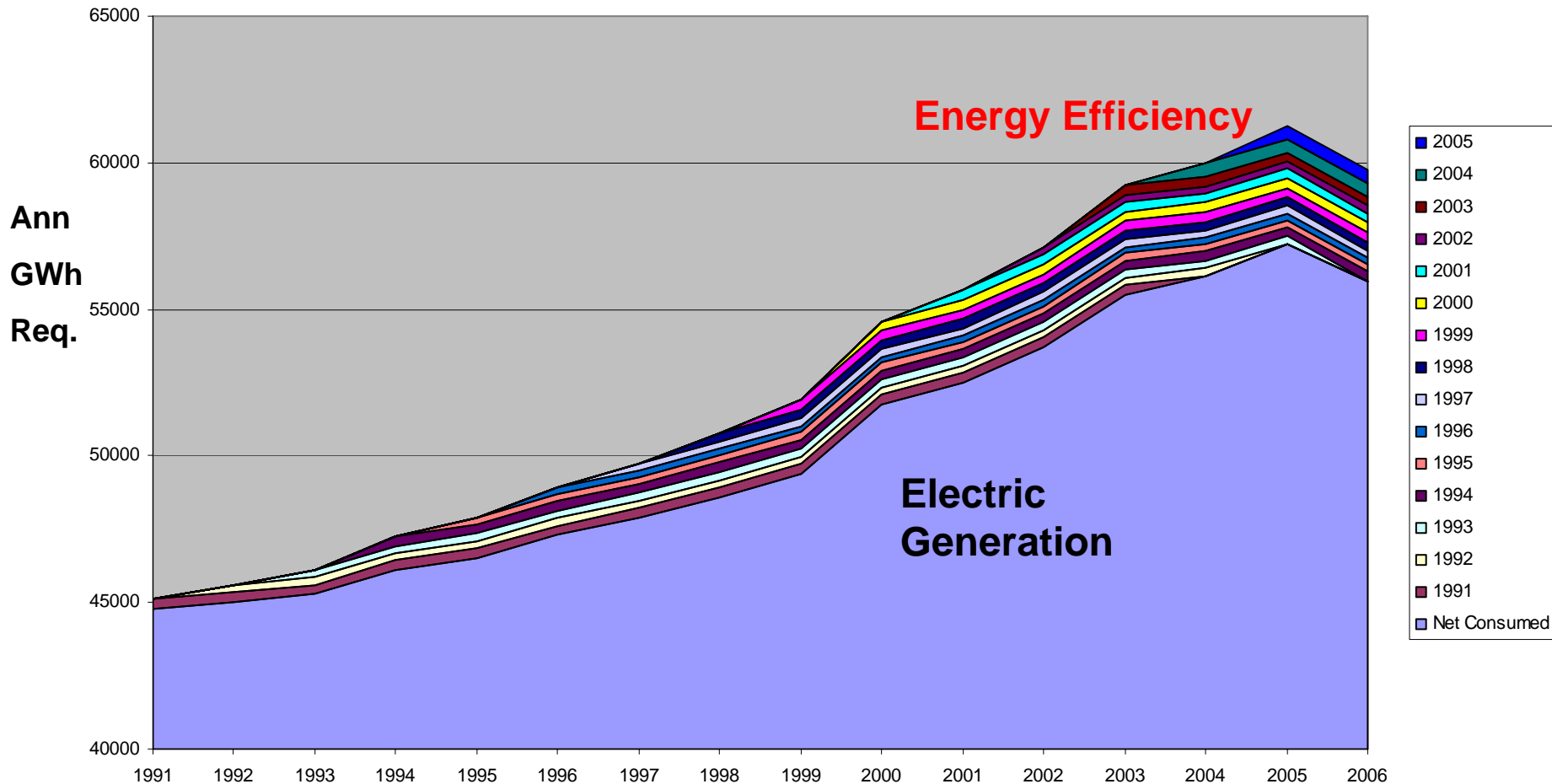


A New Era of Energy Efficiency as a Resource

Jeff Schlegel

ACEEE Energy Efficiency as a
Resource Conf.
September 29, 2009

