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Region's Latest Forward Capacity Auction Attracts New Resources

Restructuring Roundtable

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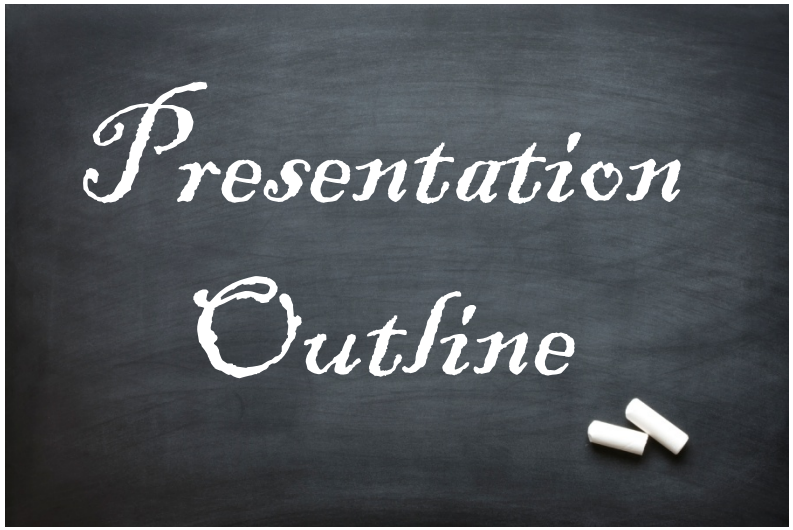
An Overview of the Presentation



- Generator Retirements
- Recent Market Enhancements
- Ninth Capacity Market Auction Results
- Influx of Generator Interconnection Requests
- Winter Pricing and Fuel Mix
- Conclusions

Resources Are Turning Over

- Low natural gas prices, high oil prices, and environmental requirements contributed to recent generator retirements
- Several large power plants have retired, others plan to retire, and more are “at risk” of retiring
- The Forward Capacity Auction held in February successfully attracted investment in new resources needed for the 2018–2019 timeframe

Preparing for

2018–2019

>10% of Existing Fleet Will Retire Within 5 Years

More than 3,500 MW of coal, oil, and nuclear resources will retire between 2014 and 2019

Key retirements:

Massachusetts

Brayton Point	1,535 MW
Salem Harbor	749 MW
Mt. Tom	142 MW

Vermont

Vermont Yankee	604 MW

Connecticut

Norwalk Harbor	340 MW

Additional retirements are looming

ISO Made Capacity Market Changes to Improve Resource Performance and Promote Investment

- As older resources retire, the region requires substantial investment in new resources

- Recent enhancements to the New England capacity market will:
  - Improve resource performance (Pay for Performance)
  - Mitigate capacity market price volatility (sloped demand curve)
  - Strengthen investment signals (7-year price lock-in)
  - Improve locational pricing (enhanced zonal modeling)

