

Energy Efficiency and Global Warming: What Must Be Done

Jeff Schlegel

ACEEE Energy Efficiency as a Resource
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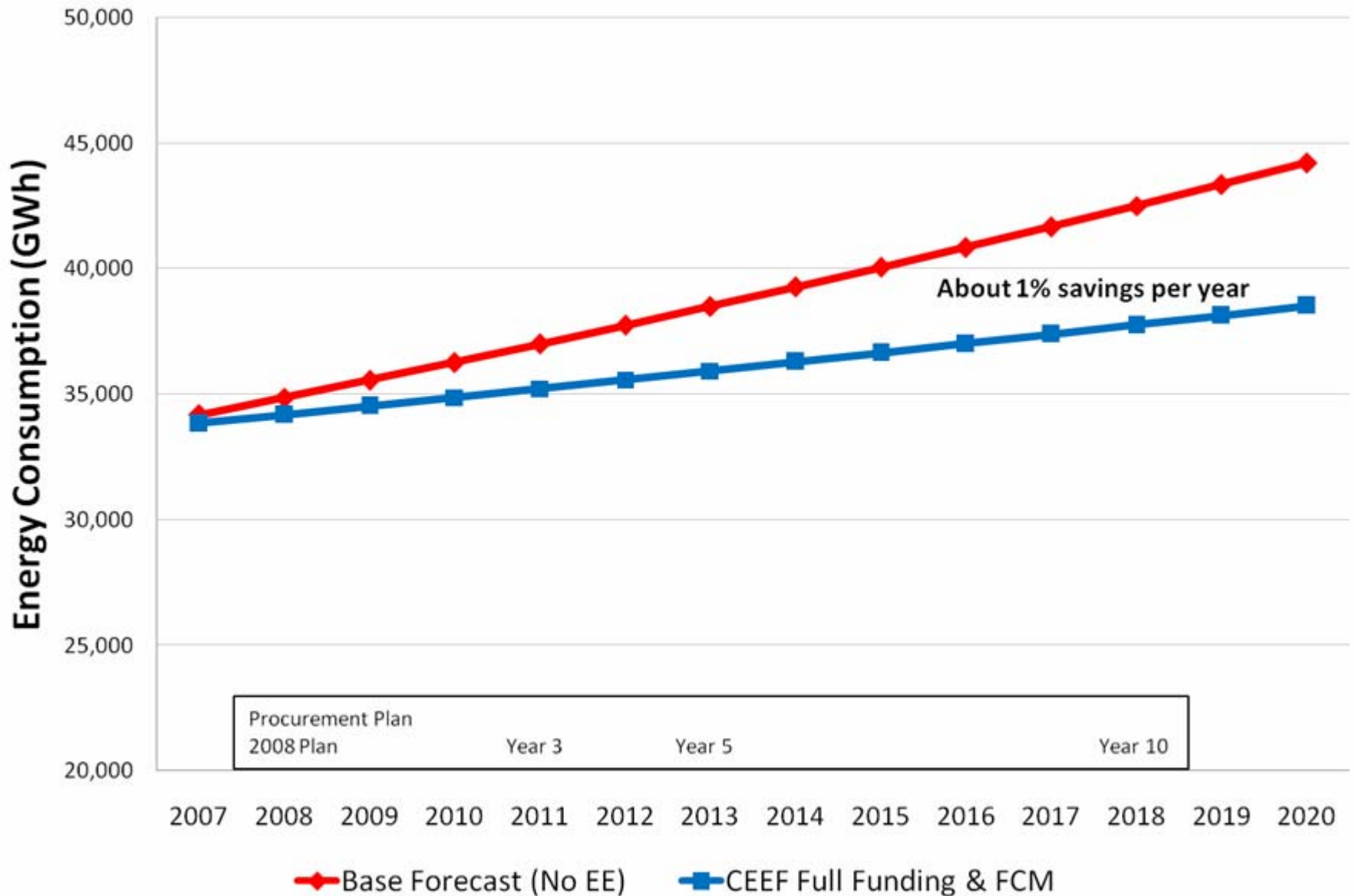
For this presentation

- Representing myself (not on behalf of any clients)
- Informed by Connecticut Energy Conservation Management Board (ECMB) discussions
- Using CT ECMB planning charts as an illustrative example, but *only* as an example
- You, too, can do this at home...

