Policies and Programs to Achieve All Available Cost-Effective Energy Efficiency: Making It Happen in Massachusetts

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September 28, 2009

Setting the Stage

Focus is on Massachusetts – details of CT and RI experience in Session 3A

Massachusetts has benefitted from:

- A long history of energy efficiency procurement in Massachusetts by all the electric program administrators (PAs)
  - Funds for EE have come from a system benefits charge (SBC) of 2.5 mil/kWh; auction proceeds from the ISO-NE Forward Capacity Market (FCM); and auction proceeds from the Regional Greenhouse Gas Initiative (RGGI)
  - These funds have been on the order of $110-125 million a year
  - Over the past 10 years annual savings from energy efficiency has been approximately 0.8 to 1.0 percent of load
- The existence of an on-going collaborative process between the PAs and stakeholders, who have had consultant support
- Active support from the state Division (now Department) of Energy Resources (DOER)
- The Gas PAs have also offered a portfolio of EE programs with less interaction with stakeholders and at a lower level of savings

The Statutory and Regulatory Shift

In 2008 the Massachusetts General Court (state legislature) passed two key bills that modified how energy efficiency would be treated

- Green Communities Act
- Global Warming Solutions Act

The Mass. Department of Public Utilities issued an order in DPU 08-50-A on March 16, 2009, providing details on the implementation of the GCA

Decoupling being implemented in rate cases, electric & gas

Green Communities Act of 2008 - Organizational

- Established an 11 member Energy Efficiency Advisory Council with DOER as Chair; designated organizational representatives from different sectors of the economy
  - The EEAC could hire consultants to assist its activities / Consulting team began work at end of February 2009

- Mandated that the electric and gas program administrators prepare three-year statewide and individual PA energy efficiency plans, to be submitted to the Department of Public Utilities by October 30, 2009
  - Also mandated interim steps:
    - April 30, 2009: Electric and gas statewide draft plans to be submitted to the EEAC for review
    - July 31, 2009: EEAC provide comments on the two plans

Green Communities Act of 2008 – Policies

- "Electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply."
- "Each plan shall provide for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply."
- The DPU will determine the appropriate amount of additional year-to year ratepayer funds to support the expansion of EE programs
- The GCA requires that the PAs' EE plans include an assessment of the cost, reliability, and magnitude of the savings and policies.

Green Communities Act (GCA), Chapter 169 of the Acts of 2008

Global Warming Solutions Act

The GWSA requires the Massachusetts Executive Office of Energy and Environmental Affairs, in consultation with other state agencies and the public, to set economy-wide greenhouse gas emission reduction goals for the state that will achieve:

- A reduction of between 10 percent and 25 percent below statewide 1990 GHG emission levels by 2020; and
- A reduction of 80 percent below statewide 1990 GHG emission levels by 2050.

Commission Order: DPU 08-50-A

- Affirms the (continued) use of the Total Resource Cost test for examining cost-effectiveness

- Provides specific guidance on details of the plans, including performance incentives, examination of bill impacts, etc.

