

**SCTE CABLE-TEC**  
**EXPO'13**  
OCTOBER 21-24 / ATLANTA, GA

# **STB ENERGY CONSERVATION – INITIATIVES AND CHALLENGES**

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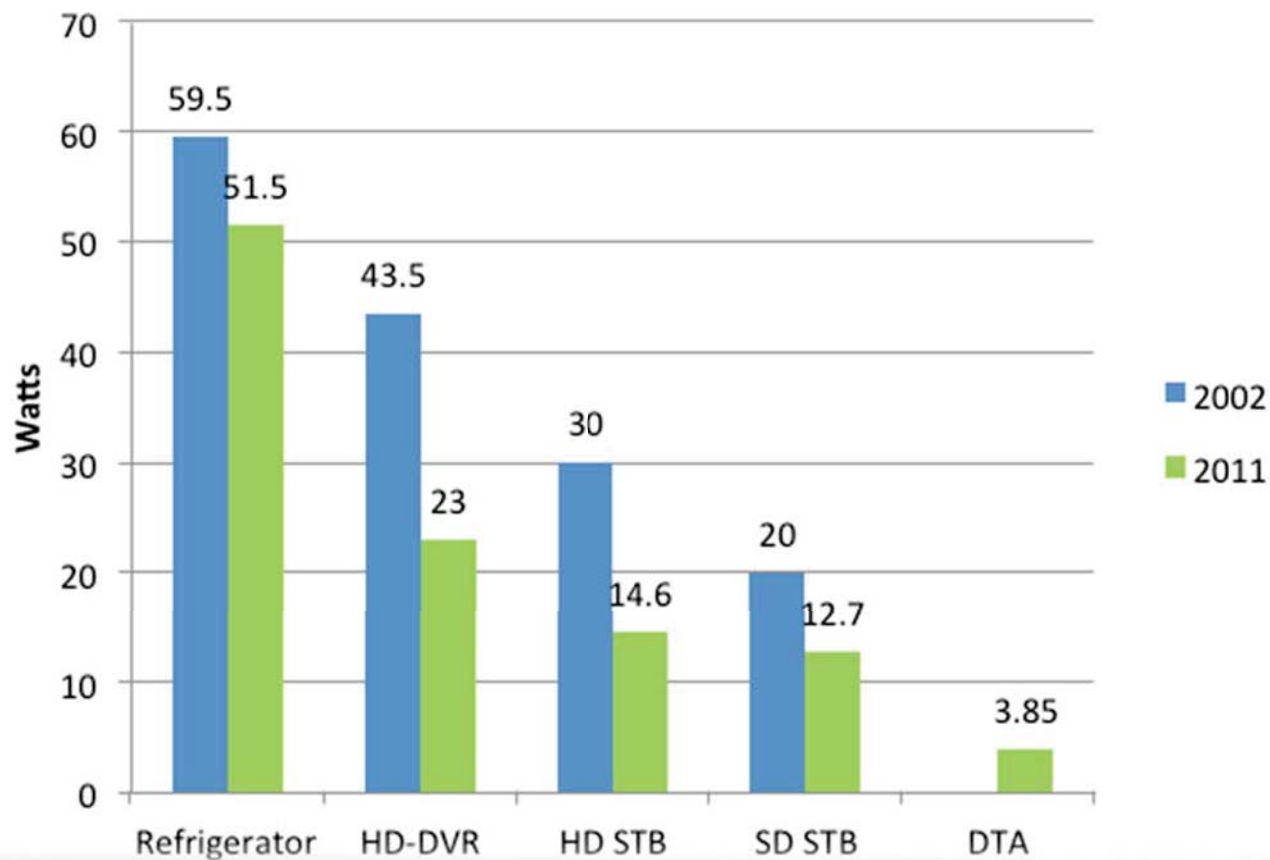
# History

- ▶ June 2011 NRDC report
  - Comparing STB Energy Use to a refrigerator
- ▶ Senator Feinstein letter
  - Urging reduction in STB Energy consumption
- ▶ Proposed Regulation
  - Department of Energy (DOE)
  - California Energy Commission (CEC)

