



Northeast Energy Efficiency Partnerships

Beyond TVs: Where Are We Going and How Are We Getting There?

Claire Miziolek, Residential Program Manager
Northeast Energy Efficiency Partnerships (NEEP)

Part of the
2013 ENERGY STAR Products Partner Meeting
Webinar Series

Tuesday, December 17th, 1pm, 2013

About NEEP

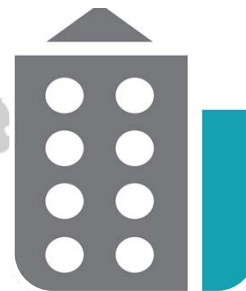
MISSION

Accelerate energy efficiency in homes, buildings & industry in the Northeast - Mid-Atlantic region

GOAL

Keep the region a national leader in accelerating energy efficiency

STRATEGIES



Reduce Building Energy Use



Speed High Efficiency Products



Make Efficiency Visible

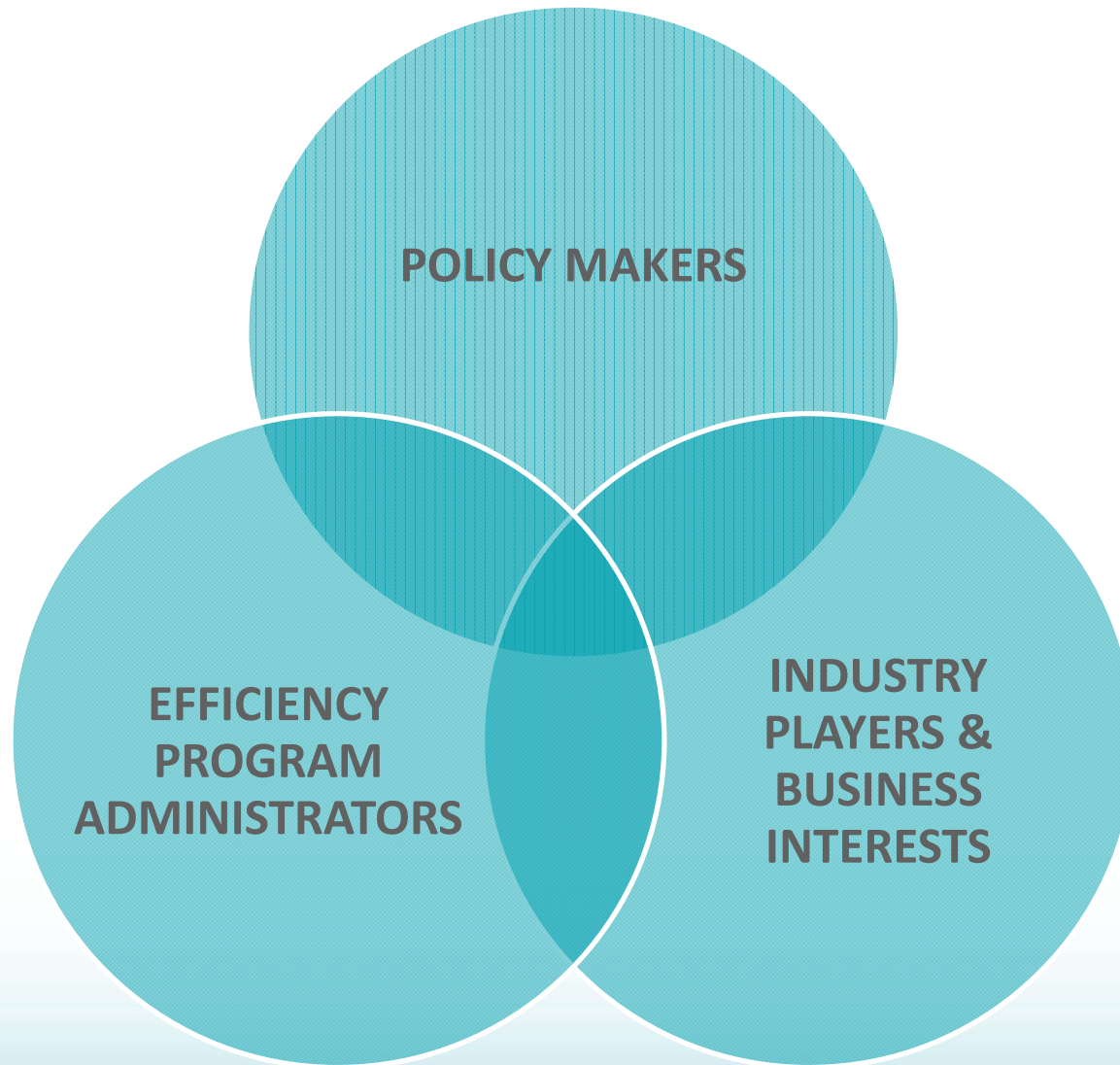


Advance Knowledge - Best Practices

Regional energy efficiency collaborations since 1996

About NEEP

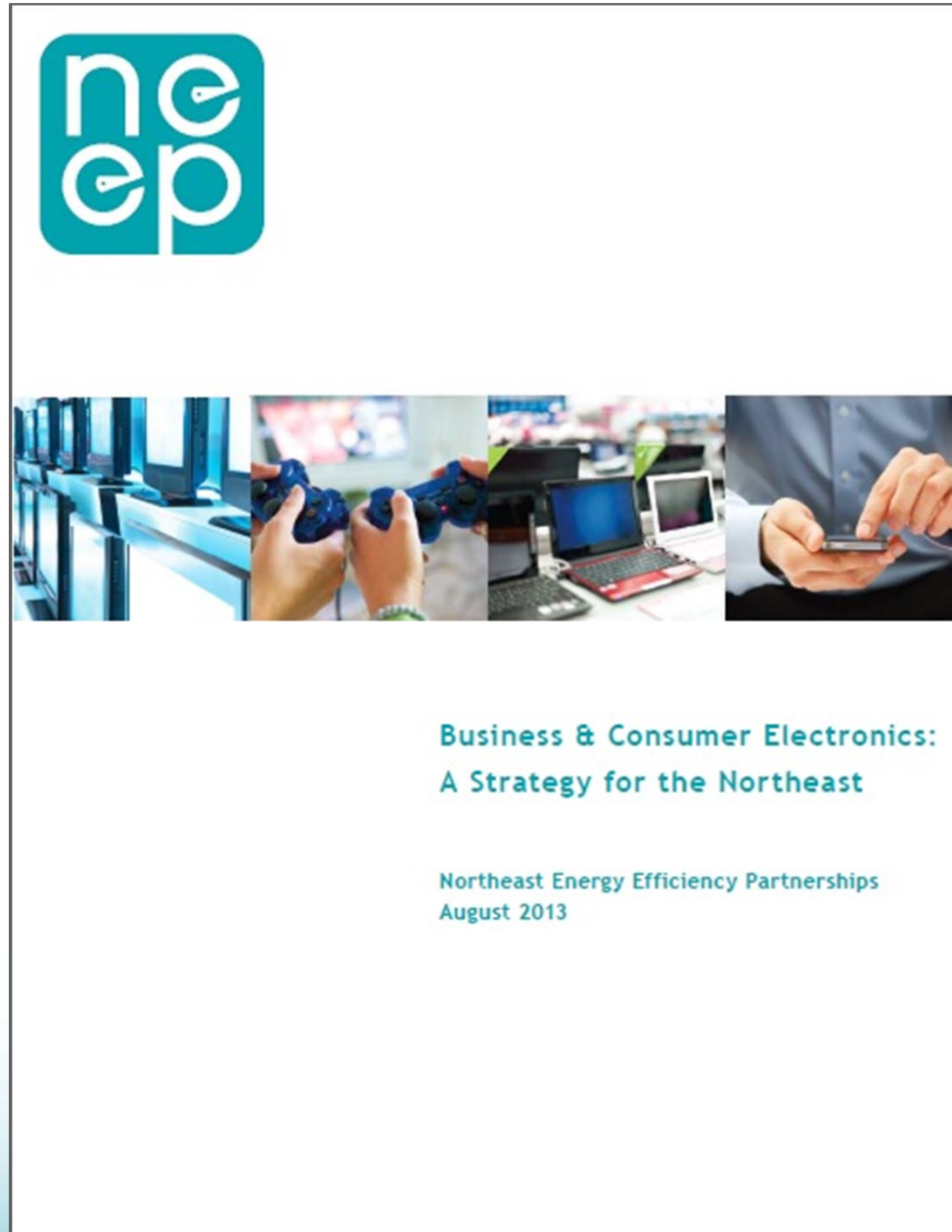
PRIMARY AUDIENCES: WHO WE SERVE





Recent Strategy Report

Available
from
neep.org



BCE Resource Center



Home > Efficient Products > Business & Consumer Electronics

BUSINESS & CONSUMER ELECTRONICS

Whether studying at school, working in the office, or relaxing at home, we are constantly surrounded by electronic devices. They help us stay connected, learn skills, accomplish tasks, and enjoy entertainment. But, as the surge of electronics gathers in size, so does our electricity bill