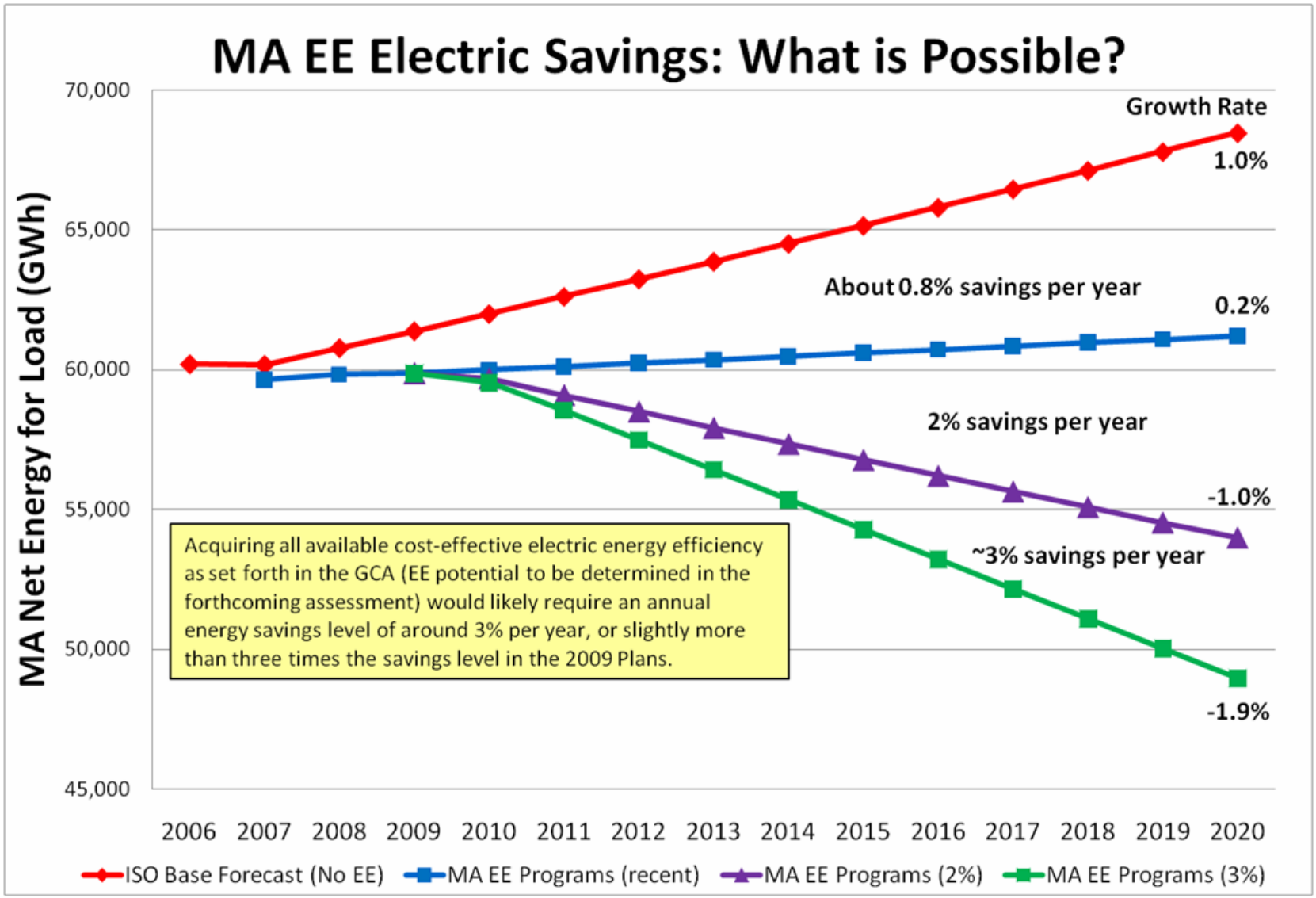
So What's Happening?

The EEAC Consultant prepared an Assessment of all available cost-effective efficiency and CHP resources

- The conclusions were that at least 2.5% of electric load could be acquired from EE programs, and 0.3% from CHP
- At least 2.0% of gas load could be acquired from EE
- The EEAC adopted a resolution approving the findings of the Assessment

- Statewide and individual PA plans are to be filed in late October; plans to be approved by the Council in October

