

# Energy Efficiency in New England: Resource Opportunities

The Future of Energy Efficiency in New England:  
A Strategic Planning Retreat  
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# Meeting Objectives

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- 1. Provide a better understanding of the full range of new energy efficiency related initiatives both underway and under development in New England;
- 2. Discuss whether these efforts are sufficient to meet regional needs or whether additional policies or programs are needed;
- 3. Discuss the potential benefits of improving coordination and communication; and
- 4. Discuss next steps and specific strategies for achieving better coordination and overall effectiveness in advancing energy efficiency in New England.



# Resource Value of Energy Efficiency

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- Alternative to capital investment in generation, transmission, distribution
  - ❖ And an inexpensive one, not dependant on construction and energy commodity costs
- A key strategy for climate change
- A key strategy for high electric demand day NOx management
- Broad Definition of EE



# Energy Efficiency Underutilized

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## ➤ Barriers Remain

- ❖ Long standing customer barriers
- ❖ Spending caps for programs
- ❖ Disconnection between program administration and utility system management
- ❖ Value of efficiency not recognized in markets



# Energy Efficiency Developments

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- States considering budget increases
- Carbon system (RGGI) designed to support efficiency as a solution
- Electric capacity market recognizes energy efficiency value
- Portfolio standard for energy efficiency
- Standard Offer Service to include efficiency
- Codes and standards approved in some states