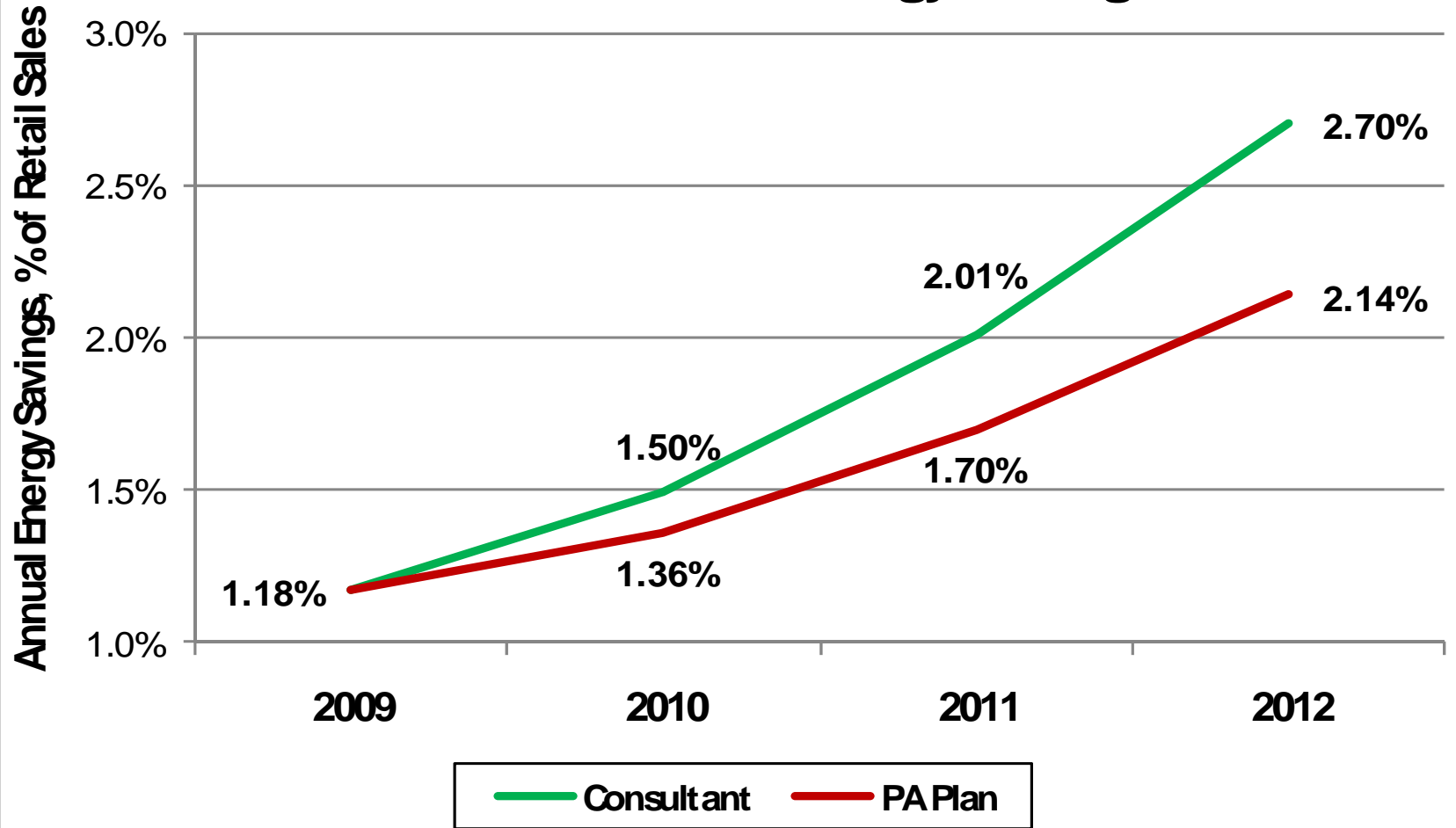
Energy Efficiency has been a valuable, reliable, cost-effective resource, which provides 8-10% of MA electricity needs