and environmental impact. According to ENERGY STAR, consumer electronics are responsible for **15% of electricity** used in most U.S. homes. Finding and capturing efficiency opportunities associated with electronic use should remain a priority for energy efficiency stakeholders in the Northeast.

HIGH EFFICIENCY LIGHTING

BUSINESS & CONSUMER ELECTRONICS

EMERGING TECHNOLOGIES

WORKFORCE DEVELOPMENT

[BCE STRATEGY REPORT](#)



[Products](#)

[Public Policy](#)

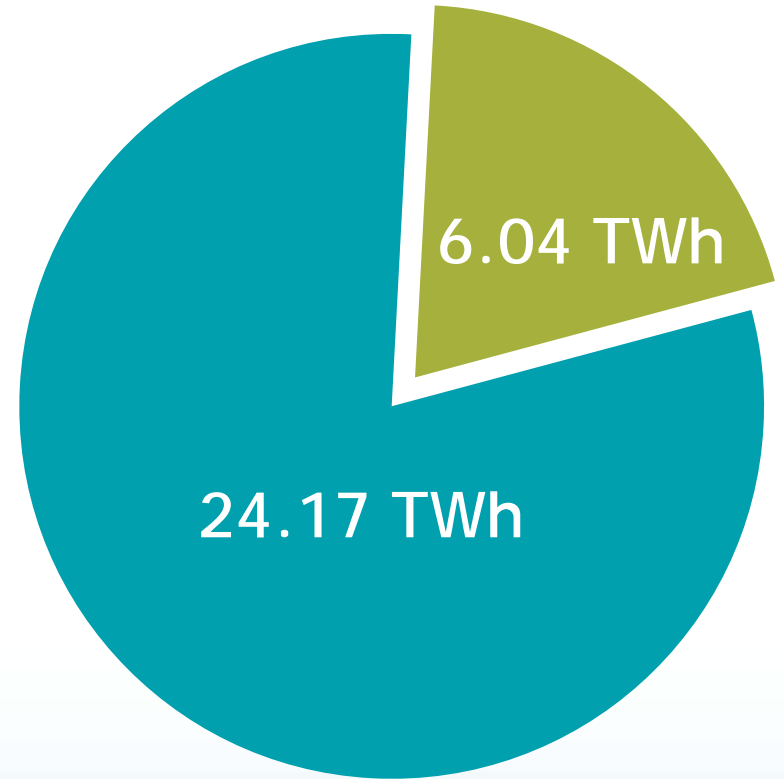
[Consumer Value](#)

[Regional Activity](#)

Regional Goal

Through successful implementation of this strategy, we feel the region can achieve a goal of:

