

____INSTITUTE FOR____
Electric Efficiency

Potential for Energy Efficiency in the Power Sector and Role of IEE

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Presented at NARUC Annual Convention
November, 2008

Agenda

- About IEE
- Current challenges
- Where we stand today
- Where we “could” be & the role of EE
- Key issues surrounding significant growth in EE and demand response

The Institute for Electric Efficiency

- **Mission**

- To advance energy efficiency practices and demand response among utilities

- **Role of IEE**

- Provide resources/share information and best practices/clearinghouse/discussion groups
- Identify key issues & barriers/enablers
- Collaborate with advisory committee to advance EE

- **Funding**

- IEE member electric utilities. Launched in 2008.

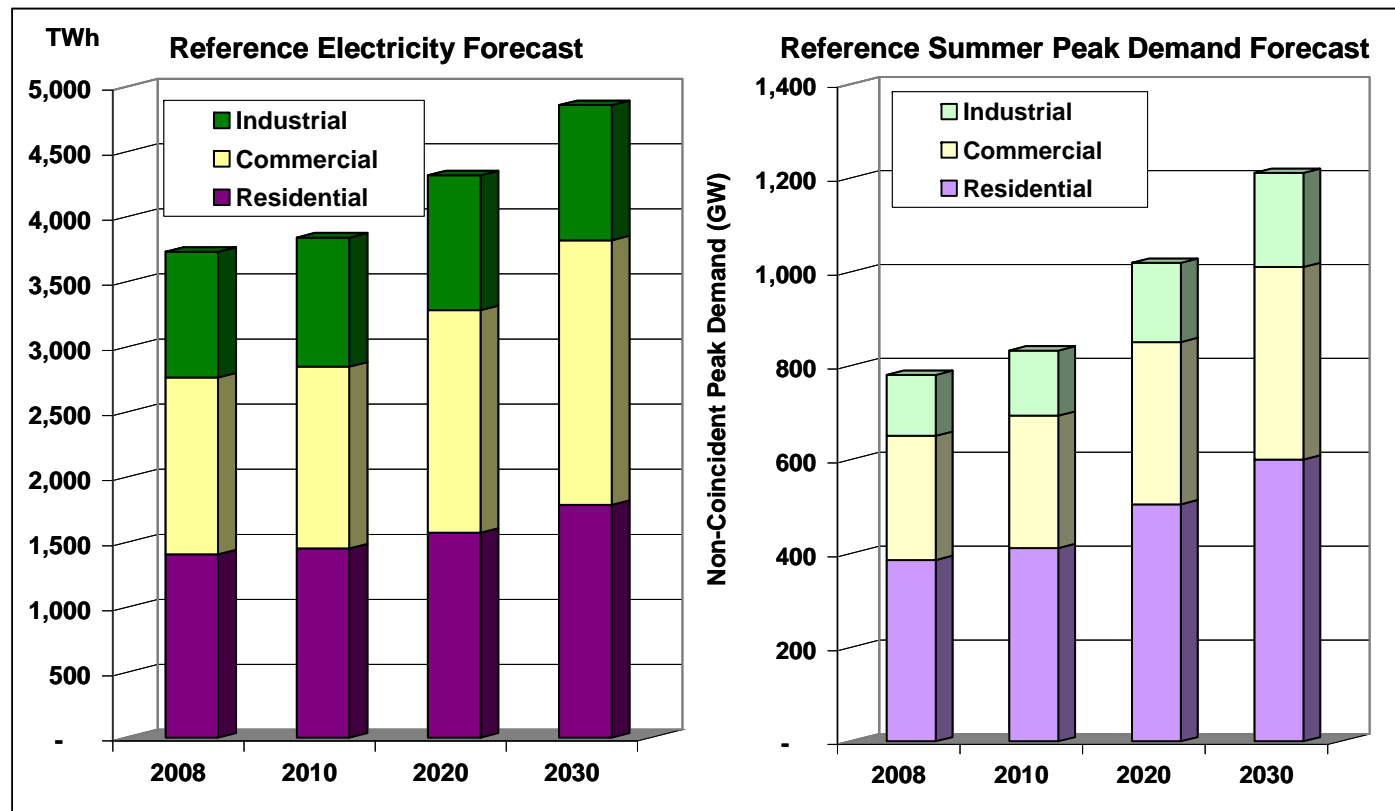
IEE governance structure – a who's who in energy efficiency

- Management committee of 17 CEOs of investor-owned utilities
 - Chair, Jim Rogers, President & CEO, Duke Energy
- Advisory committee of leading energy efficiency advocacy organizations and policy makers including NARUC
 - ASE, ACEEE, CEE, DRAM, EPRI, NRDC, NARUC, NASUCA, RMI, Sierra Club
 - DOE, EPA, FERC
- Strategy committee of VPs overseeing energy efficiency in IOUs

Power industry challenges

- Rising demand
- Rising construction costs
- Rising fuel costs
- Shrinking generation reserve margins
- Climate change
- Difficult lending environments

Current challenges: Usage (TWh) and summer peak demand (GW) forecast (EIA)*



Source: Assessment of Achievable Potential for Energy Efficiency and Demand Response in the U.S. EPRI Report No. 1016987. November 2008.