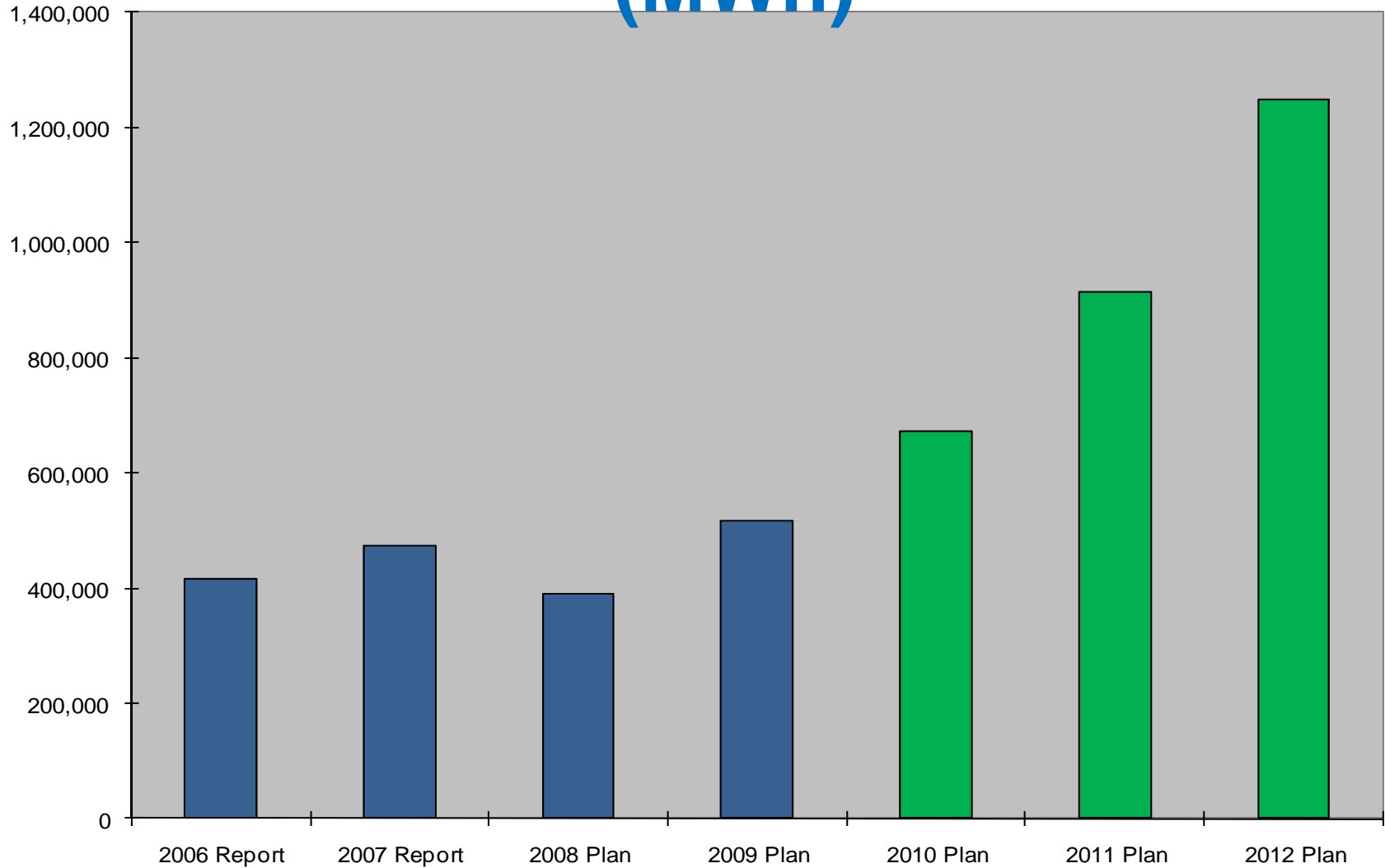
Requirements of MA Statutes

- **Green Communities Act (GCA):** Electric and natural gas resource needs shall first be met through all available, cost-effective energy efficiency and demand reduction resources.
[Section 21 (a)]
- **Global Warming Solutions Act:** Set economy-wide greenhouse gas emission reduction goals for the state that will achieve GHG reductions of 10% to 25% (DEP to determine) below statewide 1990 GHG emission levels by 2020, and a reduction of 80% below 1990 GHG emission levels by 2050.

