

Demand Resource Participation in New England's Forward Capacity Market

May 2, 2007

ISO New England 2007 Demand Resource Summit

*Vamsi Chadalavada
ISO New England*

Discussion Topics

- Why is demand participation needed in the electricity markets?
- What is the Forward Capacity Market (FCM) and how does it work?
- What has been the interest in participating in the Forward Capacity Auction?

Demand and Electricity Markets

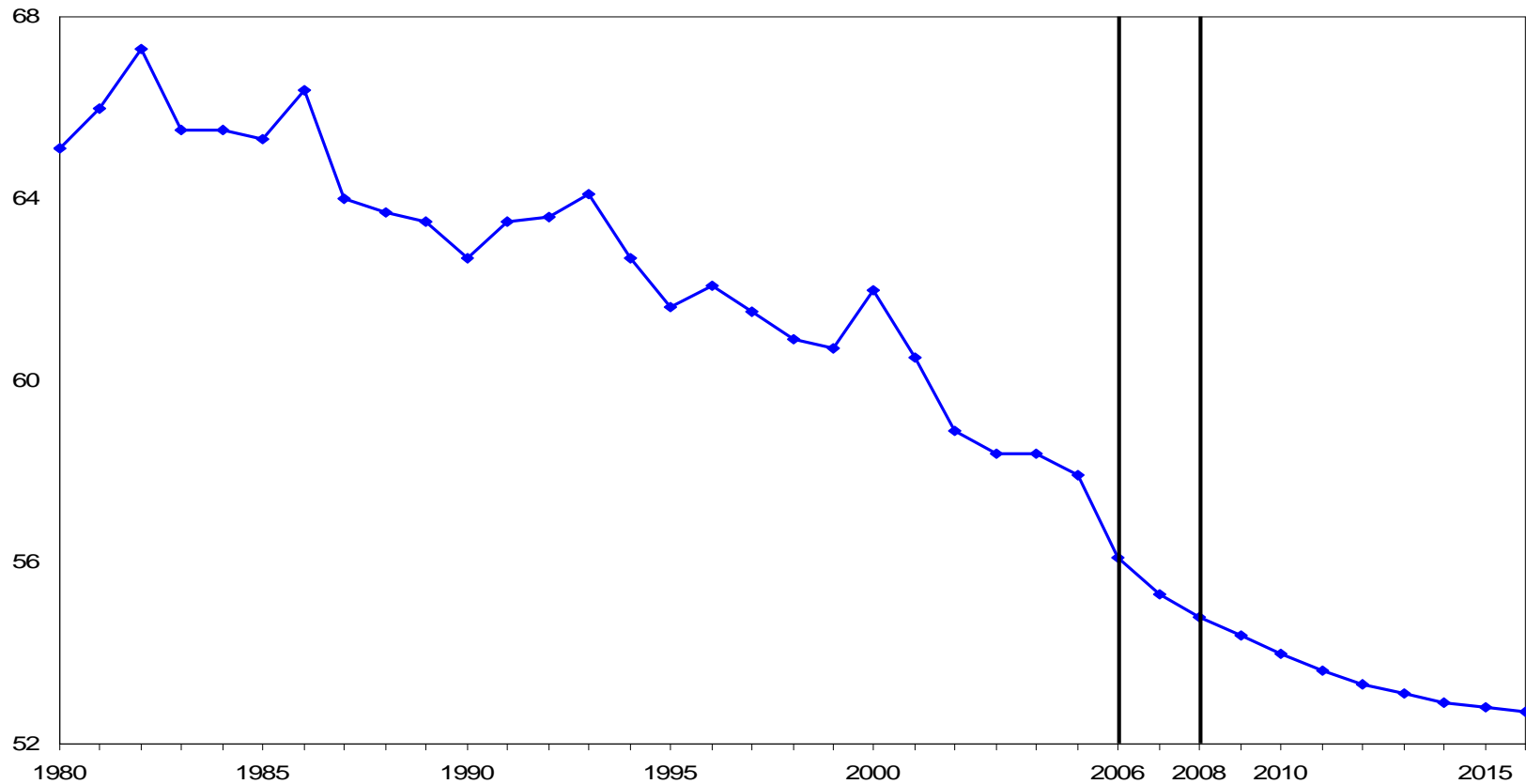
- Successful Markets Need Active Demand
- Competitive markets offer low costs **IF:**
 - Supply is competitive; and
 - Demand is active

