



Northeast Energy Efficiency Partnerships

Northeast/Mid-Atlantic Retail Products Working Group Meeting

Hosted By: Northeast Energy Efficiency Partnerships
Wednesday, September 29, 2015

About NEEP

Mission

Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

Approach

Overcome barriers and transform markets via ***Collaboration, Education and Enterprise***

Vision

Region embraces **next generation energy efficiency** as a core strategy to meet energy needs in a carbon-constrained world



One of six regional energy efficiency organizations (REEOs) funded by the US Department of Energy (US DOE) to link regions to US DOE guidance, products and programs



AGENDA

Introductions

Upstream HPWH Presentation

State Roundtable: Latest and Greatest

Morning Coffee Break

E-Commerce Whitepaper

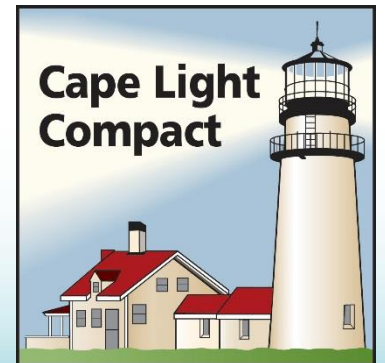
Home Energy Management Systems

ENERGY STAR Retail Products Platform Update from PG&E

Short Takes & Wrap-up



WHO IS IN THE INITIATIVE?



Efficiency Vermont

nationalgrid

INTRODUCTIONS

- I will run through the list
- Please introduce yourself
 - Name
 - Organization
 - Title



*you will all be un-muted, but please mute the phone on your line if there is background noise for ease of discussion



GeoSpring Hybrid Electric Water Heater

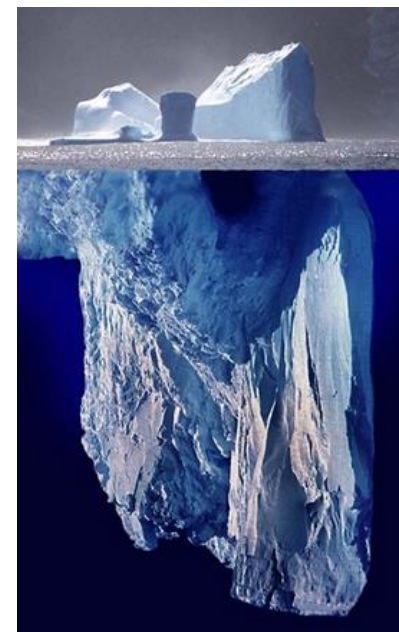


GE APPLIANCES

ENERGY STAR WATER HEATER PENETRATION

At 1%, Heat Pump Water Heaters (HPWH) have the lowest penetration of all Energy Star product categories

Product Category ¹	2014 Units Shipped (thousand units unless otherwise stated)	2014 Estimated Market Penetration
Water Heaters		N/A
Gas Storage	216	5%
Gas Tankless	416	N/A
Heat Pump	46	1%
Solar	3	N/A



Source:

https://www.energystar.gov/ia/partners/downloads/unit_shipment_data/2014_USD_Summary_Report.pdf?3c1f-59eb

WATER HEATER PURCHASING FACTS

Failure based unplanned purchase, crisis emergency....

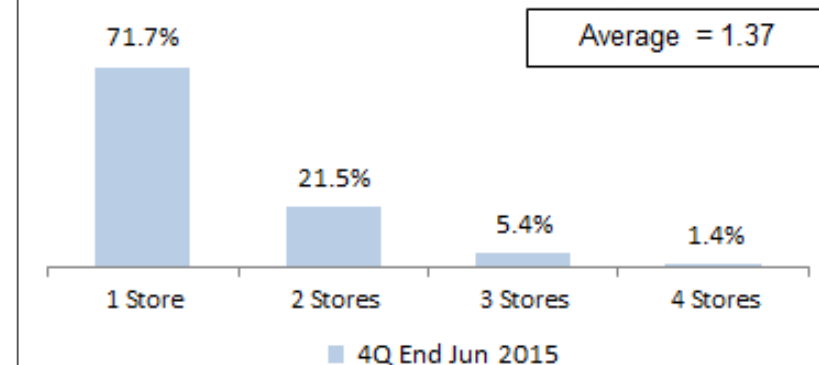
....HPWH upfront cost barrier

....No time to shop and learn about HPWH energy savings benefits and Utility incentives

