



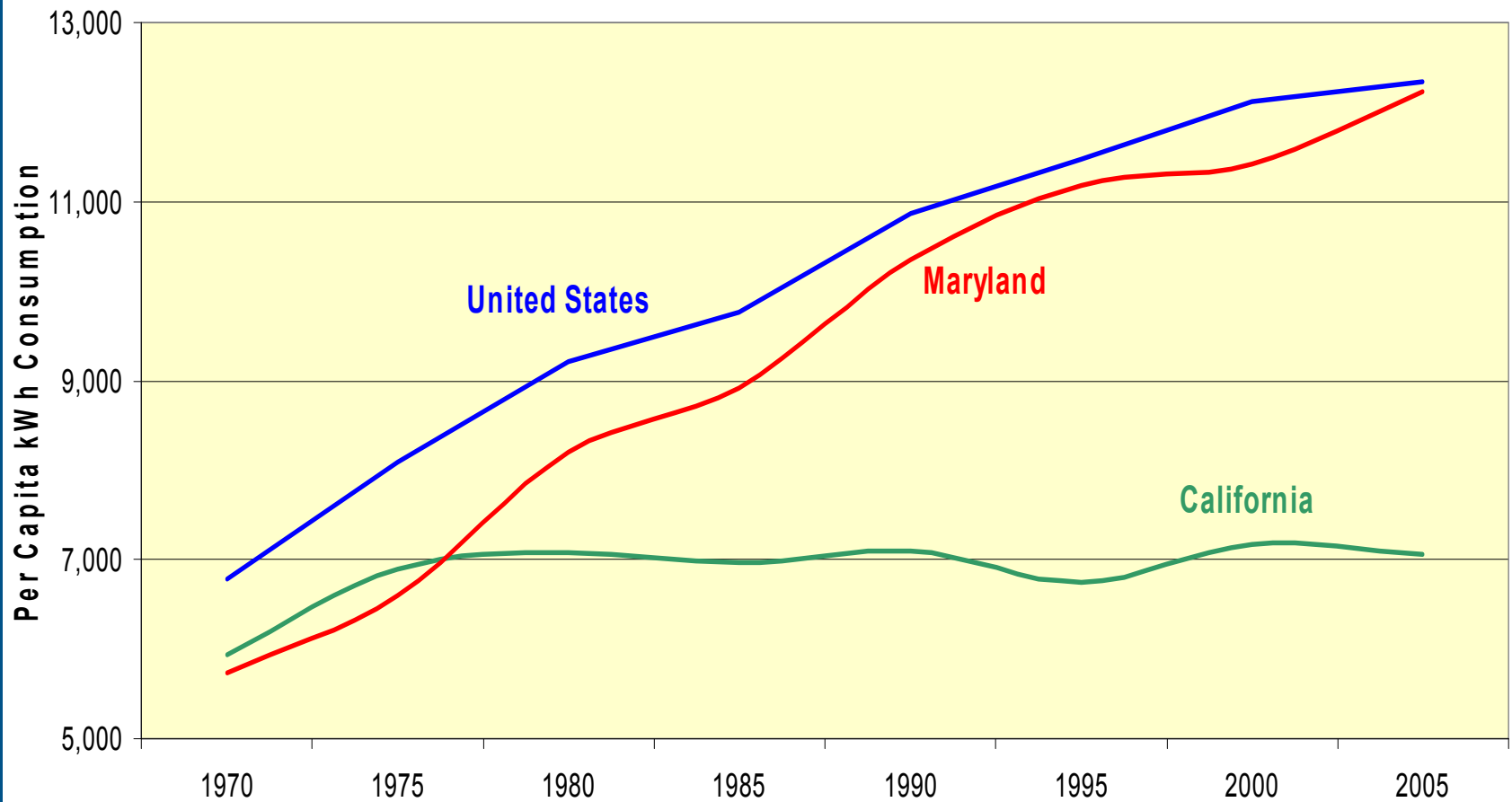
EmPOWER Maryland

Our “Potential” Energy Future

Walt Auburn, Assistant Director
Maryland Energy Administration
March 13, 2008



Per Capita Electricity Consumption MD – CA – US



Source: EIA and US Census

2004 Per Capita Utility Spending on Energy Efficiency

Vermont	\$ 22.54
Connecticut	\$ 16.60
New Jersey	\$ 10.68
California	\$ 10.60
New York	\$ 7.63
U.S. Average	\$ 4.93
West Virginia	\$ 0.55
Pennsylvania	\$ 0.28
Maryland	\$ 0.01