**20% total BCE
category energy
reduction by 2020**



2010 Baseline: 30.21 TWh

Report Details

Report elements:

- Market assessment
- Energy consumption
- Programs and products
- Consumer and Policy trends
- Barriers
- Recommend strategies





BCE Products Researched--Poll

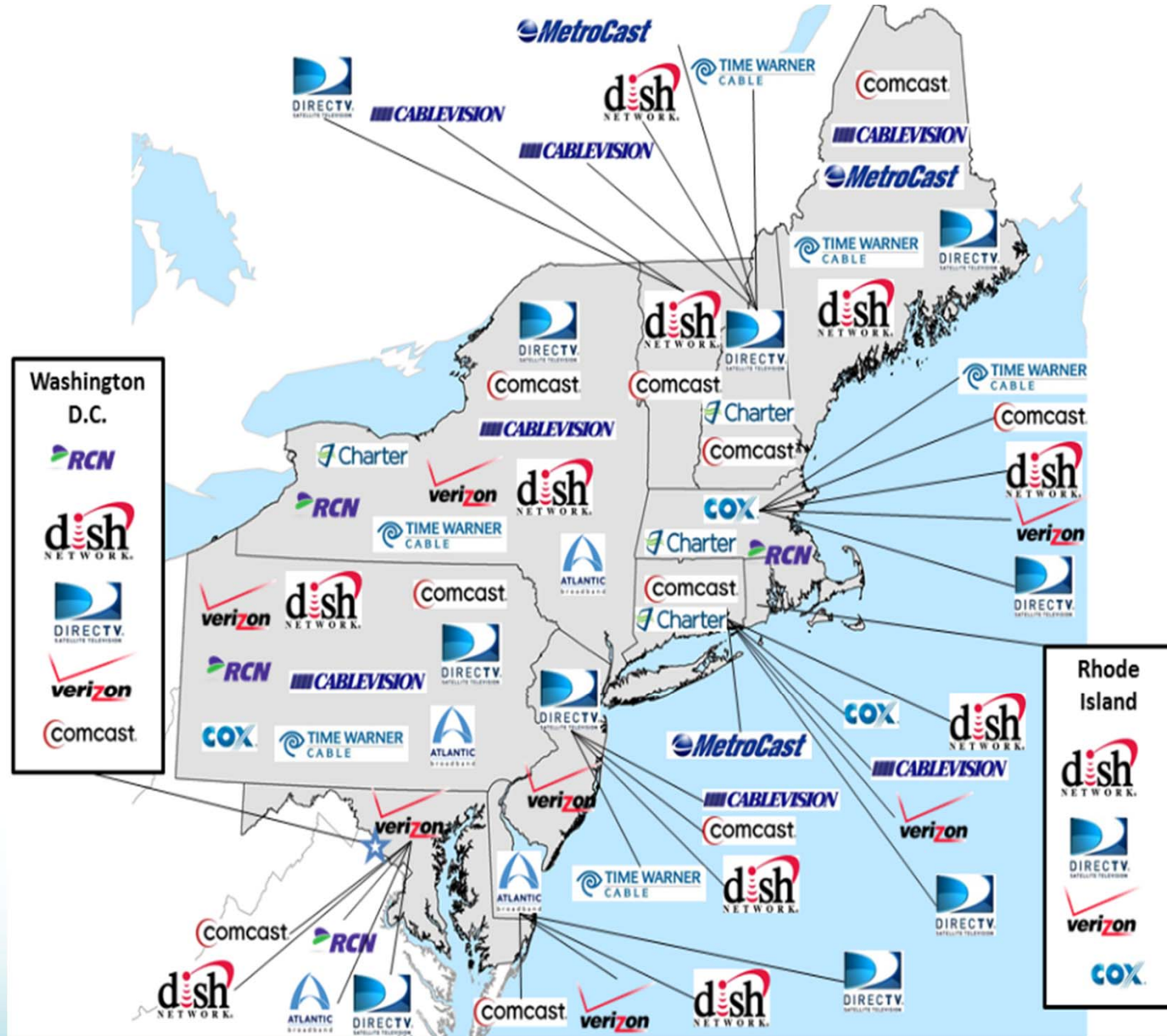
- **Advanced Power Strips**
- Audio Visual Equipment
- Computer Monitors
- Desktop Computers
- **Game Consoles**
- **Home Automation/Home Energy Management Systems (HEMS)**
- Home Office & Imaging Equipment
- Home Theater
- Laptops & Thin Clients
- **Set-Top-Boxes**
- Tablets & Smartphones
- TVs

