



# LEADING INNOVATION



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CalPlug  
Workshop Series #7  
May 12, 2015

*Advancing Energy  
Efficiency in Small  
Network Equipment and  
Networked Devices*



**CEA**<sup>®</sup>  
Consumer Electronics Association

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# Overview

- Energy use of SNE
- Social benefits and context for SNE
- Energy efficiency programs for SNE
- Recent industry standard
- International activity

# SNE Energy Use

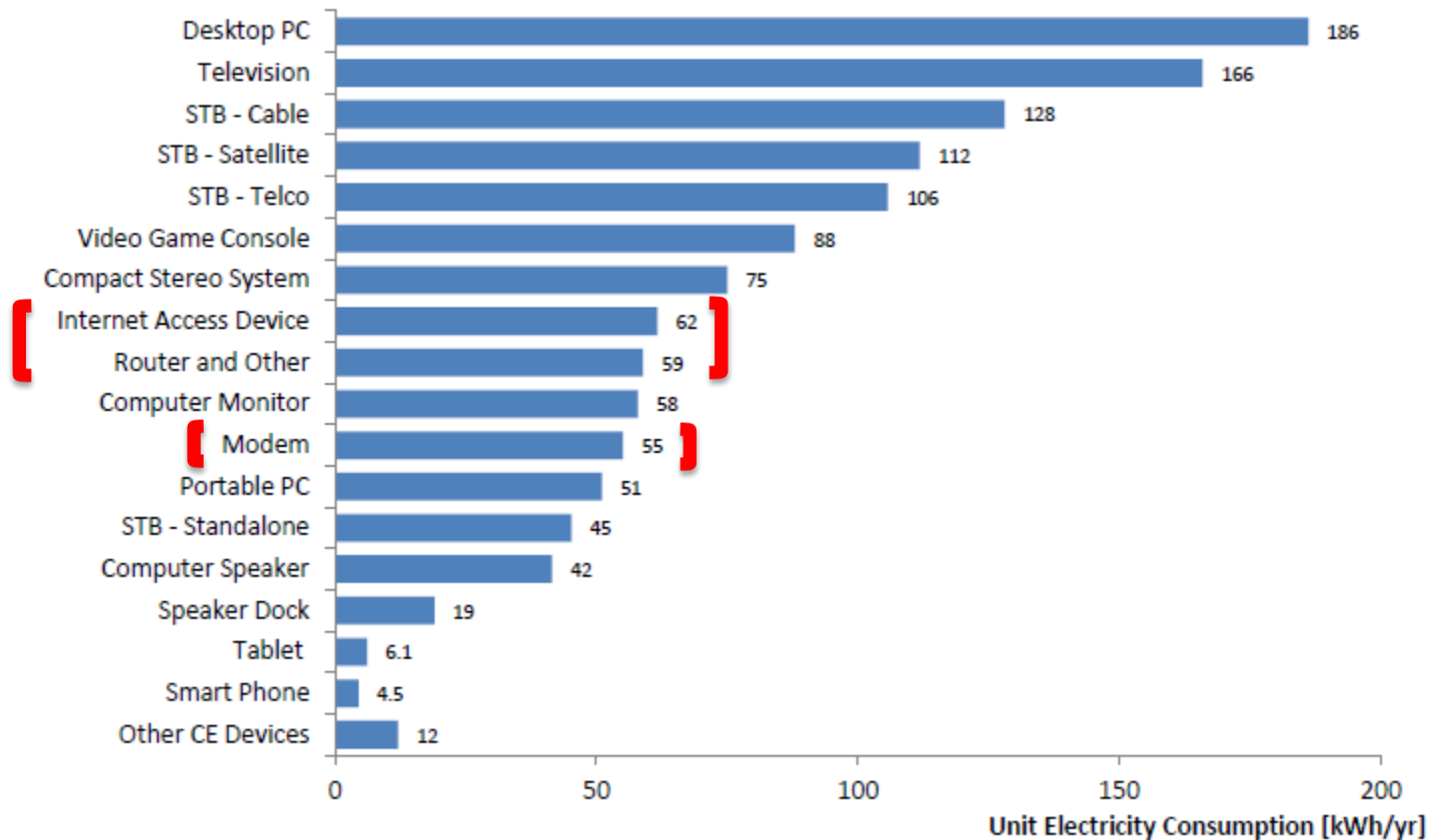


Figure ES-3: Annual unit electricity consumption for categories evaluated in detail.