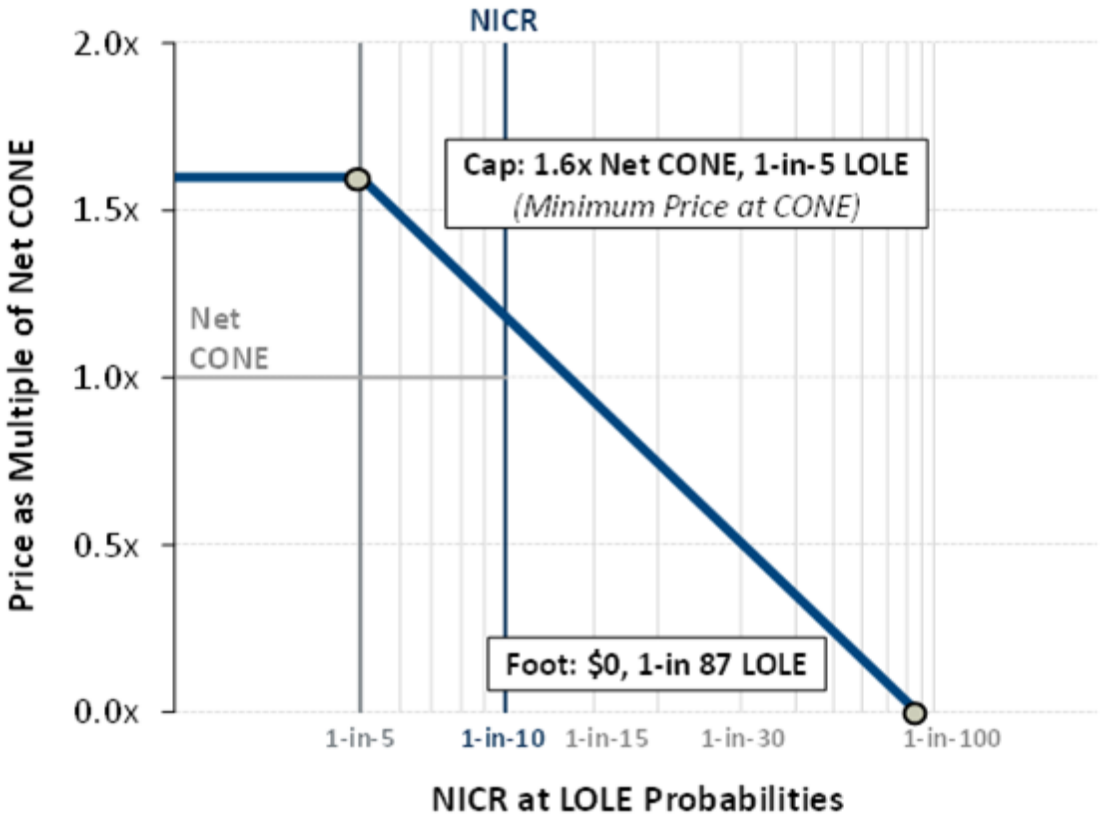
Pay for Performance: Major Elements

- A new, simple, capacity product definition
  - Closely ties a resource's payments to performance when needed most
- Performance payment:
  - Delivery of energy & reserves during (reserve) shortage conditions
  - May be positive or negative (compared to base payment)
  - Consumers pay for what clears the auction and over- and under-performance payments are transfers among suppliers
- Resource neutral, no excuses
  - All resources have the same obligations, same performance terms
- Resource owners have flexibility
  - Select least-cost way to ensure performance, such as firm-fuel arrangements, dual-fuel capability, fuel storage, new technologies, and further innovation

Demand Curve Changes: FCA 9 and Beyond

- Replaced vertical demand curve used in the first eight auctions with system-wide sloped demand curve
- Reduce price volatility that occurs if the region is just short or long on capacity
- Strike a balance between limiting exposure to high prices when the market is not competitive and ensuring that prices induce new entry into the market

The Intersection of Supply Along the Sloped Demand Curve Determines the Amount of Capacity Acquired in the Auction and the Clearing Price



Auction may procure *less* capacity than needed when the supply curve intersects the *high* end of the demand curve (and vice versa)

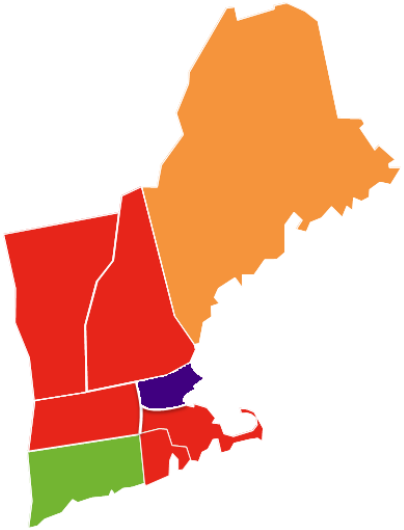
Essentially, the region buys more when capacity is less expensive and buys less when it's more expensive

Demand curve proposed by ISO New England and NEPOOL, and filed with FERC on April 1, 2014.

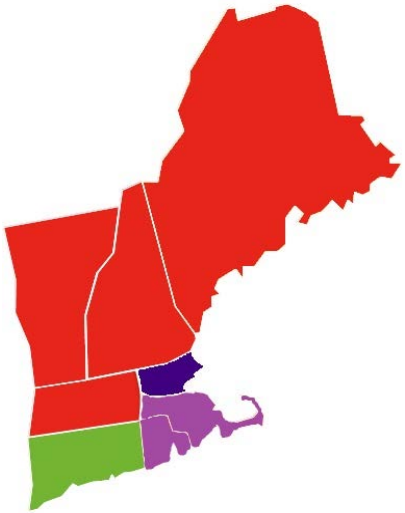
Capacity Zones Provide Market Signals Where Resources Are Needed

New mechanism will revise modeled zones as system changes

2 Zones: FCA 1 – 6
Maine
Rest of Pool



4 Zones: FCA 7, 8
Connecticut
Maine
Northeast Massachusetts
Rest of Pool



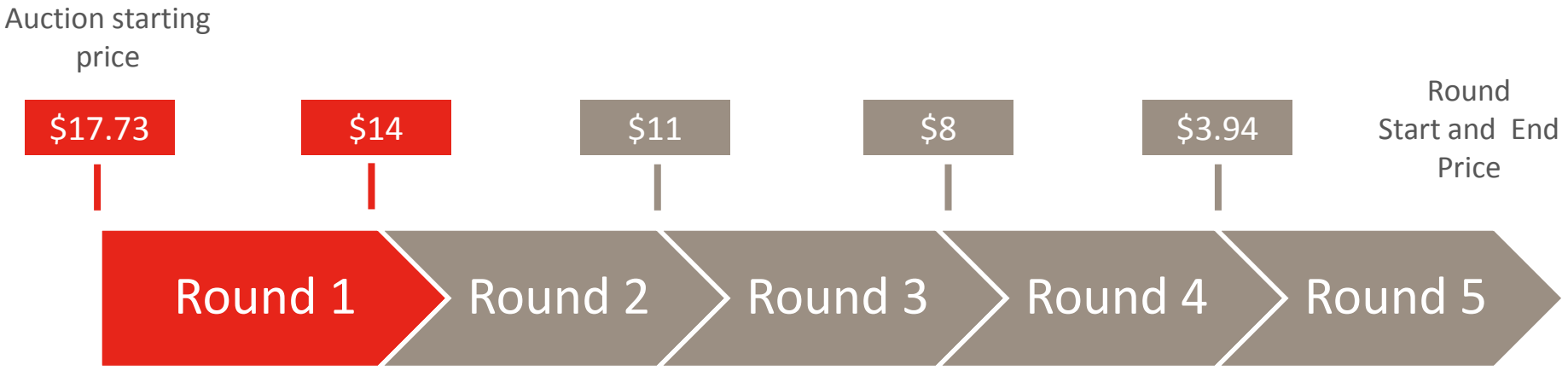
4 Zones: FCA 9
Connecticut
Northeast Massachusetts/Boston
Southeast Massachusetts/Rhode Island
Rest of Pool