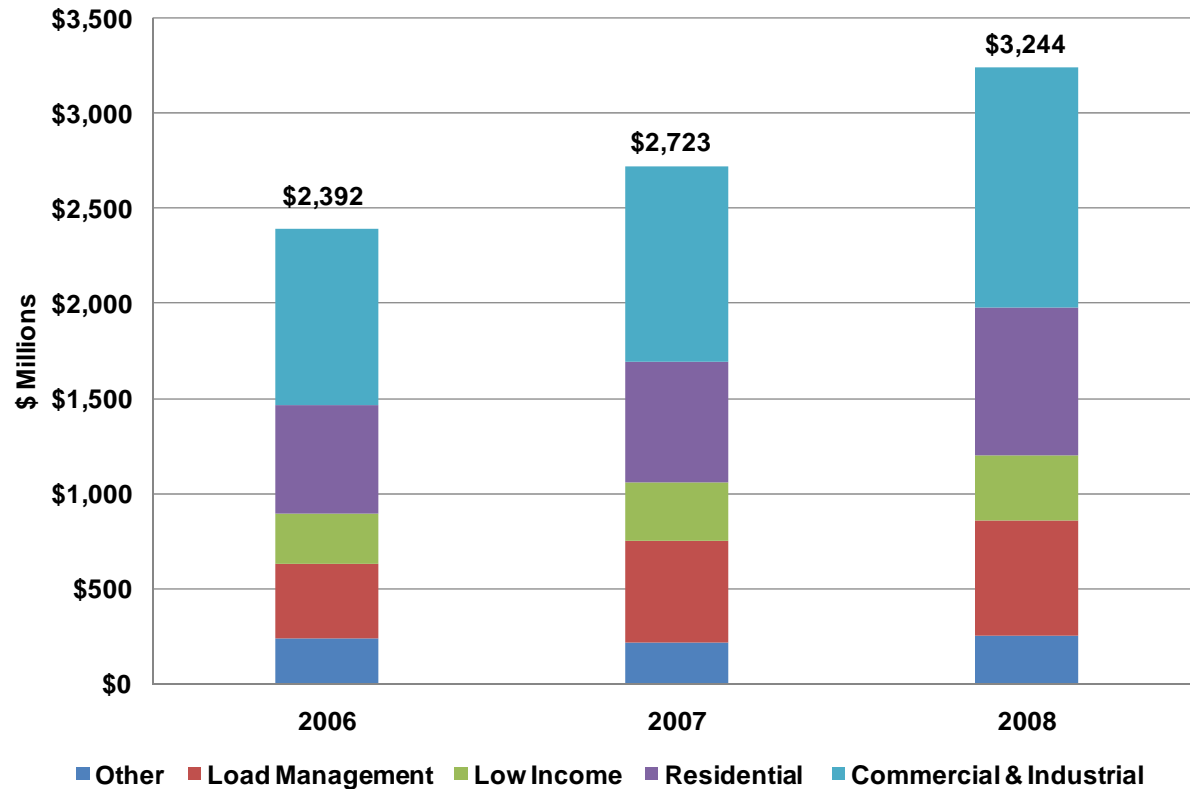
Energy efficiency is fundamental to the power business – our “5th” or “1st” fuel?

- EE is a cost effective way to:
 - Reduce carbon emissions, and
 - Significantly moderate the expected growth in electricity demand
- US power demand (i.e., usage) expected to increase by 30% by 2030 (EIA forecast)
 - EE programs can offset about **35% of expected growth** in electricity usage between 2008 and 2030 (EPRI), and
 - EE and DR programs can offset about **50% of expected increase** in summer peak demand between 2008 and 2030 (EPRI).