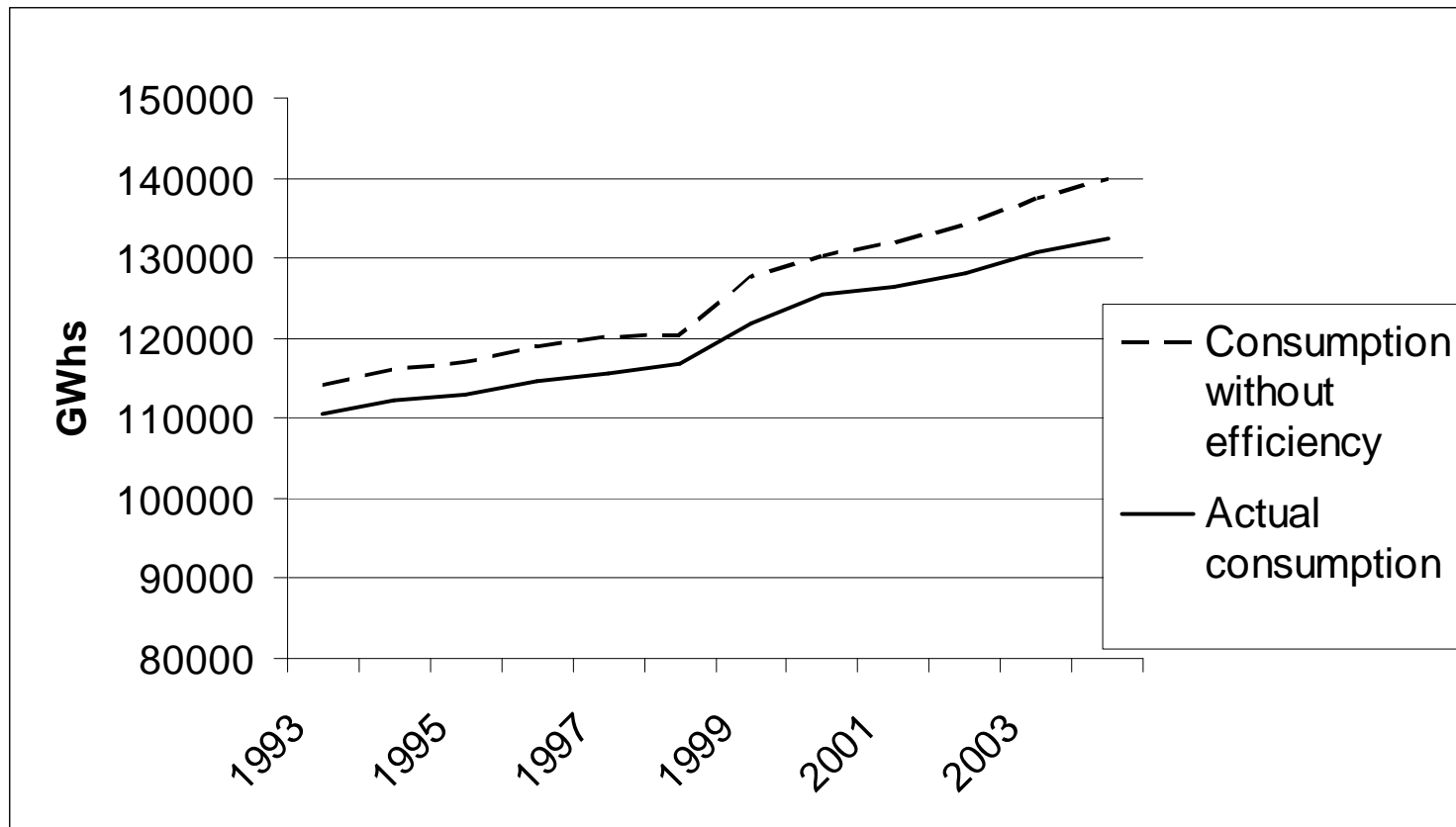


# Coordination Experience and Tools

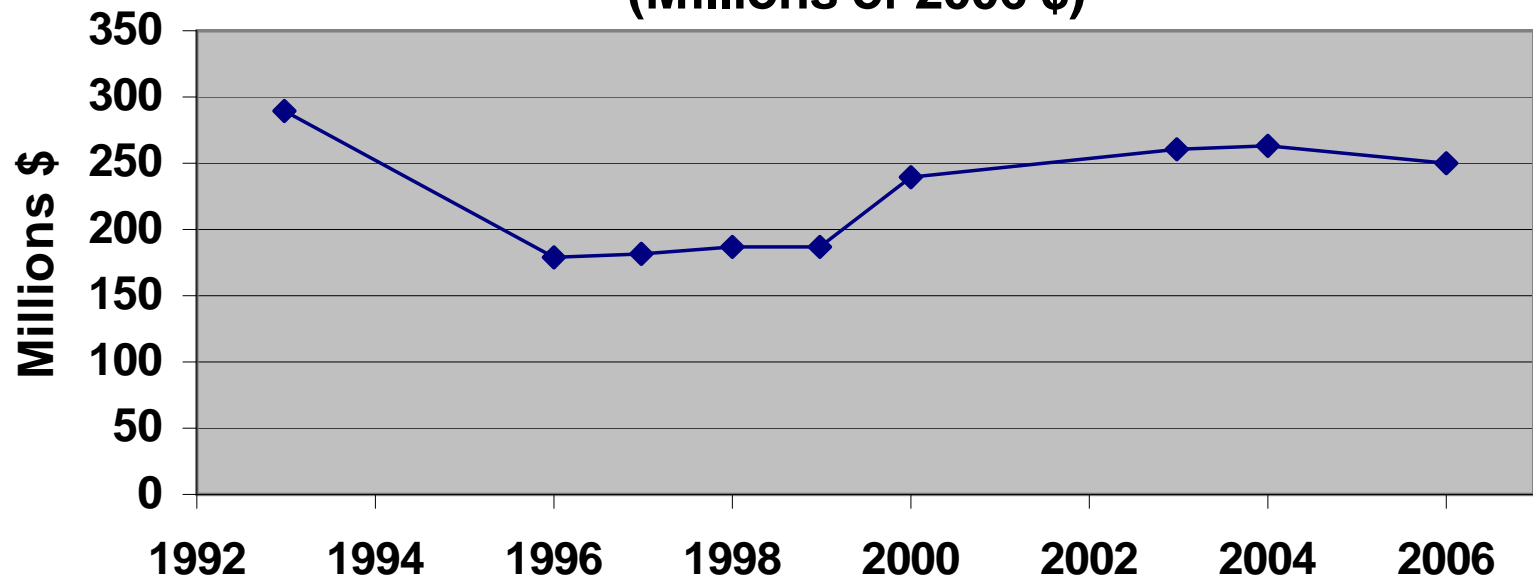
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- NEGCC (with Premiers)
- NECPUC
- ISO-NE
- NEEP, multi-state utilities, etc.