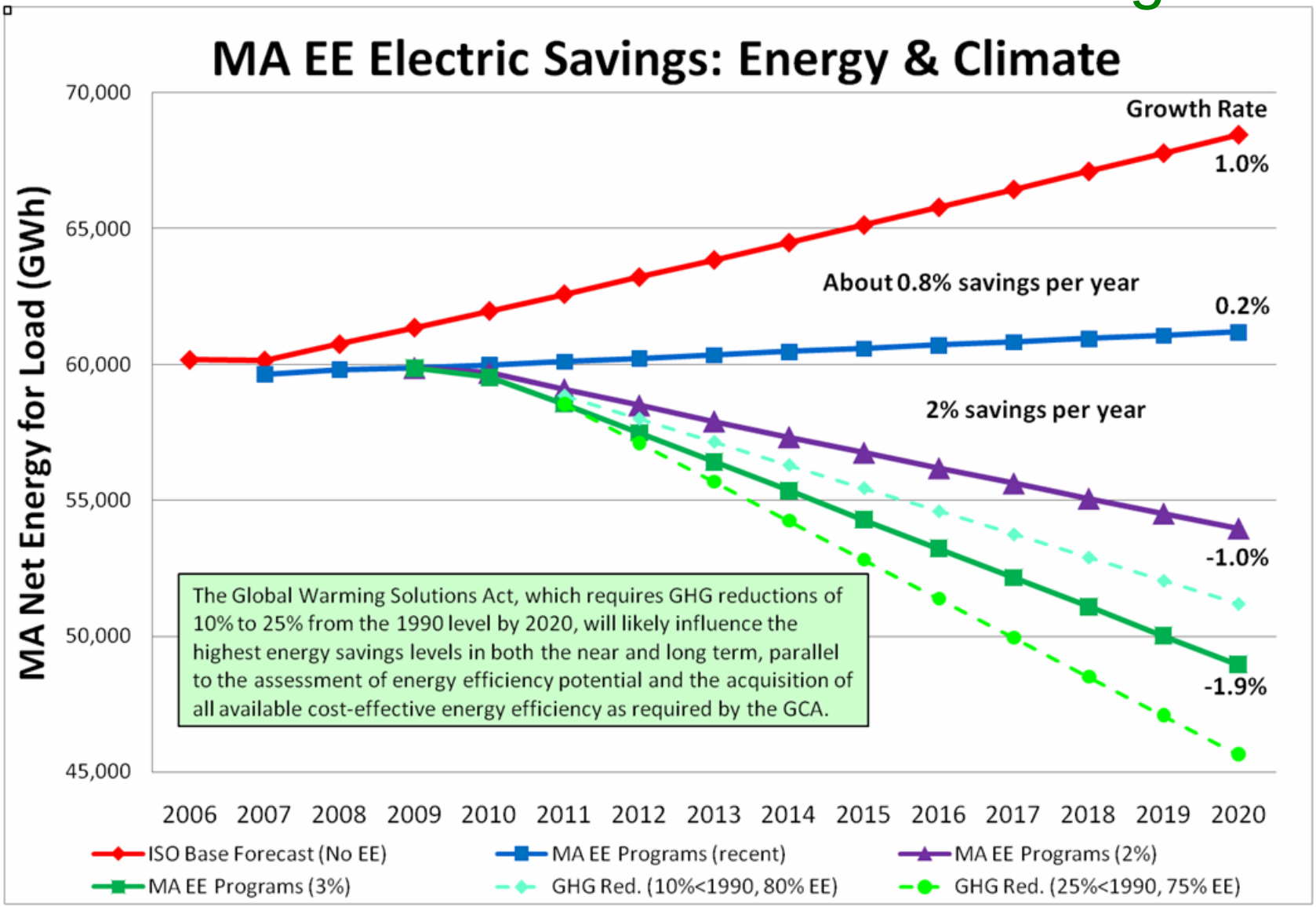
Assessment of Available EE Resources



ACEEE's 5th National Conference on Energy Efficiency as a Resource

Note: Base forecast is ISO-NE CELT. In the past, actual growth rates and load have been higher than recent CELT forecasts.

EE To Meet the GHG Reduction Targets



Can We Reach These Savings Levels?

- Recent EE electric potential studies have found cost-effective achievable potential in the range of 20-30% (CT, MD, VA, NYPA; NEEP 2004/2005)
- Studies generally did not include CHP
- Potential studies are generally biased low; e.g., second studies of potential during the same period or analysis window always find additional potential
- Utilities in other states have developed plans to increase energy savings and net benefits significantly (CT 2009 IRP, 20% savings)
- Efficiency Vermont 2008 savings over 2%; over 4% in geo-targeted areas