Source: State Energy Efficiency Scorecard for 2006, ACEEE

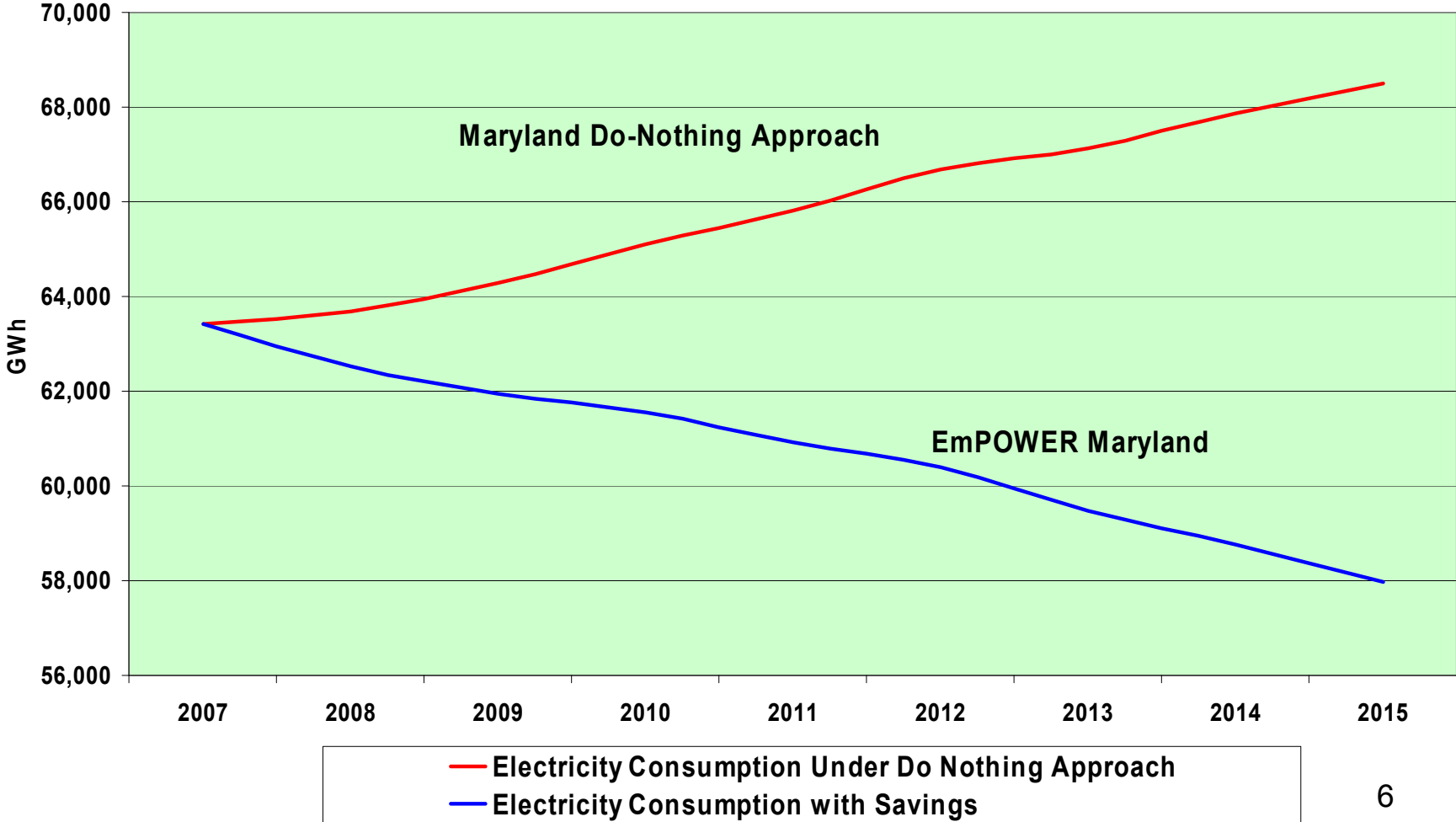
Maryland Energy Efficiency – History – 1990's

- Utilities invested over \$850 million in EE programs during the 1990's in MD
- Resulted in slower rate of growth of electricity demand (annual residential increase in sales = 0.83%)
- Deregulation of Maryland utilities occurred in 1999
- Utility EE programs all but disappeared from 1999 to 2007 (annual sales increased 2.4%/yr between 1998-2004).