Demand Participation in Markets is Needed

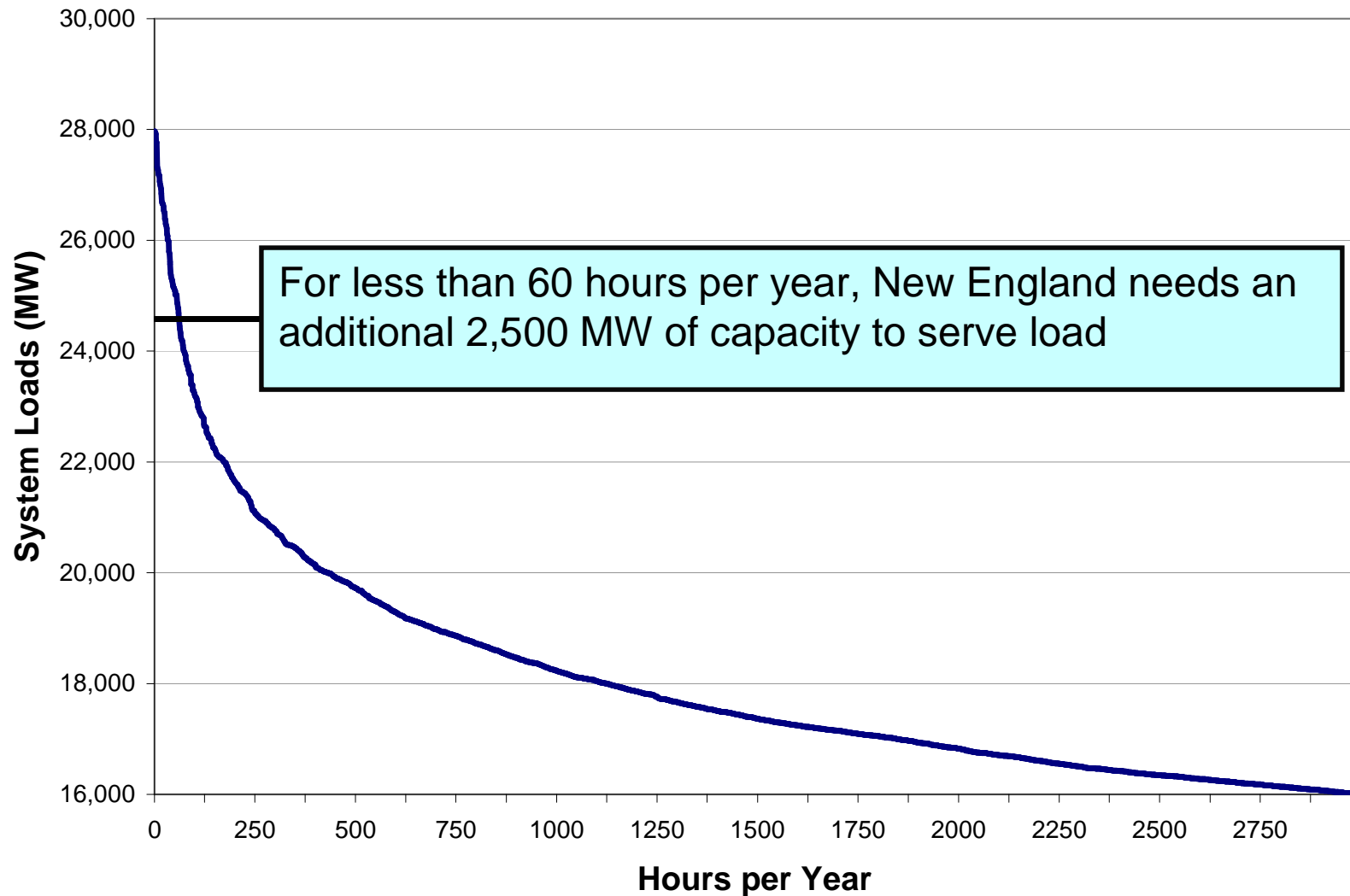
- The load factor of the New England electricity system has been steadily declining over time resulting in:
 - Peaky loads, higher energy and capacity costs, and higher average rates
- A small amount of demand participation in markets can go a long way in mitigating peaks, lowering costs, and ultimately lowering electricity prices to final consumers
- Markets are the most efficient way to encourage the development of cost-effective Demand Resources

