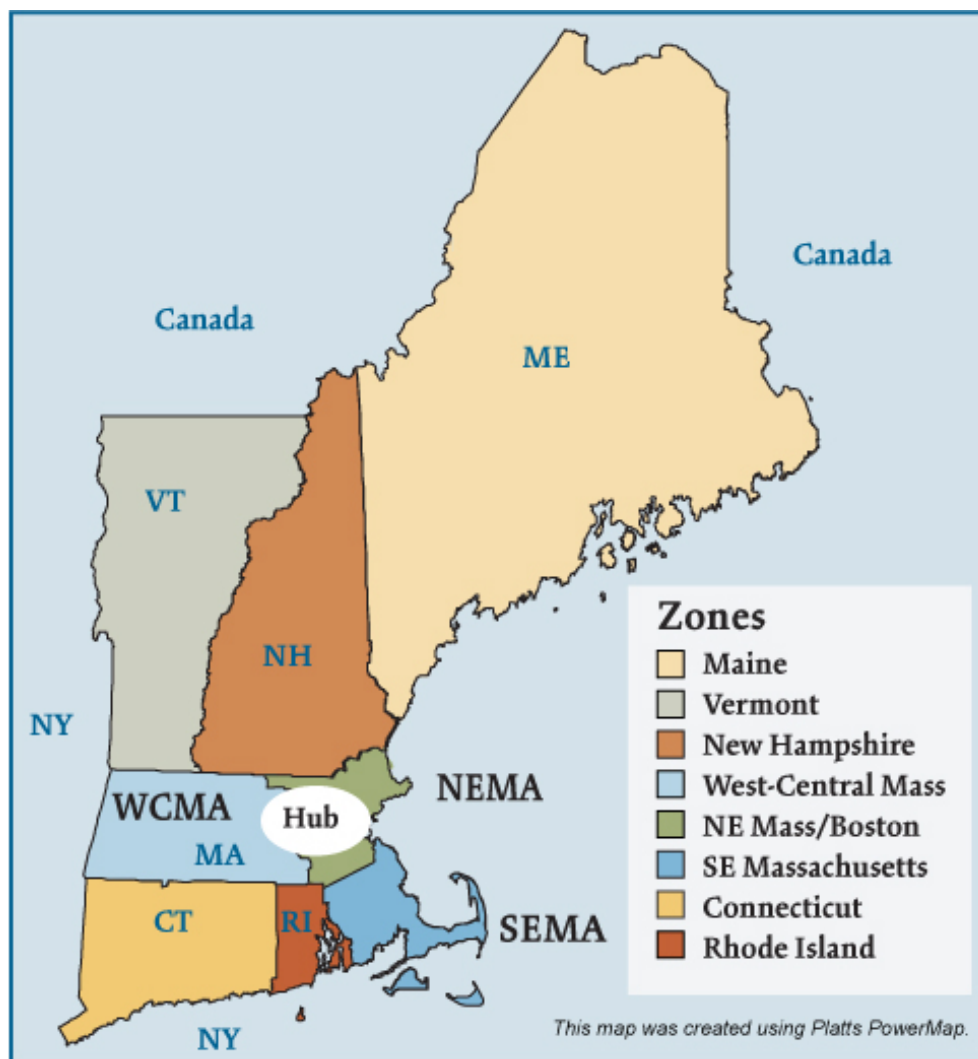


## New England (ISO-NE) Electric Regions



## New England Electric Market: Overview and Focal Points

### Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

#### 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 2007 State of the Markets Report](#)

Market Monitor: David LaPlante – Internal Market Monitor

## New England Electric Market: Overview and Focal Points

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#### 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%)

|   | 2004   | 2005   | 2006   | 2007   |
|---|--------|--------|--------|--------|
| Summer Peak Demand (MW)                 | 24,116 | 26,885 | 28,130 | 26,143 |
| <i>Source: Derived from ISO-NE Data</i> |        |        |        |        |

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

## Supply and Demand Statistics for ISO-NE

| Supply Demand Statistics          |         |         |         |         |          |
|-----------------------------------|---------|---------|---------|---------|----------|
|                                   | 2004    | 2005    | 2006    | 2007    | 2008 (2) |
| Summer Generating Capacity MW (1) | 31,143  | 31,083  | 30,895  | 30,879  | 31,024   |
| Summer Peak Demand MW             | 24,116  | 26,885  | 28,127  | 26,145  | 27,970   |
| Summer Reserves MW                | 7,027   | 4,198   | 2,768   | 5,458   | 3,112    |
| Summer Reserve Margin             | 29%     | 16%     | 10%     | 20%     | 11%      |
| Annual Load (GWh)                 | 132,522 | 136,376 | 132,078 | 133,720 | N/A      |
| Annual Net Generation GWh         | 128,145 | 131,877 | 128,046 | 134,424 | 135,000  |

