



Voluntary Energy Efficiency Programs & their Relevance for the Set-top Box Industry

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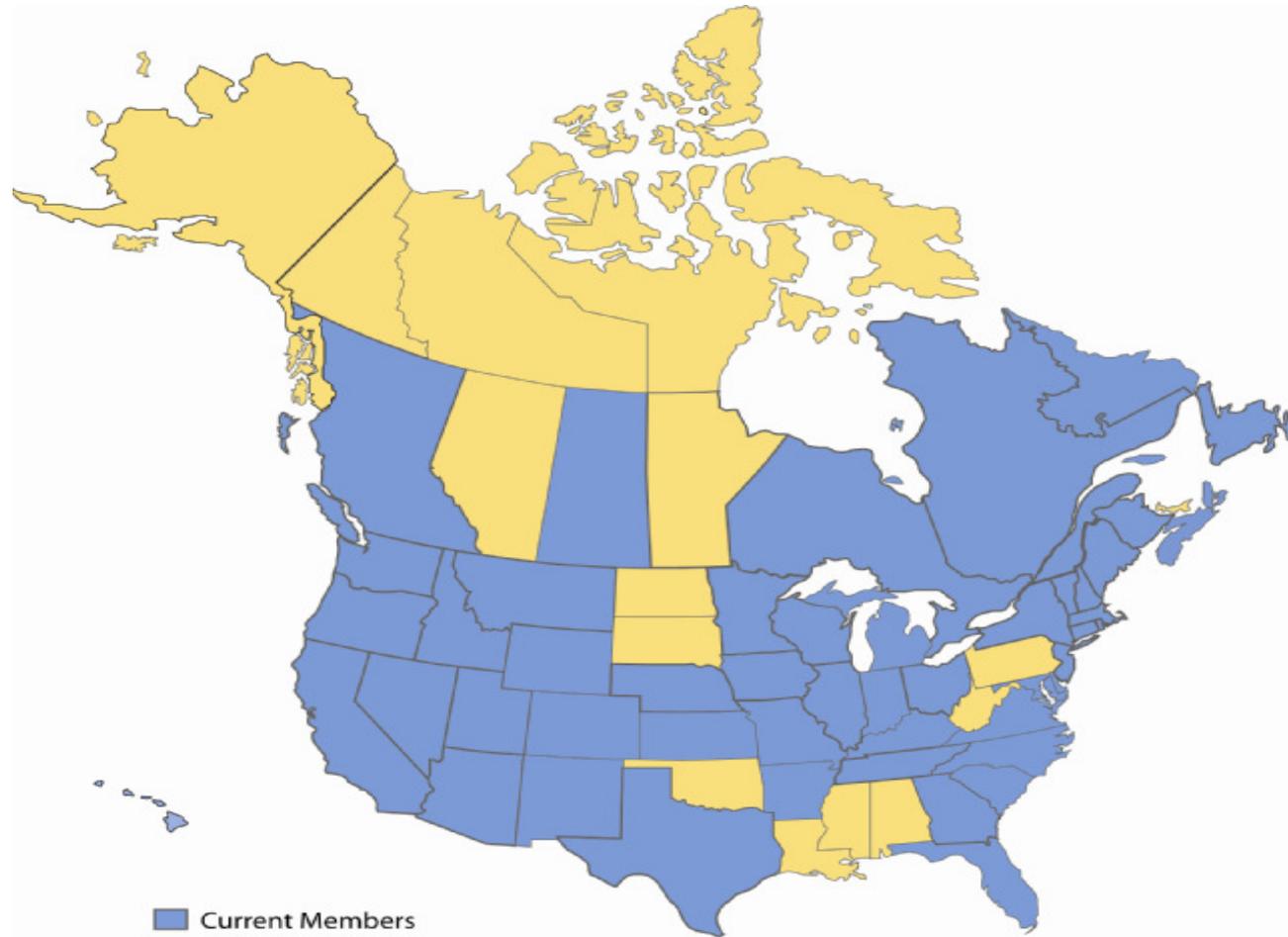
Agenda

- ▶ Introduce the voluntary energy efficiency program community
- ▶ Provide overview of Consortium for Energy Efficiency and the Consumer Electronics Initiative
- ▶ Describe interest in set-top boxes
- ▶ Discuss opportunities to work together to further our individual and shared goals