FCA 9 Results

- Clearing prices were higher than in previous auctions, reflecting the need for new resources to ensure reliability
- Auction procured sufficient capacity to exceed the regional Installed Capacity Requirement; however before the auction opened, the SEMA/RI zone was short of capacity, triggering administrative pricing for the zone
- New generators cleared the auction in import-constrained zones
  - Four new power plants representing over 1,000 MW obtained obligations (one in SEMA/RI and three in CT)
- Almost 400 MW of new demand resources cleared the auction
- Preliminary cost estimate for 2018-19: approximately $4 billion

Round-by-Round Results for FCA 9: Round 1

Prices in most of the region cleared below the estimated cost of new resources

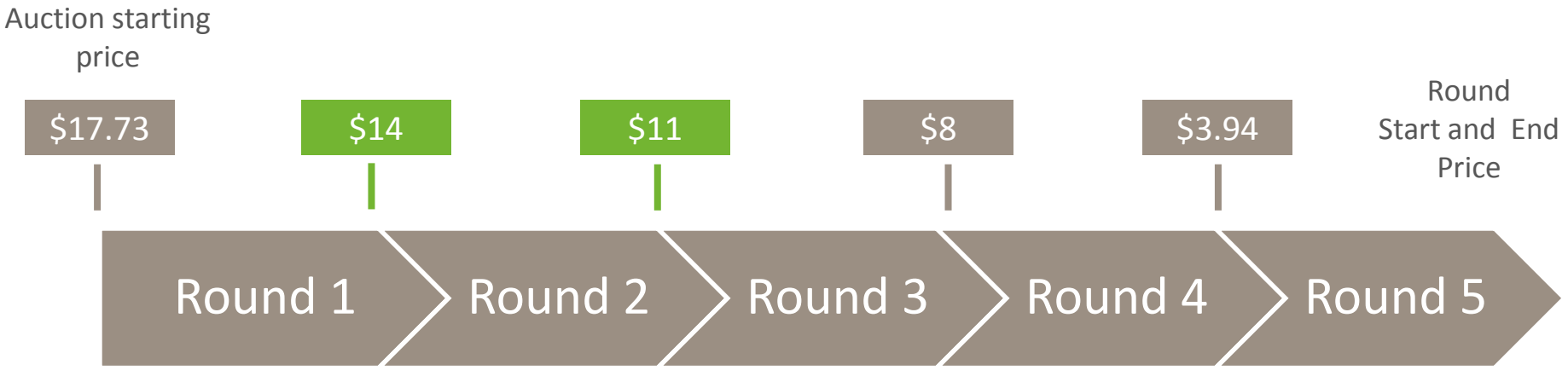


$17.73

Price to be paid to new resources in SEMA/RI as a result of inadequate supply, which triggered administrative price rule

Round-by-Round Results for FCA 9

Prices in most of the region cleared below the estimated cost of new resources

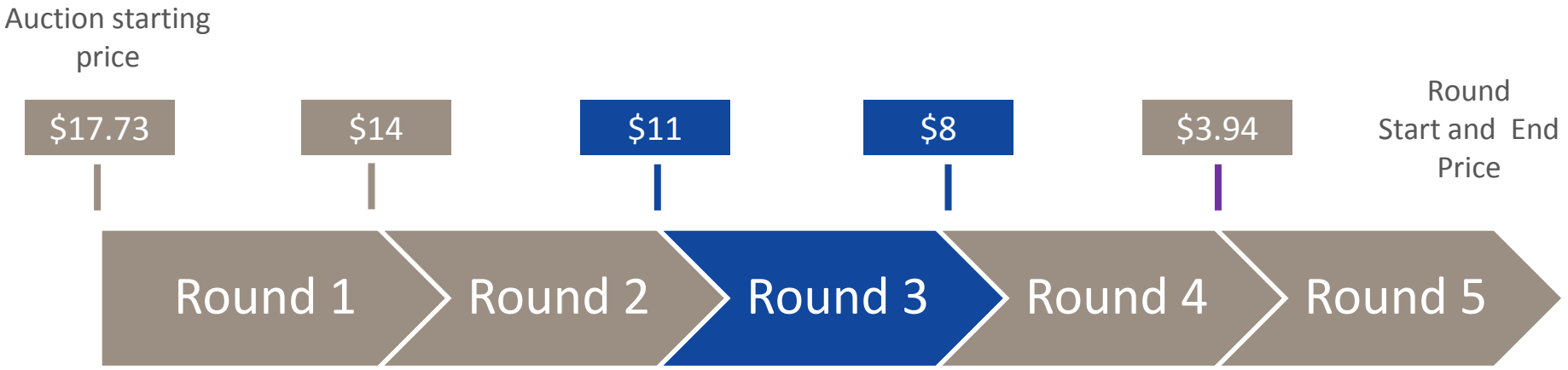


$11.08

Based on administrative price rule, price to be paid to existing resources in SEMA/RI, which is the estimated net cost of new entry (CONE)