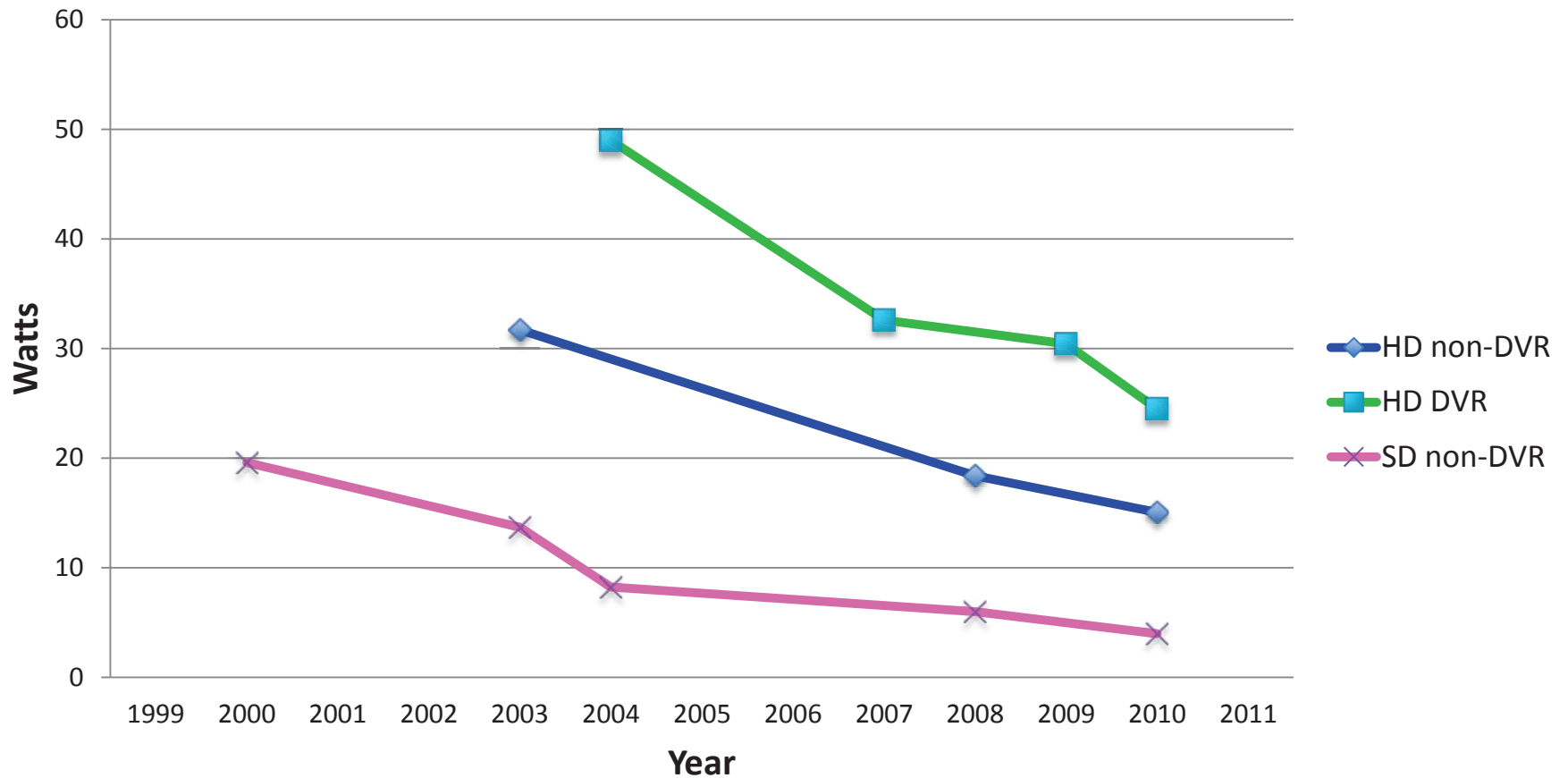


# Historic Energy Reduction

## In Cable STBs compared to Refrigerators



# Power Consumption of STB Models



# Potential Regulation Activities



# Industry Voluntary Agreement

Signed December, 2012

- ▶ 15 Signatories
- ▶ 90% of new STBs will meet or exceed Energy Star v3 metrics
- ▶ Light Sleep
- ▶ Whole-home DVR
- ▶ Independent Administrator



