

Opportunities and Challenges for EE Participation in the Forward Capacity Market

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EE Participation as a Resource in the Forward Capacity Market

\$ Opportunity (including the opportunity to receive FCM capacity payments)

– OR –

Straight Jacket
(with the potential for the tail to wag the dog)



A Tale of Two Systems

State Energy Efficiency	Forward Capacity Market
Multiple objectives: energy savings and peak demand reductions,	Single objective: capacity (peak demand reductions)
Single resource type (energy	Multiple resource types
Peak = time/conditions of system	Performance hours (many more
Unequal and varied mix of summer and winter peak demand reductions	FCM has annual requirement; must provide equal summer & winter
Goals and targets, with incentives and some degree of flexibility	Requirements and Rules, developed by engineers, backed by
Timely cost recovery, SBCs	Pay-for-performance over measure
Annual planning (single year ahead)	Bid three years in advance (multi-
“Good enough” evaluation	ISO M&V standards
States planning to meet FCM requirements and maintain one set of books	

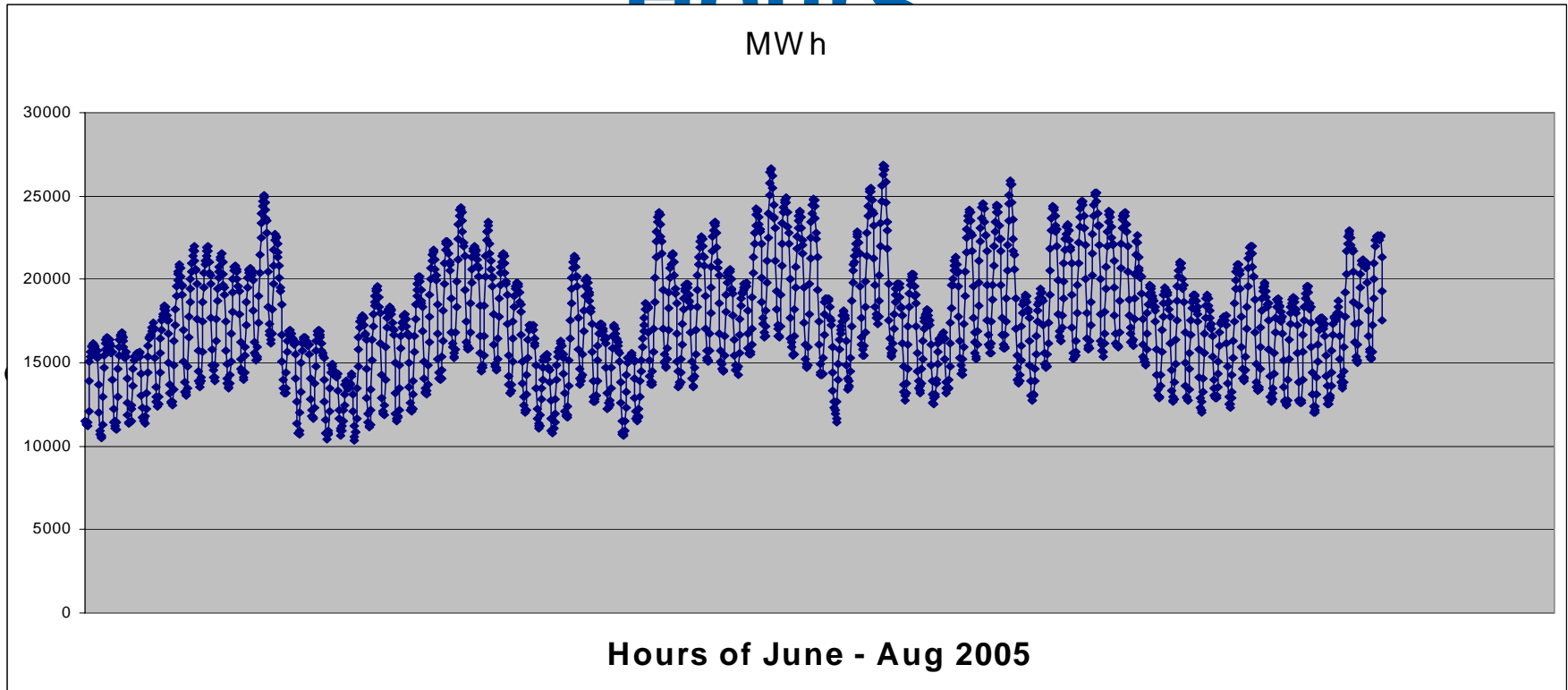
Demand Resource Types

- FCM Market Rules define Demand Resources ***by the way in which they reduce load***, not by technology.
