

# Measuring and Reducing TV Power Use

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# Today's Line-Up

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- Provide background on TV power use.
- Updates on recent research and policy developments around the world.
- Begin effort towards creating consensus test method and efficiency metrics.
- Discuss opportunities for future energy savings.
- Explore policy options that promote efficiency improvements.
- Establish processes for future collaboration.





*"Hi. My name is Barry, and I check my E-mail two to three hundred times a day."*

# Who is NRDC?

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- Natural Resources Defense Council (NRDC)
- Environmental advocacy group with more than 600,000 members.
- Air/Energy program interested in reducing global warming pollution and protecting public health.
- Long track record of collaboration with industry and policy makers on energy efficiency (monitors, lighting, vending machines, computers, etc.).



# Energy Efficiency

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**“Delivery same level of performance  
while using less energy”**

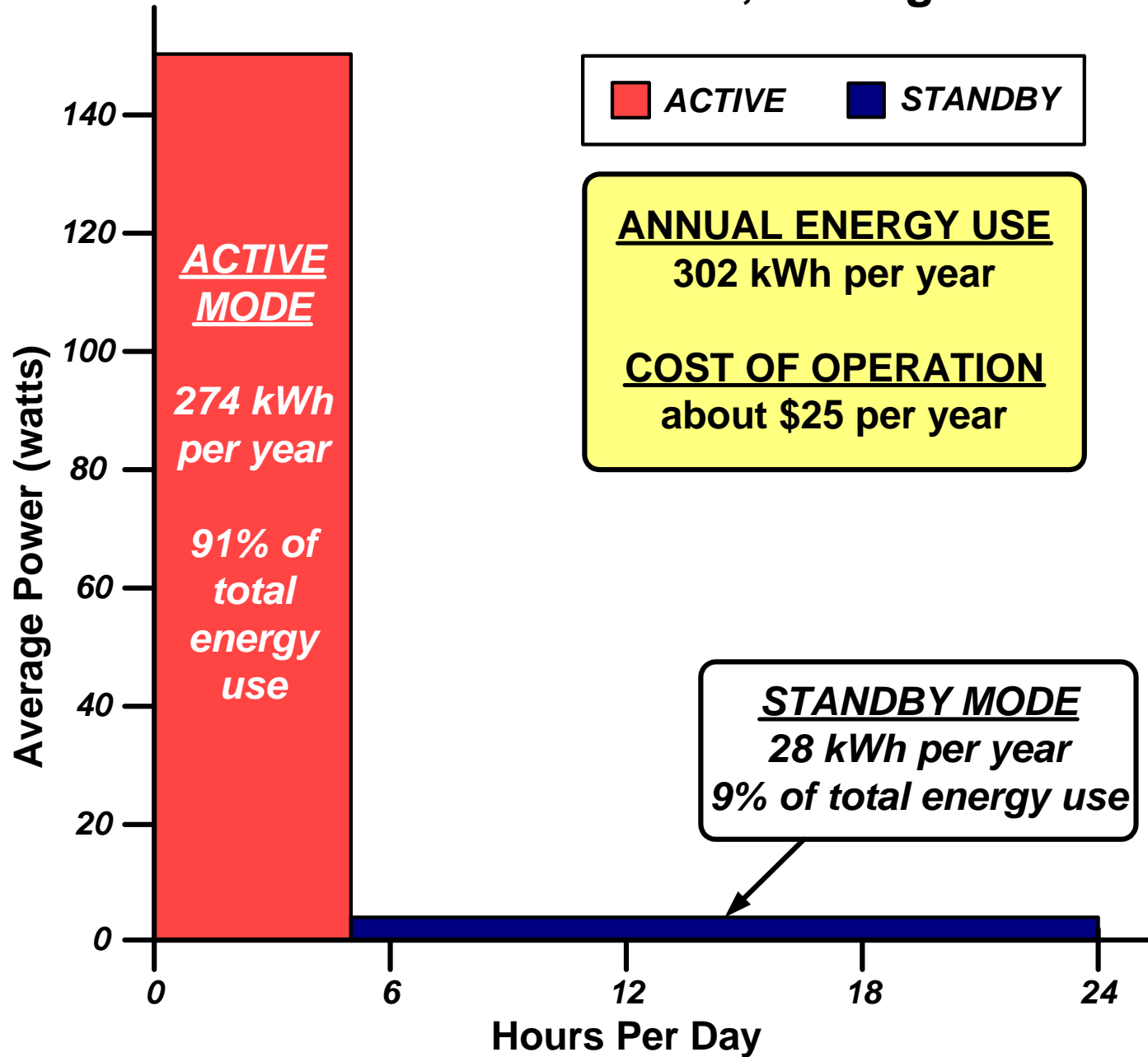
- Efficiency gains through improved designs, more efficient components, etc.
- Reduce user’s operating costs.
- NO CONSUMER SACRIFICE
- Policies should be performance based, not prescriptive. Encourage innovation.