Addressing the Factors Influencing Reaching These Savings Levels - I

Program strategies and (re)design

- Deeper savings first, then broader
- Going deeper: savings of 25-70% in customer facilities, instead of 5-20% (as in many current programs)
- Going broader (once we learn how to achieve deeper savings more readily): higher savings by reaching more customers
- Integrated delivery of electric and gas programs
- Integrated EE and CHP, and fully coordinated delivery of renewables
- Address the imbalance of up-front program participant cost and multi-year bill savings through multi-year on-bill repayment of financing
- Explore targeted community efforts and other opportunities (direct inst.)
- Enhanced public information outreach/program marketing

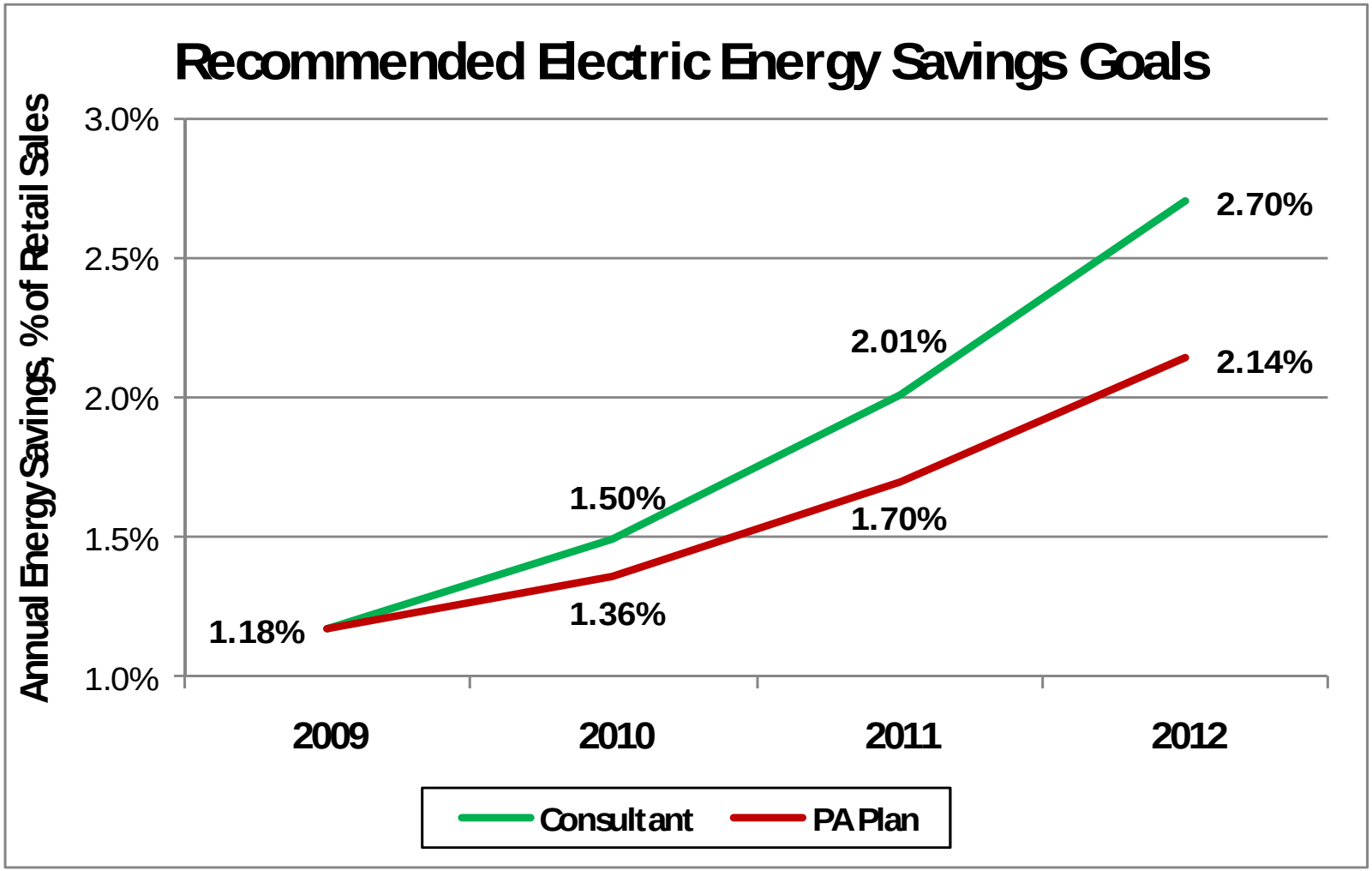
Addressing the Factors Influencing Reaching These Savings Levels – I (cont'd)