# VA Signatories

Serving Over 90M Households



# Benefits to the Voluntary Agreement

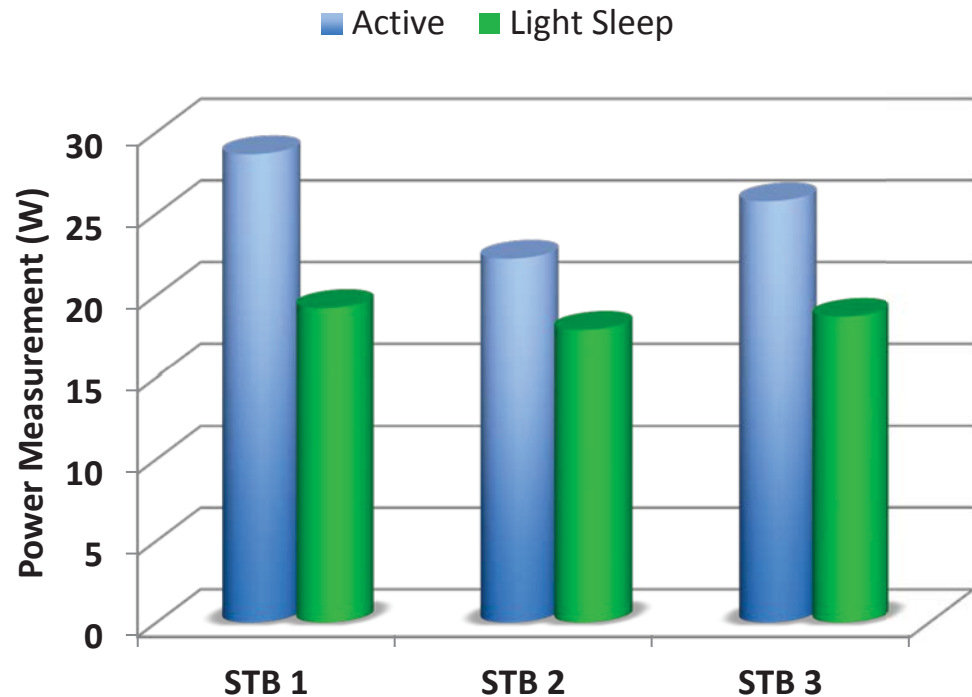
- ▶ Increased energy efficiency (and savings)
  - Retrofitting deployed STBs not just new STBs
- ▶ Doesn't stifle innovation and creativity
- ▶ Faster adoption and deployment
- ▶ Annual review for improvement
  - Consider new products
  - Consider new efficiencies
- ▶ Save US\$1.5 Billion Annually
  - (4+ Power Plants)