# Why TVs?

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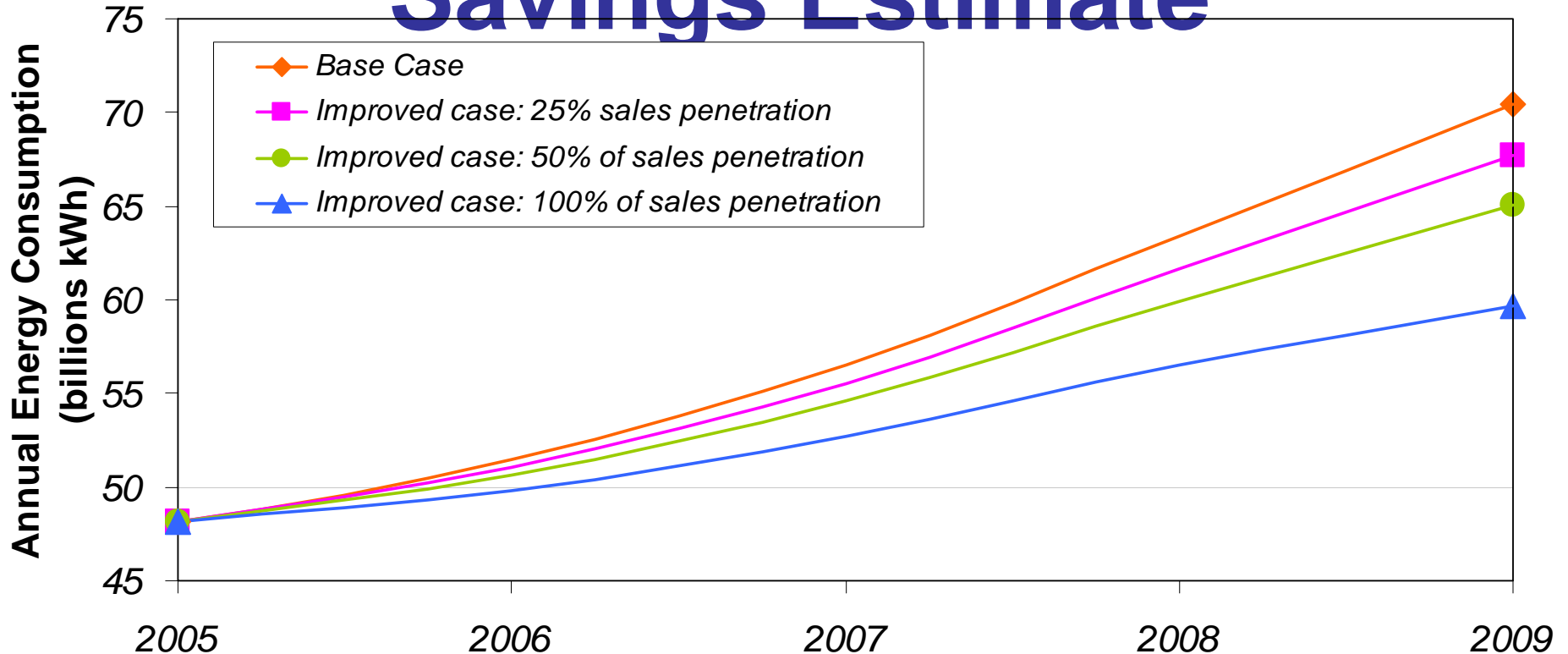
- Represent ~1% of national electricity use, 4% of residential.
- Energy use growing due to:
  - Increasing TV screen size
  - Move to digital and high definition (HD) TV is spurring sales
  - Increased hours of use (videos, gaming, etc.)
  - More TVs per home
- To date policies focus primarily on standby use. Need to update thinking and include active mode.