Set Top Boxes (STBs)



The Problem: Set Top Boxes

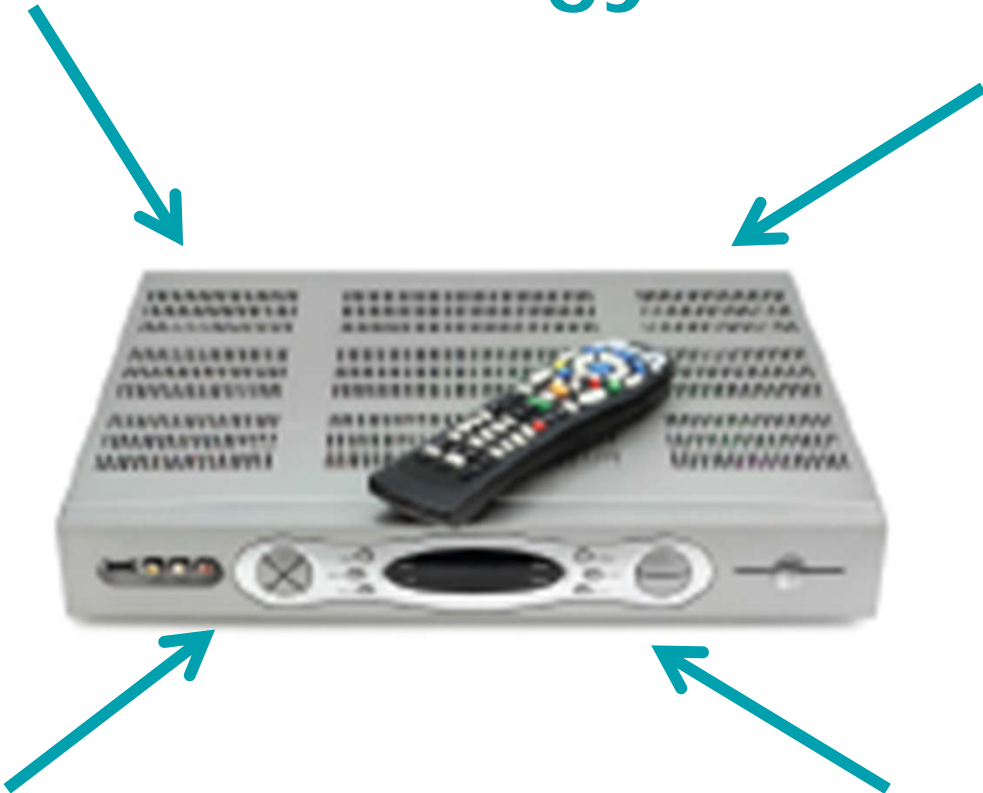
- Unique market structure: consumers *rent* an STB
- Limited consumer options
- Challenge to bring efficiency to the table



Strategy: Configurations and Technology



- Potential for voluntary agreements
- Efficiency Programs help move to:
 - better boxes (ENERGY STAR, Deep Sleep)
 - better configurations (Thin Clients)



Efficiency Programs, ENERGY STAR, Service Providers, Manufacturers, and Advocates/Consumer Educators can play a role

Strategy: Change How We Access Content



- Digital media receivers (DMRs), 60% growth in sales for services estimated by 2015

Old School Idea



New School Thought



...even further, consumers switching from content on televisions to streaming on laptops, tablets, smart phones...