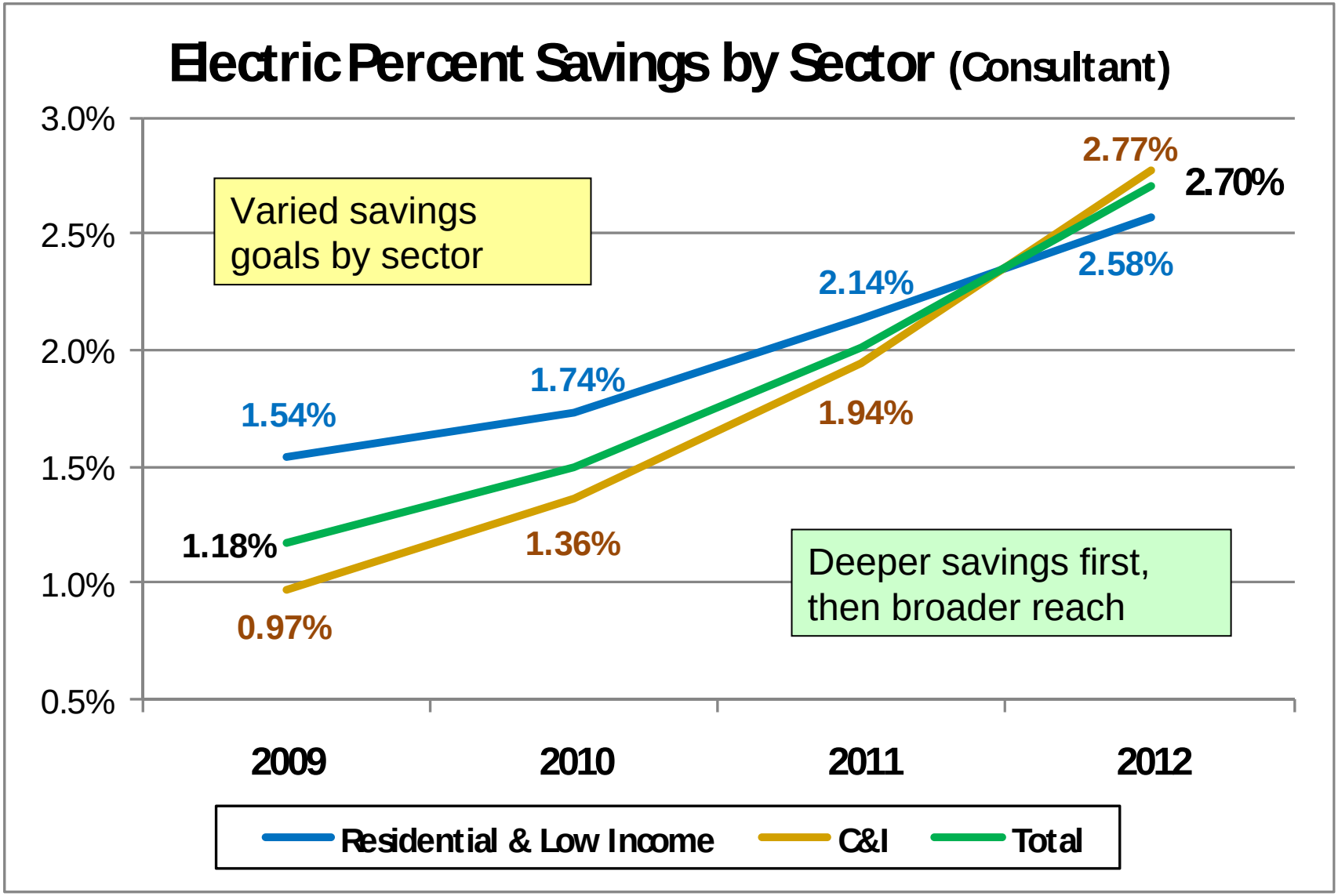
Base these strategies and (re)design within the existing EE program portfolio