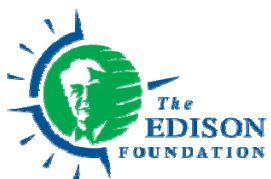
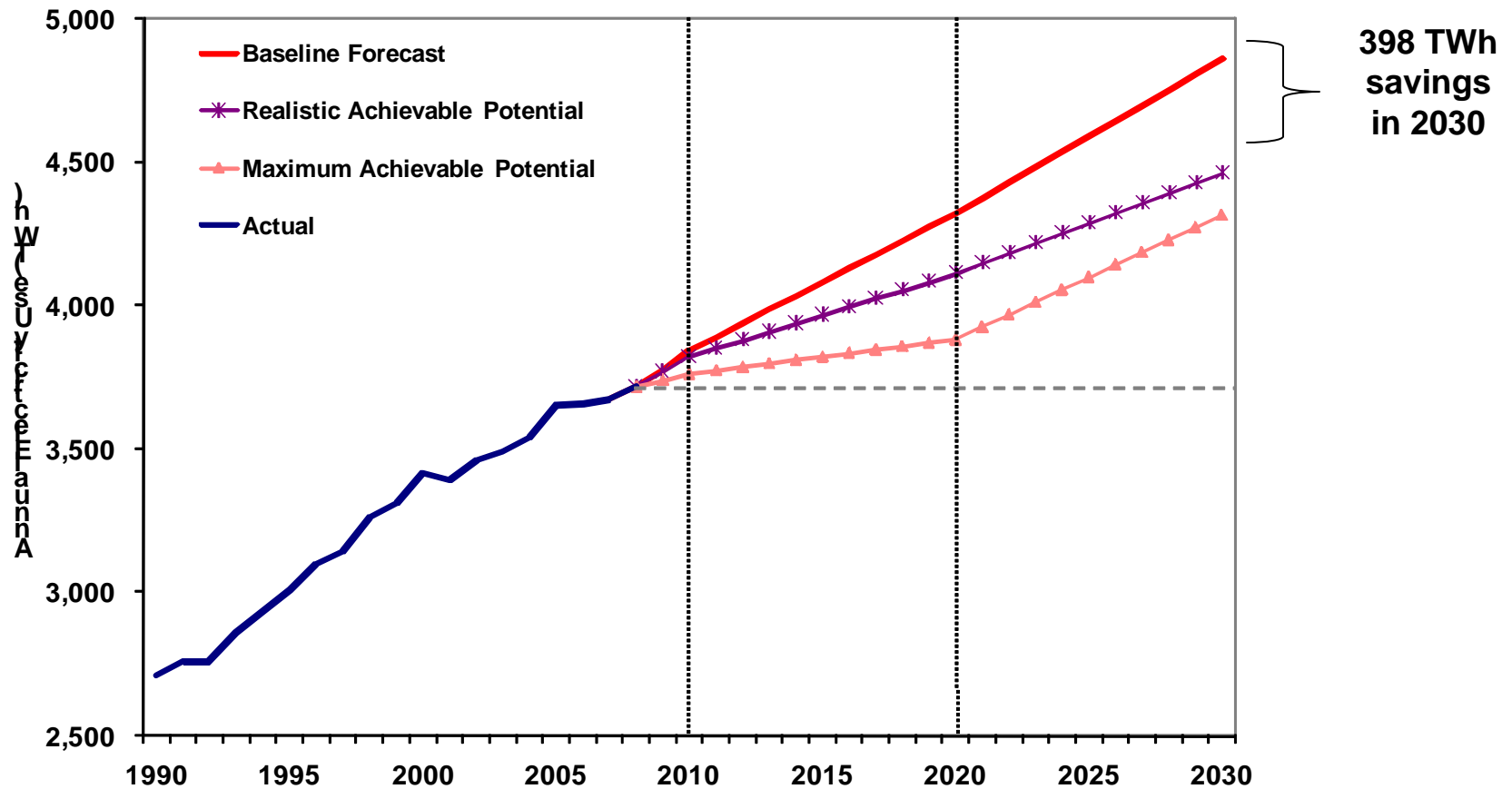
Note: EE potential estimates based on report, Assessment of Achievable Potential for Energy Efficiency and Demand Response in the U.S., EPRI Report No. 1016987. November 2008.