Game Consoles



The Problem: Game Consoles

- Only 3 major players: Microsoft, Nintendo, Sony (OUYA still a wild card)
- Each device is inherently different
- ENERGY STAR recognition criteria exists, but challenging
- Significant energy users



ENERGY STAR Recognition

- Limits on 3 modes: Media play (STB type of activity streaming), Navigation, and Standby

Criteria does not limit Game play!

- Also includes Auto power down capability

Table 1: Auto Power Down Requirements by Mode

Operational Mode	Period of User Inactivity
Active Navigation Menu	1 hour
Active Game Play	1 hour
Active Game Play Pause	1 hour
Active Video Stream Play	4 hours
Active Video Stream Pause	1 hour

Efficiency Status

Current Generation Console	Wii U	XBOX ONE	PS4
Efficient?	✓	✗	✗
Last Generation Console	Wii	XBOX 360	PS3 PlayStation 3
Sales split of three major last generation game consoles	40%	31%	28%

- Wii U meets all ENERGY STAR criteria, but is not recognized
- The Xbox One and PS4 consoles launched in November...

Strategy: Get Recognized!

Collaborate with manufacturers to improve efficiency and gain ENERGY STAR recognition

- Timing: the right phase of development
- Work through barriers to adopting the ENERGY STAR recognition
- Efficiency Programs claim savings?



ENERGY STAR, Advocates, Manufacturers, and potentially Program Administrators can play a role

Strategy: Media Campaign?

- Consumer education on game console energy use
 - creative (social) media marketing campaign?
- Demonstrating consumer support for could leverage conversations with manufacturers.
- Example:

**Your 2007 Playstation 3 uses more energy
in idle mode than 2 standards refrigerators!**



**the more
you know**

COMCAST  NBCUNIVERSAL



Advanced Power Strips (APS)