The Voluntary Energy Efficiency Program Community

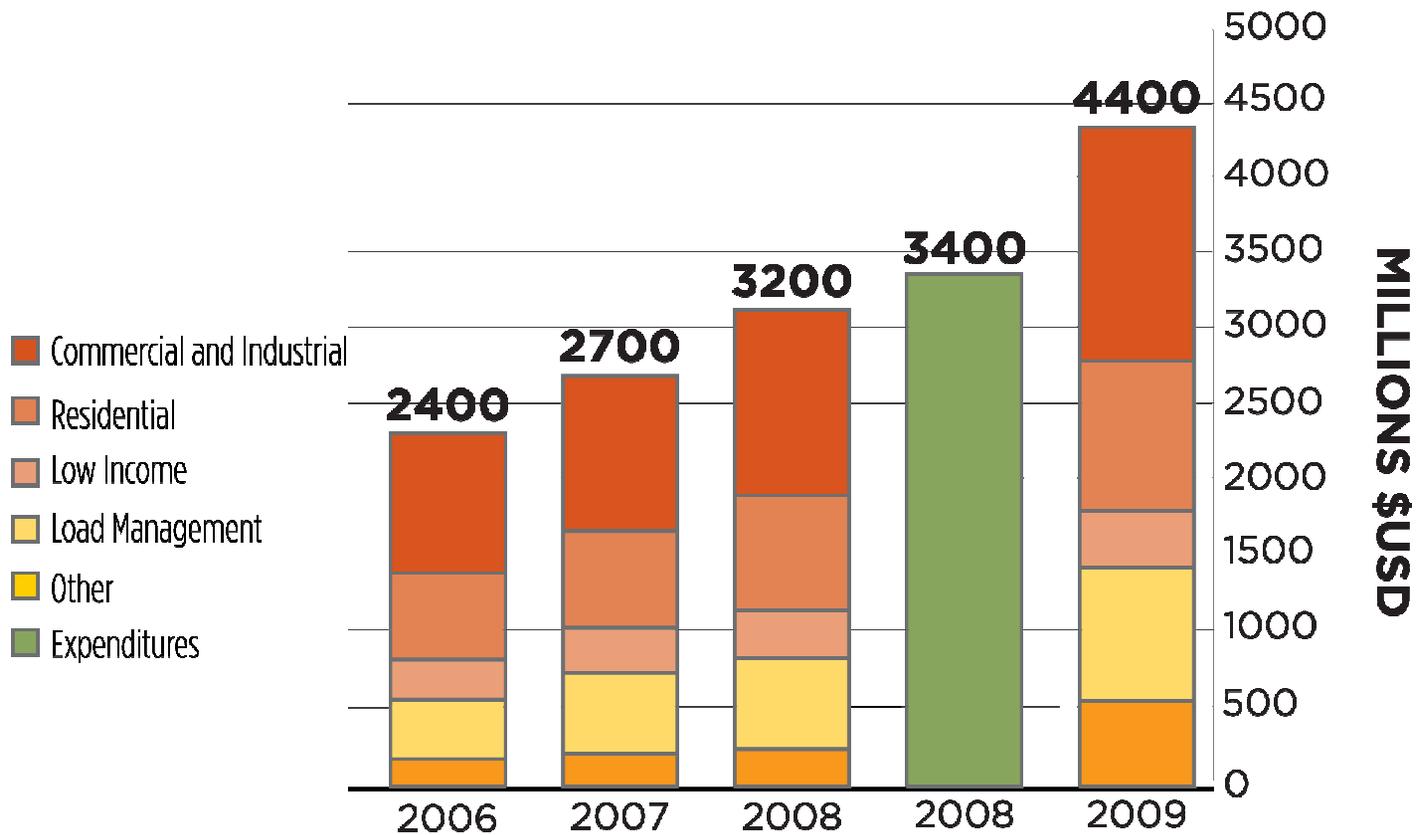


Voluntary Energy Efficiency Programs: A \$6 Billion Industry



And Growing!

U.S. Electric Program Budgets, 2007-2009, and Expenditures, 2008



The \$6 Billion Question – Why?

- ▶ Utilities are regulated monopolies – in 38 states and 7 provinces, regulators require them to collect funds from ratepayers for the promotion of efficiency
- ▶ Legislative/regulatory mandates to save energy
- ▶ Efficiency has low relative cost compared to other energy supply options (2.5¢/kWh vs. 7-15¢/kWh)
- ▶ Avoided cost of building new power generation
- ▶ In a volatile market, energy efficiency is a stable resource

The \$6 Billion Question – How?

