & Conference Call Information

DAY 1

<b>Date</b>	Tuesday - November 1 <sup>st</sup> , 2011
<b>Time</b>	10:00 am – 4:30 pm
<b>Location</b>	<p><b>Benicia Room</b></p> <p><b>Milton Marks Conference Center</b></p> <p><b>455 Golden Gate Avenue</b></p> <p><b>San Francisco, CA 94102-3688</b></p>
<b>Webinar &amp; Conference Call Information</b>	<p><a href="https://www1.gotomeeting.com/join/406415065">https://www1.gotomeeting.com/join/406415065</a></p> <p>Meeting ID: 406-415-065</p> <p>Join the conference call:</p> <p><b>1 866-812-8481</b></p> <p><b>Code: 4545236</b></p>

Meeting Location & Conference Call Information

DAY 2

<b>Date</b>	<b>Wednesday - November 2<sup>nd</sup>, 2011</b>
<b>Time</b>	<b>9:30:00 am – 4:30 pm</b>
<b>Location</b>	<b>Auditorium California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102</b>
<b>Webinar &amp; Conference Call Information</b>	<a href="https://www1.gotomeeting.com/join/280506472">https://www1.gotomeeting.com/join/280506472</a>  Meeting ID: <b>280-506-472</b>  Join the conference call:  <b>1 866-812-8481</b>  Code: <b>4545236</b>

## Background on the Research & Technology Chapter of the CEESP

### Vision

*“Technology advancement related to energy use and demand will match—or even eclipse—the consumer electronics industry in innovation, time to market, and consumer acceptance.”*

*(CEESP, page 79)*

The CEESP embraces four specific programmatic goals, known as the “Big Bold Energy Efficiency Strategies” (BBEES)<sup>3</sup>:

- 1. All new residential construction in California will be Zero Net Energy by 2020;**
- 2. All new commercial construction in California will be Zero Net Energy by 2030;**
- 3. Heating, Ventilation, and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California climate; and**
4. All eligible low-income customers will be given the opportunity to participate in the low energy efficiency program by 2020.

Note: the R&T Action Plan will address the three first BBEES.

### **Guiding Strategies:**

1. Engage the full-range of participants: private entities, national labs, clean energy and environmental groups, green venture capital firms, Federal, State, and local government, utilities and consumers.
2. Employ systems approach to establishing research priorities
3. Identify new technologies and enhance existing technologies to make them better and improve their uptake and use
  - *Breakthrough in advanced new technologies and incremental technology performance improvements for existing technologies*
  - *Holistic approach of building design, delivery and operations*
  - *Directed research and technology investment*
4. Facilitate paths-to-market for technologies and enabling/supporting practices through directed research and technology investment, market push/pull techniques, and targeted product distribution methods
5. Apply social and behavioral science theory to encourage the adoption and best use of resources and energy efficient technology

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<sup>3</sup> BBEES are established by the CPUC in Decision 07-10-032 and Decision 07-12-051.

The Research and Technology chapter of the CEESP (Chapter 11) includes two main goals:

**Goal 1**

Refocus utility and Energy Commission energy efficiency research and technology support to *create demand pull* and *set the research agenda* for both incremental and game-changing energy efficiency technology innovations.

## Goal 1 Results:

Ratepayer-funded R&D programs will explicitly support widely applicable whole-building improvement, lighting, and plug load solutions envisioned in this Plan and will be used to leverage other private and public funds for the deployment of new technologies.

**Quote for Goal 1:**

*“California will benefit greatly from deliberate efforts to secure better integration and leverage across these activities.*

*While new buildings and industrial facilities offer good opportunities to adopt new advanced technologies, this construction replaces only 1-2 percent of the existing stock each year. To make rapid progress with energy efficiency will also require making incremental technology improvements that can be inserted into California’s existing buildings and industrial facilities. It will be important that research on advanced technologies pursue paths that target breakthrough as well as incremental technologies and their performance gains.”* (CEESP, page 80)

**Goal 2**

Conduct *targeted emerging technologies R&D* to support the Big, Bold Energy Efficiency Strategies and integrated energy solutions goals.

## Goal Results

Profound improvement in equipment efficiency as well as new building materials and designs aimed at achieving more efficiency from new buildings than technically feasible today, and necessary to achieve Zero Net Energy and hot/dry climate HVAC outcomes.

**Quote for Goal 2:**

*“To stimulate major breakthroughs in support of BBEES there must be an intensive focus on the technologies, products, and practices driving the majority of building energy use, as well as integrated building design approaches and dynamic diagnostic and energy management control systems that take a holistic view of building design, delivery and operations.”* (CEESP, page 83)