

New England's Forward Capacity Market Overview and Results

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The Need for Capacity Markets ?

- The “Missing Money” Problem
 - Generally, investment recovered when price exceeds the cost of production
 - Price during shortages is set by demand's willingness to pay (e.g. hotel prices during vacation seasons)
- This dynamic is not working in Electricity Markets
 - Demand side does not yet participate
 - Price Mitigation
 - Energy Offers are capped at \$1000/MWh
 - Few hours of shortage because of planning and operating reserves to meet reliability targets

Forward Capacity Market Objectives

- Procure enough resources to meet New England's Installed Capacity Requirement (ICR) over three years in the future.
- Procure enough capacity in each sub-region to meet local needs and eliminate Reliability Agreements
- Promote new investment with a long-term (up to 5 year) commitment to New Supply and Demand Resources
- Allow new capacity projects to compete in the market and set price

The Forward Capacity Product

- Physical Capacity (planned or existing) in a specific location or Demand Resource
- Offer in day ahead and real time market
- Must follow dispatch instructions
 - Penalties depend on harm caused
- Energy call option at energy price of a peaking unit with a 22,000 BTU/Kwh heat rate

FCM Procurement Mechanism

- Descending Clock Auction with multiple rounds
 - Auction begins at 2 X CONE
 - Bidders offer what they would provide at that price
 - Price is lowered each round
- If more resources bid than are required, price is lowered and resources exit the auction
 - Successive price reductions continue until supply equals demand
- Ensures only the required amount of resources are left in the auction at the lowest price

FCM Procurement Mechanism

- Payments begin about 3 years after auction
- New capacity: Option to select up to 5 year commitment to reduce investment risk
- Existing capacity: receives auction price for 1 year
 - Already invested—no need for long commitment
 - No need to arbitrage across years

FCM Performance Incentives

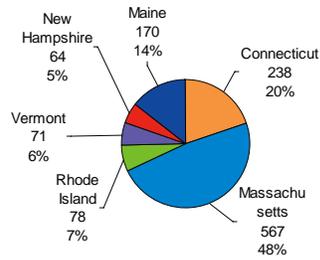
- Capacity Payments Reduced for Resources Unavailable in capacity shortages
- Energy Option
 - Capacity resources must provide energy or operating reserve when prices exceed the cost of a peaking unit with a 22,000 heat rate.
 - This corresponds to hours of scarcity pricing
 - Capacity Payment to all supply resources is reduced by these energy rents

Forward Capacity Auction Results

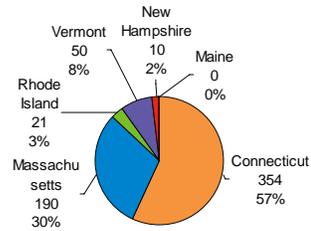
- The first FCA held February 4-6, 2008
 - Procurement met regional ICR for 2010-2011 Commitment Period
 - FCA was successful and went smoothly
 - No technical problems or observed anti-competitive behavior
- Prices
 - FCA starting price was \$15.00/kW-mo
 - FCA ending price was \$4.50/kW-mo
 - Floor price negotiated as part of Settlement Agreement
- Over 1,800 MW of new Supply and Demand Resources cleared the auction,

Total Resources Cleared in FCA-1: 34,352 MW; Total Resources Needed: 32,305 MW

New Demand Resources
(1,188 MW)

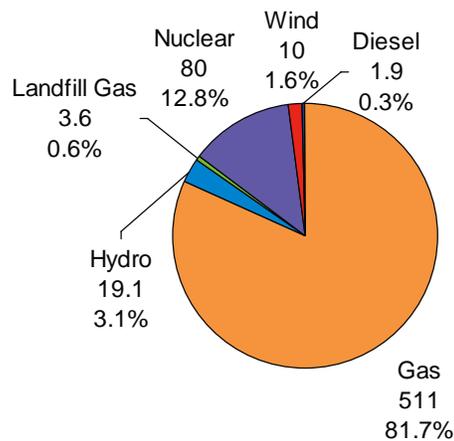


New Supply Resources
(626 MW)



Values represent MW and percent

New Supply Resources Cleared in FCA-1: Traditional fuel still dominates supply



Total: 626 MW

Values represent MW and %

Summary of Auction Rounds with Excess Supply and Price Changes

Round	Start Price	End Price	Delta \$	Excess Start	Excess End	Delta MW
1	15.00	9.00	6.00	6101.668	3,669.212	2432.456
2	9.00	8.00	1.00	3,669.212	3,583.394	85.82
3	8.00	7.00	1.00	3,583.394	3,370.553	212.84
4	7.00	6.00	1.00	3,370.553	3,295.957	74.60
5	6.00	5.625	.375	3,295.957	2,818.045	477.91
6	5.625	5.250	.375	2,818.045	2,091.384	726.66
7	5.250	4.875	.375	2,091.384	2,047.574	43.81
8	4.875	4.50	.375	2,047.574	2,047.074	0.50

Preparing for FCA-2 in December, 2008

- More Show-of-Interest (SOI) applications in FCA-2 than FCA-1
- Approximately 15,864 MW of New Resources seeking qualification
 - 8,985 MW of new generation
 - Includes 581 MW of Wind, primarily in ME and NH
 - Includes 8,046 MW of CC and CT
 - Also includes Hydro, Fuel Cells
 - 5,098 MW of new imports
 - 1,781 MW of new Demand Resources

Forward Capacity Market: Working as Designed

- Attracted significant investment in new resources while maintaining needed existing resources
- Allowed Demand Resources to compete with generation resources
- Significantly reduced the number of Reliability Agreements in New England
- Considered locational needs to ensure that resources are located where needed for reliable operation

What's Next for FCM

- Integrating FCM and the Interconnection Queue
- Rules for compensating resources that wish to de-list but are needed for reliability
- Incorporating large amounts of Demand Resources into grid operations
- Complete the design for the outstanding elements of the settlement agreement
- Review design based on market performance and market monitor's review after second auction