

Enabling Technology Development (ETD) Project

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ETD Project Manager

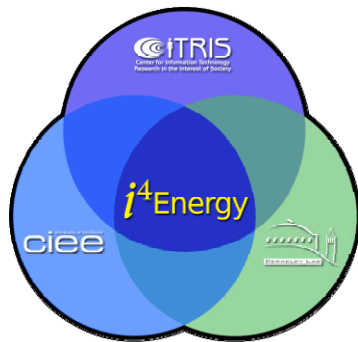
California Institute for Energy and Environment

September 14, 2010



Purpose of Today's Workshop

- ◆ Introduce the ETD Project to researchers and interested individuals who are not familiar with the project
- ◆ Present the progress and results of current and recently completed research projects



- ◆ Present other *i*⁴Energy Center research funded by PIER
- ◆ Share some success stories of *i*⁴Energy Center research funded by PIER

California Institute for Energy and Environment (CIEE)

URL: <http://uc-ciee.org>

- ◆ **Administered by the University of California at Berkeley**
- ◆ **Independent and serves all of the University of California**
- ◆ **Mission: Support public-interest energy and environmental research in California**
 - ◆ Planning
 - ◆ Project and contract administration
 - ◆ Technical coordination
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ETD Project

- ◆ **CEC PIER Funded Project**
 - ◆ Approved in June 2002 to fund DR research
 - ◆ 1st DR project (UCB) funded in June 2003
 - ◆ Research expanded beyond DR to Distribution Grid and Legacy Buildings (January 2008)
 - ◆ One of *i*⁴Energy Center's portfolio of projects (2009)
- ◆ **Purpose of funding is to develop enabling technologies in the areas Demand Response, Distribution Grid, and Legacy Buildings**
 - ◆ 10 times the capabilities and 1/10th the cost
 - ◆ Create disruptive technology
 - ◆ High-risk – but winners will also have high impact
- ◆ **Multi-disciplinary and collaborative research**
- ◆ **Leverage R&D spending by other institutions**

Current State of ETD Project

◆ 6 Active Projects

- ◆ UC Berkeley (since June 2003)
- ◆ Five other projects started last year (two are presenting today)

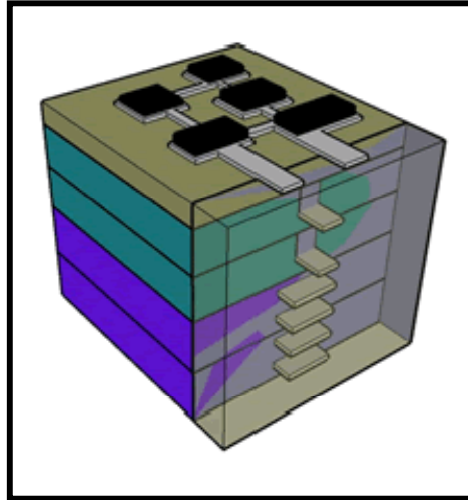
◆ 7 Completed Projects

- ◆ One recently completed (conclusions and next steps will be presented today)

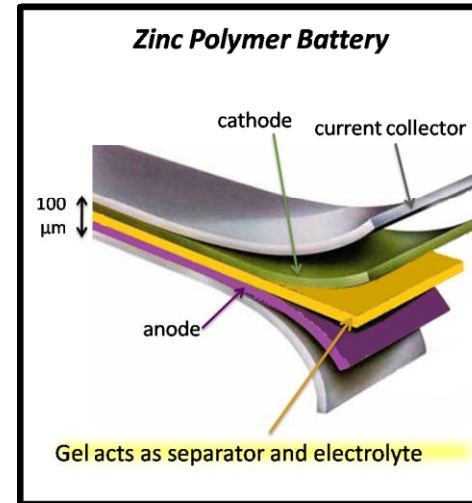
◆ Planning New Projects to Start in 2011

Cleantech to Market

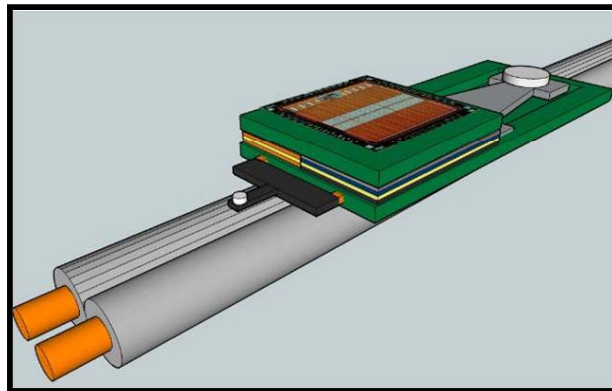
3 Case Studies – ETD Projects



PicoCube System



Printable Battery



*Passive Non-intrusive
MEMS Current Sensor*

CEC-funded UC Energy Research Has Influenced Private Industry



Wireless Industrial Technologies

Wireless Sensor Networking



Wireless Lighting Control

Data Center Energy Management

Intelligent Energy Management



Programmable Communicating Thermostat



Adaptive Comfort Control For Optimized EE & DR

** partial representative list*

New Energy Professionals and Thought Leaders



[Therese Peffer](#)



[Dan Steingart](#)



[Alex Do](#)



[Nate Ota](#)



[Will Watts & Bill Burke](#)

***Recent Graduates: Ben Cook, Christine Ho
Dozens more graduate student researchers***

**** partial representative list***