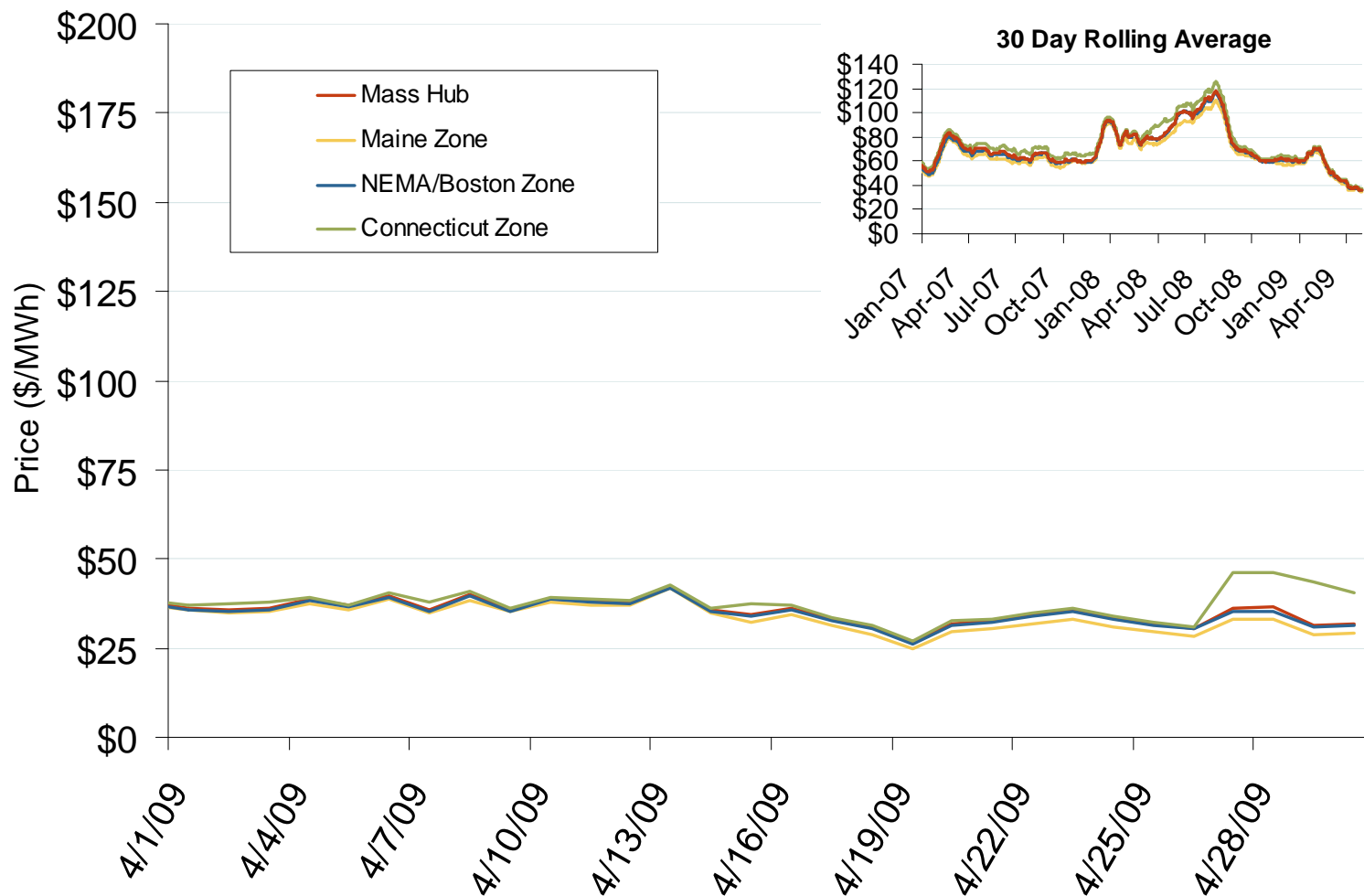
(1) - "Generating Capacity" is generator capacity + firm purchases & sales