- ▼ Provide incentives
 - To consumers in the form of rebates
 - To retailers to stock efficient products
 - To manufacturers to buy down product prices
- ▼ Fund training
 - Sales staff
 - Contractors
 - Operations staff
- ▼ Conduct marketing and consumer education
- ▼ Support research and development

Voluntary Efficiency Programs Care About...

- ▶ Energy savings
 - Need to be persistent, measured, verified
- ▶ Cost effectiveness
 - Need to use ratepayer funds *wisely*
- ▶ Attribution
 - Need to show their actions have an impact
- ▶ Accountability to regulators
 - Need to work within confines set by PUCs

Boiling it Down

◀ **Goal:**

Reward decisions and behaviors (often with \$\$) that lead to energy savings AND that would not happen without intervention

◀ **Question:**

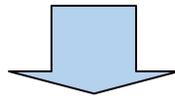
Where and how can voluntary energy efficiency programs create the biggest impacts?

Consortium for Energy Efficiency and the Consumer Electronics Initiative



CEE Members

- ▶ **Approx. 130 organizations in the U.S. and Canada**
- ▶ **Efficiency program administrators (gas and electric)**—utilities and nonutilities with ratepayer funded programs
- ▶ **Public stakeholders**—such as DOE national labs, state and provincial energy offices, government energy research agencies, regional and national efficiency organizations
- ▶ **NO** organizations with private interests, e.g., manufacturers, consultants, program contractors



Provides credibility

CEE Brings Members Together to Work with Each Other

- ▶ Develop binational CEE initiatives to overcome market barriers and capture greater energy savings
- ▶ Achieve consensus on efficient product specifications and other program aspects
 - Voluntarily adopted, implemented locally
- ▶ CEE members' work together was recognized by the EPA with the 2009 Climate Protection Award



And to Work “Industry to Industry”

- ▶ Speak with North American industry stakeholders with a clear voice on what voluntary efficiency programs support
- ▶ Make it feasible and easier for other industries to respond
 - Increase availability of and sales of qualifying high efficiency models
- ▶ Make it easier for programs to promote high efficiency and for industry stakeholders to benefit

Leverage

- ▶ Efficiency programs offer:
 - Credible endorsement of industry's efficiency claims
 - Market support for industry through incentives and education
 - Support for RD&D
- ▶ Partner industries offer:
 - Expertise in technologies, markets, channels, and relationships

Consumer Electronics Initiative

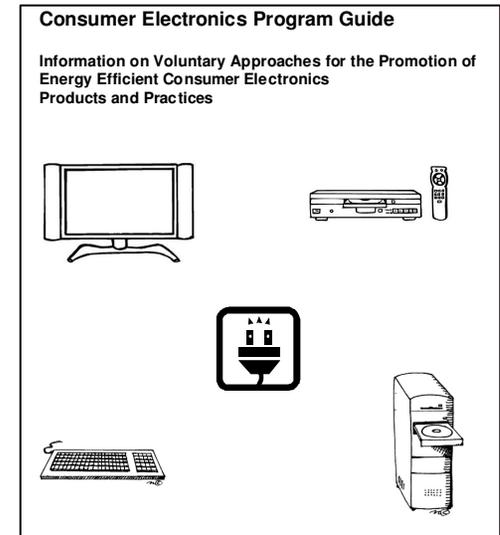
- ▶ Framework for addressing existing and increasing electrical consumption by consumer electronics products
- ▶ Adopted by CEE Board in June 2007
- ▶ Goals
 - Help energy efficiency programs increase sales and market share of efficient consumer electronics
 - Develop definition and criteria for energy efficient consumer electronics products and identify products that meet criteria
- ▶ Implemented by CEE Consumer Electronics Committee

CEE Member Electronics Programs

- ▶ 52 program administrators from 32 states are on the Consumer Electronics Committee
- ▶ Televisions are first “out of the gate”
 - CA, Northwest, MA, BC have programs now; pilots in CO and IL; Ontario, Quebec, VT, NJ coming soon
- ▶ Other products
 - Computers and monitors (CA, NW, MA)
 - “Smart” power strips (NY, VT, MA)
 - **Set-top Boxes (NJ)**—interest in MA, CA, Canada
- ▶ CEE 2010 Consumer Electronics Program Summary will be published soon: www.cee1.org

Recent Accomplishments

- ▶ Consumer Electronics Program Guide
- ▶ Consumer Electronics Energy Efficiency Program Center
 - In development now
- ▶ Super-efficient television spec and qualifying products list
- ▶ CEE Industry Partners Meeting
- ▶ Consensus comments on ENERGY STAR® specs



CEE Consumer Electronics Initiative
Television Qualifying Products List
 April 16, 2009

This list is based on the 2008 CEE High Efficiency Specification for Televisions (see tab below).
 Please See Terms of Usage below.