Why Bought Product

	2015 Q2
<i>Sample Size</i>	233
Old one didn't work at all	53.7
Old one required service	30.0
Other reason	4.2
Just wanted a new one	6.5
Moved to a new home	3.3
Remodeled my kitchen	2.3
Wanted an additional one	0.0

Number Stores Shopped



COLLABORATION OPPORTUNITIES

www.geospringtoolbox.com

Mailers/Bill stuffers



Digital



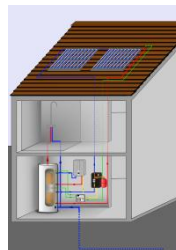
Store events



Instant rebates



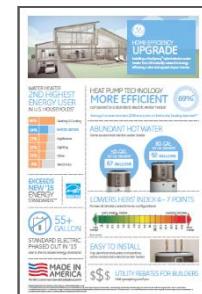
Demand Response Thermal storage



Low income Weatherization



New Homes



INSTANT UTILITY INCENTIVES

Connecticut

\$400

INSTANTLY

Energize CT

Until 12/31/15

**Washington,
Oregon, Idaho,
& Montana**

\$400

INSTANTLY

NEEA

9/1/15 to 12/31/15

**San Diego
California**

\$250

INSTANTLY

SDG&E

Until 12/31/15

Vermont

\$400

Plumbing channel

INSTANTLY

Efficiency VT

Until 6/30/16



INSTANT UTILITY INCENTIVES – LEAKAGE PREVENTION

Store and counter selection based on trade area. Example shown Lowe’s store in Fayetteville NC, 83% of trade area coming from 4 zip codes

Store Name	Id	Name	Distance (Miles)	Store Share	Cumulative Share
LOWES	388	1929 Skibo Rd: Fayetteville NC: 28314			
	28303	28303 Fayetteville, NC	1.4	36.61	36.61
	28314	28314 Fayetteville, NC	3.6	29.91	66.52
	28311	28311 Fayetteville, NC	8.0	9.40	75.92
	28390	28390 Spring Lake, NC	10.7	7.44	83.36
	28304	28304 Fayetteville, NC	3.1	5.35	88.72
	28307	28307 Fort Bragg, NC	5.7	4.92	93.64
	28301	28301 Fayetteville, NC	4.8	2.07	95.71
	28305	28305 Fayetteville, NC	3.5	0.92	96.63
	28310	28310 Fort Bragg, NC	13.3	0.63	97.26
	28308	28308 Pope Army Airfield, NC	7.7	0.14	97.41
		Non-Resident Population		2.59	100.00
		All Other Residents		0.00	100.00

Source Nielsen Spectra

INSTANT UTILITY INCENTIVES – REBATE ATTRIBUTION


In store

Price shown includes

\$250 INSTANT REBATE

- Electric heat pump water heaters
- No application required
- Minimum 40 gallons
- Energy factor must be 2.0 or greater


- If replacing existing water heater, existing unit must be electric
- SDG&E residential customers only
- Limit 1 rebate per household



See associate for details.

Online

There is one rebate available in San Diego, CA [Find Rebates](#)



General Electric GEH50DFEJSR Water Heater

Item #: 665053 | Model #: GEH50DFEJSR | ENERGY STAR certified

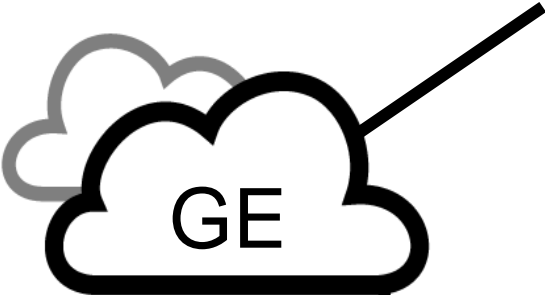
1 rebate

Download	Rebate Amount	Program	Valid Dates	Important Details
	\$250 instant discount reflected in price	San Diego Gas & Electric - CA	Purchase between Jan 1, 2015 and Dec 31, 2015	<ul style="list-style-type: none"> Cannot be combined with other utility rebates If replacing existing water heater, existing unit must be electric. Limit 1 rebate per appliance type every 5 years Must be a customer of participating utility. Must be installed in service territory. Post installation inspection may be required.