EmPOWER Maryland

- Governor O'Malley established the goal to meet a 15% per capita electricity reduction target by 2015 (against a 2007 baseline). Goal also applies to peak electricity demand.
- Current legislative efforts divide EE implementation responsibility between - PSC/Utilities – 2/3rds via rates and MEA run programs – 1/3rd via RGGI Funds

Electricity Savings or Shortfall?



Energy Studies to Chart Maryland's Energy Future

- EE in Maryland's Electricity Future
Campbell Foundation - Sept. 07
- Maryland Strategic Electricity Plan –
Maryland Energy Administration – 1/08
- EE: First Fuel for a Clean Energy Future
– ACEEE Potential Study Feb. 2008
- Maryland Climate Action Plan –MDE 07
- Energy Saved, Dollars Earned -MDPIRG

Maryland Strategic Electricity Plan- Jan. 2008

- MD Electricity Challenges
- MD Strategic Energy Investment Fund – RGGI
- Options to Decrease Elect. Demand via EE and peak demand reduction
- Options to Increase Supply of Clean Electricity

Maryland Potential Study - ACEEE

- Maryland's potential study combines the policy case for EE along with identifying alternatives to supply side investments
- Funded by 3 foundations –Energy Foundation (SF), Campbell & Town Creek
- Funding level \$110,000

Why Did MD Need a Potential Study?

- Electricity Rates went up 72% between 2004 and 2006
- PJM and others were predicting brown outs as early as 2011
- PBF legislation had been attempted for 7 years since dereg. but hadn't passed
- The political climate needed fact-based analysis

MD Potential Study - Contents

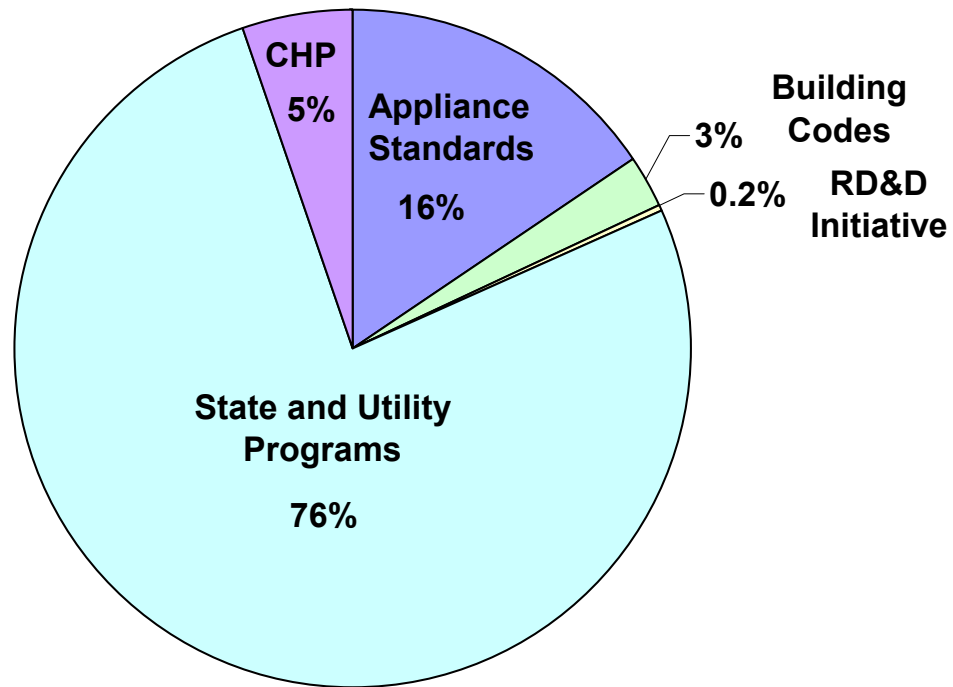
- Current & Forecasted Energy Use
- Policy Analysis
- EE Resource Assessment –
Res/Com/Ind
- Detailed Policy Analysis – plus appliance standards and demand response
- CHP