Round-by-Round Results for FCA 9: Round 3

Prices in most of the region cleared below the estimated cost of new resources

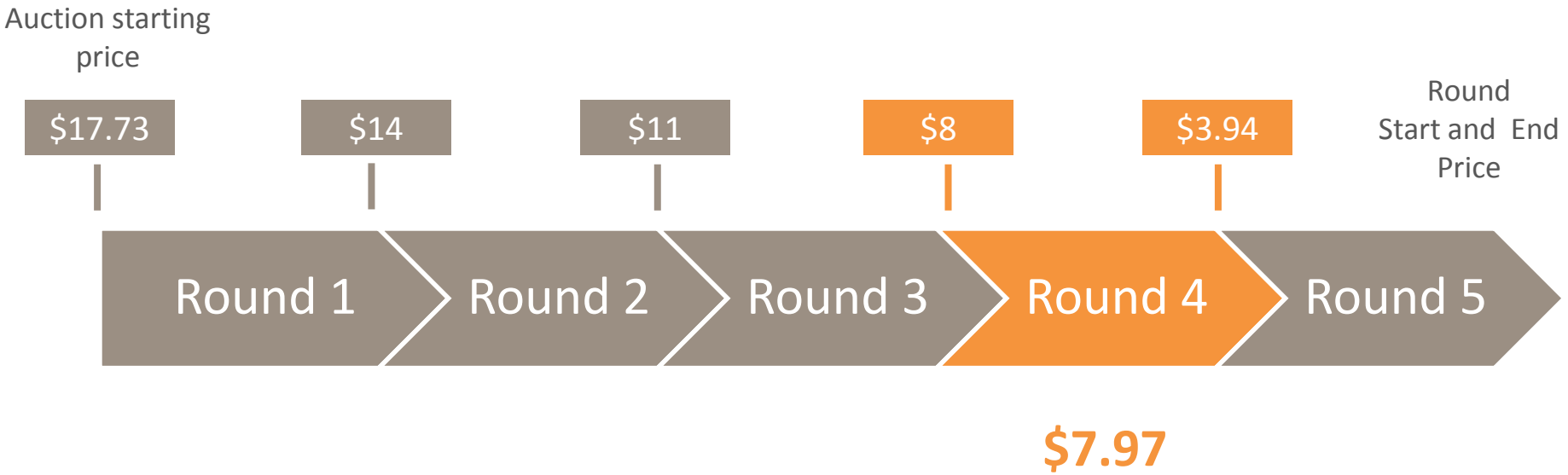


$9.55

Clearing price to be paid to new and existing resources in most of the region, including: Connecticut, NEMA/Boston, and Rest of Pool