Powered by [EcoRebates.com](#) © 2015 | [Terms](#)

INSTANT UTILITY INCENTIVES – M&V

Utility

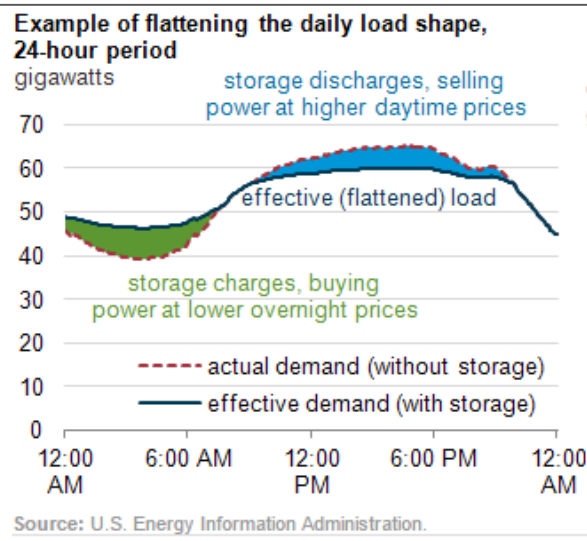


IP ADDRESS
PHYSICAL LOCATION



INSTALLED BASE FOR DEMAND RESPONSE AND THERMAL STORAGE

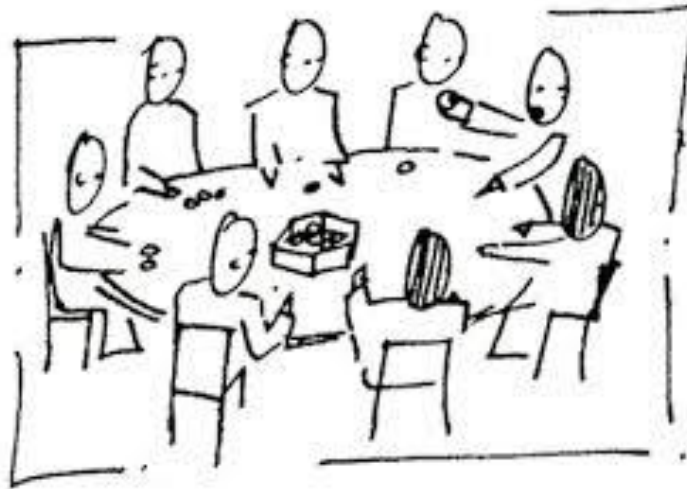
Load shifting, peak shaving, integration of renewables



STATE ROUNDTABLE: LATEST AND GREATEST



- What programs are doing well in your state?
- Which programs are causing drama?
- What would you like to ask the other PAs at the meeting?
- Interesting new technologies, new products, new vendors?



STATE ROUNDTABLE: LATEST AND GREATEST



- DCSEU
 - Lighting's strong quarter with LED fixtures is taking off. No more than \$5 for LED.
 - Dryers picked up since Jan rebate, clothes washer rebates is seen 4x than dryers.
- Connecticut
 - Excellent with lighting and appliances, close to meeting goals (next month for LEDs), lighting and appliances increase in activity, decreasing LED prices.
 - HPWH and gas WH are positive. We are seeing more lift than last year's.
 - We use Enervee for online rebate processing. We see 75products/month (vs. 25/month).
- New Hampshire
 - Lighting and appliance are underperforming compared to 2013-2014, however electric HVAC exceeding goal and is closed for remainder of 2015.
 - 2015 is a transition year for lighting as it goes from coupon to modified coupon.
- NYSERDA
 - Working upstream with partners and focused on emerging technology (e.g. HVAC, HEMS, Advanced Fixtures, Washers, etc.). Dropped lighting.
 - Still in transition, but will announce winners by Nov and Dec for new program designs.
- Efficiency Vermont
 - For 2016: Working to figure out new rebate levels and nail down RPP pilot
 - Supporting E* and HP dryer. Looking into larger bulk purchase for multifamily.
 - On October 1st there will be a reset for lighting. There was a run on LEDs and closer to budget than expected, so scaling back on incentives. Moving away from specialty and standard CFLs. Pushing market to lower pricing to be competitive with halogens.
 - Tier 1 APS at \$7, will re-focus on APS in 2016, might consider in 2016.