2007 CELT and RSP Forecast

ISO Summer Peak Load Factors
History 1980-2006, Forecast 2007-2016



Why Should Demand Resources Participate in the FCM? New England Load Duration Curve (2006)



Forward Capacity Market Background

- The Forward Capacity Market (FCM) will be used to procure capacity to meet New England's forecasted demand and reserve requirements three years into the future
 - The design of the FCM resulted from a Settlement Agreement signed on March 6, 2006
 - FERC approved the Settlement Agreement on June 16, 2006
 - Detailed FCM Rules were filed with the FERC on February 15, 2007
 - FERC approved the qualification and auction process on April 16, 2007
- Generation ***and Demand Resources*** may participate in the FCM

Forward Capacity Auction Objectives

- The FCM uses a competitive **Forward Capacity Auction (FCA)** process to determine which resources to buy, how much to buy, and how much to pay
- The FCA will be used to select a portfolio of Generation and Demand Resources to meet Installed Capacity Requirements
- All resources that clear the auction are paid the market-clearing price (\$/kW-month), subject to performance incentives and penalties
- To encourage investment, new resources can receive a long-term commitment (up to 5 years)

Show of Interest Results

- To participate in the first FCA (scheduled for February 2008), Project Sponsors had to submit an application called a “Show of Interest” form
- ISO New England received more than 400 Show of Interest forms from new Generation and Demand Resources totaling over **12,400 MW**
 - Over **10,000 MW** from new Generation Resources.
 - Over **2,400 MW** from new Demand Resources including energy efficiency, load management, distributed generation and demand response

Demand Resources Show of Interest

MW by State and Resource Type

State	Resource Type					Grand Total
	Real-Time Demand Response	Real-Time Emergency Generation	Critical Peak	On Peak	Seasonal Peak	
Massachusetts	346	279	286	282	29	1,222
Connecticut	143	141	112	61	120	577
Maine	122	33	27	34	2	217
Rhode Island	68	74	9	36	4	192
New Hampshire	24	41	18	47	4	133
Vermont	17	22	8	61	1	109
Grand Total	720	590	460	521	159	2,449

80% of the proposed MWs are from non-utility suppliers such as energy services companies, third-party energy suppliers, equipment vendors and retail customers

FCA Requires 12-Month Capacity

- **Per the Settlement Agreement, all Project Sponsors must offer and deliver capacity in all 12 months of the year.**
 - The ISO is sensitive to the challenge that this might present to **Seasonal Demand Resources (Seasonal DR)** with seasonal capability (i.e., higher capability in the summer than winter)
- In order to address some of these concerns, the FCA allows such resources to:
 - Make a Combined Offer consisting of multiple Demand and/or Generation resources,
 - Participate in the monthly and seasonal Re-Configuration Auctions, or
 - Participate in a Bi-Lateral Agreement with another Project Sponsor
- Significant potential exists for Combined Offers