# Power Use in a 36" CRT, Analog TV



## Estimated U.S. Annual Energy Consumption by TVs

# Savings Estimate



Reducing per model TV energy use by 25% by 2009 will:

- Save >10 billion kWh per year
- Save \$1 billion per year in electric bills
- Prevent emission of 7 million tons CO<sub>2</sub> per year



# Test Methods

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- Procedure to measure energy use of a particular device.  
Test Method Ideally:
  - *Provides reproducible data regardless of technician or laboratory*
  - *Clearly spells out how to run test (out of the box, or other settings)*
  - *Provides basis for fair, “apples to apples” comparisons between models*
  - *Relatively easy to perform*
- Does NOT set a limit, just a way to measure power use.

# Test Methods To Date

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- No internationally accepted test method available for measuring TV active mode power use for all technology types.
- Various policy makers, standards bodies, and trade associations working to develop their own.
- Given worldwide market for TVs, lets strive for single test method. Will result in reduced testing and data reporting costs.

# Challenges

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- Can we have a “one size fits all” test method suitable for CRTs, plasma, LCDs, etc.?
- What TV settings do you use (contrast, volume, brightness, etc.?)
- Test clip should be representative of TV broadcasts and contain range of colors, etc. Must not create unfair advantages toward single technology.

# Around the World in 30 Seconds

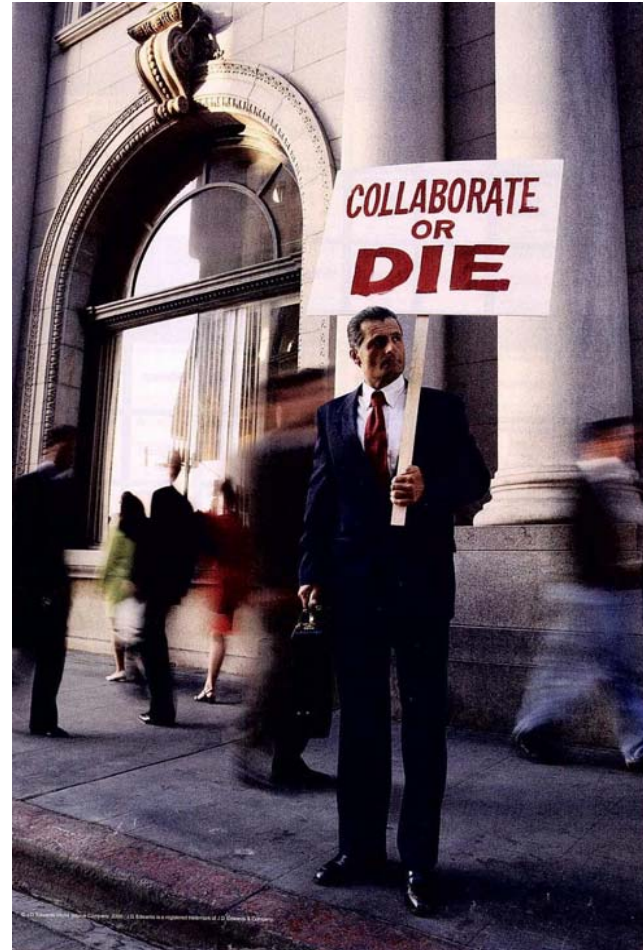
- US Dept of Energy (DOE) test method is only for black and white CRTs. No national standard exists.
- California (CEC) mandatory standards and EPA ENERGY STAR spec exist for standby power use.
- China – has both voluntary label (CECP) and mandatory standard. Covers both standby and active power use. Only applies to color CRTs.

## Around the World (part 2)

- Australia/New Zealand – in the process of establishing a mandatory specification that includes active mode power use for all TV types. (more on this later)
- Japan – JEITA in final stages of adopting test method covering LCDs and plasmas. Yields annual energy use value (kWh/yr)
- Europe – developing Code of Conduct levels (voluntary)

# International Collaboration

- Markets are increasingly international
- Have much greater impact if we work together (US, China, Australia, Europe, etc.)



# Today's Ground Rules

- Today is not a negotiation or an attempt to set standards or power levels.
- Dialogue to focus on test methods, metrics, and what can be done to reduce future TV power use.
- Aim for constructive discussion, collaborative environment
- Please participate. Lots of meeting dedicated to open discussion.
- Discussion of specific pricing, trade secrets, etc should obviously be avoided.