(2) - 2008 data are estimates

## Annual Average Bilateral Prices

| Annual Average Day Ahead On Peak Prices (\$/MWh) |         |          |         |         |          |            |
|--|---------|----------|---------|---------|----------|------------|
|  | 2004    | 2005     | 2006    | 2007    | 2008     | 5-Year Avg |
| Mass Hub   | \$61.47 | \$89.87  | \$69.85 | \$77.39 | \$91.55  | \$78.01    |
| Ny Zone G  | \$61.74 | \$92.46  | \$75.95 | \$83.51 | \$100.99 | \$82.91    |
| NY Zone J  | \$76.67 | \$110.03 | \$85.96 | \$94.15 | \$112.63 | \$95.87    |
| NY Zone A  | \$52.49 | \$76.04  | \$58.70 | \$64.02 | \$68.34  | \$63.91    |
| PJM West   | \$51.10 | \$76.64  | \$61.90 | \$71.15 | \$83.70  | \$68.88    |

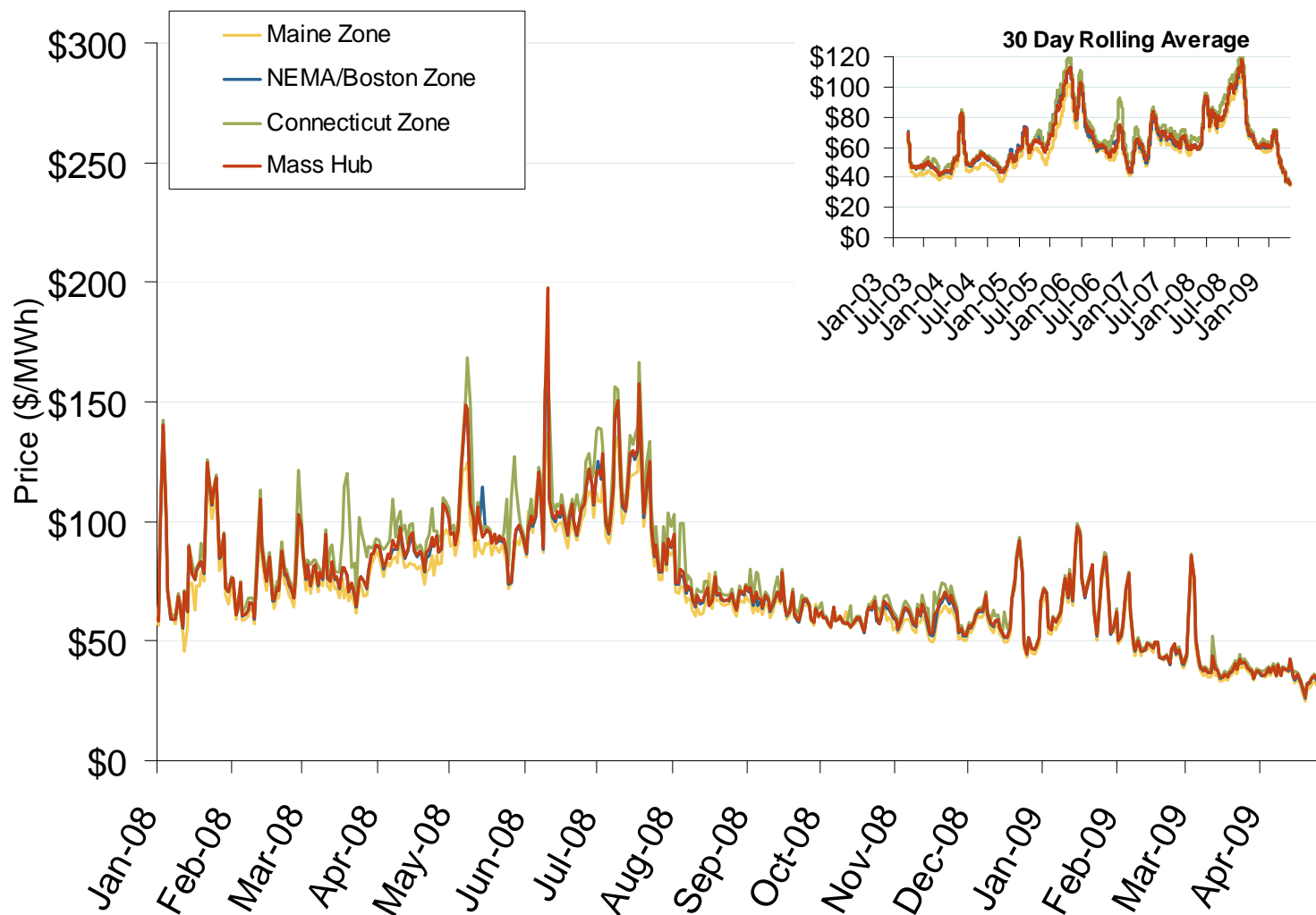
# Daily Average of ISO-NE Day-Ahead Prices - All Hours