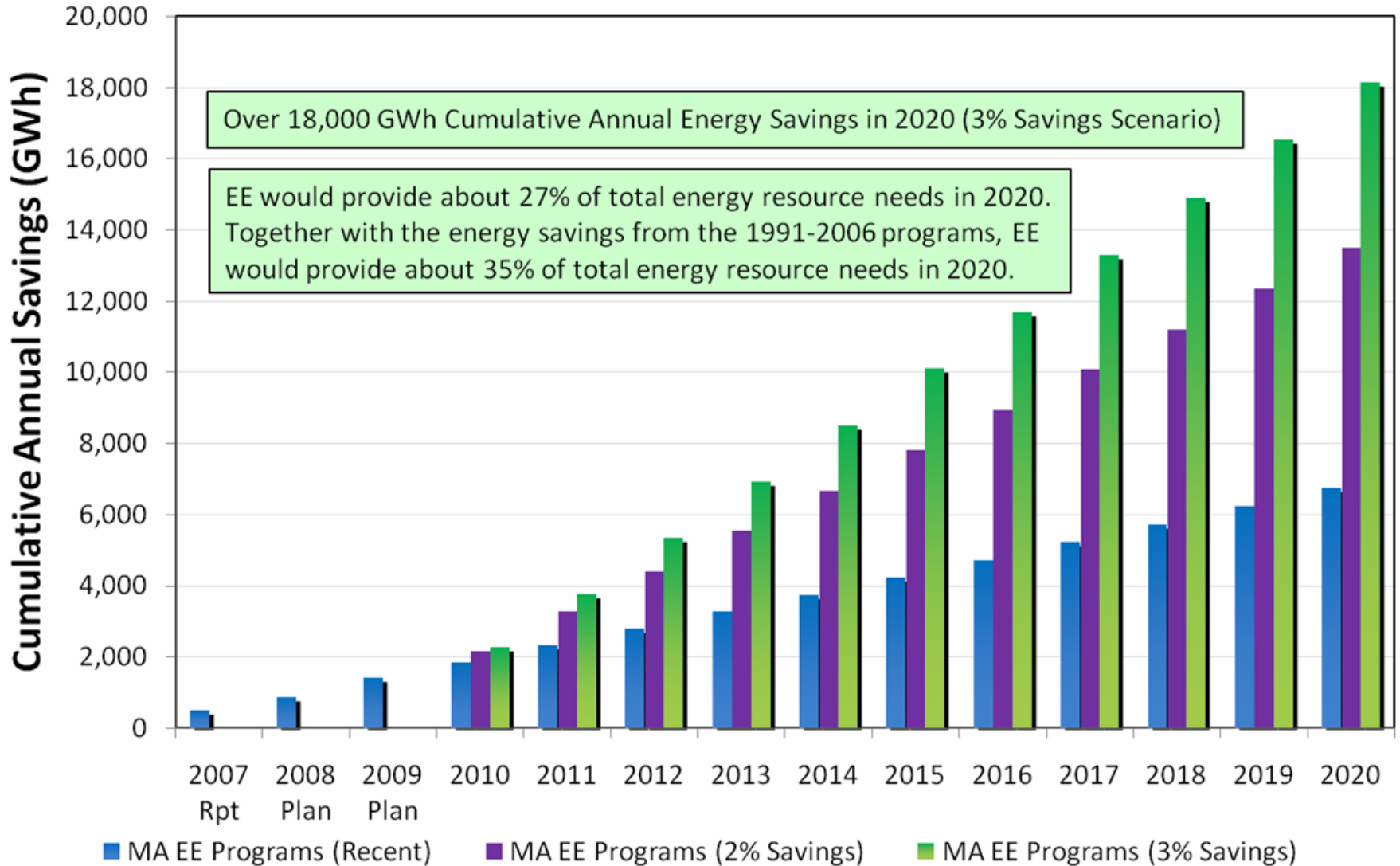
Recommended Electric Energy Savings Goals