Round-by-Round Results for FCA 9: Round 4

Prices in most of the region cleared below the estimated cost of new resources

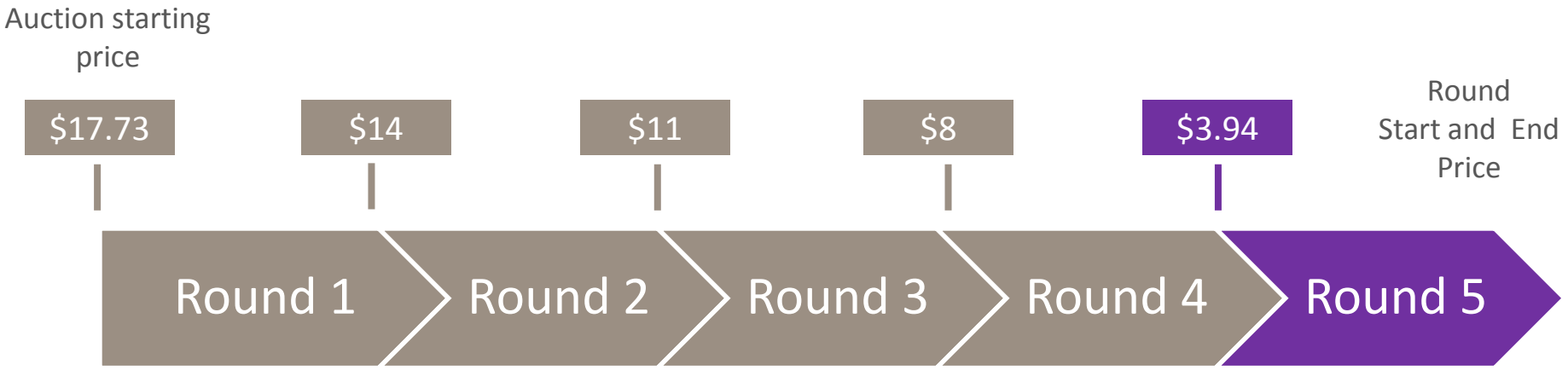


$7.97

Clearing price to be paid to New York Imports

Round-by-Round Results for FCA 9: Round 5

Prices in most of the region cleared below the estimated cost of new resources

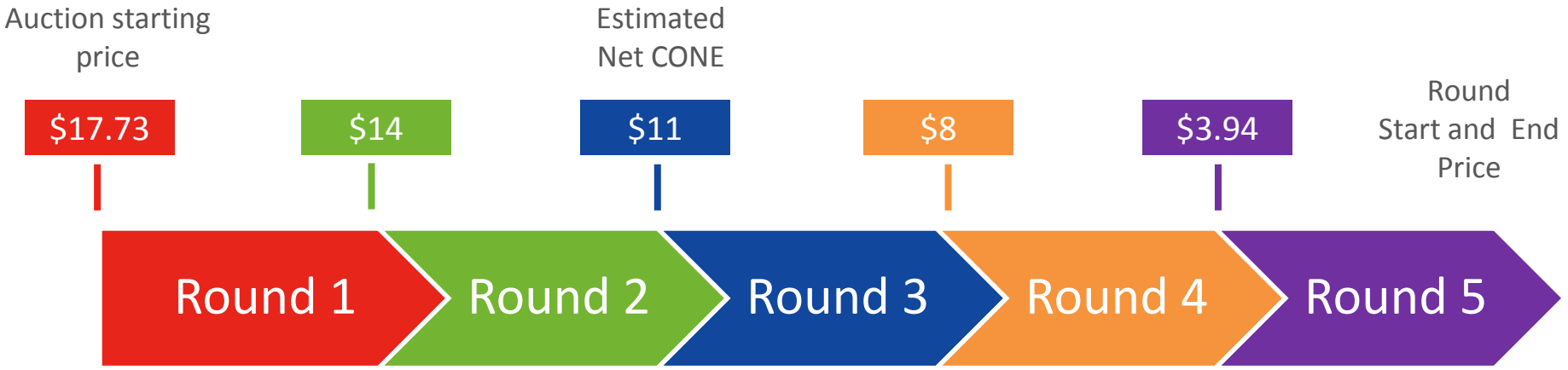


$3.94

Clearing price to be paid to New Brunswick Imports

Round-by-Round Results for FCA 9

Prices in most of the region cleared below the estimated cost of new resources



$17.73
Price to be paid to new resources in SEMA/RI as a result of inadequate supply, which triggered administrative price rule

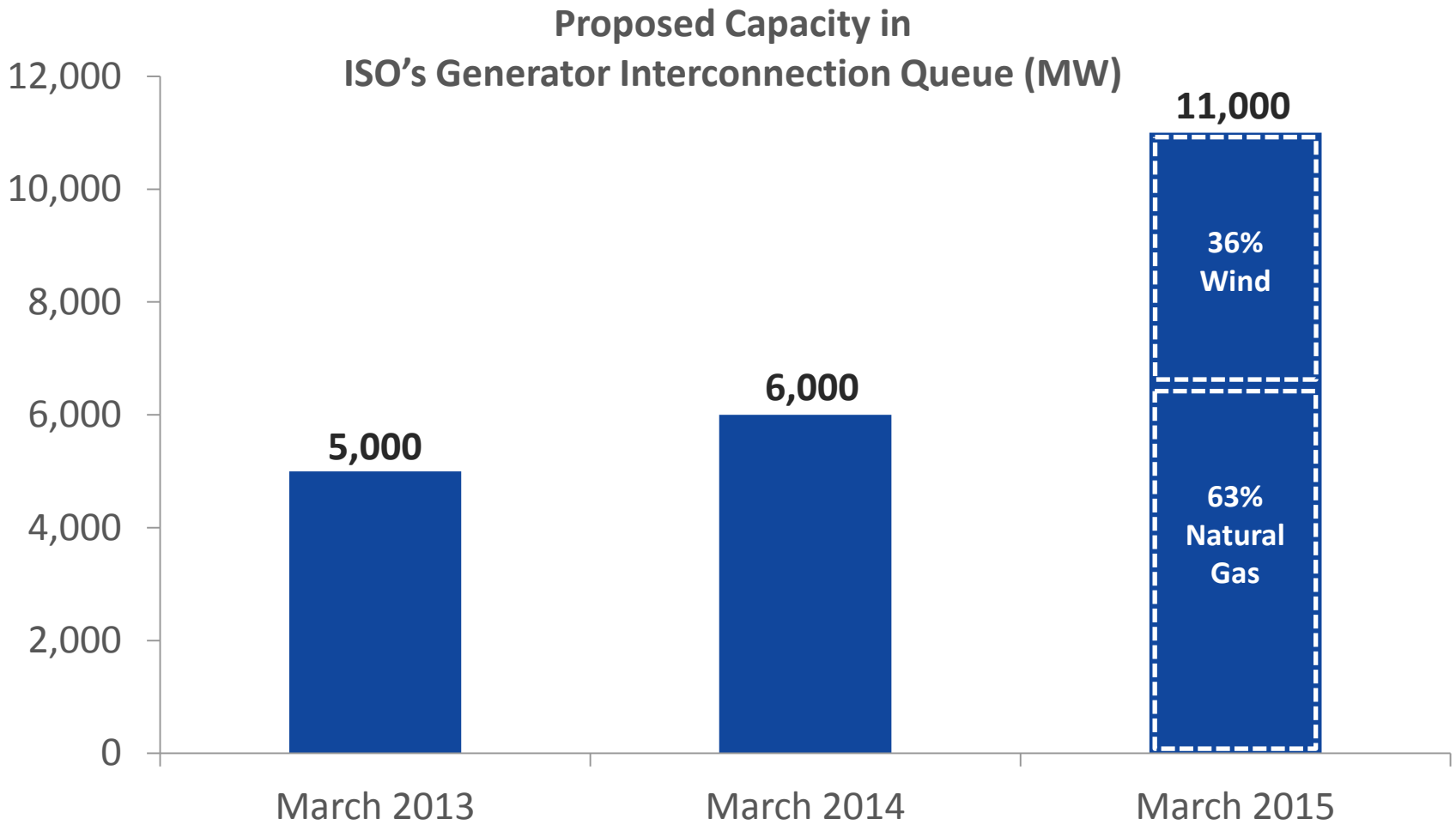
$11.08
Administrative price to be paid to existing resources in SEMA/RI; $11.08 is estimated net cost of new entry (CONE)