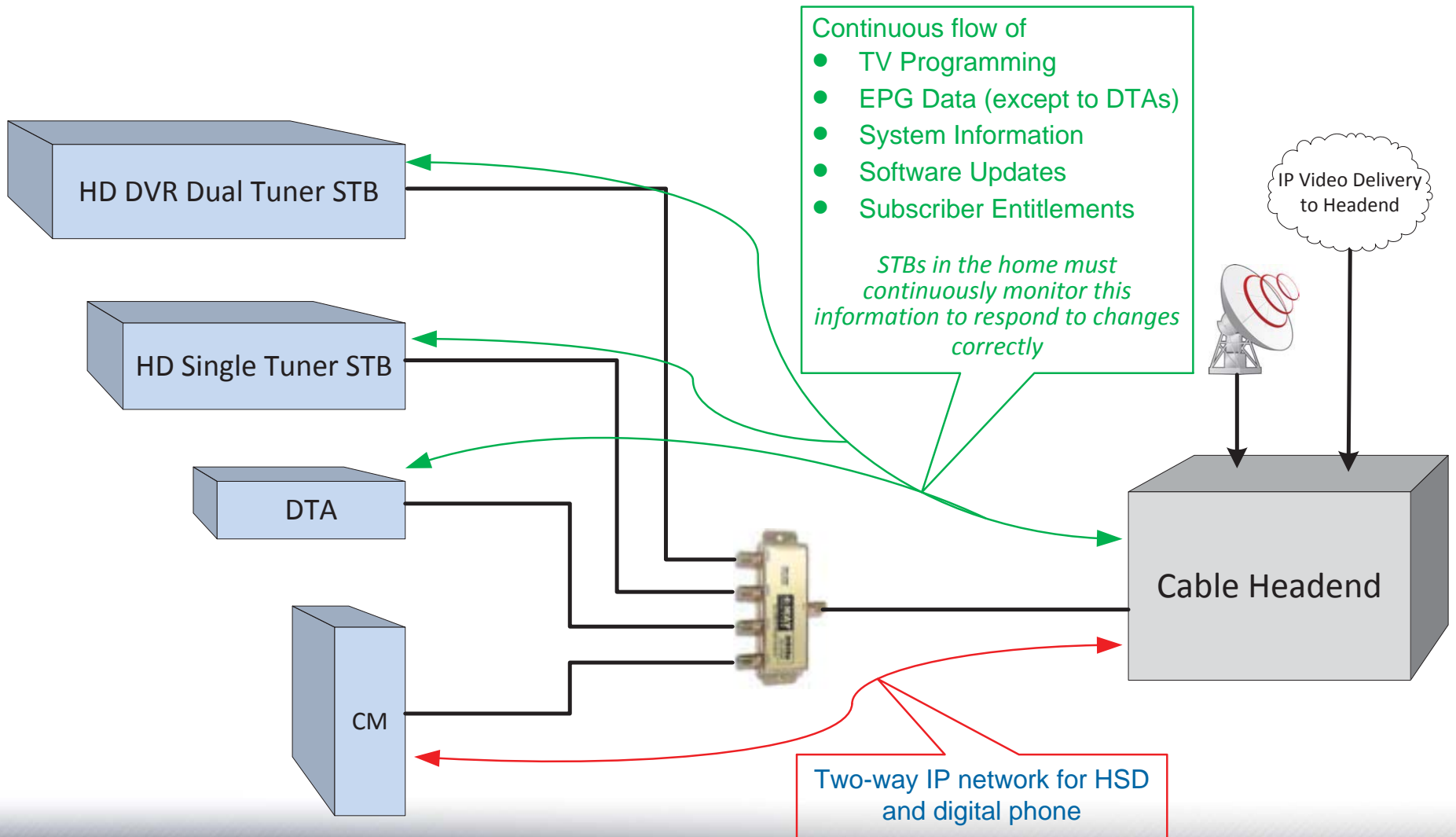


# Light Sleep

- ▶ Deployed on many existing STBs today
- ▶ Spin down hard disks, in-band tuners, video outputs
- ▶ Auto Power Down