Source: *Energy Consumption of CE in U.S. Homes in 2013* (Fraunhofer, 2015)

# SNE Energy Use

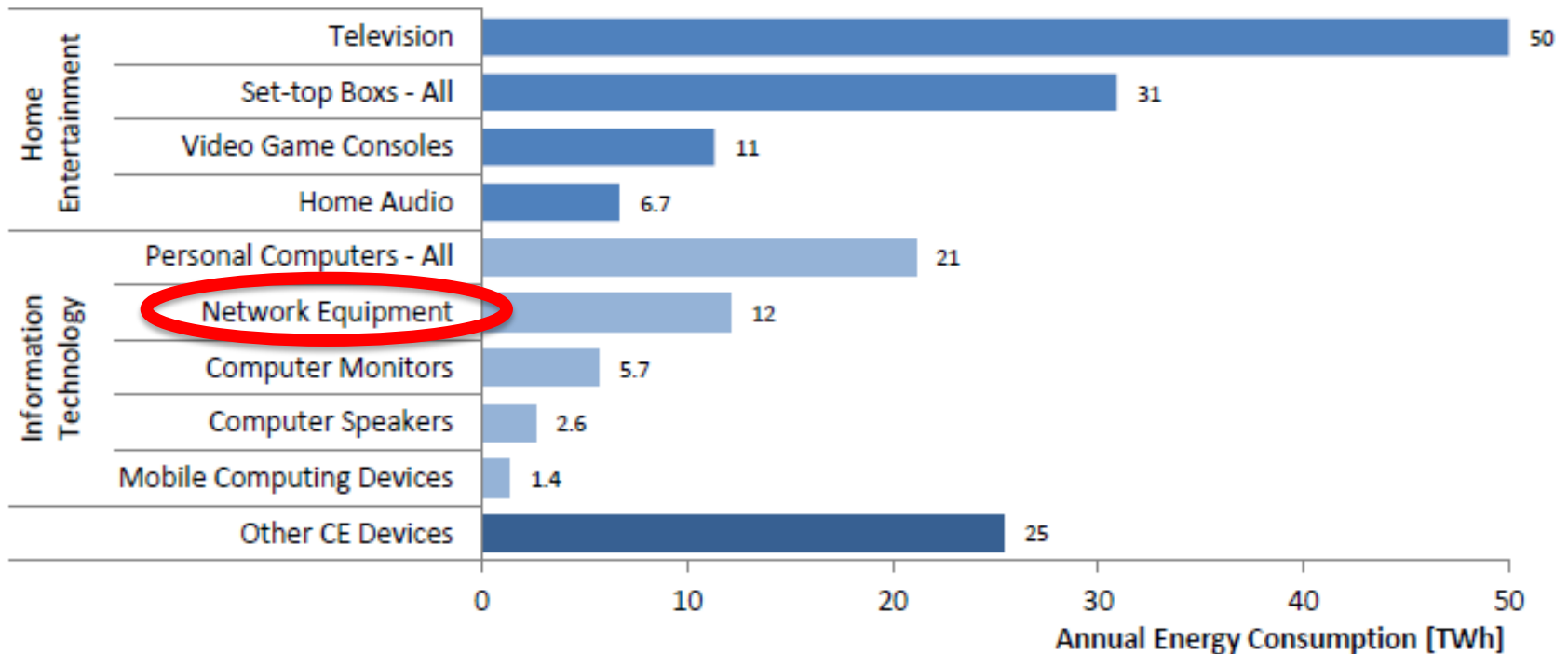


Figure ES-1: Residential CE annual electricity consumption by category.

Source: *Energy Consumption of CE in U.S. Homes in 2013* (Fraunhofer, 2015)

