Addressing the Evolving Role of Energy Efficiency

NEEP EM&V Annual Meeting

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October 19, 2010

Overview

- ISO-NE incorporates energy efficiency (EE) in its existing processes
- ISO-NE is working through its stakeholder process to explore ways to overcome existing challenges to greater inclusion of EE data

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ISO-NE: Taking EE Into Account

- Energy Efficiency is Currently Incorporated:
  - Installed Capacity Requirement (ICR)
    - ICR determines the amount of capacity the region will need to meet future demand
    - The Forward Capacity Market (FCM) procures these resources
    - EE resources in the FCM are treated as capacity resources when ICR is calculated
  - Load forecast
    - Reflects historical EE
    - Federal appliance efficiency standards

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Demand Resources = Supply Resources in the FCM

- DR in FCM: Installed measures (i.e., products, equipment, systems) that result in additional and verifiable reductions in end-use electricity demand

- These verifiable reductions serve to reduce the peak demand in the system and maintain operating reserves, avoiding the dispatch of additional generation

- DR can displace load permanently, over pre-defined hours or in real-time when dispatched by the ISO during emergency conditions

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Demand Resource Categories

- Passive DR: Energy Efficiency
  - On-Peak & Seasonal Peak
  - Defined at a Load Zone
  - Reduce energy demand (MW) during peak hours
  - Are *non*-dispatchable

- Active DR: Real-Time Demand Response, Real-Time Emergency Generation, Distributed Generation
  - Defined at a Dispatch Zone
  - Reduce energy demand (MW) during reliability hours
  - Operate based on real-time system conditions via dispatch by ISO (dispatchable)

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Passive Demand Resources (EE) are Growing in the FCM (MW)

State	FCA #1 for 2010	FCA #2 for 2011	FCA #3 for 2012	FCA #4 for 2013
CT	183	287	365	359
MA	247	318	439	470
ME	23	23	60	104
NH	36	48	63	56
RI	38	51	70	81
VT	46	57	75	94
Total	**573**	**784**	**1072**	**1167**

2010 PDR: Capacity Supply Obligation (CSO) values are current as of the posted results for the Bilateral Period 1 - Annual Reconfiguration Auction 3.

2011 PDR: CSO values are current as of the posted results for the 2011-2012 Forward Capacity Auction (FCA) Proration.

2012 PDR : CSO values are current as of the posted results for the FCA 2012-2013.

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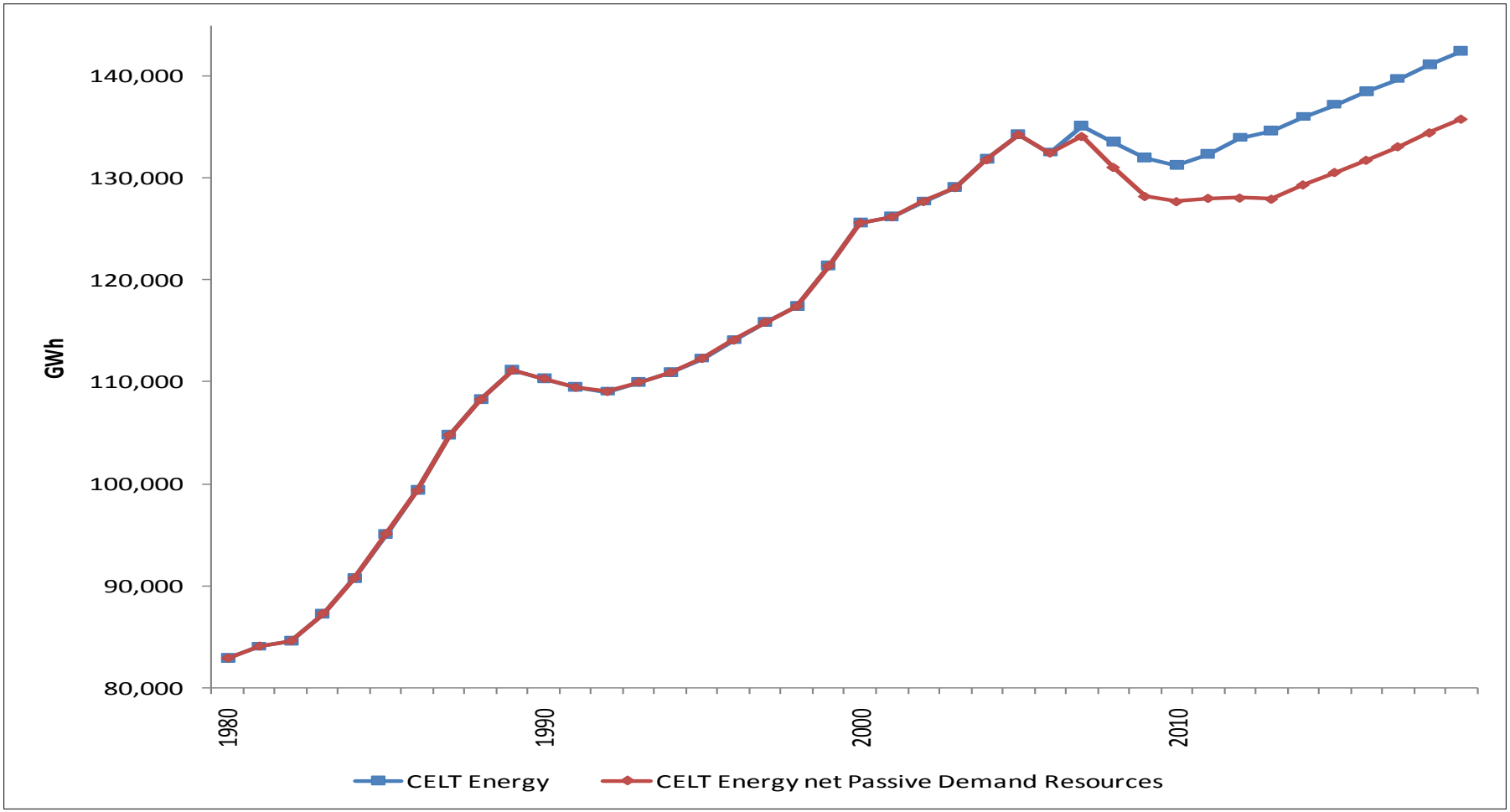
EE Shapes Existing Load Forecast



