



BUILDING INDUSTRY RESEARCH ALLIANCE

# Residential Plug Loads & Controls: What's New, What's Next?

*A Building America Experts' Meeting*

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ConSol, Building America Team

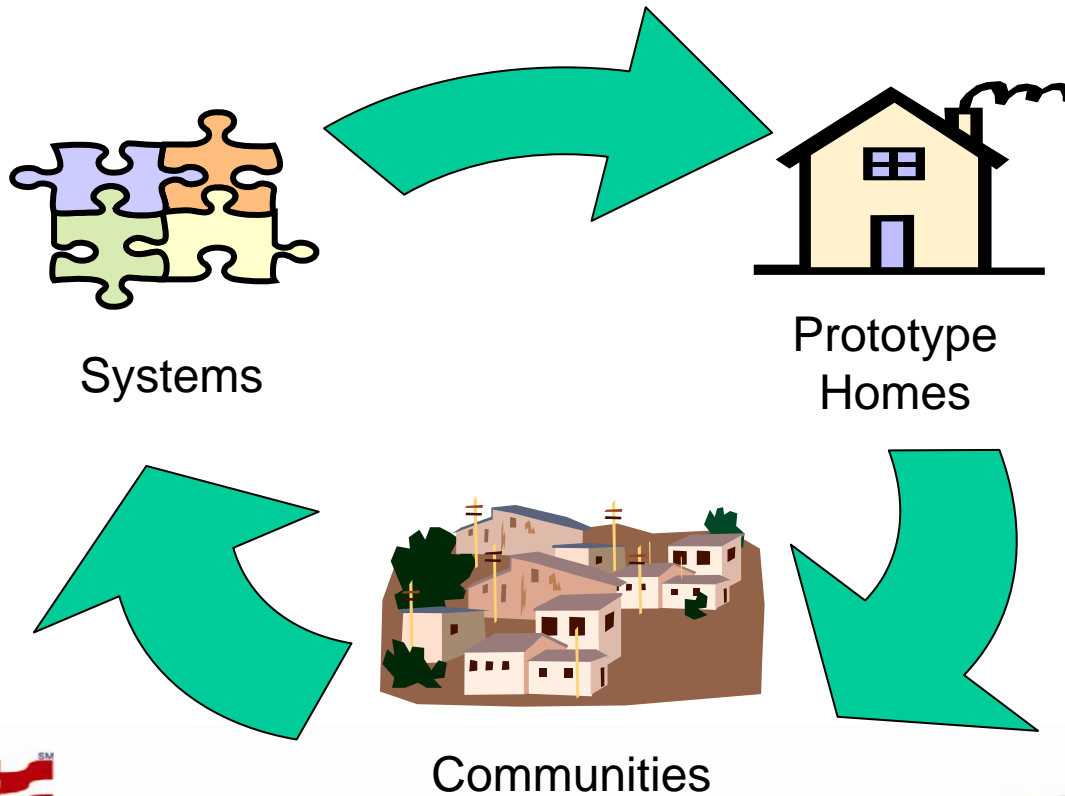
August 19, 2008

ACEEE Summer Study 2008 Informal Session



# What is Building America?

- U.S. Department of Energy (DOE) Research Program
- Public/Private Partnership aimed at incremental progress toward cost-effective, marketable Zero Energy Homes by 2020



# Goal: Zero Energy Homes by 2020...

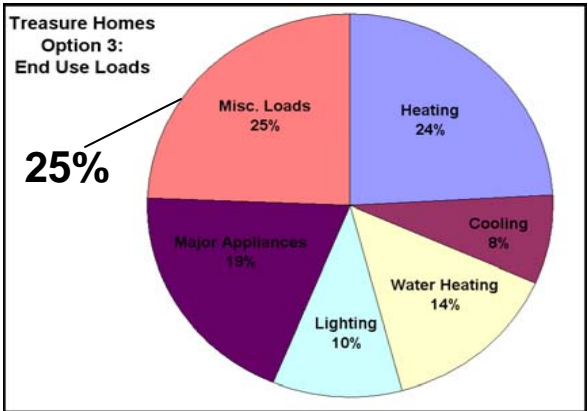
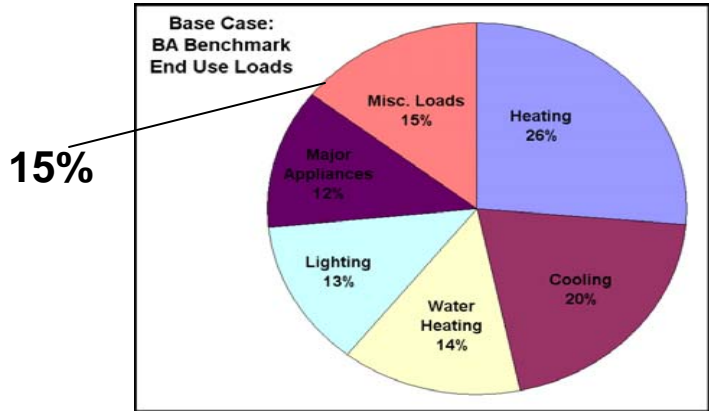
We're doing well. We've continued incremental progress toward our goal at a pace that **should** allow Building America builders to construct net Zero Energy Homes by 2020.

But wait just a minute...