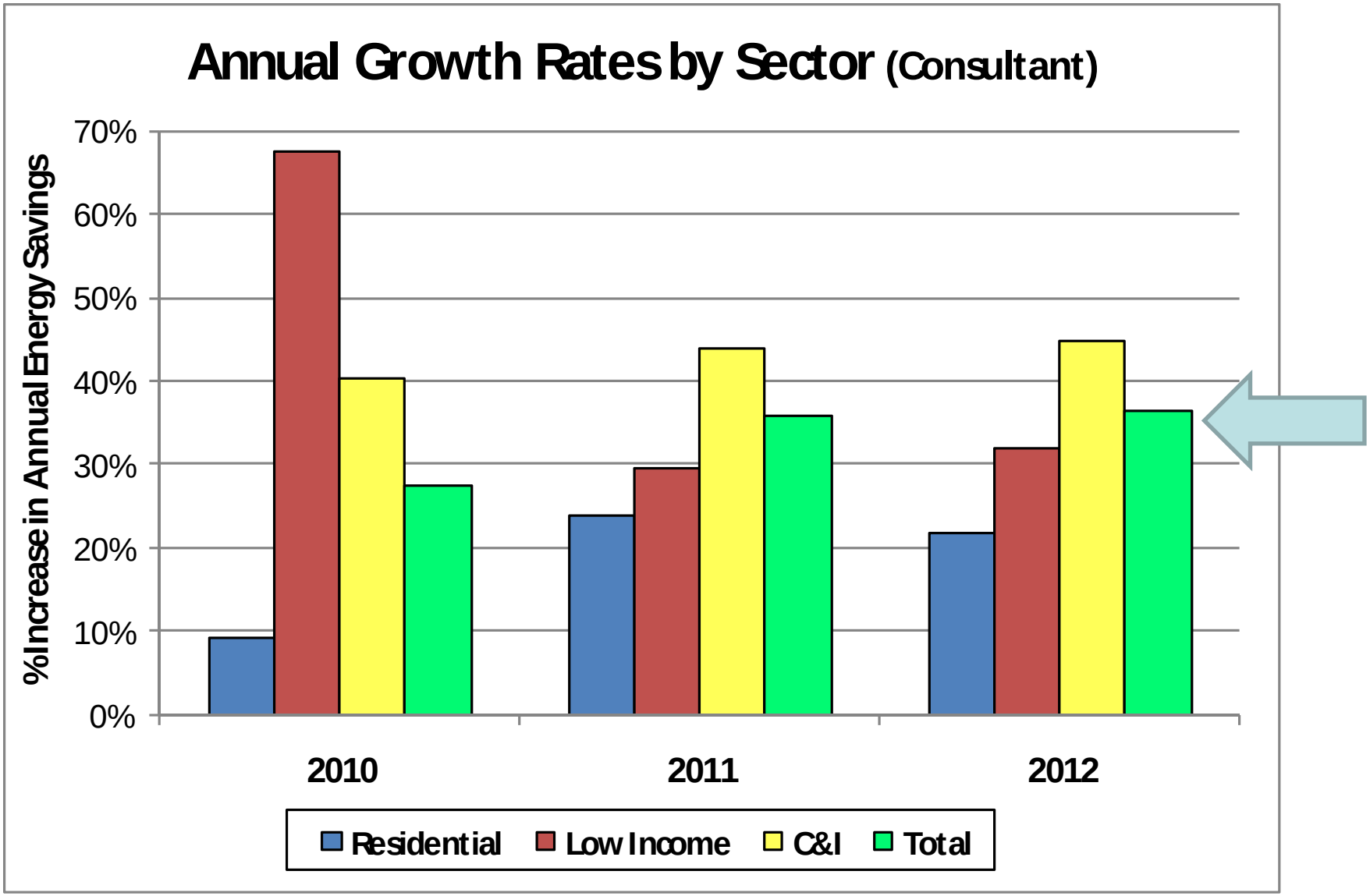
- Low Income
- Residential 1-4 retrofit
- Residential EnergyStar appliances and products
- Residential new construction
- Small C&I direct install
- Large C&I retrofit
- Large C&I new construction