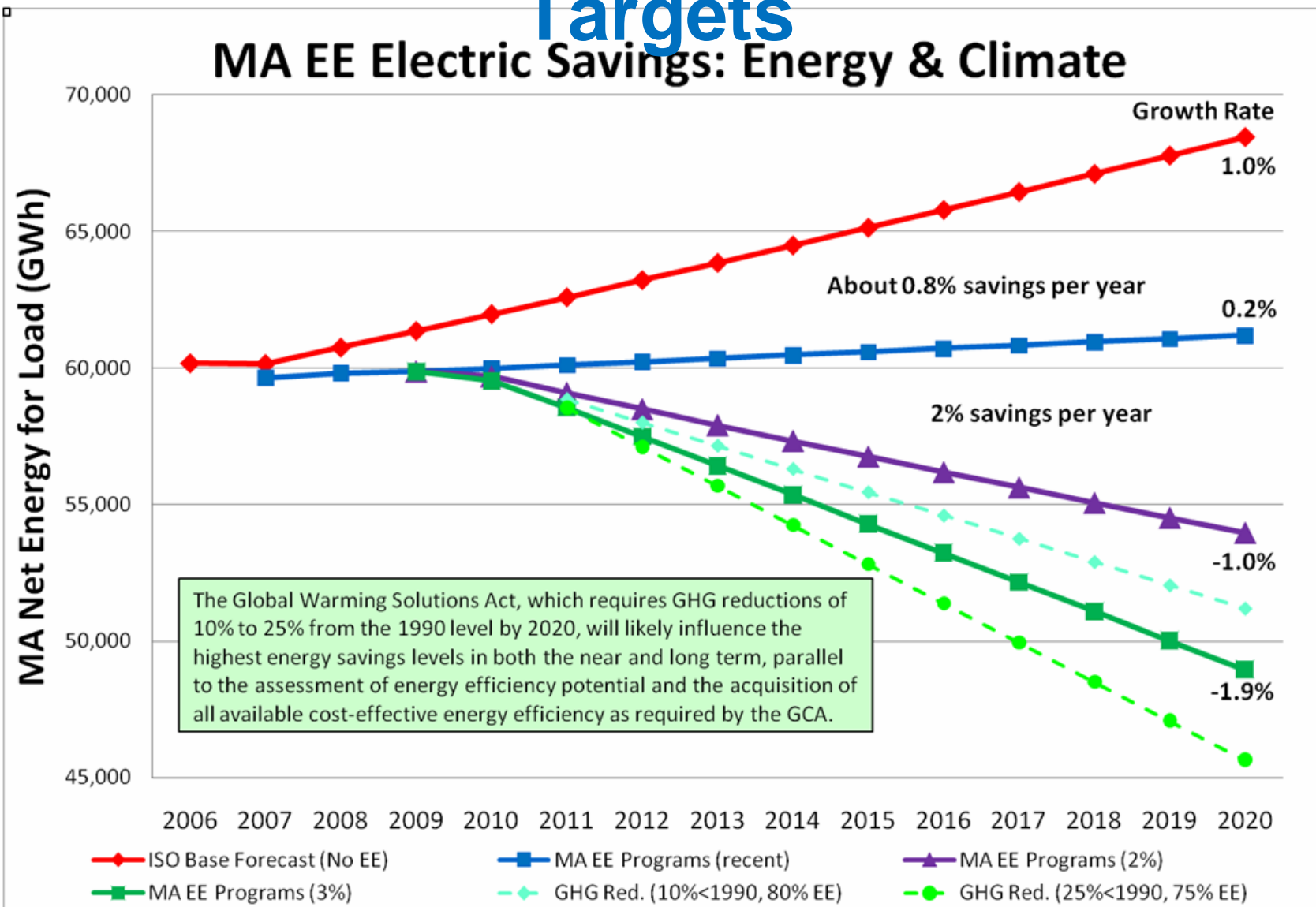
Growth in Annual Energy Savings (MWh)



MA EE Electric Cumulative Annual Savings



EE To Meet the GHG Reduction Targets



Recommendations

- 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*)
- Do and learn, don't delay to plan or study

Large Funding Increases in Many States

Growth of existing markets and new markets; some of the largest funding increases are expected in populous “up-and coming” states