Summer and Winter Qualified Capacity

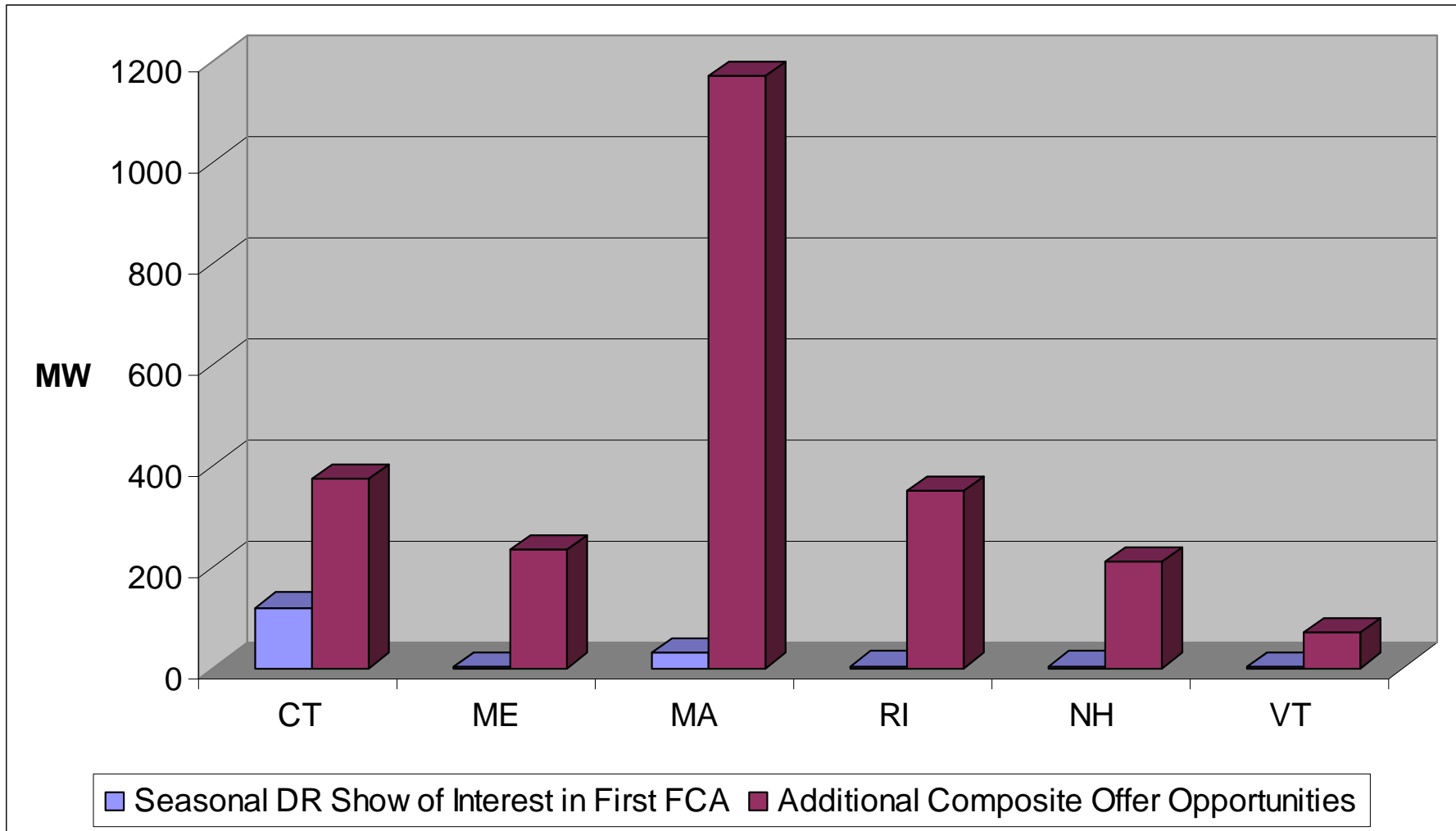
- **Generation Resources**

- Typical Generation Resources have greater capacity in the colder Winter months than the warmer Summer months
- Throughout New England there is approximately **2,400 MW** of additional Winter capacity from Existing Generation Resources

- **Demand Resources**

- Many Demand Resources, especially Seasonal Peak Resources effecting HVAC loads, have greater capacity in the warmer Summer months than the colder Winter months
- 159 MW of Seasonal Peak Resources have expressed a show of interest in the first FCA

Composite Offer Opportunities by State



Further discussions on Seasonal DR

- Regardless, the ISO is committed to working with all stakeholders in exploring ways to improve Seasonal DR participation in the FCM
 - The ISO will file a report with the FERC regarding the status of the Composite Offers in July 2007
 - The ISO will file a compliance filing with the FERC in February 2008 regarding the status of the stakeholder process on Seasonal DR

Early Observations:

- **Significant potential for Demand Resources to participate in the Wholesale Electricity Markets**
 - The strong showing with regards to the New Demand Resource Show of Interest is very encouraging
 - Not all the projects that submitted Show of Interest forms will qualify, clear and perform
 - However, the level of interest demonstrates the effectiveness of the Forward Capacity Market to attract investors and bring about the development of the most cost-effective capacity resources

Questions and Discussion