2015 Northeast ENERGY STAR Appliance Programs

State	Utility/Energy Efficiency Service Provider	Room AC	Fridge-Freezer	Room Purifier	Dryer	Clothes Washer	Heat Pump Water Heater	Pool Pump	De-humidifier	2 nd Fridge Recycling	Shower head
CT	Eversource The United Illuminating Co.		Refrigerator: \$50 with Enervee ≥ 75		Electric \$100 Heat Pump \$200	\$50	\$400				
DC	DC SEU	Central \$150-500 Ductless \$400	\$50-100		\$50-400	\$50-75	\$500		\$25		
MA	Cape Light Compact Eversource National Grid Unitil		Refrigerator: \$50 for Most Efficient	\$40	Electric \$50 Heat Pump \$200		\$750	TBD	\$30	\$50	Up to \$15
NH	Eversource Liberty Utilities NH Electric Co-op Unitil	\$20	\$30 for Refrigerator	\$15		\$30	\$500-600 EF>2.3			\$30	
NY	NYSERDA*										
NY	PSEG-Long Island		Refrigerator: \$75 for Most Efficient	\$25-50	Electric \$150 Heat Pump \$300	\$75 Most Efficient		\$150-350 to customer \$75-100 to installer		\$50 (\$35 add-on for AC or De-humidifier)	
RI	National Grid (RI)		Refrigerator: \$50 for Most Efficient	\$40	Electric \$50 Heat Pump \$200		\$750	TBD	\$30	\$50	Up to \$15
VT	Efficiency Vermont		\$40-75 No standalone freezer		\$50-400	\$40-75	\$550	\$400	\$25	\$50 (\$25 add-on for AC)	



2015 Northeast ENERGY STAR Business and Consumer Electronics (BCE) Programs

State	Utility/Energy Efficiency Service Provider	TV	Desktop Computer	Monitors Display	Advanced Power Strip	Programmable or wi-fi Thermostat	Servers
CT	Eversource The United Illuminating Co.						
DC	DCSEU					\$25 for programmable	
MA	Cape Light Compact Eversource National Grid Unitil	\$10-50 for Most Efficient	\$5-10 for Most Efficient		Up to \$15 for Tier 1 Up to \$40 for Tier 2	\$25 for programmable \$100 for wi-fi enabled	
NH	Eversource Unitil Liberty Utilities New Hampshire Electric Co-op				\$10	\$100 for wi-fi (as an add-on for rebated Heat Pumps)	
NY	NYSERDA*						
NY	PSEG - Long Island				\$10 Only through online catalog		
RI	National Grid (RI)	\$10-50 for Most Efficient	\$5-10 for Most Efficient		Up to \$15 for Tier 1 Up to \$40 for Tier 2	\$25 for programmable \$100 for wi-fi enabled	
VT	Efficiency Vermont	\$4-15	\$7	\$3	\$7-10		\$20



2015 Northeast ENERGY STAR Lighting Programs

State	Utility/Energy Efficiency Service Provider	Standard CFLs	Specialty CFLs	CFL Fixtures	Standard LEDs	Specialty LEDs	LED Fixtures
CT	Eversource The United Illuminating Co.	Up to \$1		Up to \$10	Up to \$8	Up to \$8	Up to \$10
DC	DCSEU	Up to \$2	Up to \$7 (sunset mid-2015)	Up to \$5 (sunset mid-2015)	Price floor \$3.99 Incentive cap \$10	Price floor \$3.99 Incentive cap \$10-15	\$15 Price floor \$3.99
MA	Cape Light Compact Eversource National Grid Unitil	Up to \$1.40	Up to \$4	Up to \$15	Up to \$12	Up to \$15	Up to \$15
NH	Eversource Liberty Utilities New Hampshire Electric Co-op Unitil	\$2/pack (4≥bulbs)			\$3/pack (3≤bulbs) \$8/pack (4≥bulbs)		\$10
NY	NYSERDA*						
NY	PSEG - Long Island	\$0.80	Up to \$2		Up to \$5	Up to \$6	Up to \$6
RI	National Grid (RI)	Up to \$1.40	Up to \$4	Up to \$15	Up to \$12	Up to \$15	Up to \$15
VT	Efficiency Vermont	Price floor 0.99	Price floor \$0.99 Incentive cap \$14.01	\$5	Price floor \$4.99 Incentive cap \$14.01	Price floor \$4.99-20.00 Incentive cap \$15-30	Price floor \$4.99 Incentive cap \$15