$9.55
Clearing price to be paid to new and existing resources in most of the region: CT NEMA/Boston ROP

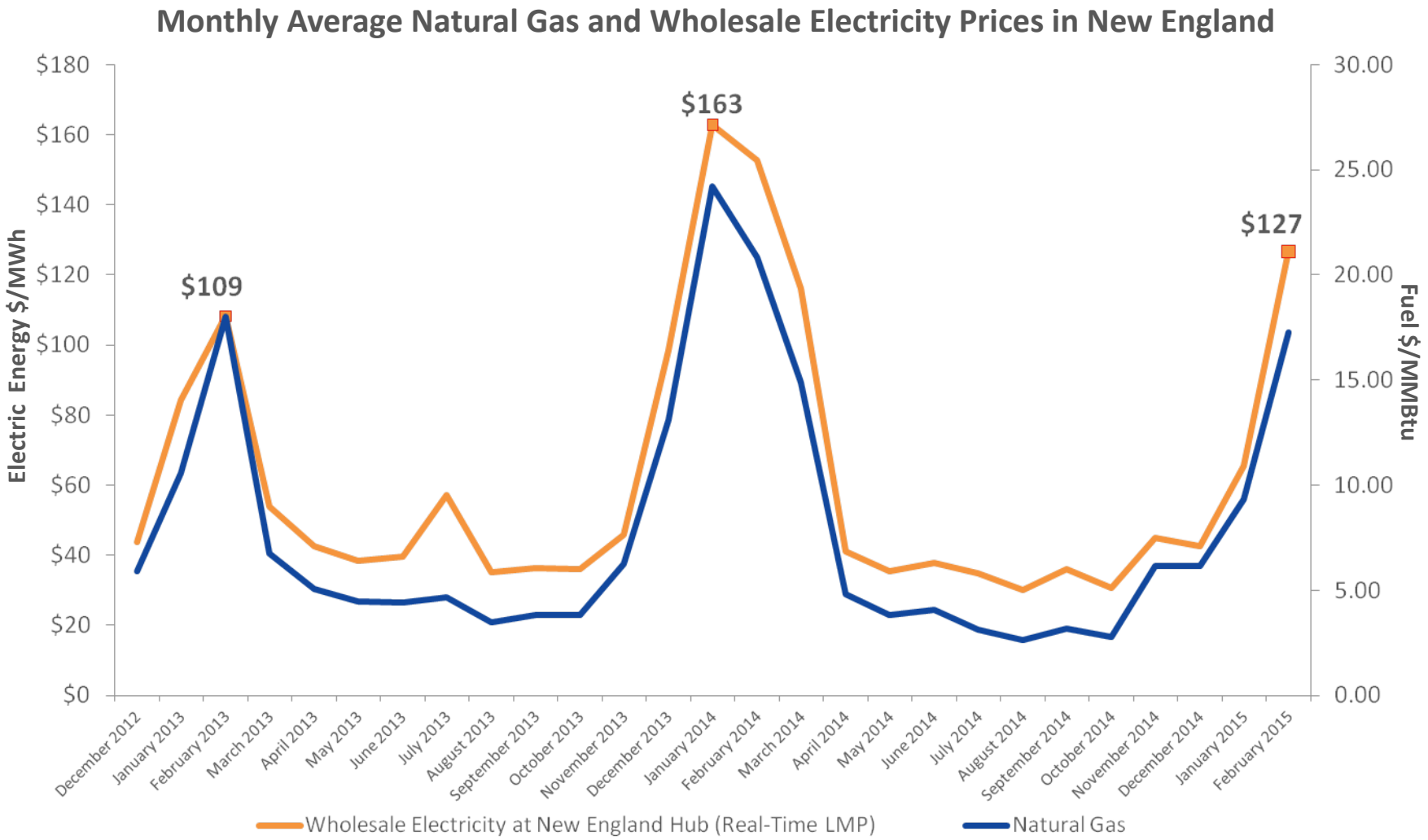
$7.97
Clearing price to be paid to New York Imports