Top-10 Energy Efficiency Markets in 2020

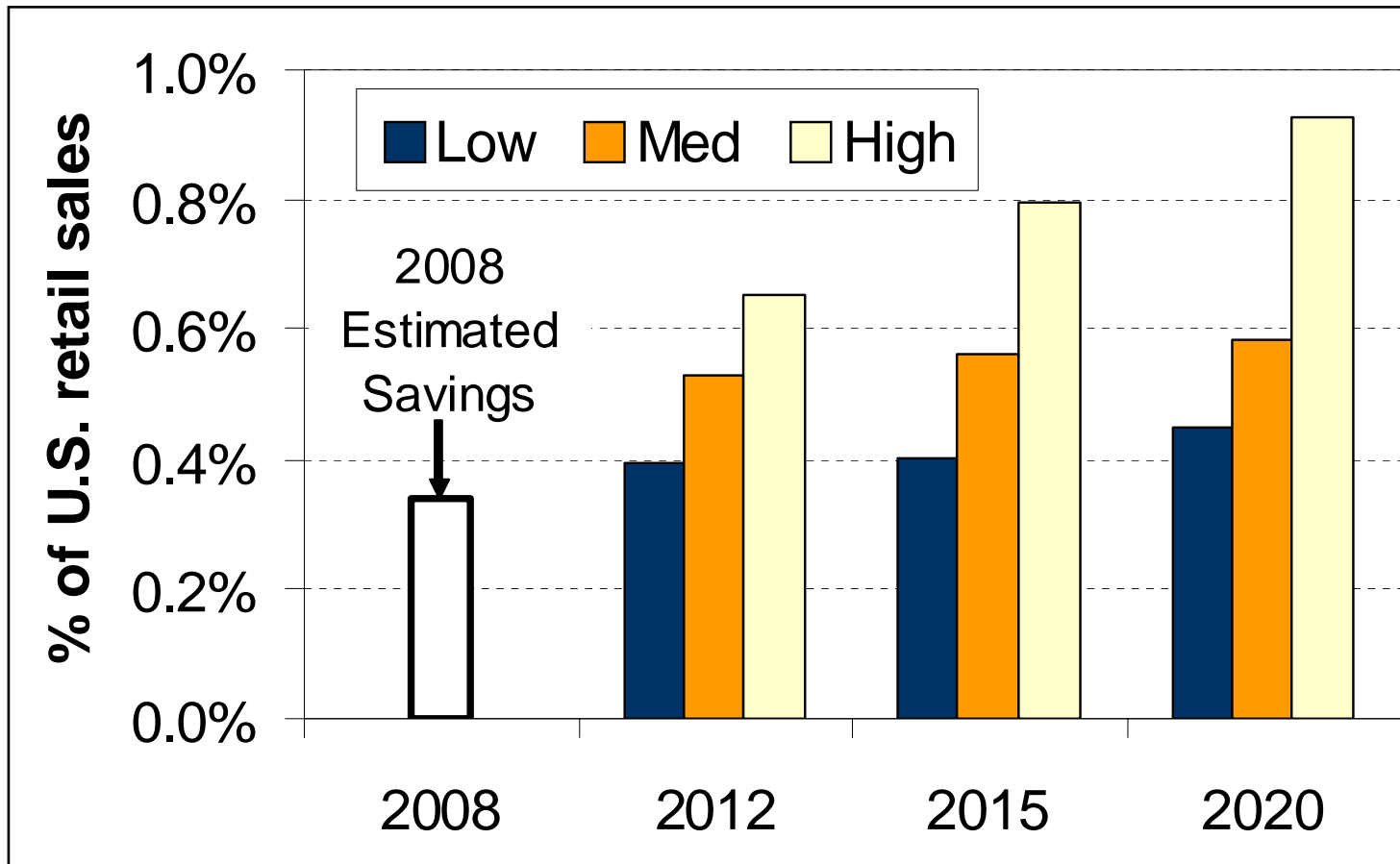
Rank	2008 Budget (\$M, nominal)		2020 Spending Projections			
			Medium (\$M, nominal)		High (\$M, nominal)	
1	CA	1,014	NY	808	CA	1,312
2	NY	288	CA	538	NY	1,094
3	NJ	196	MA	477	TX	882
4	WA	179	IL	449	IL	805
5	MA	149	NJ	424	MA	630
6	WI	140	OH	375	OH	595
7	MN	137	NC	283	WI	575
8	FL	124	PA	274	NJ	504
9	CT	114	WI	270	PA	467
10	TX	106	MI	265	MN	413
Top-10 (\$M)	2,447		4,164		7,277	
% of U.S.	78%		55%		58%	
Other States (\$M)	686		3,342		5,247	
% of U.S.	22%		45%		42%	

Source: Chuck Goldman, LBNL

Increasing Energy Savings

Annual electricity savings are projected to rise to 0.58%-0.93% of retail sales by 2020 in Medium and High Cases

Projected Incremental Annual Electric EE Savings



Source: Chuck Goldman, LBNL

Key Challenges

- Vision
- Political will
- Inertia (stuck in what we have been doing)
- Resource allocation
 - Funding pressures, ratepayer impacts
- EE workforce and infrastructure
- If utility administration, EE business model

It can and must be done, for customers, for the economy, for the planet (but it won't be easy)

How to get there?

- Overall premise: programs and program designs to acquire all available cost-effective EE are different than the program designs we have now or have used in the recent past
- This should be fully understood and be prominent in everything we do regarding programs and program strategies
- Not certain what will work – and don't have much time to study and pilot before doing
- Do and learn approach

EE Programs for the Future

- Deeper savings first, then broader
- Save 25-70% in customer facilities, instead of 5-25% (as in many current programs)
- “Finance” over time, reduce upfront barriers, and also reduce pressure on ratepayer funds
- Zero (net zero) energy buildings for all new construction (crucial in faster growing areas – build it right the first time)
- Voluntary programs and cap and trade not likely to be enough; will need increased

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
- Training and workforce development
- Quality control, performance assurance, and cost control