Electric budgets for EE are increasing significantly (CEE estimates)

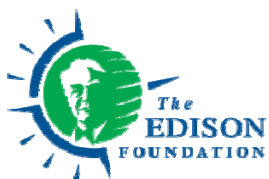
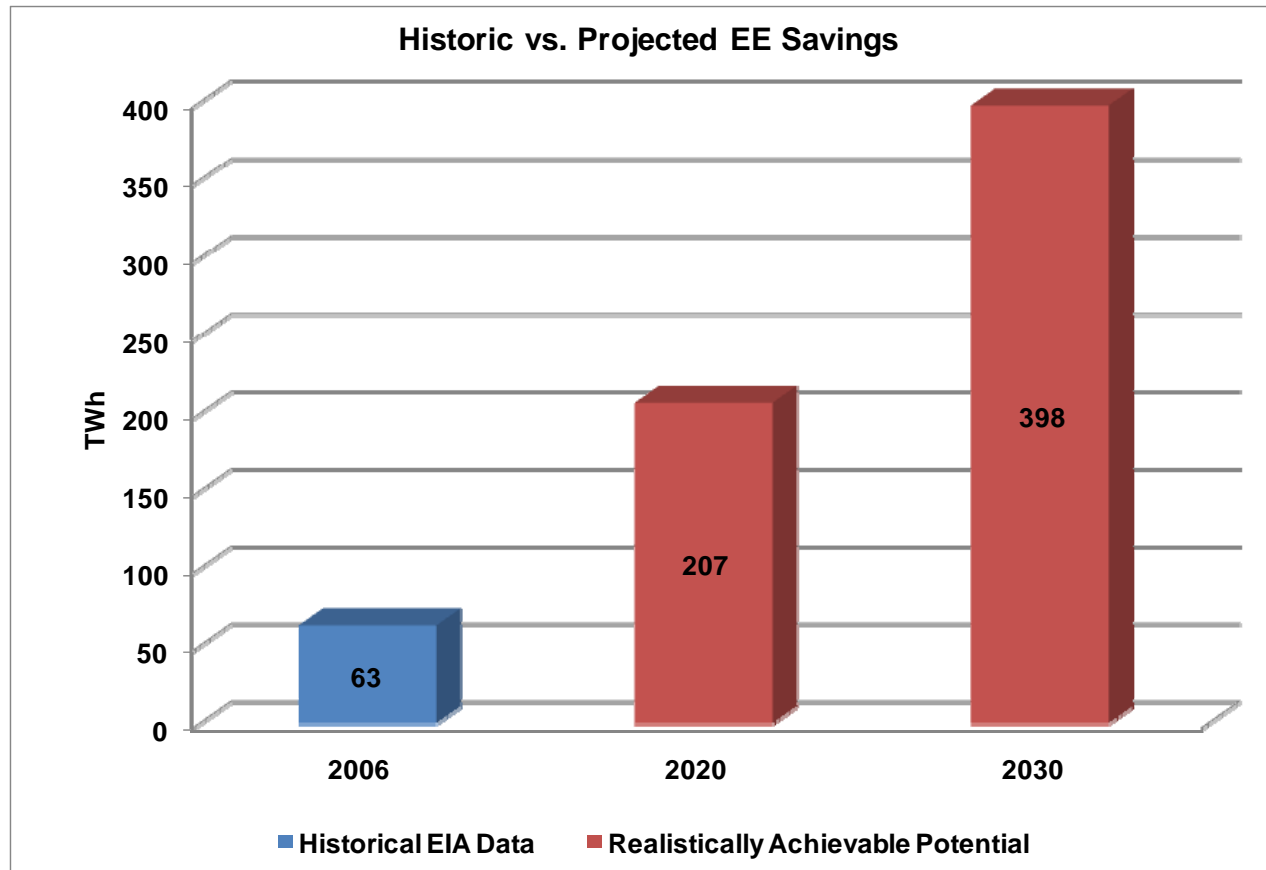
US Electric Budgets for Energy Efficiency, 2006-2008 (\$ Millions)
CEE Annual Efficiency Overview