Support program deployment with near term and on-going program evaluation and market assessments

Alternative EE Savings Proposals – July 2009 PAs and EEAC Consultants




Electric Percent Savings by Sector (Consultant)
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
Varied savings goals by sector
2.77%
2.70%
2.58%
2.14%
1.74%
1.54%
1.94%
1.18%
1.36%
0.97%
Deeper savings first, then broader reach
2009
2010
2011
2012
Residential & Low Income
C&I
Total


Annual Growth Rates by Sector (Consultant)
% Increase in Annual Energy Savings
70%
60%
50%
40%
30%
20%
10%
0%
2010
2011
2012
Residential
Low Income
C&I
Total

Addressing the Factors That Influence Reaching These Savings Levels - II

Program costs and bill impacts

- In 2009 the electric PAs spent approximately $178 million;
- By 2012 the costs are estimated to be in the $450-$600 million range (at the PAs' proposed savings level of 2.14% and the Council consultants' proposed savings level of 2.7%)
- Either way, it's a large increase with potentially noticeable impacts on ratepayer bills (esp. non-participants)

Mitigate the increase in ratepayer costs by use of outside funding

- Municipal and state bonding
- Market (private) capital – energy efficiency investment fund and asses trust
- Utility shareholder capital
- Other (e.g., federal climate/cap and trade funds)

Addressing the Factors That Influence Reaching These Savings Levels - III

Program deployment - PA staffing, vendor availability, local interests in participation

- Program administrator staffing needs to grow to maintain the ability to plan and oversee the programs
- The vendor network needs to be informed of the coming increases in program activity so it can plan for and address staffing increases
- Training programs being considered and implemented to support this ramp-up in program delivery needs
- Need to consider including worker organizations and small contractors, who may seek greater participation in the delivery of efficiency programs
- Need to maintain quality control and cost control

Addressing the Factors That Influence Reaching These Savings Levels - IV

Need to create an overarching framework that will establish and maintain program administrator management's on-going support for achieving high savings targets

- Savings goals that are perceived to be attainable
- Performance incentives
  - Set savings targets as the basis for earning performance incentives, not a percent of expenditures or budget
  - Create a performance incentive mechanism that encourages savings beyond the target, with higher incentives for higher performance (scaled)
  - Higher thresholds, to encourage performance above minimums
  - Components to include savings, value (net benefits) and performance metrics
- Decoupling being implemented in rate cases before the DPU
- EEAC support for the programs and levels of activity
- DPU approval of the EE plans

Addressing the Factors That Influence Reaching These Savings Levels – IV (cont'd)

Need to create an overarching framework that will establish and maintain the EEAC's, and individual Councilors', on-going support for the EE plans and the associated savings levels

- Savings goals that are perceived to be attainable
- Ratepayer costs that are perceived to be acceptable
- Performance incentives sufficient to encourage the PAs to seek to acquire energy savings at these aggressive levels
- Assurance that the quality of program management and program delivery will be maintained
- On-going feedback about the programs through regular reporting of current program activity and through independent program evaluation

What's the Status?

- The PAs and Councilors are discussing a variety of issues that may enable the Council to support the plans through the formal resolution process
- The PAs are preparing their statewide and individual plans for Council review, then to be submitted to the DPU on October 30, 2009
- We will know more between now and October 30, and a lot more on January 31, 2010, when the DPU is scheduled to issue its Orders on the Plans

For More Information

Many of the topics identified in this presentation have been addressed at meetings of the Energy Efficiency Advisory Council

Information and documents about the Massachusetts EEAC and PA activities can be obtained at

www.ma-eeac.org

Appendix – Performance Incentive Mechanism