 - Different technologies (Energy Efficiency, Load Management, and Distributed Generation) can reduce load in different ways.
- Determined by ***FCM Performance Hours***

FCM Performance Hours for EE

- **On-Peak Demand Resources** measure their demand reduction during the following hours:
 - **Summer On-Peak Hours:** 1:00 p.m. to 5:00 p.m. Non-Holiday Week Days in June, July and August
 - **Winter On-Peak Hours:** 5:00 p.m. to 7:00 p.m. Non-Holiday Week Days in December and January
- **Seasonal Peak Demand Resources** measure their demand reduction during hours when the ISO real-time forecast of load equals/exceeds 90% of the ISO “50/50” forecast for the summer or winter season
- Possible application: flat vs. weather dependent

Caution: FCM Performance Hours



- Weather and demand vary significantly during “on-peak” summer afternoon hours in New England
- More hours in the *performance hour period* “dilute” the true *system peak* demand reduction

FCM Annual Requirement: Barrier to Summer Season Resources

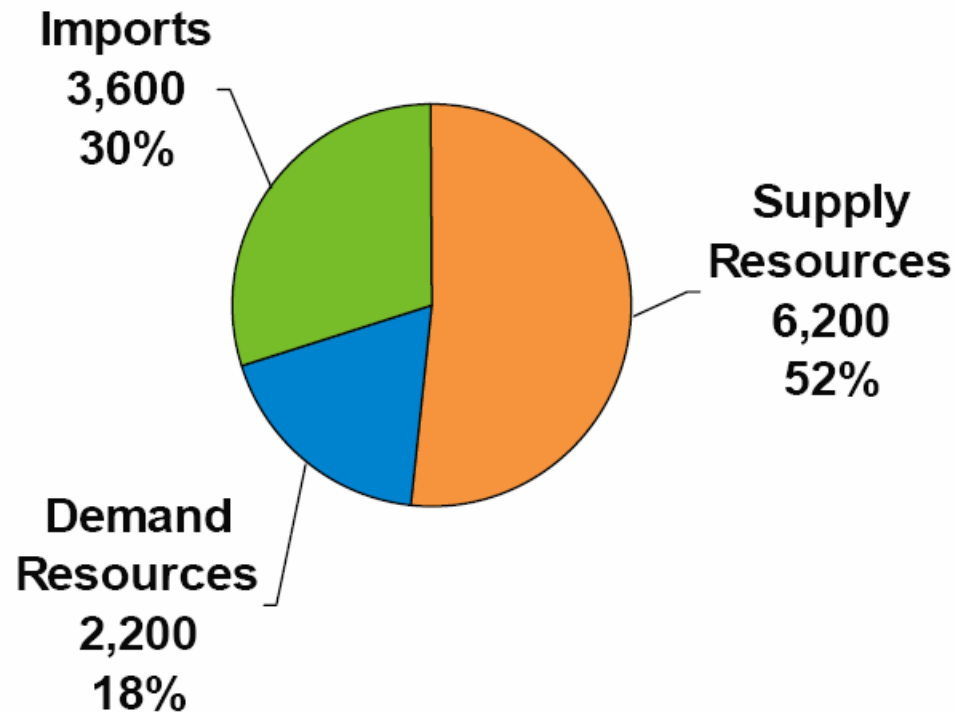
- FCM requires annual capacity product; equal summer & winter peak demand reductions
- Yet New England is summer peaking, with summer peak ~6,000 MW higher than winter
- Many state programs were increasing their focus on reducing summer peak demand
- FCM mechanism: “Composite Bid” can combine summer and winter peak demand reductions into one bid (some successful in qualification)