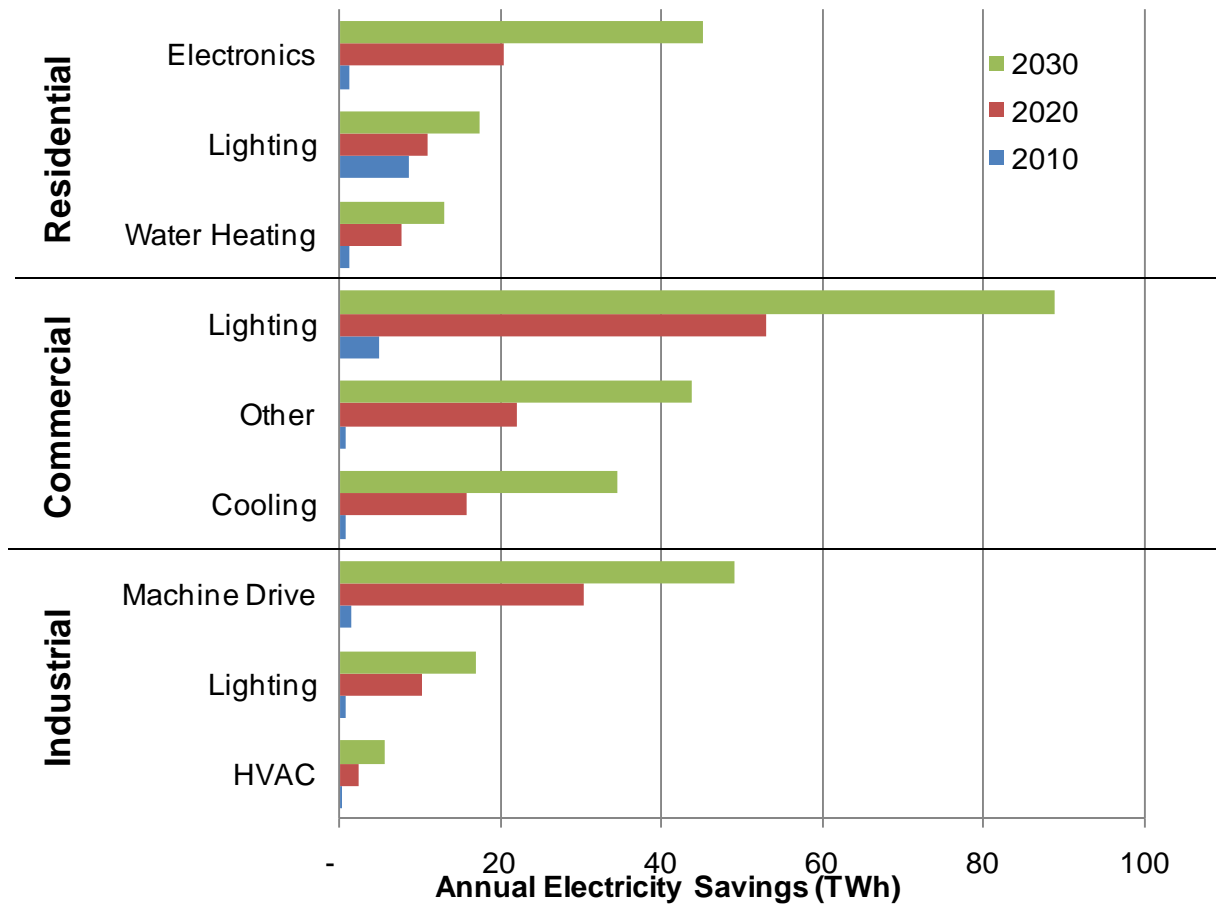
Usage forecast - baseline vs. realistically achievable potential. EE programs can achieve 398 TWh of savings by 2030 (EPRI report)