$3.94
Clearing price to be paid to New Brunswick Imports

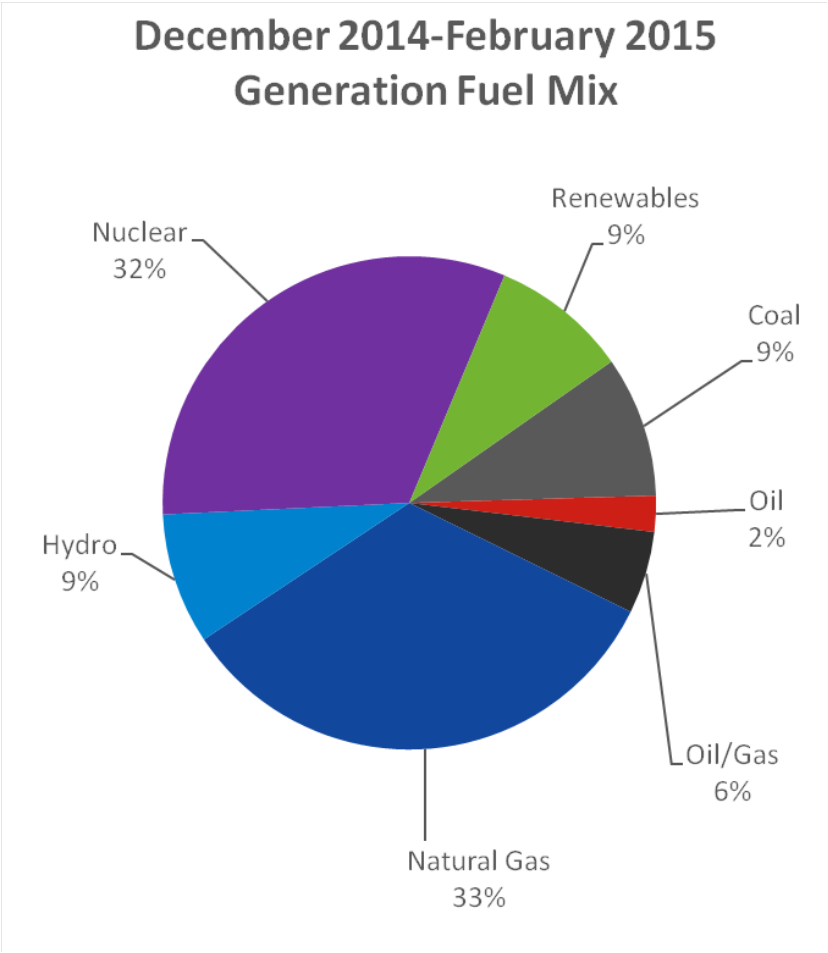
Generator Retirements and Higher Capacity Prices Have Attracted Proposals for New Supply Resources



Over the Past Few Winters the Region Has Experienced High Natural Gas and Wholesale Electricity Prices



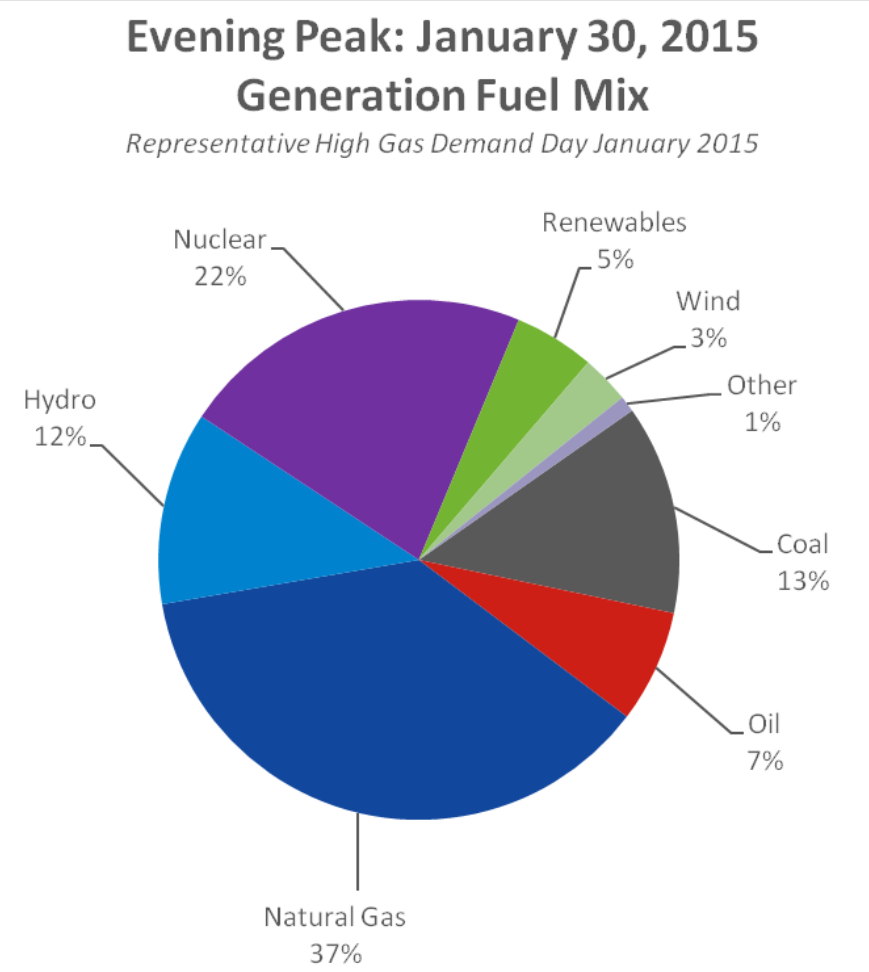
Wide Array of Fuels Utilized this Winter