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

Updated May 7, 2009

# Daily Average of ISO-NE Day-Ahead Prices - All Hours

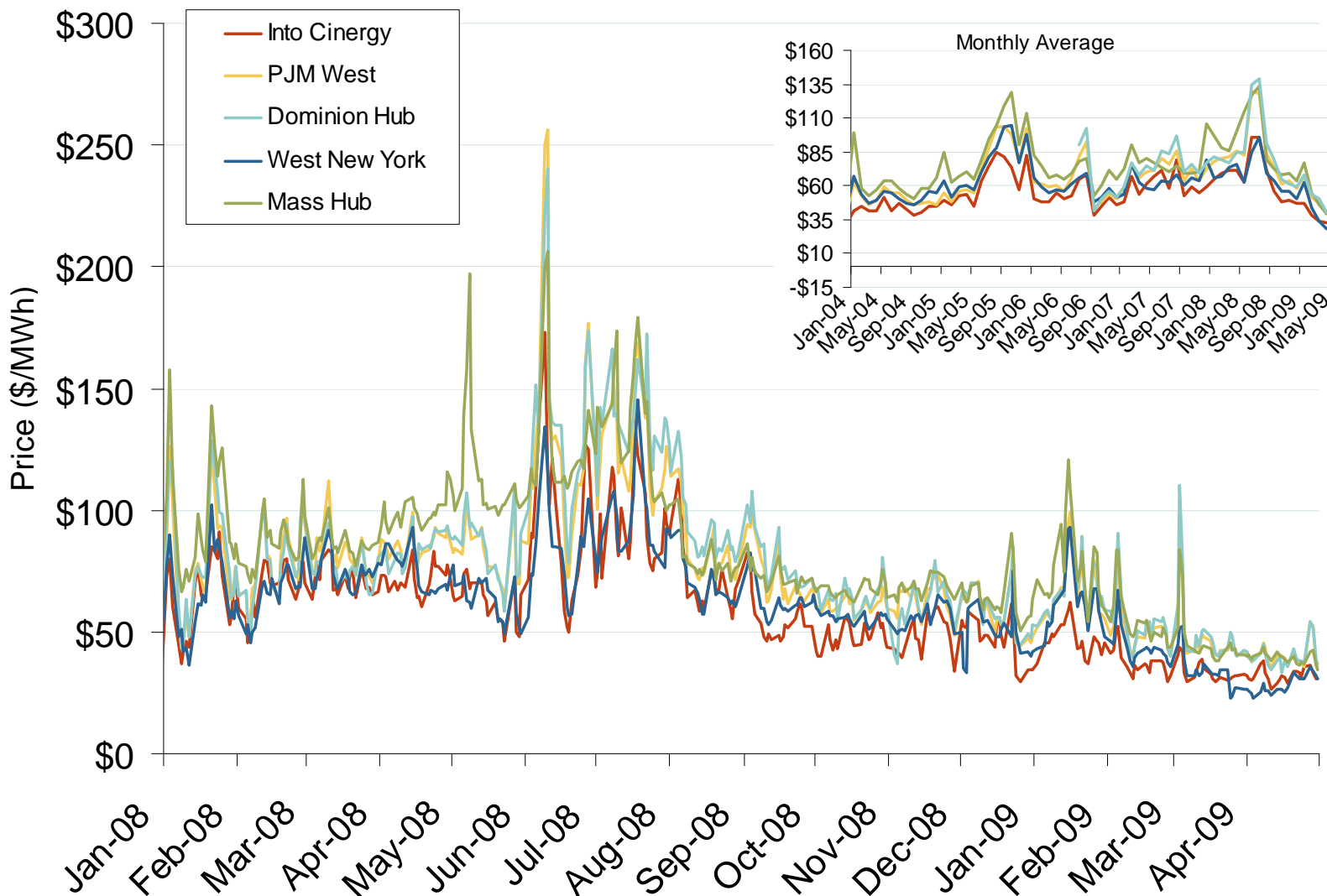


Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg.