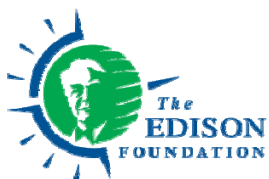
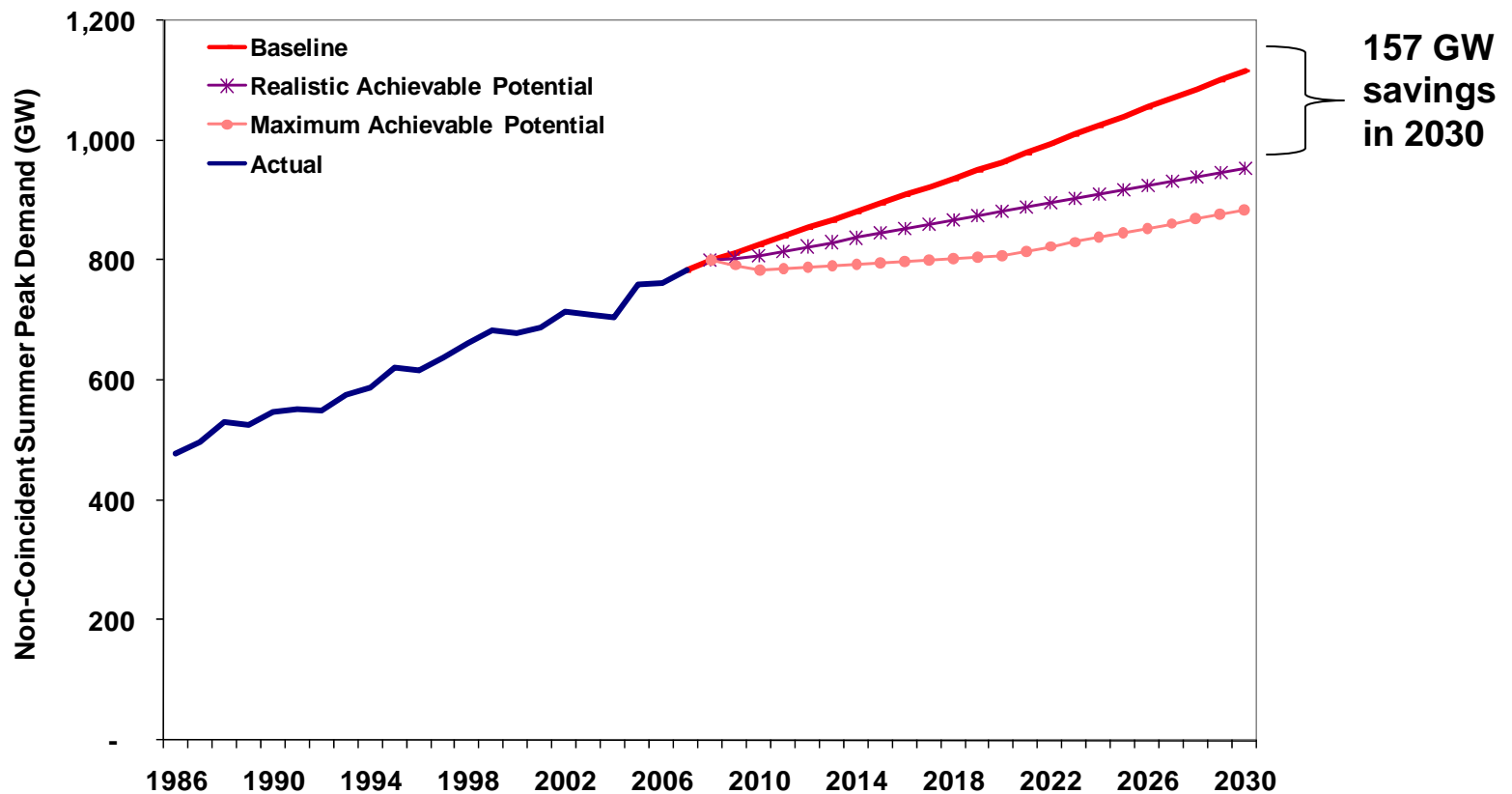
EE is a serious investment for the future. EE savings potential 398 TWh in 2030 (realistically achievable - EPRI) vs. actual 63 TWh in 2006 (EIA)



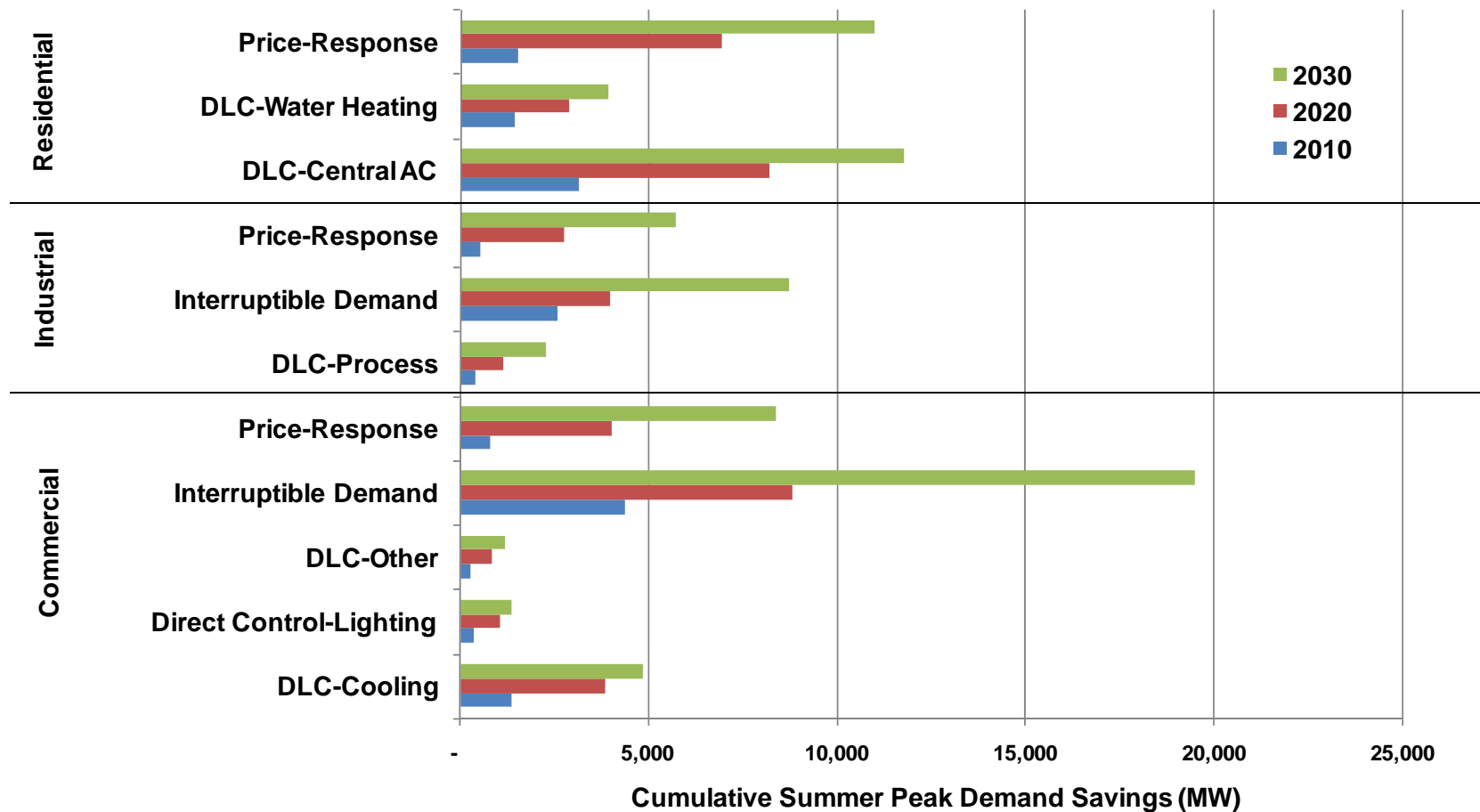
Top “3” end uses for EE savings potential (EPRI report)