Forecasting Way Ahead and Hitting the Target (Exactly)

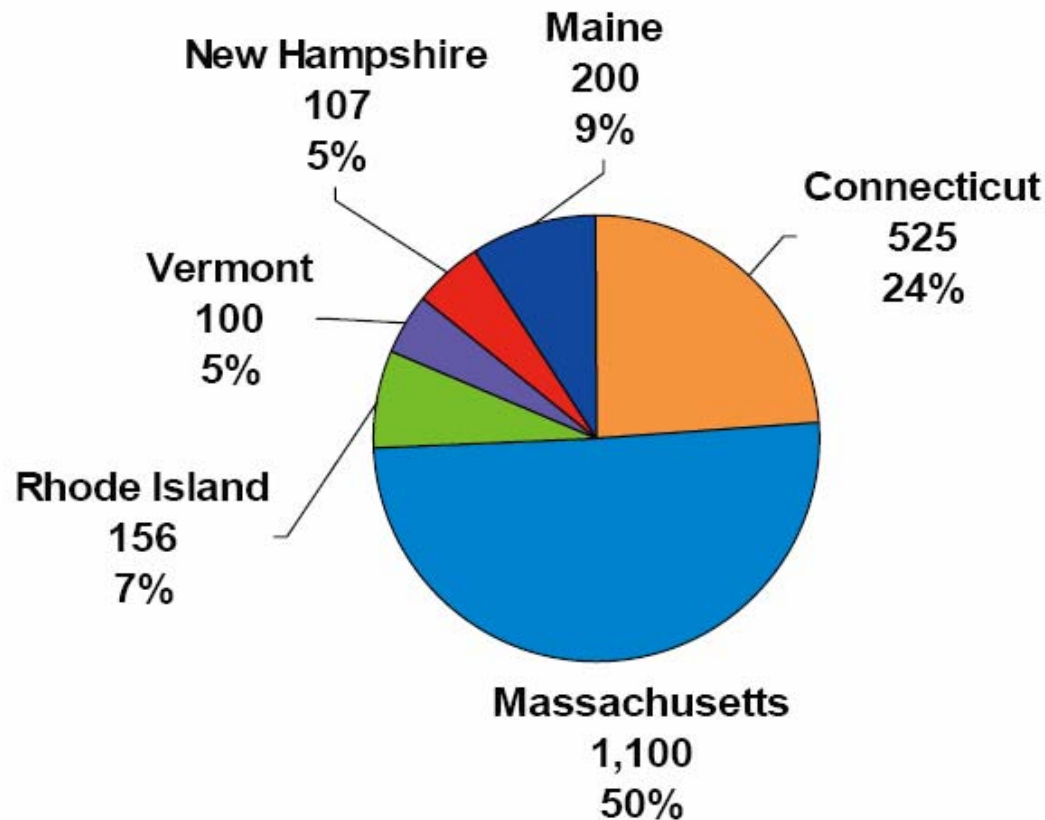
- State programs plan about 1 year ahead
- In FCM, Demand Resources must qualify and bid about three years in advance, with perf. requirements and financial assurance
- Challenges to plan programs and forecast performance that far in advance (but portfolio approach helps mitigate risks)
- Regulatory authorization and “hold harmless” provisions for administrators, years ahead

FCM Qualification Package Applications

Proposed Resources by Type (MW and %)



FCM Qualification Package Applications: Demand Resources by State (MW and %)



Demand Resource FCM applications are roughly proportional to load.

State EE Programs are Participating

- State programs currently receiving FCM Transition Period revenue, Dec. 2006 through May 2010 (\$3.05-4.10/kW-month)
- State EE programs, generally through their program administrators, submitted FCM Qualification Packages in June 2007
- First auction (FCA) in Feb. 2008, for June 2010
- Generally, states submitted bids equal to or slightly less than current level of savings

Is EE participation in the FCM worth the effort?

- Yes... but it isn't easy (takes significant effort)
- Will help to increase EE funding and programs (states allocating FCM revenues to programs)
- ISO and stakeholders becoming more familiar with EE as a resource (generally positive)
- Alternative of not participating in FCM would disadvantage the states (\$, cost