Potential Study Recommendations for Maryland

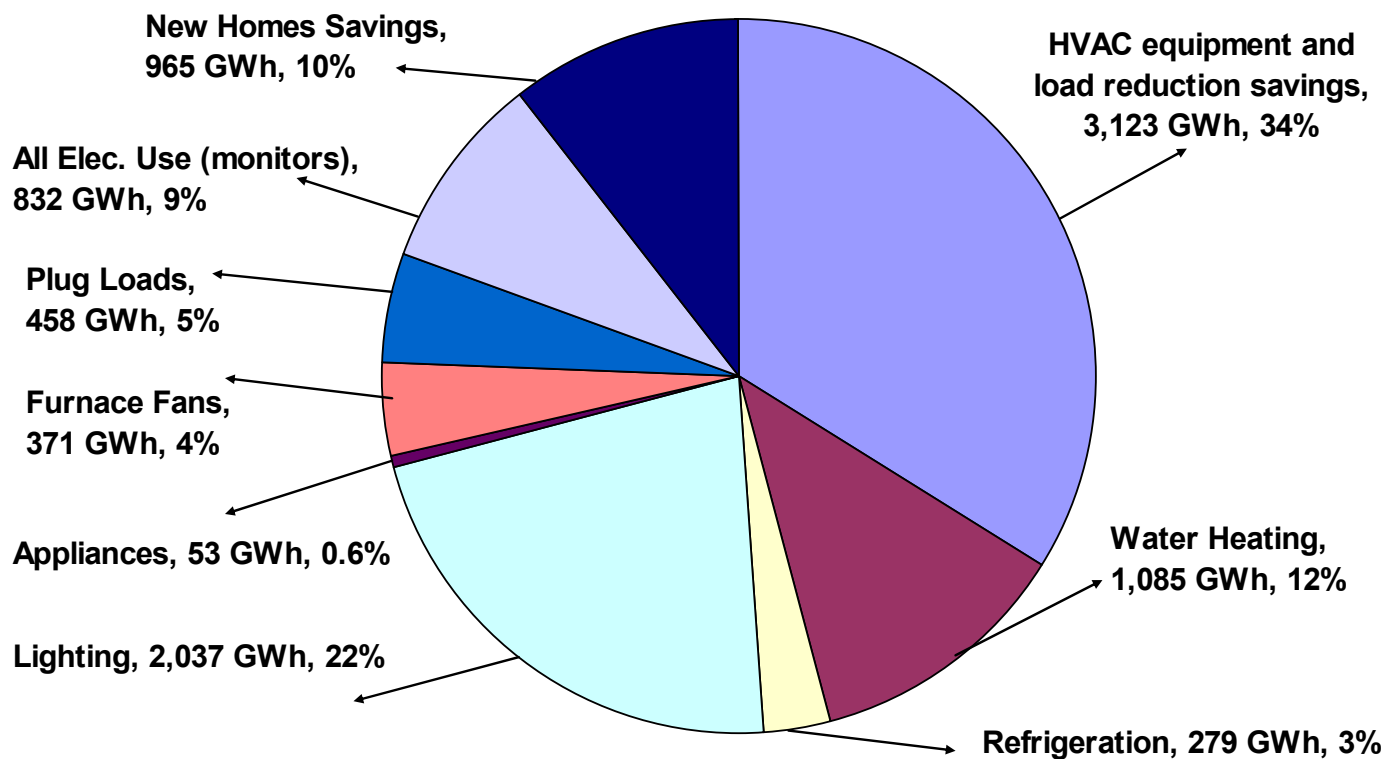
- MD can achieve 10,520 GWh savings by 2015 and 22,164 GWh by 2025
- Residential costs and benefits (about 42% of 15% EmPOWER goal = costs are \$1.8 billion and benefits are \$9.3 billion with a reduction in cost with RGGI of approx. half a billion

Potential Electricity Savings in 2015 by Policy

(approx. 10,000 GWh)



Fraction of Potential Savings by Residential Efficiency End-Uses in 2025 (ACEEE)



Commercial EE Potential in 2025 by End Use (ACEEE)

- New Buildings – 17%
- Office Equipment – 8%
- Lighting – 49%
- Refrigeration – 4%
- HVAC – 19%
- Water Heating – 1%
- Appliances and Other -1%
- Levelized Cost -\$0.02 per kWh