# Today's Near- ZEH: Treasure Homes (CA Central Valley- Hot & Dry)

2,153 Square Feet      41% Whole House Savings\*

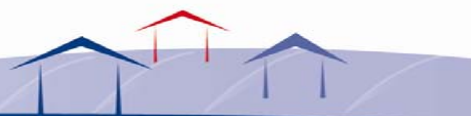


15%

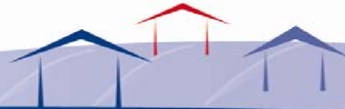
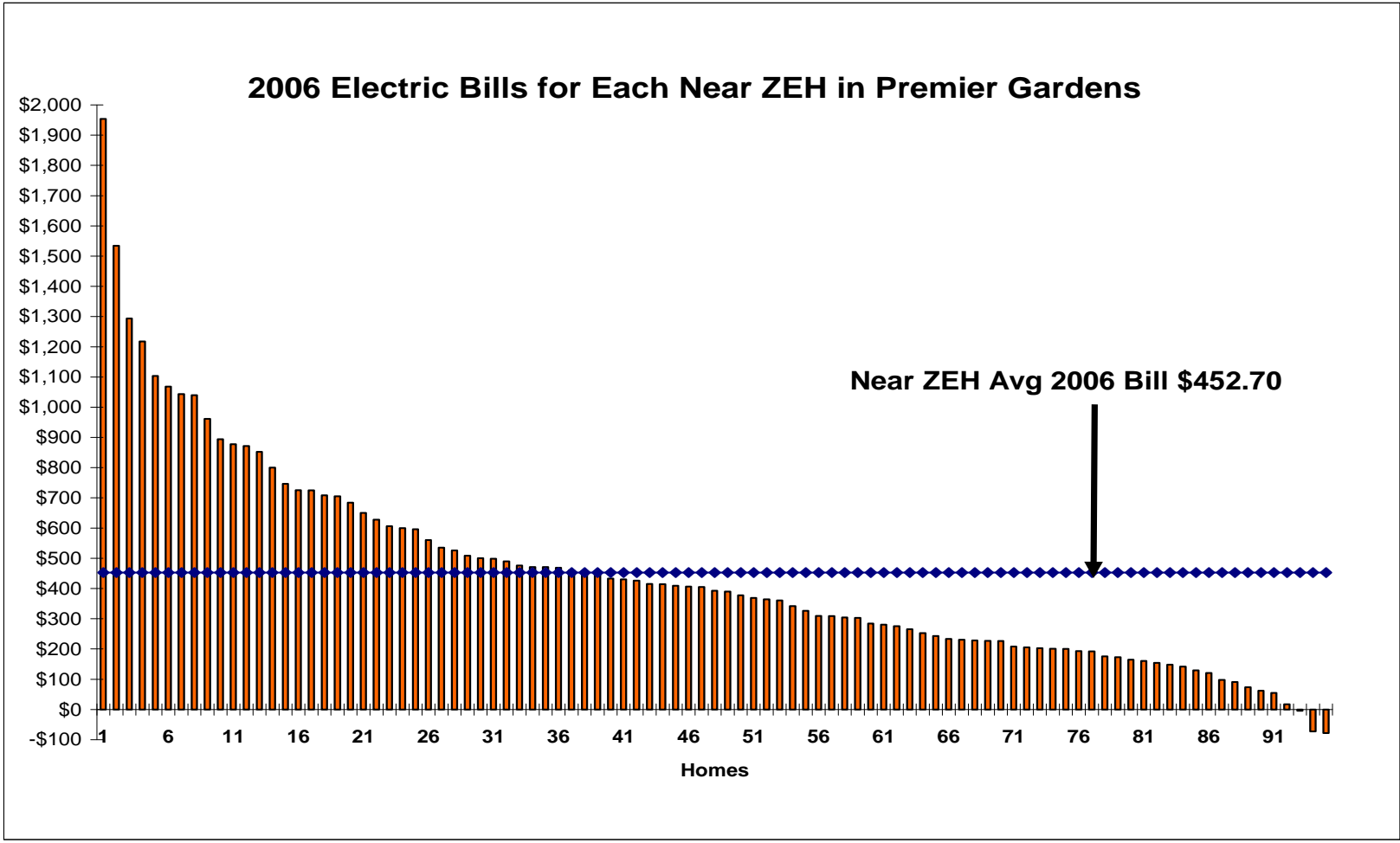
25%

End Use	% Saving
Heating	45.92%
Cooling	77.74%
Water Heating	40.08%
Lighting	51.75%
Major Appliances	7.44%
Misc Plug Loads	0%

\* Simulated use



# Measured Electricity Use at Building America Community



# What are Miscellaneous Electric Loads anyway?



Includes:

- Small Appliances (e.g. electric razor, coffee maker)
- Large “extra” Appliances (e.g. freezer, 2<sup>nd</sup> refrigerator)
- Consumer Electronics (e.g. TVs, Stereos, Phone Chargers)
- Some hard wired features (e.g. door bell, alarm system)

This *does not* include:

- *Lighting (Plug in or hardwired)*
- *Large Standard Appliances (e.g. refrigerator)*

*While lighting, HVAC and large appliances are not included, Plug Load management might include control of these features*

# Scope and Goals for Session-

Identify:

- ✓ existing research and practice aimed at MELs reductions
- ✓ short (<5 yrs) and long (>10 yrs) term solutions
- ✓ opportunities and synergies between industries & technologies
- ✓ barriers, challenges and necessary research toward consumer friendly solutions

# Format:

- 1) Introduce Panelists
- 2) Brief Presentations/Opening Remarks from our Panelists
- 3) Open Dialogue between Panel & Audience  
Moderator (that's me) to call on audience questions and pose periodic questions of panel and audience

# Panelists:

Ren Anderson, Ph.D. (NREL)

Rob Hammon, Ph.D. (ConSol)

Danny Parker (FSEC)

Sarah Darby, Ph.D. (Oxford ECI)

# Residential Plug Loads & Controls: What's New, What's Next?

## Let's Get Started!

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August 19, 2008  
ACEEE Summer Study 2008  
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**What do you think?**



To request additional information, make suggestions, or to ask questions contact me at:

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