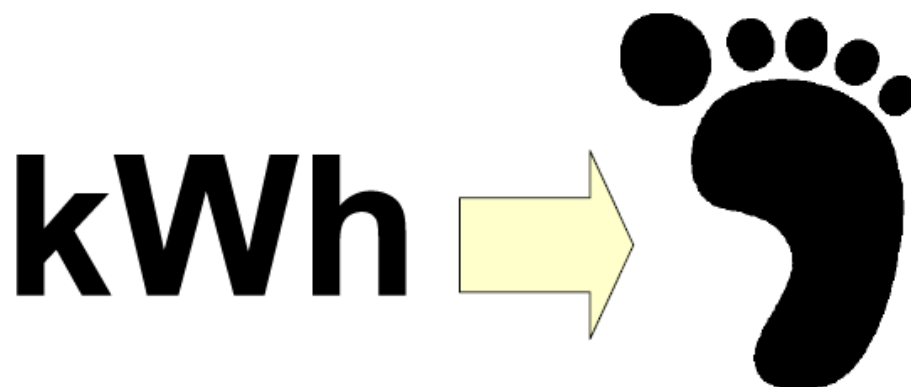
Peak demand forecast – baseline vs. realistically achievable potential. EE and DR programs can achieve 157 GW of savings by 2030 (EPRI report)



Portfolio of sources for peak demand savings (EPRI report)



Plus energy efficiency programs reduce the carbon footprint



- Translating EE into carbon underway
- M&V increasingly important with CO₂ price

IEE focus: Key issues surrounding significant growth in EE nationwide & making EE scalable.

1. EE business models/sustainability
 - EE cost recovery, incentives, disincentives.
 - Range of best practices – one size does not fit all
 - Measurement and verification of EE savings critically important
2. Dynamic pricing/demand response/AMI rollout
 - Dynamic prices/demand response important at retail level
 - Building peaking plants to run 60-100 hours/yr – very costly!
3. Well defined roles for utilities vs. 3rd party EE administrators
4. Effective programs for low income customers

Institute for Electric Efficiency – Role, Focus, Vision

- Educate
- Communicate
- Collaborate with advisory committee members
 - Formed/in process of forming specific collaborations with advisory group members.
- Advance EE practices and demand response in power sector
- Work with utilities in leading EE

IEE can facilitate discussions/innovations between industry and regulators

- Why/How?
 - Power industry CEOs on IEE Management Committee represent over half of all power generated by IOUs in U.S. in 2007
 - EE critical as part of energy portfolio; **opportunity is now!**
- Possible ways to work with NARUC members
 - Sponsor educational forums around key EE issues between regulators and electric utilities.
 - Form small groups of regulators/industry representatives to focus on innovation in key EE potential areas (e.g., electronics, etc.)
 - Develop clear integration/coordination between utility-sponsored EE programs and codes and standards.

New IEE website launched

Our new look!