COFFEE BREAK: 10 MINUTES





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E-Commerce Whitepaper

Home Energy Management Systems

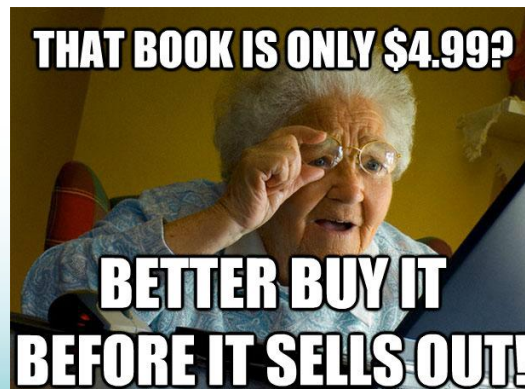
ENERGY STAR Retail Products Platform Update from PG&E

Short Takes & Wrap-up



E-Commerce Whitepaper

- The issue:
 - Customers are researching major product purchases online.
 - Most downstream rebate programs have been focused on in-store promotion
 - Opportunity (and need) to get efficiency at the table where customers are making their purchasing decisions
 - Not to mention, diminishing available savings from traditional retail products (i.e. lighting)



E-Commerce Whitepaper

- Coming soon! (by end of year)
- Focuses on:
 - Defining characteristics of e-commerce
 - Existing online platforms and pilots
 - Looking at the potential for collaboration with efficiency
- We hope this whitepaper can help PAs figure out how to embrace e-commerce, integrate with existing and new program models
- Questions? Ideas?

BRACE YOURSELVES

ONLINE RETAILERS ARE ABOUT TO SEND DEALS



HEMS: Definition and Working Group



- HEMS Working Group continues to meet every-other month, discussion advancements in Home Energy Management Systems
- Just adopted a common definition:
 - Home energy management systems (HEMS) refer to any hardware and/or software system that can:
 - monitor and provide feedback about a home's energy usage, **and/or**
 - enable advanced control of energy-using systems and devices in the home

HEMS Recent Accomplishments: Resource



- Up on the web!
 - <http://www.neep.org/sites/default/files/resources/HEMSCommonUnderstandingFinal7-29.pdf>
- Living document, please send any suggested improvements or updates to Claire.



Establishing Common Understanding for Home Energy Management Systems (HEMS) in Efficiency Programs

As put forward by the HEMS Working Group, 7/29/2015

Table of contents

- Introduction
- I. Reporting Requirements
- II. Functionality requirements
- III. Data Policies
 - 1. Required Installation Date
 - 2. Required Measurement Data
 - 3. Data delivery and storage
- IV. Other information