# SNE Energy Use

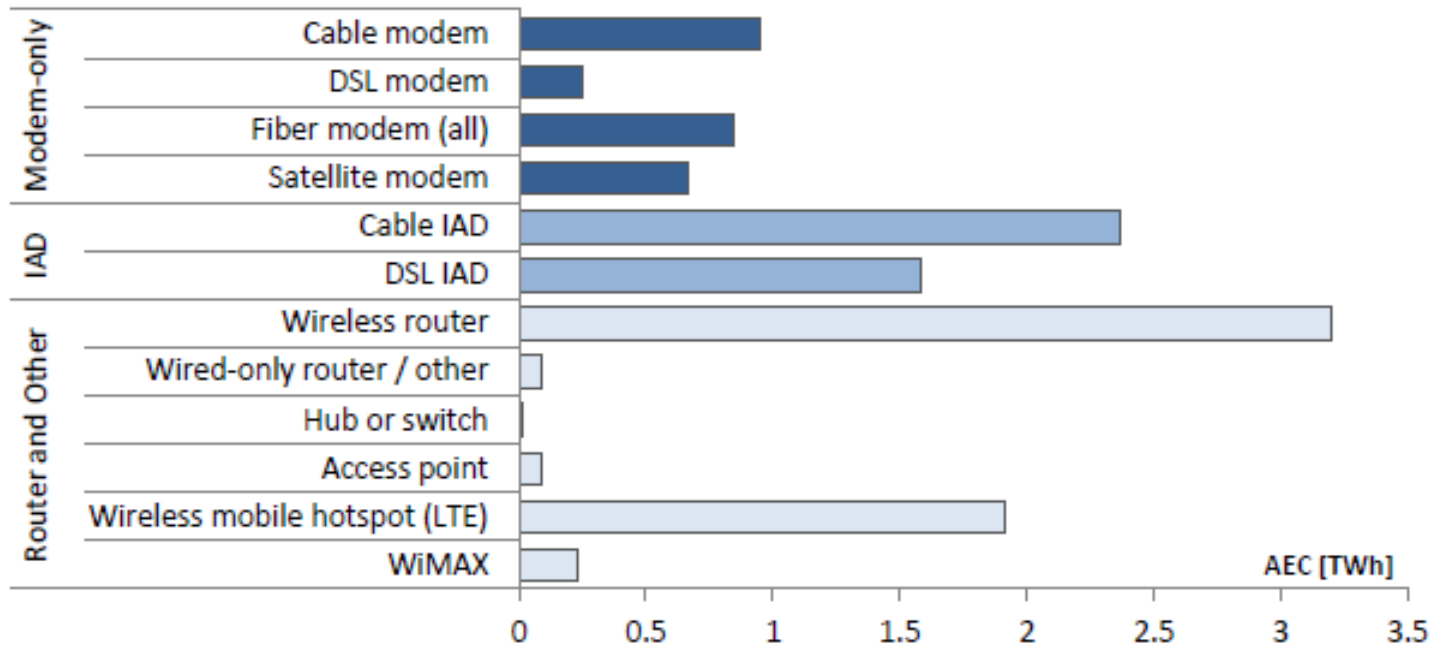


Figure 3-32: AEC for small network equipment.

Source: *Energy Consumption of CE in U.S. Homes in 2013* (Fraunhofer, 2015)

# SNE Social Benefits

“Like electricity a century ago, broadband is a foundation for economic growth, job creation, global competitiveness and a better way of life. It is enabling entire new industries and unlocking vast new possibilities for existing ones. It is changing how we educate children, deliver health care, manage energy, ensure public safety, engage government, and access, organize and disseminate knowledge.”

- *FCC's National Broadband Plan, 2010*

# SNE Social Benefits

- FCC repurposing USF to expand broadband nationally
- “With broadband increasingly necessary for full participation in our economy and democracy, connectivity for all is more important than ever... Private sector must play the leading role in extending broadband networks to every American...”
  - *FCC Chairman at hearing on FCC FY 2016 budget*



# SNE Social Benefits

- *The Energy and Greenhouse Gas Emissions Impacts of Telecommuting and e-Commerce* (Fraunhofer USA, February 2015)
  - Energy savings from teleworking in 2013 as much as 3 power plants or 750,000 HH
  - Energy savings from use of e-newspapers and e-books as much as 1 power plant or about 275,000 HH

# SNE Social Benefits

- Underlying teleworking and e-commerce is broadband and SNE

# Programs for Efficiency in SNE

- ENERGY STAR Product Specification for Small Network Equipment, Version 1.0 – *In effect*
- European Commission's Code of Conduct for Broadband Equipment – *In effect*
- U.S. industry voluntary agreement for energy efficiency in SNE – *In development*

# Approach for an SNE VA

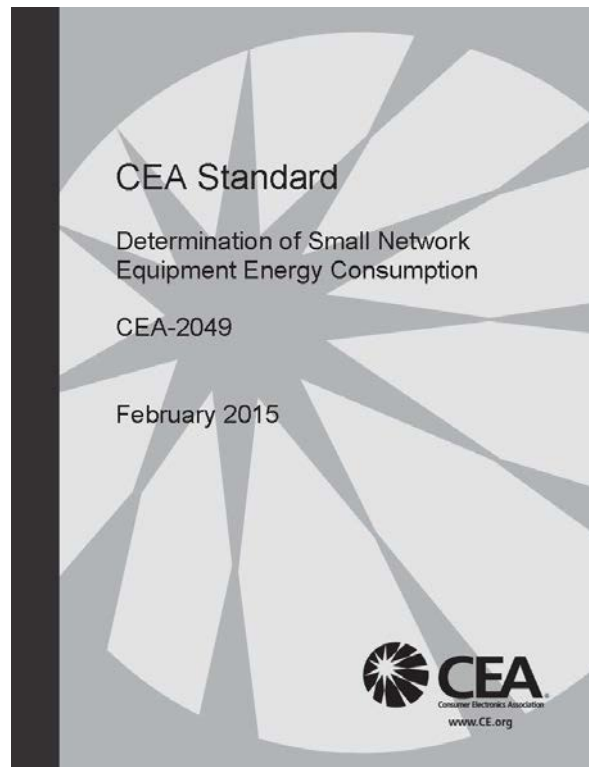
- Industry committed to work on SNE VA
- Covering residential SNE
- Including service providers and retail suppliers
- Leveraging lessons from STB VA:
  - Energy efficiencies achieved faster than government regulatory processes

# Approach for an SNE VA

- Agility to fit rapidly-changing world of high-tech consumer electronics devices, with often very short product lifecycles
- Transparency, such as verification testing and public annual reports
- Protections for marketplace innovations, which are especially important in broadband economy

# CEA Standard for SNE

- ANSI/CEA-2049 Determination of Small Network Equipment Energy Consumption



# International Activity: G20

- G20 Initiative on Networked Devices –  
Several initiatives:
  - Vision, goals and definitions
  - Guiding principles
  - Protocols and standards
  - Digital energy disclosures
  - Center of excellence
  - Awards

# Industry Guiding Principles

- Guiding Principles for Energy Efficiency in Networked Consumer Electronics (2012)







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