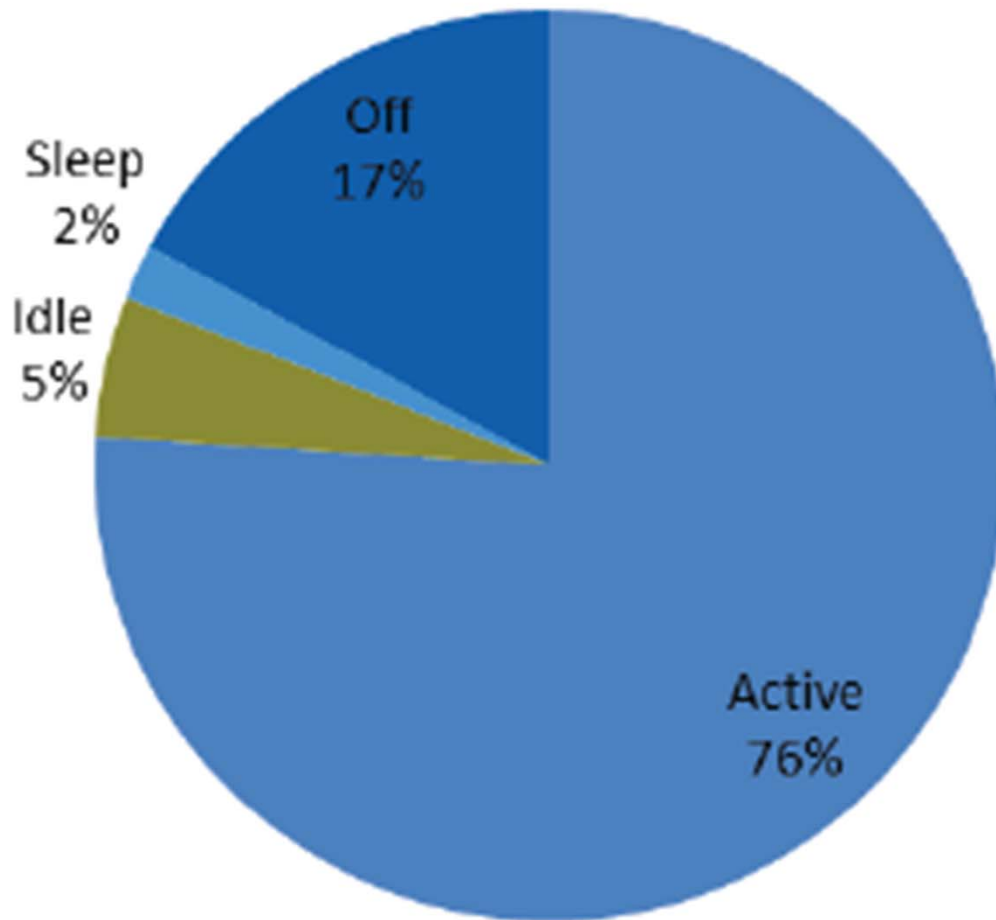


Problem: APS

- Technology isn't new, but hasn't been great adoption
- Industry challenges: 2 "tiers" of technology
- APS Programs challenges



Opportunity: APS Savings



- 1/4 of BCE energy consumption is wasted
- Existing APS for PC and A/V targeting off mode
- Sleep and Idle mode savings can be reached with Tier 2 APS

Opportunity: APS Savings

BCE Product Segment	BCE Product Category	Unit Energy Consumption (kWh) ⁴⁷	Installed Base (in millions) ⁴⁸	Annual Energy Consumption (TWh) ⁴⁹	Active Mode (TWh) ⁵⁰	Other Modes (TWh) ⁵¹
Audio Visual	Receivers	65	19.93	1.30	0.97	0.32
	Blu-Ray players	14	2.42	0.03	0.02	0.01
	Computer speakers	37	14.90	0.55	0.15	0.40
	DVD players	28	44.89	1.26	0.14	1.12
	Multifunction devices	12	22.75	0.27	0.01	0.26
Computing	Desktop computers	220	20.33	4.47	4.09	0.38
	Laptops	63	26.57	1.67	1.49	0.18
	Computer monitors	97	26.37	2.56	2.35	0.20
Content and Gaming	Game consoles	18	21.94	0.39	0.19	0.20
Televisions	Televisions	183	71.06	13.00	11.25	1.76
	Total	737	271.16	25.5	20.66	4.83



Strategy: APS Program Design

- Increase in direct install
- Analyze potential of “Tier 2”
- New Tool: APS Test Protocol
- Retailer/floor staff training on proper installation
- Consistent educational material needed
- Social media campaign?
- Goal: Region reach 20% penetration by 2020



Program Administrators, Advocates, ENERGY STAR, Retailers, Manufacturers, and NEEP’s APS Working Group can play a role

NEEP Convenes an APS Working Group to move the technology forward

Home Energy Management Systems (HEMS)



Home Energy Management Systems (HEMS)



What are they?

- HEMS connect to “smart” products
- Allow for remote control of home systems
- Can purchase at retail stores, through service providers, and direct manufacturer sales.
 - Telecommunications organizations and mobile platforms may offer in future



Challenge and Opportunity: HEMS

Challenges:

- Cost: currently very high
- Compatibility/interoperability
- Security: rely on internet
- Program design: No consistent model yet

