New England (ISO-NE) Electric Regions

This map was created using Platts PowerMap.
Overview

Geography
States covered: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont

Reliability region: ISO New England (ISO-NE) sub-region of the Northeast Power Coordinating Council (NPCC)

Balancing authority: ISO New England (ISO-NE)

Load zones: Connecticut, Maine, New Hampshire, Rhode Island, Vermont, Northeastern Massachusetts/Boston (NEMA), Southeastern Massachusetts (SEMA) and Western/Central Massachusetts (WCMA).

Hub: Mass Hub

RTO/ISO
ISO New England (ISO-NE) (established 1997) operates the region's power grid and wholesale electric markets:

- Energy market: two-settlement (day ahead and real-time) spot market with locational marginal pricing (an internal hub, eight load zones and more than 500 nodes),
- Capacity market,
- Forward reserves market,
- Regulation market, and
- Financial transmission rights market.

ISO-NE 2009 State of the Markets Report
Market Monitor: David LaPlante – Internal Market Monitor
Generation/Supply

Marginal fuel type: natural gas

Generating capacity (summer 2007): 30,879 MW

Very little new generation has been brought on line recently in New England. The ISO states that it, “…has adequate installed capacity to meet regional capacity needs through 2009. The ISO is optimistic that adequate demand and supply resources will be purchased and installed in time to meet the projected capacity needs and the resource adequacy requirements for 2010 and beyond.”

Capacity reserve (summer 2007): 4,736 MW

Reserve margin (summer 2007): 18.1%

Demand

All time peak demand: 28,130 MW (set August 2, 2006)

In summer of 2006, demand reached record levels on several occasions due to extremely hot weather.

Peak demand growth: 7.1% (2007-2006) (weather-normalized peak increased by 1.9%)

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Peak Demand (MW)</td>
<td>24,116</td>
<td>26,885</td>
<td>28,130</td>
<td>26,143</td>
</tr>
</tbody>
</table>

Source: Derived from ISO-NE Data

Load pockets: Southwest Connecticut, Southeastern Massachusetts (SEMA), and Northeastern Massachusetts/Boston (NEMA).
Prices

Annual Average Price (RTO Day-Ahead Mass Hub)

2004: $53.74/MWh
2005: $78.63/MWh
2006: $60.88/MWh
2007: $67.97/MWh
## Annual Average Bilateral Prices

### Annual Average Day Ahead On Peak Prices ($/MWh)

<table>
<thead>
<tr>
<th>Location</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>5-Year Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Hub</td>
<td>$89.87</td>
<td>$69.85</td>
<td>$77.39</td>
<td>$91.55</td>
<td>$46.24</td>
<td>$74.97</td>
</tr>
<tr>
<td>Ny Zone G</td>
<td>$92.46</td>
<td>$75.95</td>
<td>$83.51</td>
<td>$100.99</td>
<td>$49.80</td>
<td>$80.53</td>
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<tr>
<td>NY Zone J</td>
<td>$110.03</td>
<td>$85.96</td>
<td>$94.15</td>
<td>$112.63</td>
<td>$55.77</td>
<td>$91.69</td>
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<tr>
<td>NY Zone A</td>
<td>$76.04</td>
<td>$58.70</td>
<td>$64.02</td>
<td>$68.34</td>
<td>$35.54</td>
<td>$60.51</td>
</tr>
<tr>
<td>PJM West</td>
<td>$76.64</td>
<td>$61.90</td>
<td>$71.15</td>
<td>$83.70</td>
<td>$44.60</td>
<td>$67.59</td>
</tr>
</tbody>
</table>

Source: Derived from Platts data.

Updated January 8, 2010
Daily Average of ISO-NE Day-Ahead Prices - All Hours

Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg.

Updated November 5, 2010
Daily Average of ISO-NE Day-Ahead Prices - All Hours

Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg.
Eastern Daily Bilateral Day-Ahead On-Peak Prices

Source: Derived from Platts data.

Updated November 5, 2010
Eastern Daily Bilateral Day-Ahead On-Peak Prices

Source: Derived from Platts data.

Updated November 5, 2010
Implied Heat Rates at Eastern Trading Points
Weekly Averages

Source: Derived from Platts on-peak electric and natural gas price data.

Updated November 5, 2011
Weekly Electric Generation Output and Temperatures
New England

Source: Derived from EEI and NOAA data.
November 2010
New England Electric Forward Price Curve and Implied Heat Rate

Source: Derived from Nymex data.

Updated November 5, 2010
New England Forward and Swap Volumes

Source: Derived from ICE and Nymex ClearPort data. ICE on-peak forward (physical) and swap (financial) volumes are for the Nepool Mass Hub and include monthly, dual monthly, quarterly, and calendar year contracts traded for each month. Nymex ClearPort on-peak swaps (financial) volume are for the ISO-NE Internal Hub traded by month.

Updated November 5, 2010
PJM, NYISO and ISO-NE Capacity Prices

Note: PJM values are for Base Residual Auctions only.
ISO-NE results for 2010/2011 and 2011/2012 are based on preliminary FCM auction before pro-rationing and EAS adjustment.
Source: Derived from PJM, NYISO and ISO-NE data

Updated October 7, 2009

November 2010