Introduction

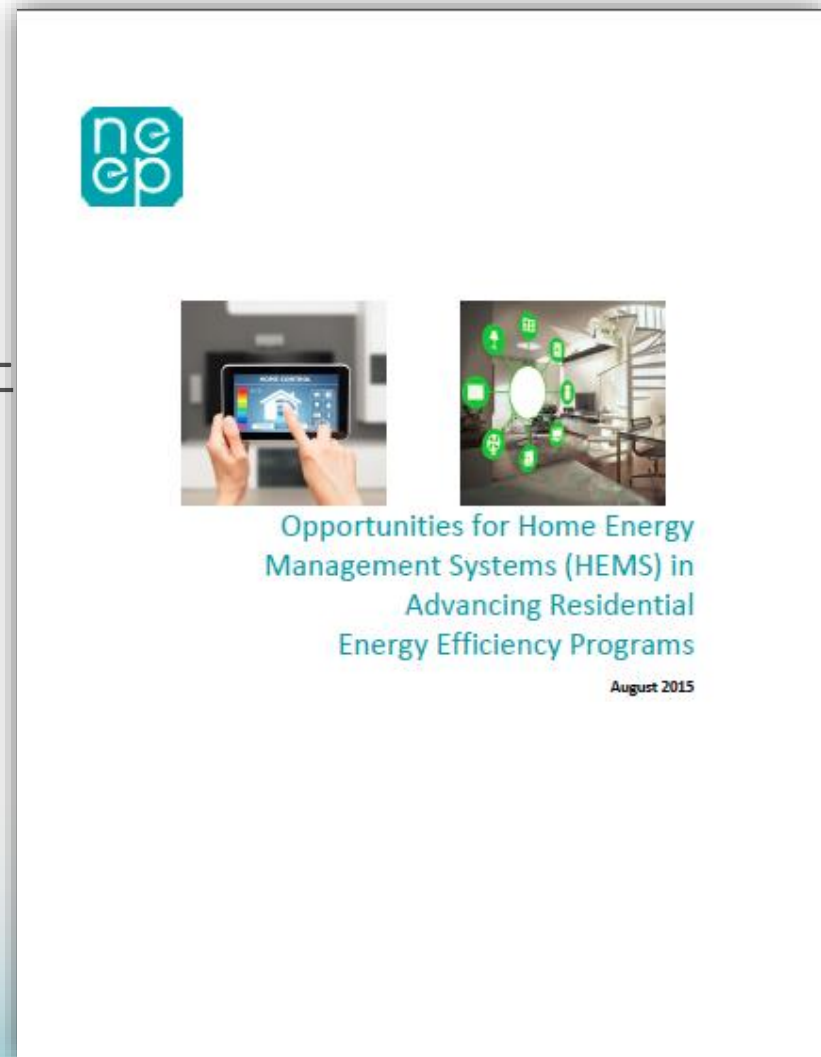
This document is designed help establish some common criteria and understanding for Home Energy Management Systems (HEMS) and Technologies being integrated into efficiency programs. Specifically, what we put forward is meant to assist program administrators, who are providing program funding towards HEMS, and HEMS vendors, who are receiving payment for their products, to be able to start discussions and reach agreements more easily, ultimately increasing HEMS adoption.

While the criteria is presented as "required" or "optional," we want to be clear that these are guidelines to help establish common expectations and as such are all subject to discussion. We understand that as new products and technologies come along, they might not meet all of the "required" metrics; this document is not intended to exclude those products, but for HEMS vendors to understand what types of

HEMS Recent Accomplishments: Report



- NEEP HEMS Research Report is out!
- Available at:
<http://neep.org/initiatives/high-efficiency-products/home-energy-management-systems>
- Direct link [here](#)
- Recording of webinar, slide deck, and executive summary available



HEMS Recent Accomplishments: List

- Technology assessment now up! Living document
- Updatable, downloadable, sortable list available online at: <http://neep.org/initiatives/high-efficiency-products/home-energy-management-systems>

As part of the [HEMS Research Report](#), NEEP reviewed and updated inventories of HEMS technology from existing resources, while expanding the inventory lists and providing costs and potential linkages where appropriate. The inventory chart below is the technology assessment from the HEMS Research Report.

Download Spreadsheet

HEMS Technology Assessment

HEMS Technology Assessment

Company	Product	Description	Product Category
1B First Build	Chill hub Smart refrigerator control	Chill Hub Smart refrigerator and smart refrigerator control hub	Smart Appliance
Aclara	Customer Care Solutions	Unique content and analytics that improve the effectiveness of customer care and billing, enhances customer energy management and increases customer satisfaction by helping customers better understand and manage their bills	Energy Portal
ADT	ADT Pulse	The ADT Pulse® portal provides secure access so you can monitor and manage your home's energy and security via most web-enabled devices.	Smart Home Platform
Aeon Labs Aeotec	DSB09104-ZWUS	Z-Wave Smart Energy Meter , uses CT clamps to monitor power and relay it back to z-wave hub	Energy Portal

Connected Thermostat: ENERGY STAR Updates



- Follow up to framework spec released this summer, now...
- Connected Thermostats Grid Responsiveness Document & Draft 1 Comment Response Matrix released—the 2nd part of the Connect Thermostat spec
- Upcoming EPA-led webinar 9/30 at 1pm Eastern
 - **Registration link:**
<https://attendee.gotowebinar.com/register/8533012144757786114>
- Comments due 10/23
- All documents here:
https://www.energystar.gov/products/spec/connected_thermostats_specification_v1_0_pd