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Recent Developments

- EE is a high priority for New England states
  - According to a recent ACEEE analysis: 5 of the 6 New England states rank in the top ten nationally for EE programs

- ISO-NE stakeholders have been urging greater inclusion of EE information in ISO-NE load forecasting
  - Currently, state EE program savings estimates are not used to reduce the ICR or load forecast

- In response, last year the Regional Energy Efficiency Initiative (REEI) was created to inform ISO and stakeholders of the magnitude and implementation characteristics of state sponsored EE programs

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Recent Developments, *cont.*

- Three open REEI stakeholder meetings
  - Compiled information on state EE programs
  - Discussed the potential EE development
  - Presented information on the ISO planning process

- ISO-NE is transitioning the work of the REEI to one or more formal stakeholder groups for a broader consideration of issues
  - Planning Advisory Committee: November 16 & Early 2011

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Regional System Plans

- The draft RSP2010 has a section dedicated to EE reflecting the information gathered through the REEI
  - Includes specific details on the state's EE programs
    - Budgets
    - Saving goals/targets

- As part of RSP2011 efforts, the ISO will work with stakeholders to assess the impacts that FCM demand resources and state EE programs have on the load forecast

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State EE Programs

- New England states are making large investments in EE through many programs
- Only a portion of these EE programs participate in the FCM
- States and stakeholders want to be sure that consumers receive the benefits of their EE investments
- States also have various EE goals

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Summary of New England State's EE Programs

	CT	MA	RI	VT	NH	ME
Funding $	132M	1.3B	22.8M	26M	27.8M	156M
Period	1	3	3/1	3	1	3
Goals		25% by 2020				30% by 2020
Annual MWh Savings	237,000 (2009)	2,625,083 (2010-12)	79,331 (2009)	360,000 (avg. 2009-11)	78,537 (2007)	107,517 (2008)

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Challenges

- States
  - Lack of uniformity of state's program structure, funding and goals make it difficult to compare programs across states
  - Potential for policy makers to divert funds from EE programs to shore up general state budget deficits

- Can we develop regionally acceptable Evaluation Measurement & Verification procedures for non-FCM EE?
  - North American Energy Standards Board
  - ISO 50001
  - National Institute for Standards Technology
  - ISO-NE FCM

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Challenges, *cont.*

- ISO-NE
  - Current approach potentially understates the EE in the future system by not fully accounting for State EE programs
  - On the other hand, overstating the EE could result in reliability and resource adequacy problems

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Federal Activity to Address Transmission Planning and Funding

- DOE/Eastern Interconnection Planning Collaborative

- ISO New England based our energy assumptions for the 2020 case on resources which cleared the FCM

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ISO New England Position on FERC NOPR: Consideration of Public Policy in Planning

- New England largely complies with the NOPR's proposed requirements for regional and inter-regional planning
- Changes are necessary to account for public policy in the formulation of transmission plans
- A common regional public policy requirement should be determined by the states working through their regional policy organizations, including NESCOE
- Planning criteria for public policy projects will need to be developed with the assistance of the states

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