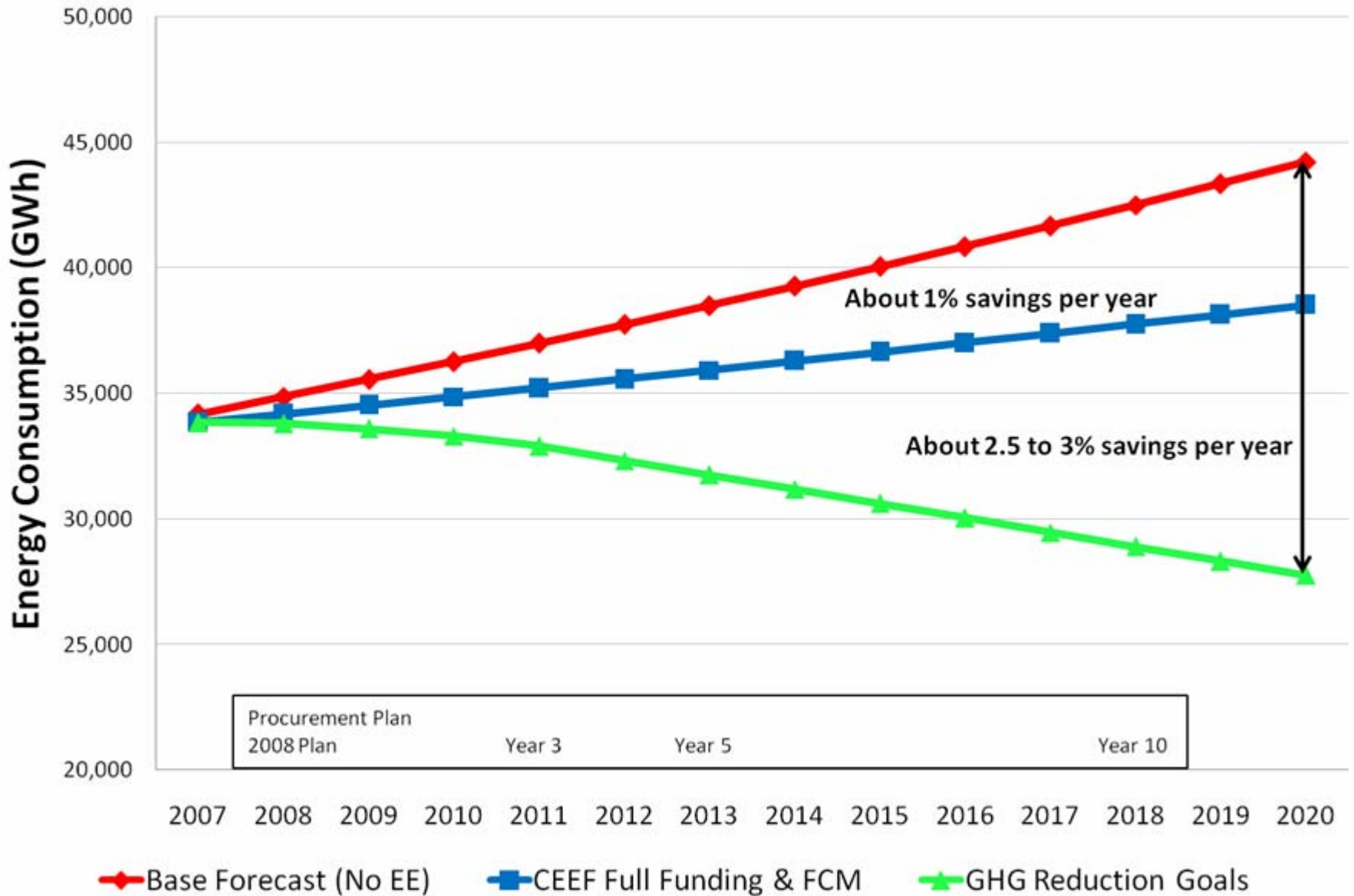
Recent Developments in CT

- New England Governors GHG reduction goals and CT Climate Change Action Plan
- Legislation (June 2007) requiring a resource procurement plan in January 2008
- Planning horizons of 3, 5, and 10 years
- Resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible.