OTHER ENERGY STAR NEWS



- ENERGY STAR Day is October 27
- Verification testing season! Ask was to submit nominations to Certification@energystar.gov by **Thursday, September 24, 2015** with “Verification Testing Nominations” in the subject line
 - If you missed the deadline, can still send this info at any time.
- ENERGY STAR Partner Meeting: 10/12-10/14, Portland OR
 - Claire and Samantha will be attending
 - We’re scheduling meetings and are happy for you to join. Is there anyone you’d like to meet with in this more general, information exchange setting?
 - Sears’ Home Automation stakeholders are interested in meeting with Northeast PAs
- Speaking of ENERGY STAR...

Creating a More Energy Efficient Future for Residential Customers

Tim Michel

October, 2015



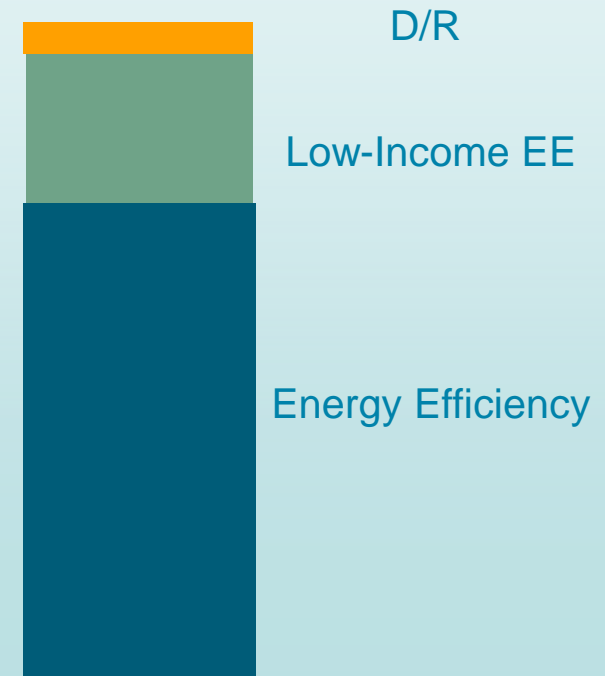
Pacific Gas and Electric Company



Energy services to 15M people

70,000 square miles with diverse topography and climate zones

Over \$700mm Energy Efficiency and Demand Response Budget



- **Largest Annual Energy Efficiency Investments**
- **PG&E Serves Approximately 4% of the U.S. Households**

Strategic Drivers

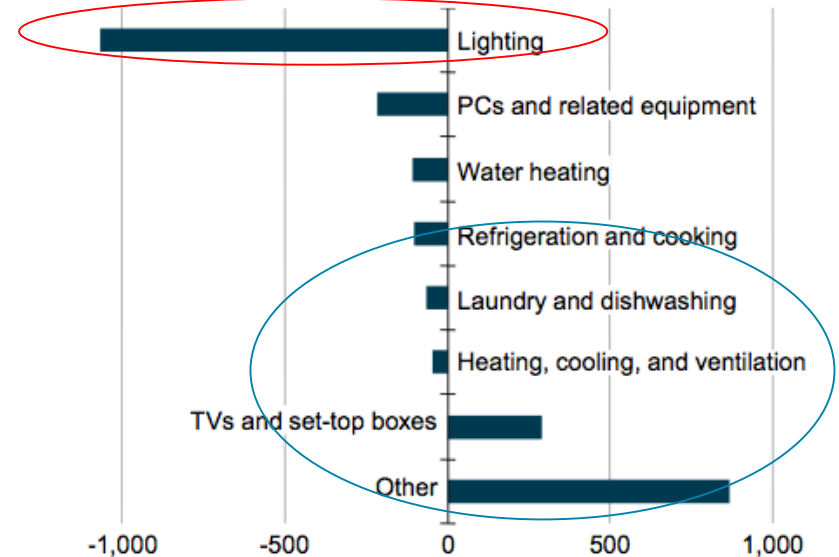
EIA: The Annual Energy Outlook 2014

- Residential electricity demand to grow by 21%, to 1,657 billion kWh in 2040
- Growth comes from increasing market penetration of smaller electric devices. (and cooling in warmer climates)

California Direction

- Support market transformation of the EE industry.
- Form partnerships to increase availability and adoption of energy efficient plug load solutions
- Increase energy savings accuracy through historic and current category sales data, opportunity to secure quantitative and qualitative market information
- Reduce plug-loads by 40%

Figure MT-11. Change in residential electricity consumption for selected end uses in the Reference case, 2012-40 (kilowatthours per household)



Big goals!