INSTITUTE FOR
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*Advancing energy-efficiency practices and
efficient pricing among electric utilities.*

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DATABASES

ONLINE ROUNDTABLE

What's New

- [Upcoming Events Register Now!](#)
- [Energy Efficiency Success Stories](#)

Ask IEE

Program cost recovery?
Lost margins? Decoupling?
If the resources on this site
have not answered your
questions about program
design and best practices,
please contact us.

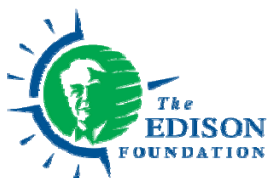


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EXTERNAL LINKS

ASK IEE

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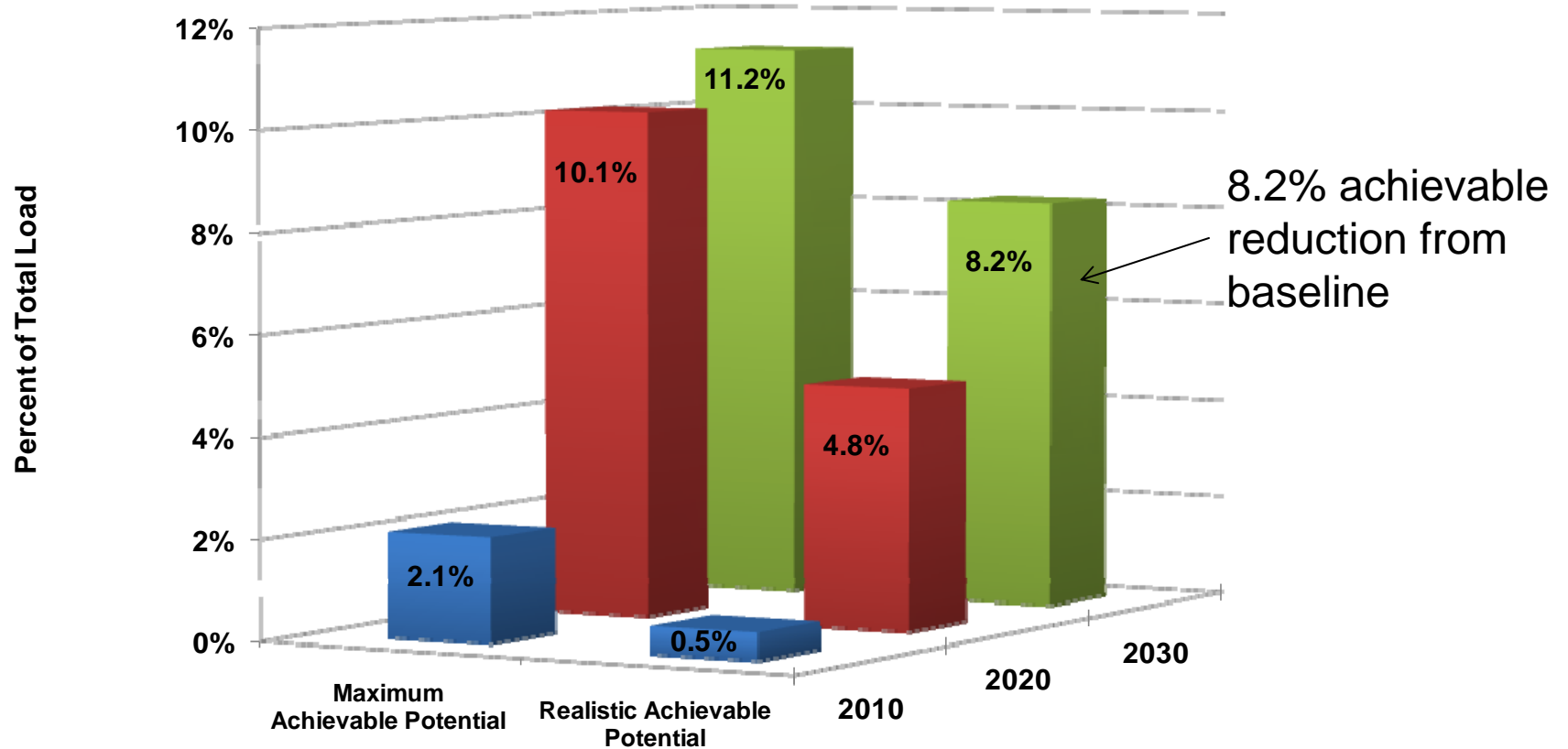
Washington, D.C. 20004-2696

<http://www.edisonfoundation.net/IEE>

Appendix



Energy efficiency programs can save 398 TWh or 8% of electricity usage in 2030



EE and DR programs together can save 157 GW or 14% of summer peak demand (GW) in 2030 – half EE and half DR