CEE does not administer rebate programs. Consumers who have questions about filling out rebate forms should contact their local efficiency program administrator (often the local utility).

Key
 * An asterisk (*) indicates that a coding variable may be used in place of the asterisk to indicate a color or feature that does not affect efficiency.
 - Only / slash indicates that a product is inactive.
 † Although all models on the CEE list are very efficient, the bars are structured so the most efficient products are listed in the higher tiers. For example, Tier 2 would contain the

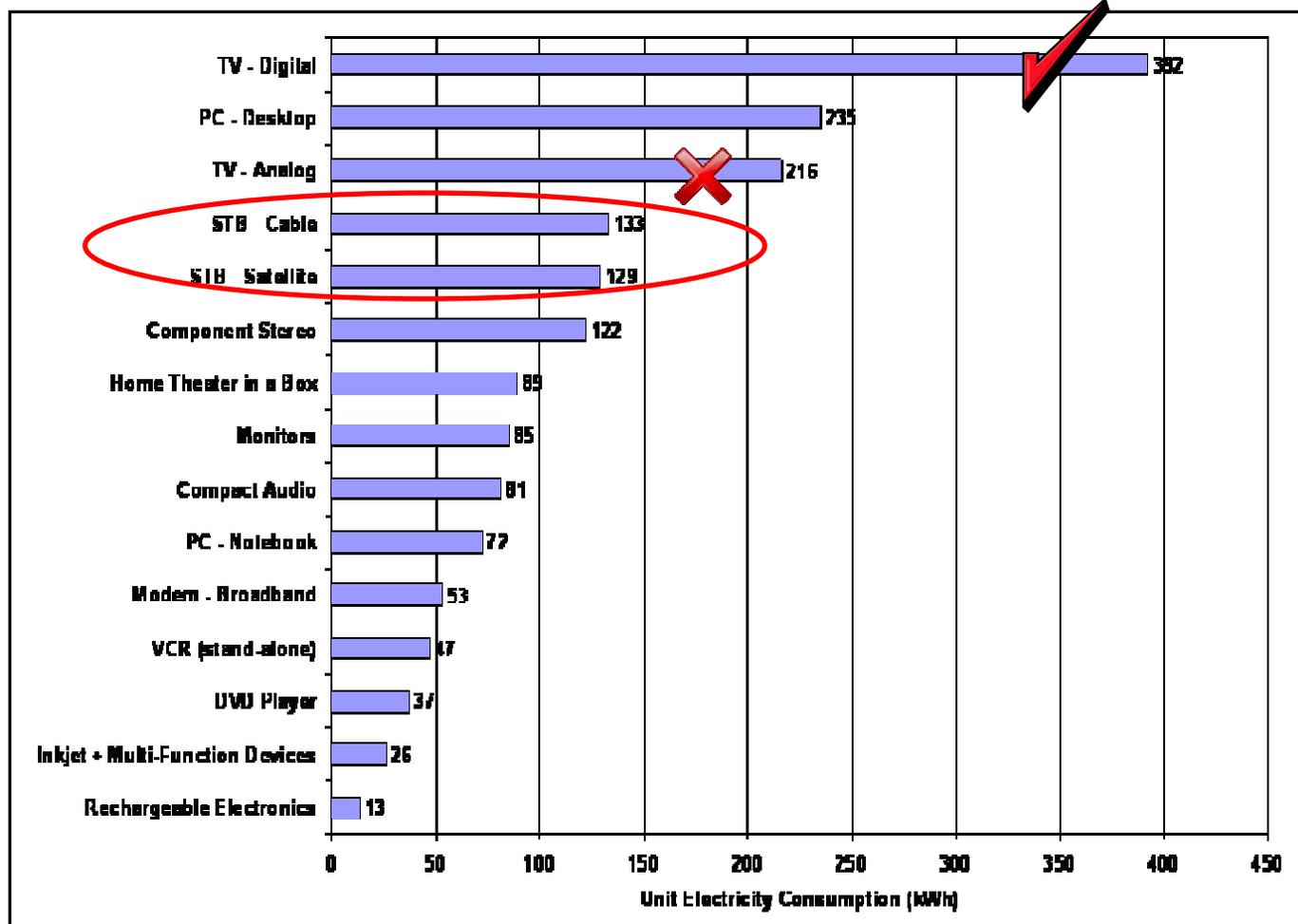
Tier 1										
ENERGY STAR®										
Company Name	Brand Name	Model Number	Series	Product Type	Screen Type	Signal Display Resolution	Screen Size (diagonal in.)	Screen Area (sq. in.)	On Mode Power (Watts)	Standby Power (Watts)
Best Buy	Insignia	NS-LC052-09		VV	LED	720p	32.0	424.25	155.70	0.43
Best Buy	Insignia	NS-LC037-09		VV	LED	720p	37.0	585.50	141.80	0.45
Best Buy	Insignia	NS-LC042R-09		VV	LED	1080p	42.0	1744.50	205.00	0.43
Best Buy	Insignia	NS-LC047H-09		VV	LED	1080p	47.0	1945.50	250.00	0.50
Best Buy	Insignia	NS-LC050S-09		VV	LED	1080p	52.0	1187.00	230.00	0.20
Best Buy	Insignia	NS-L10V-LCS-09		TV (VTV) combo	LED	720p	28.0	288.00	84.00	0.50
LG	LG	25L-F15-UK		VV	LED	720p	26.0	288.88	81.00	0.67
LG	LG	25S-A5-UK		VV	LED	1080p	32.0	437.59	133.00	0.69
LG	LG	32S-F11-UK		VV	LED	1080p	32.0	437.59	112.00	0.23
LG	LG	32S-E900-UK		VV	LED	1080p	32.0	437.59	113.00	0.40
LG	LG	32S-H90-UK		VV	LED	1080p	32.0	437.59	102.00	0.30
LG	LG	32L-H90-UK		VV	LED	1080p	32.0	437.59	100.00	0.26
LG	LG	32L-H75-UK		VV	LED	1080p	32.0	437.59	112.00	0.66
LG	LG	32L-F11-UK		VV	LED	1080p	37.0	584.60	130.00	0.22
LG	LG	32L-H95-UK		VV	LED	1080p	37.0	584.60	135.00	0.30
LG	LG	32L-H40-UK		VV	LED	1080p	37.0	584.60	140.00	0.30
LG	LG	32L-H95-UK		VV	LED	1080p	37.0	584.60	130.00	0.31
LG	LG	32L-H75-UK		VV	LED	1080p	37.0	584.60	130.00	0.42
LG	LG	42L-H95-UK		VV	LED	1080p	42.0	1753.04	170.00	0.46