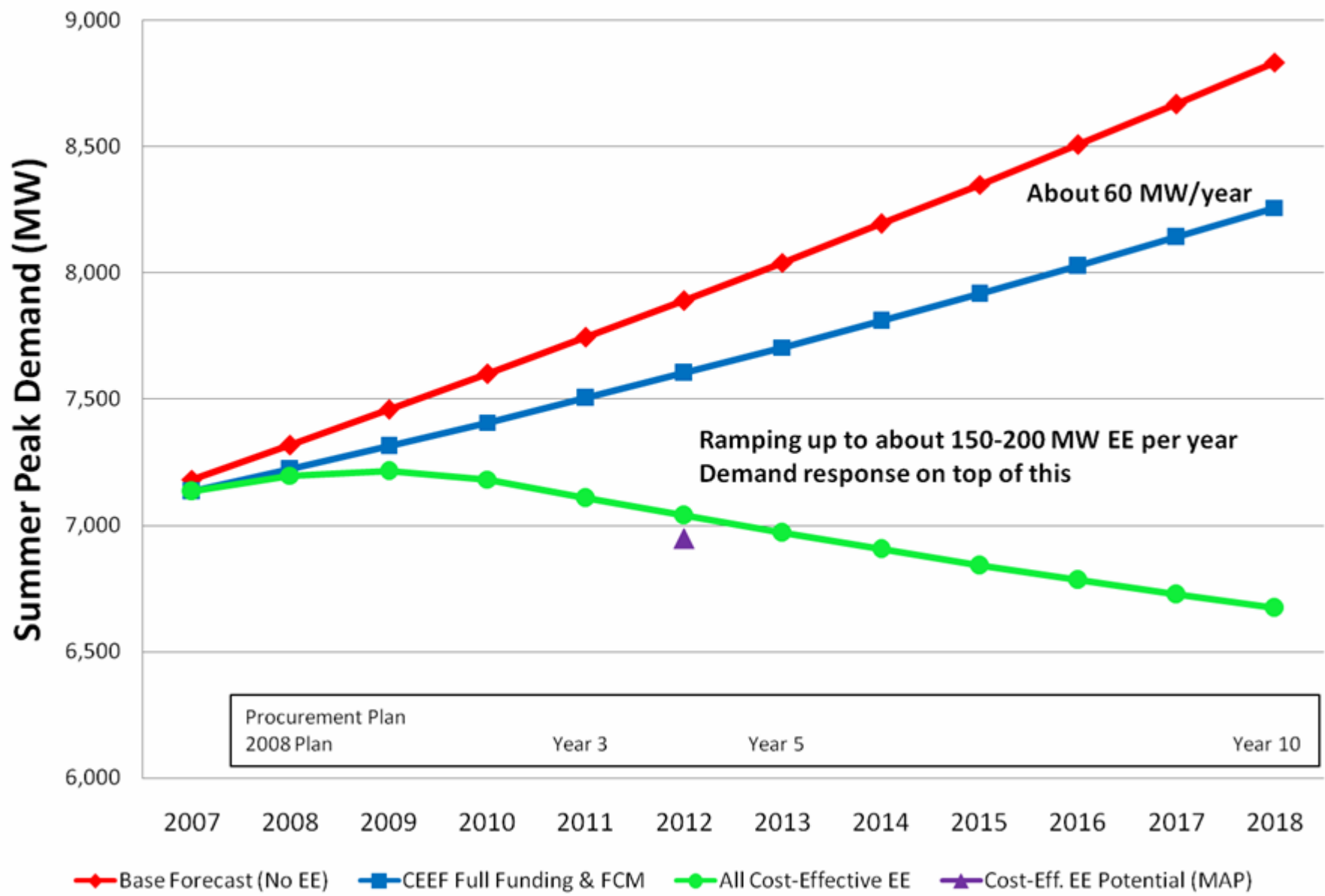
CT ECMB 2008 EE Planning Scenarios (GWh)



EE Planning Scenarios & GHG Reduction Goals



CT ECMB 2008 EE Planning Scenarios (Peak MW)



Procurement Plan 2008 Plan Year 3 Year 5 Year 10

◆ Base Forecast (No EE) ■ CEEF Full Funding & FCM ● All Cost-Effective EE ▲ Cost-Eff. EE Potential (MAP)

What have we learned?

- Not enough to reduce load growth or even get to zero load growth
- ***Must bend the line down*** (must reduce consumption from current levels)
- Need multi-year planning and a line in the sand (2020 reductions, and 80% by 2050)
- Early, aggressive action is essential (ramp up)
- EE may have to do even more than sector proportional to help achieve overall goals

What will it take?

- Annual energy savings of about 2.5 % to 3%
- Triple (or more) the current level of effort
- Leading EE states (0.75-1.5% annual savings) will need to triple efforts
- States ramping up (~0.5% annual savings) will need to increase efforts by 5 to 6 times
- Laggard states need to get going ASAP

Program designs that we know will work



(blank on purpose)

EE Programs for the Future

- Deeper and broader, more comprehensive
- Save 30-70% in customer facilities, instead of 5-25% (as in many current programs)
- Zero (net zero) energy buildings for all new construction (crucial in fast growing areas in the west and southeast)
- Voluntary programs unlikely to be enough; will need increased codes, standards, & mandates

Key Challenges

- Vision
- Inertia (stuck in what we have been doing)
- Political will
- Resource allocation
- EE infrastructure

- It can and must be done (it won't be easy)

Conclusions

- The line must bend down (there must be a *reduction*, not just a reduction in growth)
- The electricity sector is crucial and is one of the “easiest” sectors in which to get GHG reductions (perception of policy makers)
- EE is the “best” way to get GHG reductions in the electricity sector (easiest and cheaper, and EE provides *net economic benefits*)