



# ENERGY STAR® Set-top Box Program Updates

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# Today



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# STB Program Background



- EPA's objectives:
  - Drive for the greatest possible energy savings
  - Identify roles and responsibilities for all key stakeholders.
  - Develop performance based specs that recognize market leaders in energy efficiency.
  - Leverage existing test procedures.
  - Harmonize with domestic and international partners.
  - Offer longevity and fair comparison of products, consider feature richness.

# Service Provider Partnership



- Purchase and deploy qualified STBs according to fleet requirements
- Ensure STBs maintain qualification
- Deploy user interface to permit disabling of speculative recording
- Maintain ENERGY STAR product labeling
- Install qualified remote STBs in multi-room installations
- Educate sales staff, customer service reps and subscribers about energy-saving features and commitments to energy efficiency
- Share annual purchase/deployment data with EPA

# Service Provider Purchase / Fleet Requirements



- Meet or exceed either a purchase or fleet requirement for each year of partnership
- Purchase requirement:
  - 50% of new boxes purchased in a calendar year must be ENERGY STAR qualified
  - Refurbishment does not count towards purchase requirement
- Fleet requirement:
  - 10% of fleet must be ENERGY STAR qualified in 2009, and 25% must be qualified in 2010
  - The following activities count toward the fleet requirement: Purchase and deploy new STBs, Deploy refurbished STBs, or upgrade STBs in the field
- Purchase and Fleet requirements in 2011 and beyond are TBD

# OEM Partnership



- Qualify products that meet ENERGY STAR requirements
- Label qualified products
- Include collateral materials
- Share annual unit shipment data with EPA

# Technical Specification: Approach



- Current Best Practices (Tier 1, Jan 2009)
- Next Generation Technology (Tier 2, Jan 2011)
- Total Energy Consumption (TEC) approach
  - Specified in kWh/year rather than Watts
  - Intended to prevent situations where products that meet ENERGY STAR criteria actually use more energy than those that do not qualify
- Provides OEMs with flexibility to achieve energy savings through a variety of strategies
- Delivers additional power consumption allowances to accommodate feature richness

# Technical Specification: Power Allowances



**Table 1: Base Functionality Annual Energy Allowance**

Base Functionality	Tier 1 Annual Energy Allowance (kWh/year)	Tier 2 <sup>1</sup> Annual Energy Allowance (kWh/year)
Cable	70	50
Satellite	88	56
IP	45	36
Terrestrial	27	22
Thin-Client/Remote	27	22

**Table 2: Additional Functionalities Annual Energy Allowance**

Additional Functionalities	Tier 1 Annual Energy Allowance (kWh/year)	Tier 2 Annual Energy Allowance (kWh/year)
Additional Tuners <sup>2</sup>	53	16
Additional Tuners – Terrestrial /IP <sup>3</sup>	14	8
Adv. Video Processing <sup>4</sup>	18	12
DVR	60	32
High Definition <sup>5</sup>	35	12
Removable Media Player	12	8
Removable Media Player/Recorder	23	10
Multi-Room <sup>6</sup>	44	25
CableCARD <sup>7</sup>	15	TBD
DOCSIS <sup>8</sup>	20	TBD
Home Network Interface	20	10

# Program Update - Partnerships



## Service Provider Partners



Partners with Qualified Products	Number of Qualified Products
Cisco Systems	10
DIRECTV	12
General Instrument Corporation (Motorola)	7
Huawei Technologies Co., Ltd.	1
Pace plc	4

# Program Update - Impacts



- Current
  - Manufacturers are reporting they are changing their designs as a result of ENERGY STAR's specification.
  - Manufacturers are reporting that ENERGY STAR qualification is being specified by a broad spectrum of service providers.
- Potential
  - If all STBs sold in the US met ENERGY STAR, the savings in energy costs will grow to about \$2 billion each year and greenhouse gas emissions will be reduced by the equivalent of greenhouse gas emissions from about 2.5 million vehicles

# What's Next – Spec Revision



- Update technical product requirements for OEMs:
  - Reconsider products excluded under Tier 1
  - Establish levels and additional functionality allowances for TBD elements
  - Reality check on all specification levels
- Update partnership requirements for Service Providers:
  - Purchase and fleet requirements to be established for 2011 and beyond



# What's Next – Spec Revision Timeline



- **November, 2009:** Launch Tier 2 STB spec process
- **January, 2010:** Tier 2 draft final technical levels & 2011 purchase/fleet requirements
- **April 1, 2010:** Target Tier 2 specification and 2011 service provider purchase/fleet requirements published
- **January 1, 2011:** Target Tier 2 effective date

# What's Next - STB Program Benefits Calculator Tool



## ENERGY STAR SET-TOP BOX (STB) PROGRAM BENEFITS CALCULATOR

### 1. ENTER MARKET INFORMATION

STB Qualification Level: **2009**  
 ENERGY STAR Market Share: **5%**  
 Free Rider Factor: **3%**  
 Cost of Energy: **11.27** ¢ / kWh  
 Emissions Factor: **1.54** lb CO<sub>2</sub>/kWh

Note 1: Default values for ENERGY STAR Market Share are 0% for 2009 and 10% for 2011. See Section 8) Additional Notes, on the Rate schedule of this workbook for more details.  
 Note 2: Default values for cost of energy and emissions factor are national averages. Users may modify data to represent local cost of energy and emissions factor.  
 Note 3: The Free Rider Factor represents the percent of STBs in the Program Fleet that would have been upgraded to a newly purchased as ENERGY STAR, regardless of whether a utility program was initiated, due to the Service Provider(s) commitment to ENERGY STAR. The factor varies greatly by service territory.

### 2. ENTER NUMBER AND TYPE OF ENERGY STAR SET-TOP BOXES ENTERING SERVICE TERRITORY



STB Type	Quantity	High Definition (HD)	Digital Video Recorder (DVR)	Advanced Video Processor	DCC-818	Cable Card	Removable Media Player	Removable Media Player / Recorder	Additional Tuners	Additional Tuners (D)	Multi-PC
1 Satellite	1,000	1	1	1					1		
2 Cable	1,000	1	1	1		1					
3											
4											
5											
6											
7											
8											
9											
10											

### PROGRAM ANNUAL STATISTICS

#### Baseline

Energy Consumption: 649,600 kWh  
 Operating Cost \$: 73,210  
 CO<sub>2</sub> Emissions: 1,000,384 pounds



**Energy Savings: 192,660 kWh**  
**Operating Cost Savings \$: 21,713**  
**CO<sub>2</sub> Emissions Reduction: 296,696 pounds**

# What's Next – EPA Partner Support



- Convene an ENERGY STAR STB Workgroup
  - Coordinate with Canadian workgroup
  - Address open questions
    - EM&V
    - Attribution
  - Develop market intervention strategies
- Provide access to resources
  - Technical
  - Market data
  - Partner matchmaking
- Let us know if you are interested!

# ENERGY STAR STB Contacts



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