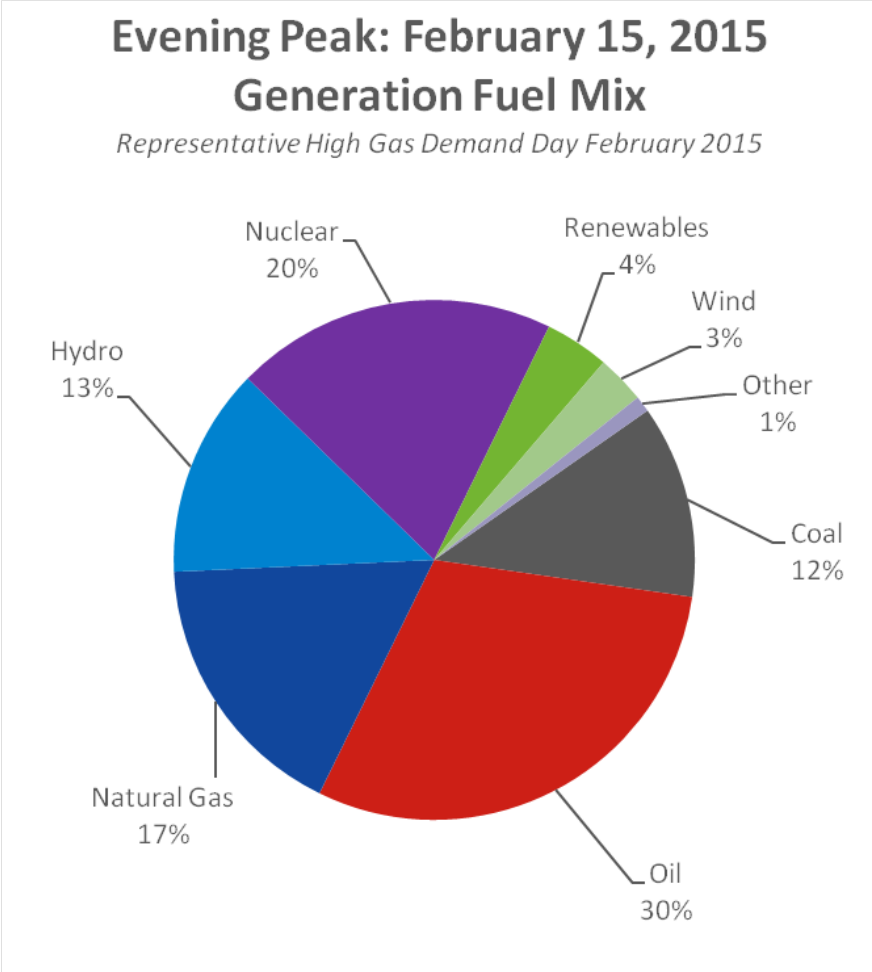


- Nuclear and natural gas dominant fuels used in power production this winter
- Oil and coal resources were heavily relied upon
  - At times this winter these resources represented about 45% of generation
- Region used 2.7 million barrels of oil as part of 2014/15 winter reliability program

Note: Hydro includes pump storage, natural gas includes LNG, and renewables include wind and others

Snapshots of Fuel Mix in New England for Winter Day in January and February 2015





Note: Hydro includes pump storage, and natural gas includes LNG

Conclusion

- Auction prices cleared lower in areas with adequate resources and higher in areas with resource shortages
- Auction attracted significant competition and several new generating resources (in import-constrained zones)
- In ROP, new generation committed to build for what objectively appear to be highly competitive prices
  - Less than the estimated cost of new entry
- New generation is a combination of dual-fuel and peaking generation, which addresses key strategic risks (dependence on natural gas and resource performance)
- Region is seeing robust interest in new generation
  - Issues outside of the market can impact a resource owner's decision to stay through the qualification period and participate in the FCM

Questions