CalPlug Set-Top Box Workshop: Potential EE Opportunities

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February 1, 2012

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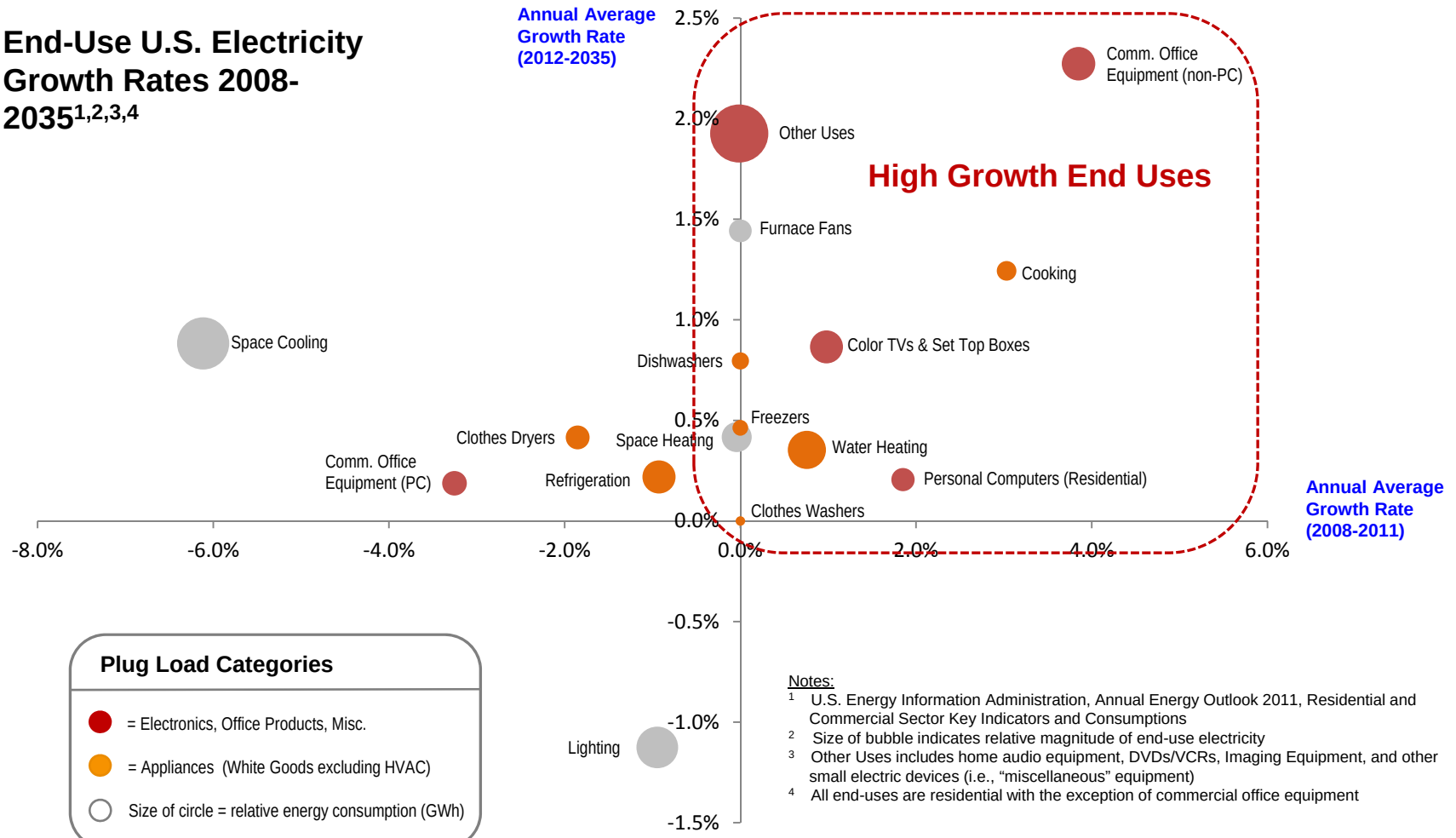
Growing End Use Through 2035

End-Use U.S. Electricity Growth Rates 2008-2035[1,2,3,4]



Plug Load Categories

- = Electronics, Office Products, Misc.
- = Appliances (White Goods excluding HVAC)
- Size of circle = relative energy consumption (GWh)

Notes:

1. U.S. Energy Information Administration, Annual Energy Outlook 2011, Residential and Commercial Sector Key Indicators and Consumptions
2. Size of bubble indicates relative magnitude of end-use electricity
3. Other Uses includes home audio equipment, DVDs/VCRs, Imaging Equipment, and other small electric devices (i.e., "miscellaneous" equipment)
4. All end-uses are residential with the exception of commercial office equipment

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Set-Top Box Opportunities

Upgrade to ENERGY STAR 3.0

Improve efficiencies

Replace standalone DVRs with whole home DVRs

Reduce household aggregate consumption

Upgrade to ENERGY STAR 4.0

Attack idle use

Offer add-on services

Offer energy management solutions (smart strips, TV brightness adjustment, PC power management)

Educate users

Co-market EE/DR program opportunities & awareness

Innovate market

Use STBs as a bridge to Demand Response solutions

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Next Steps

1. Further research is needed to define program intervention opportunities

- Baseline savings potential for ENERGY STAR 3.0, 4.0 and multi-room DVRs requires:
  - Service provider data on installed base, replacement cycles, etc.
  - Forecasts of baseline market trends
    - e.g., adoption of ENERGY STAR 3.0 models excluding utility intervention, baseline adoption of multi-room DVRs, viewership on "second screens", etc.
- Alignment with service providers and manufacturers to accelerate adoption of ENERGY STAR 3.0, 4.0 and multi-room DVRs
- Assessment and validation of additional intervention opportunities
  - Add-on energy management services
  - Development of DR capabilities
  - Upstream incentives with STB manufacturers
  - Co-marketing opportunities on Energy Efficiency (EE)/Demand Response (DR)

2. Continued coordination with ENERGY STAR, US DOE, CEC, CalPlug, service providers, and OEMs on emerging test procedures and standards

- Continued research on default "deep sleep" enablement to maximize EE savings potential

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Thank you

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