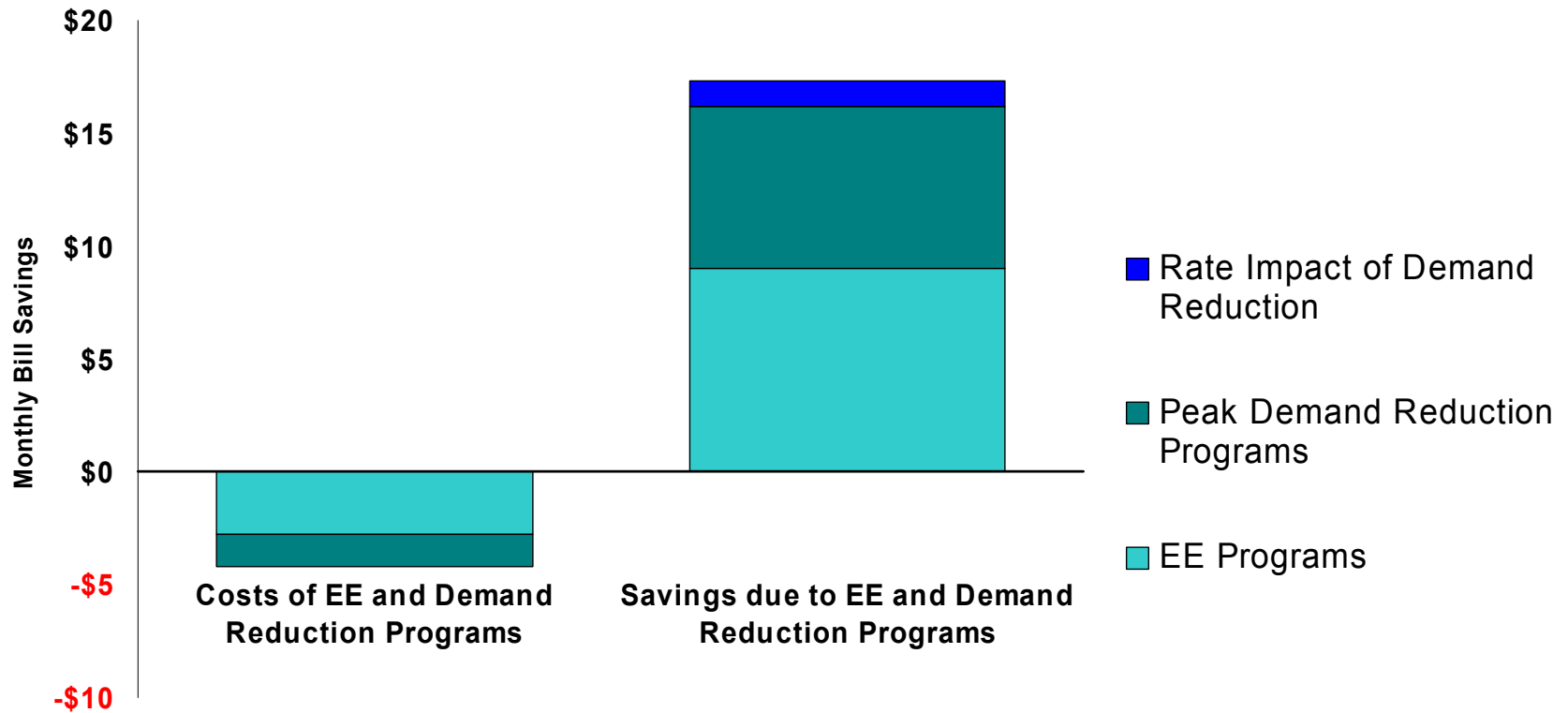
Industrial EE Savings

- Industrial energy efficiency is tied to process-specific energy savings
- ACEEE estimates industry can save 20% or 1.7 GWhs by 2025.

Technology Costs by Sector from ACEEE Resource Assessment

- Residential - \$0.039
 - Commercial - \$0.020
 - Industrial - \$0.026
- Note: Assume a 5% discount rate and ave. lifetime of 13 yrs. for res. & comm. and 15 yrs. for industrial

Residential Energy Efficiency Programs – Costs and Savings– example – sample data only



Potential Study Lessons Learned

- Involve policy makers and legislators in defining the type of information needed from the study
- Define the presentation format of the data – otherwise you may have to translate it yourself --- e.g. household costs and benefits per year

Potential Study Lessons Learned

- Simple goals can be difficult to translate into the hard numbers in a study
- If you are segmenting the goal – like in Maryland – it's good to have the report reflect that division
- Passing EE legislation requires translation of the complex to simple facts and feelings.....
- By the way, numbers can be used against you...



For more information, please
contact the
Maryland Energy Administration:

- 410-260-7655 or 800-72-ENERGY
- www.energy.state.md.us