Why a “Midstream” Approach?

- Energy efficiency programs increased market share and performance of energy efficient products, driving down per-unit energy savings resulting in smaller per unit incentive offerings relative to incremental cost
- Small incentives do not influence customer purchasing

Then



- 30% energy savings economical.
- Mail-in rebates up to \$200 available.

Now



- Soon, cost-effective rebates may be closer to ~\$25

Cost effective “downstream” programs becoming rare!



ENERGY STAR RPP Creates Market Leverage

Program Sponsors requested ENERGY STAR to facilitate the midstream RPP process:

- Outreach to create scale
- EM&V to overcome regulatory concerns
- Improve operational efficiencies
 - Legal / Participation Agreements
 - Implementation and Field Services
- More accurate and cost effective data
 - Support for seamless data transfer
- Harmonize product selection
 - Forum for program sponsors to agree on products and specifications



Lower cost, more impact!

2016 Plans

- Launch a coordinated ENERGY STAR RPP Program
 - pilot with 3 retailers and 5 products
 - Best Buy, Sears and The Home Depot
 - Electric and gas dryers, Air cleaners, Freezers, Sound bars, Room air conditioners
- Build scale with other Program Sponsors
- Drive cost effectiveness



2017

More retailers, more program sponsors and more products
Market Transformation!

QUICK TAKES YOU WON'T WANT TO MISS!

Breakfast at
Partner
Meeting
10/13

State of our
Sockets
Whitepaper

Appliance
Standards
Meeting 9/30

*SEDI Meeting
at ENERGY
STAR Partner
Meeting,
Wednesday*

*Residential
Lighting
Strategy:
2015 Update*

ENERGY STAR
Partner of the
Award --**POLL**

ASHP
Workshop
10/6 - 10/7



Residential Lighting Workshop

- This Thursday, 10am-3:30pm at OSRAM Sylvania in Danvers MA

Timing	Session and Description
10:00am-10:30am	Introduction: RLS Run Through, Recommendation New Spec Developments, baseline discussion, etc.
10:30am-11:00am	Market Transformation of Residential Lighting
11:00am-11:15am	COFFEE BREAK
11:15am-12:15pm	Smart Lighting Roundtable Manufacturers discuss their products and why efficiency programs should consider their promotion. Hear from a pilot program about their experiences with the integration between Smart Lighting and Home Energy Management Systems.
12:15pm-1:00pm	LUNCH
1:00pm-1:30pm	Regional Differences: Evaluation Findings from REED A presentation and discussion of regional evaluation inputs. States throughout the region are making different claims on Delta Watts saved, hours of use operated, measure lives, and more. We will discuss these differences and assess the opportunity for better alignment. <ul style="list-style-type: none">• Pat Wallace, NEEP
1:30pm-1:45pm	COFFEE BREAK
1:45pm-3:15pm	The “ISH” Bulb: Discussion of New Players and Strategies Facilitated break out discussion of the “ish” bulb: What can we do about this? What challenges or barriers does it present? What program strategies could we employ?
3:15pm-3:30pm	Conclusions/Wrap-up/Adjourn

RPWG CHANGES IN 2016

- Moving from general to specific technology initiatives
 - HEMS, Res Lighting, ASHP as our residential initiatives
- Considering what to do with this group in 2016
- Available to continue serving information-sharing platform
 - Quarterly webinar meetings
 - Tack-on RPWG meetings at other conferences?
 - Major opportunities?
- Poll: Would you participate in some form of these meetings if they continued in 2016?

WRAP-UP/NEXT STEPS

- Notes and other follow-up materials will be sent in the Monthly Newsletter.
- Tuesday Breakfast ENERGY STAR Partner Meeting. Tuesday 10/13 Pavilion East on the Plaza Level
- RPWG Webinar morning of December 1st



FROM YOU?

- Questions?
- Anything else to add? 😊
-
-





Northeast Energy Efficiency Partnerships

Thank you!

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