April 16, 2009 CEE Television Qualifying Product List Page 1 of 22

Interest in Set-top Boxes



Set-top Boxes are Important!



TIAX LLC for the U.S. Department of Energy 2008

Interest is High for Other Reasons...

- ▶ Increasing prevalence of more advanced and consumptive features like HD and DVR
- ▶ Boxes use a fair amount of energy even when not in active use
- ▶ Unique method of product deployment
- ▶ ENERGY STAR specification adopted in 2009



Program Design Options

▶ Service providers

- New efficient box purchases
- Refurbish boxes upon return before they are redeployed
- Upgrade boxes in the field
- Accelerate movement to multi-room systems
- Cooperative marketing

▶ Manufacturers

- Buy down price of efficient boxes
- R&D
- “Golden Carrot”

▶ Retailers

- Incentives for consumers and retailers

The Details Matter

- ▶ Baseline conditions
 - How many energy efficient boxes are being manufactured/deployed without the involvement of energy efficiency programs?
- ▶ What are the cost/price increases associated with increasing efficiency?
- ▶ How much energy will be saved by the various options that could be pursued?

CEE members need this information to assess the options and implement programs.

Information Exchange is the First Step in Advancing STB Program Activity

- ▶ Technical developments and trends
- ▶ Market changes
- ▶ STB industry perspective
 - How we can best connect with you
 - What business models are used
 - What constraints you have
 - What opportunities you see

Discussion

How Can We Work Together?



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