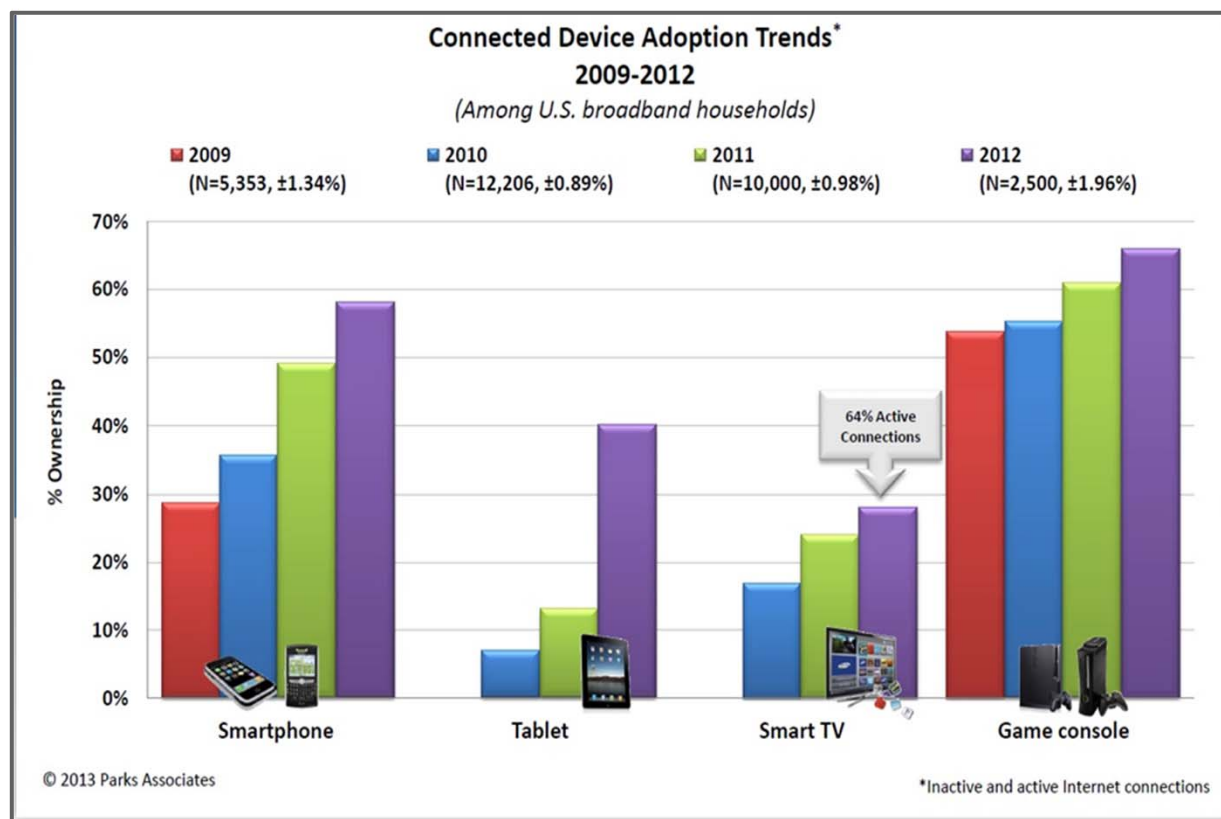
Opportunities:

- Systems collect a lot of data
- HEMS have peak demand reduction potential
- Information feedback may lead to behavioral changes
- HEMS are convenience and allow for control



Strategy: Increase HEMS Adoption

- Pursue incentives:
 - service providers
 - individual products
 - demand-response-enabled
- Need for research
- Coordinate closely with ENERGY STAR
- NEEP Convening HEMS conversations—join us!



Program Administrators
ENERGY STAR, and Advocates
can play a role

Any Questions?



Thank you to the BCE Leadership Advisory Committee

- ACEEE
- Appliance Standards Awareness Project (ASAP)
- Cadmus Group
- Cape Light Compact
- CLASP
- Efficiency Vermont
- Embertec
- EMI Consulting
- Energy Futures Group
- ICF International
- LIPA
- National Grid
- NEEA
- Northeast Utilities
- NRDC
- NYSERDA
- TopTen USA
- United Illuminating
- US EPA/ENERGY STAR
- VEIC



Thank you!

Claire Miziolek

cmiziolek@neep.org

Northeast Energy Efficiency Partnerships

91 Hartwell Ave Lexington, MA 02421

P: 781.860.9177 www.neep.org

Read the full Report, available from
<http://neep.org/efficient-products/business-consumer-electronics/index>