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-NE

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

RTO/ISO

ISO-NE (established 1999) 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),
- Interim mechanism for acquiring installed capacity,
- Forward reserves market,
- Regulation market, and
- Financial transmission rights market.

ISO-NE 2006 State of the Markets Report
Market Monitor: Hung-Po Chao – Internal Market Monitor
Generation/Supply

Marginal fuel type: natural gas

Generating capacity (summer 2006): 30,895 MW

Very little new generation has been brought on line recently in New England. The ISO states that if this trend continues the region could begin to experience reliability issues as early as 2007-2008.

Capacity reserve (summer 2006): 2,768 MW (declining)

Reserve margin (summer 2006): 10% (declining)

Demand

All time peak demand: 28,127 MW (set August 2, 2006)

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

Peak demand growth: 4.6% (2005-2006)

<table>
<thead>
<tr>
<th>Summer Peak Demand (MW)</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24,116</td>
<td>26,885</td>
<td>28,127</td>
</tr>
</tbody>
</table>

Source: Derived from ISO-NE Data

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

**Annual Average Price (RTO Day-Ahead Mass Hub)**

- **2004:** $53.72/MWh
- **2005:** $78.54/MWh
- **2006:** $60.94/MWh

Prices increased in 2005 as a result of disturbances to the natural gas market. Prices declined in 2006 as natural gas storage levels remained above historical ranges throughout the injection season (April through October).
## Supply and Demand Statistics for ISO-NE

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer Generating Capacity MW (1)</strong></td>
<td>31,143</td>
<td>31,083</td>
<td>30,895</td>
</tr>
<tr>
<td><strong>Summer Peak Demand MW</strong></td>
<td>24,116</td>
<td>26,885</td>
<td>28,127</td>
</tr>
<tr>
<td><strong>Summer Reserves MW</strong></td>
<td>7,027</td>
<td>4,198</td>
<td>2,768</td>
</tr>
<tr>
<td><strong>Summer Reserve Margin:</strong></td>
<td>29%</td>
<td>16%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Annual Load (GWh):</strong></td>
<td>132,522</td>
<td>136,376</td>
<td>132,078</td>
</tr>
<tr>
<td><strong>Annual Net Generation GWh</strong></td>
<td>128,145</td>
<td>131,877</td>
<td>128,046</td>
</tr>
</tbody>
</table>

(1) "Generating Capacity" is generator capacity + net firm purchases & sales

Source: Derived from FERC staff discussions with ISO-NE.
## Annual Average Bilateral Prices

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Hub</td>
<td>$89.87</td>
<td>$69.85</td>
<td>$77.39</td>
<td>$71.39</td>
</tr>
<tr>
<td>Ny Zone G</td>
<td>$92.46</td>
<td>$75.95</td>
<td>$83.51</td>
<td>$75.05</td>
</tr>
<tr>
<td>NY Zone J</td>
<td>$110.03</td>
<td>$85.96</td>
<td>$94.15</td>
<td>$88.91</td>
</tr>
<tr>
<td>NY Zone A</td>
<td>$76.04</td>
<td>$58.70</td>
<td>$64.02</td>
<td>$60.50</td>
</tr>
<tr>
<td>PJM West</td>
<td>$76.64</td>
<td>$61.90</td>
<td>$71.15</td>
<td>$61.83</td>
</tr>
</tbody>
</table>

Source: Derived from *Platts* data.
Daily Average of ISO-NE Day-Ahead Prices - All Hours

Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg. Updated July 9, 2008
Daily Average of ISO-NE Day-Ahead Prices - All Hours

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

Updated July 9, 2008
New England Electric Market: Eastern Bilateral Prices

Eastern Daily Bilateral Day-Ahead On-Peak Prices

Source: Derived from Platts data.

Price ($/MWh)

Jan-07 Feb-07 Mar-07 Apr-07 May-07 Jun-07 Jul-07 Aug-07 Sep-07 Oct-07 Nov-07 Dec-07 Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08

Monthly Average

Updated July 9, 2008
Implied Heat Rates at Eastern Trading Points

Source: Derived from Platts data

Updated July 9, 2008
Weekly Electric Generation Output and Temperatures
New England

Source: Derived from EEI and NOAA data.

Updated July 9, 2008
New England Electric Forward Price Curve and New York and Henry Hub Natural Gas Forward Curves

Price ($/MWh)

Price ($/MMBtu)

Source: Derived from Nymex data.

Updated July 9, 2008

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 July 9, 2008
PJM, NYISO and ISO-NE Capacity Prices

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