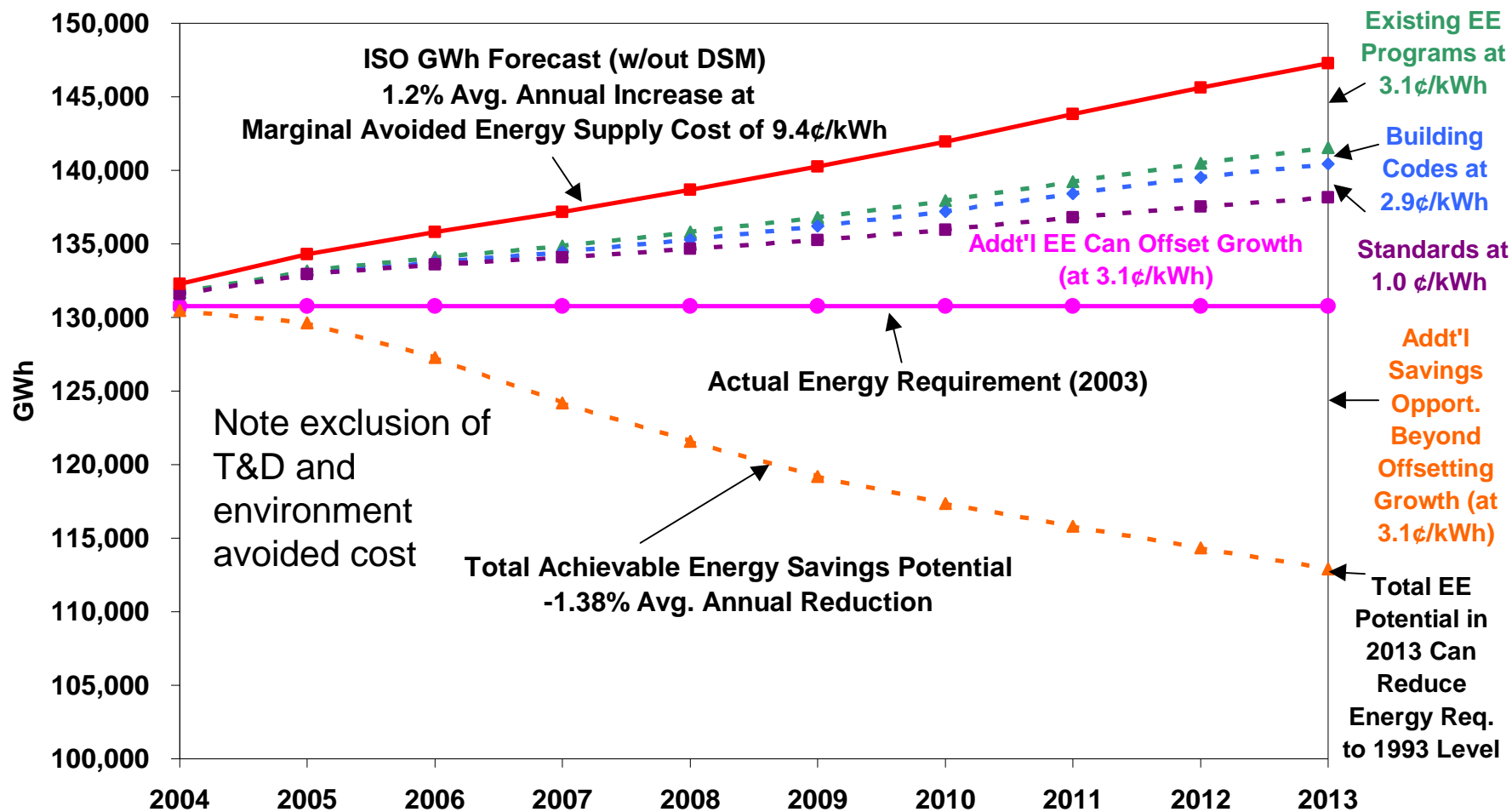
# New England Electric Energy Consumption, 1990 - 2006