# STB Sleep Challenges



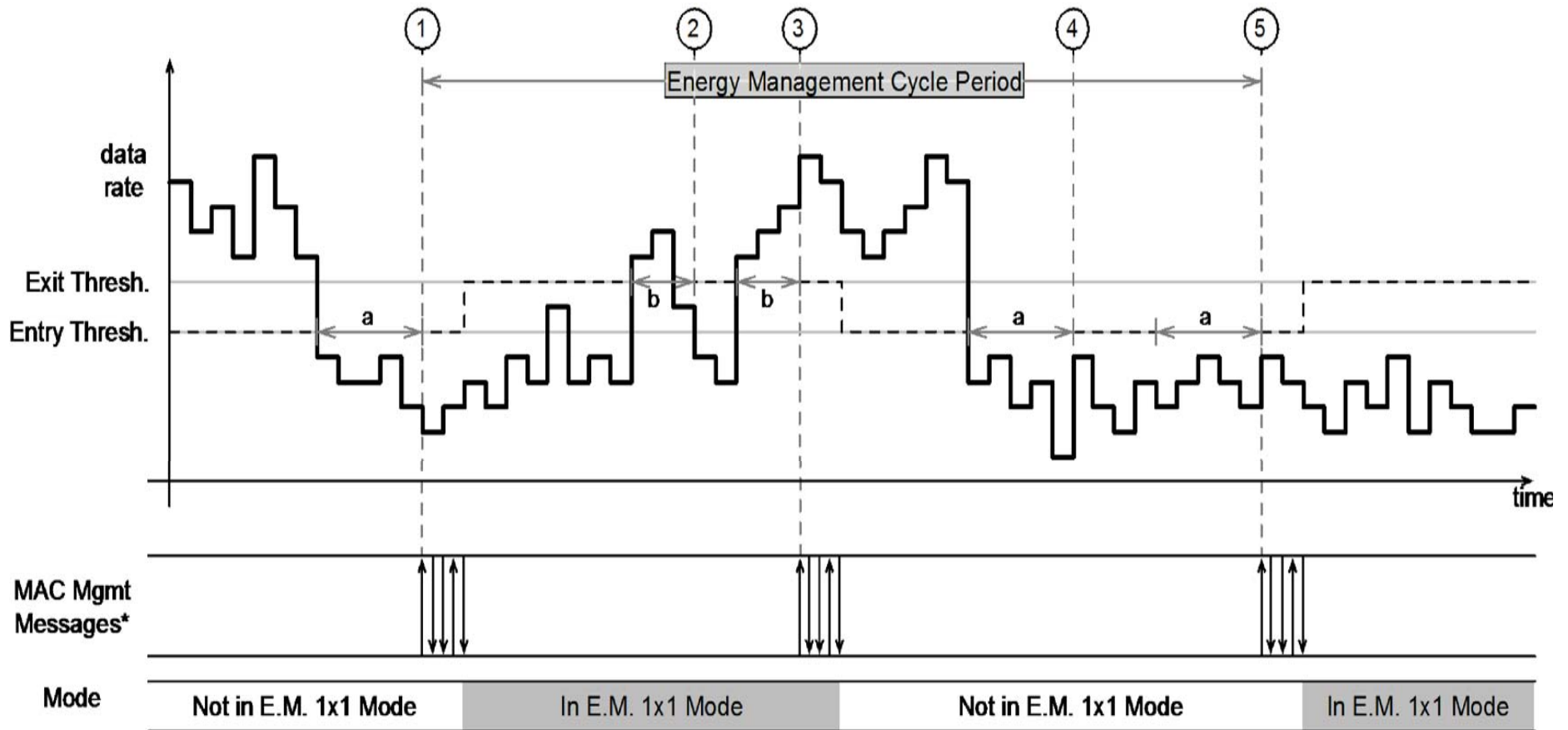
# CableLabs Engineering Changes

## In Support of Energy Reduction

- ▶ DOCSIS 1x1 Mode
  - Protocol Interface
  - Management and Reporting
  - Guidelines Document
- ▶ CableCARD startup times
- ▶ OpenCable Host update to notify eCM when going into sleep mode



# DOCSIS 3.0 Energy Management

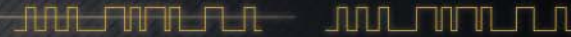


# What's Next



- ▶ Energy Management designed up front into specifications
  - DOCSIS 3.1
- ▶ Whole-home architectures
- ▶ Functionality consolidation into multi-service gateways
- ▶ Cloud DVR and guides
- ▶ Serving video to consumer-owned devices
- ▶ Innovation enabled by the voluntary agreement





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