**New England Utility and Public Benefits Efficiency  
Spending: 1993 - 2006  
(Millions of 2006 \$)**



# Existing and New EE Strategies Can Offset ISO Forecasted Energy Requirements (GWh) and Beyond





# Opportunities for Economically Achievable Efficiency by 2013

	Residential	Commercial	
<b>Reservoirs by Sector</b>			
	37%	63%	
<b>Reservoirs by End Use</b>			
Lighting	49%	Lighting	40%
Water Heating	20%	HVAC	35%
Heating	15%	Other	25%
Other	16%		
<b>Reservoirs by Market</b>			
Lost Opportunities	31%	Lost Opportunities	27%
Retrofit	69%	Retrofit	73%
Source: Ibid.			



# Zero Electric Load Growth: A Reasonable Goal?

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- Communicates Well
- NEEP Potential Study indicates a significant reservoir of economically achievable potential – what would it take to stabilize New England electric load?
  - ❖ Of that potential, an investment beyond the 2004 status quo of \$2.6 billion spread over 10 years (roughly 2x current level) plus \$0.7 billion attributed to implementing building energy codes and appliance efficiency standards
- Or is this not sufficiently ambitious?



# Energy Efficiency in New England

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- Current consumer funding of electric and natural gas programs
- Remove SBC ceiling
- Utility incentives and disincentives
- Other state-level activities



# System Benefit Charge: Electric (2005-2006 levels)

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- CT: \$62 million\*↗
- ME: \$9 million
- MA \$123 million
- NH: \$20 million
- RI: \$16 million
- VT: \$19 million↗
- CT: 2 or 3 mils\*
- ME: up to 1.45 mils
- MA: 2.5 mils
- NH: 1.8 mils
- RI: 2 mils
- VT: 3-5 mils
- TOTAL:  
\$250 MILLION



# Natural Gas Energy Efficiency

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- CT: \$2.7 million
- ME: \$0.2 million
- MA: \$20-25 million
- NH: \$4.3 million
- RI: \$7.5 million
- VT: \$11.3 million
  
- TOTAL: ~\$45 MILLION



# Funding Increases justified within the utility system

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- Least Cost Procurement
  - ❖ Included in standard offer service
- Integrated Resource Planning
- Energy Efficiency Portfolio (Performance) Standard
- All cost-effective EE
  - ❖ Loading Order
- Least Cost Transmission/Distribution Planning



# Utility Incentives and Disincentives

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- Lost Revenue Recovery
- Revenue Cap Decoupling of fixed costs and sales (VT)
- Third Party Administration (ME, VT)
- Performance Incentives widely used (MA, RI, VT, CT, NH)



# Prospective State Actions

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- Regional Greenhouse Gas Initiative
  - ❖ State choice for use of any revenue allocation
- Dynamic Pricing
- Appliance Standards
- Building Energy Codes
- State Greenhouse Gas Action Plans



# Regional Initiatives

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- ISO-New England
  - ❖ Demand Response
  - ❖ Take Charge New England
  - ❖ Capacity Market, Energy Efficiency Biddable
- Regional Greenhouse Gas Initiative
  - ❖ Consumer Allocation Minimum
- New England Governors (w/ E. Can. Prems)
- NEEP program support



# Ballpark Comparisons

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- Recall: Current Electric EE spending today: \$250 million
- Something around 2X gets to stable load
- From FCM, assume 200 MW, \$4/kW-mo: produces \$10 million
- From RGGI, assume 2/3 of allowances are sold for \$2/ton with revenue for EE: produces \$74 million



# More Impetus

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- New England Governors
  - ❖ Environmental Objectives
  - ❖ Possible Energy Goals
- Environment Commissioners
  - ❖ NO<sub>x</sub> attainment, esp on High Electric Demand