Updated May 7, 2009



## Eastern Daily Bilateral Day-Ahead On-Peak Prices

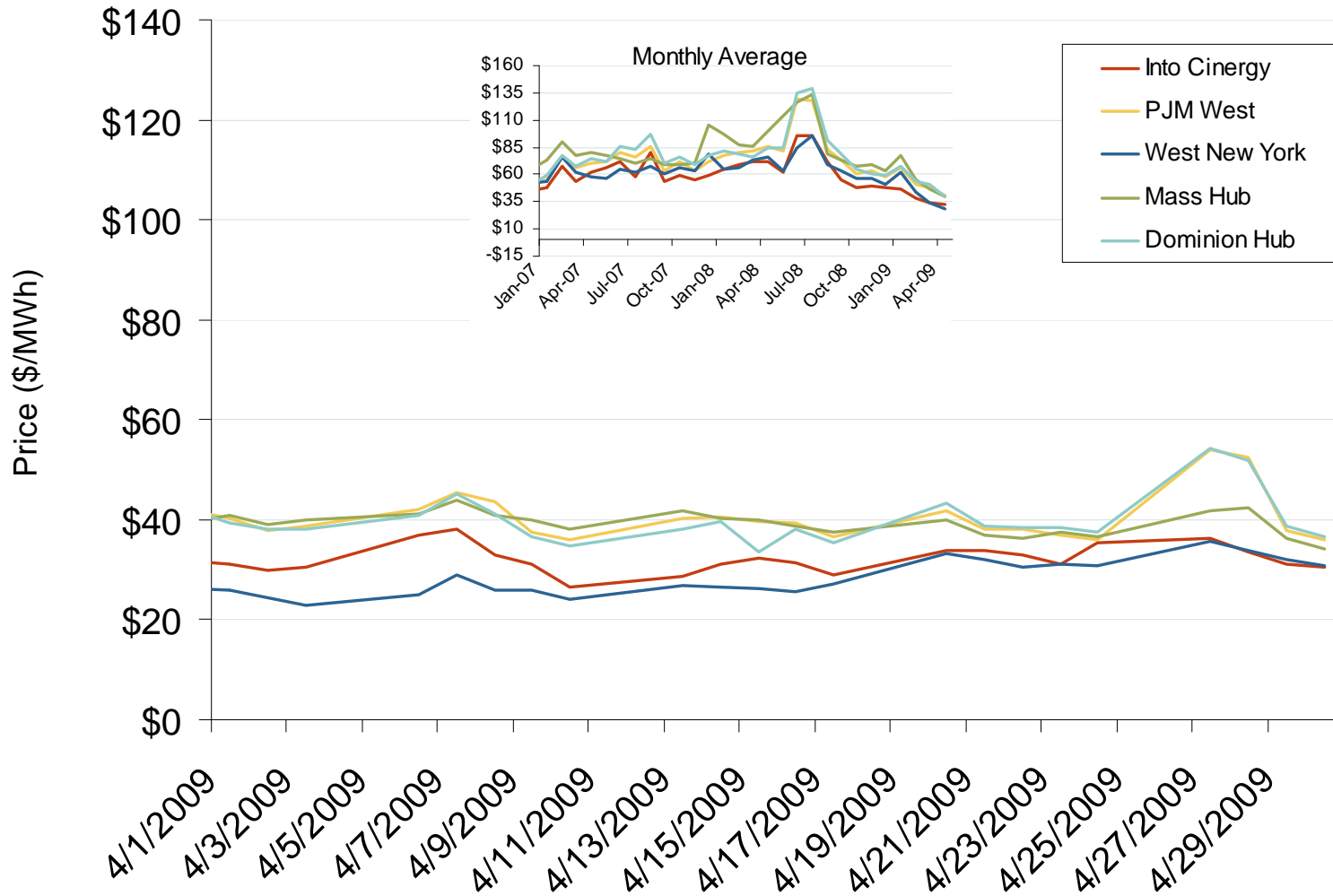


Source: Derived from *Platts* data.

Updated May 7, 2009

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# Eastern Daily Bilateral Day-Ahead On-Peak Prices

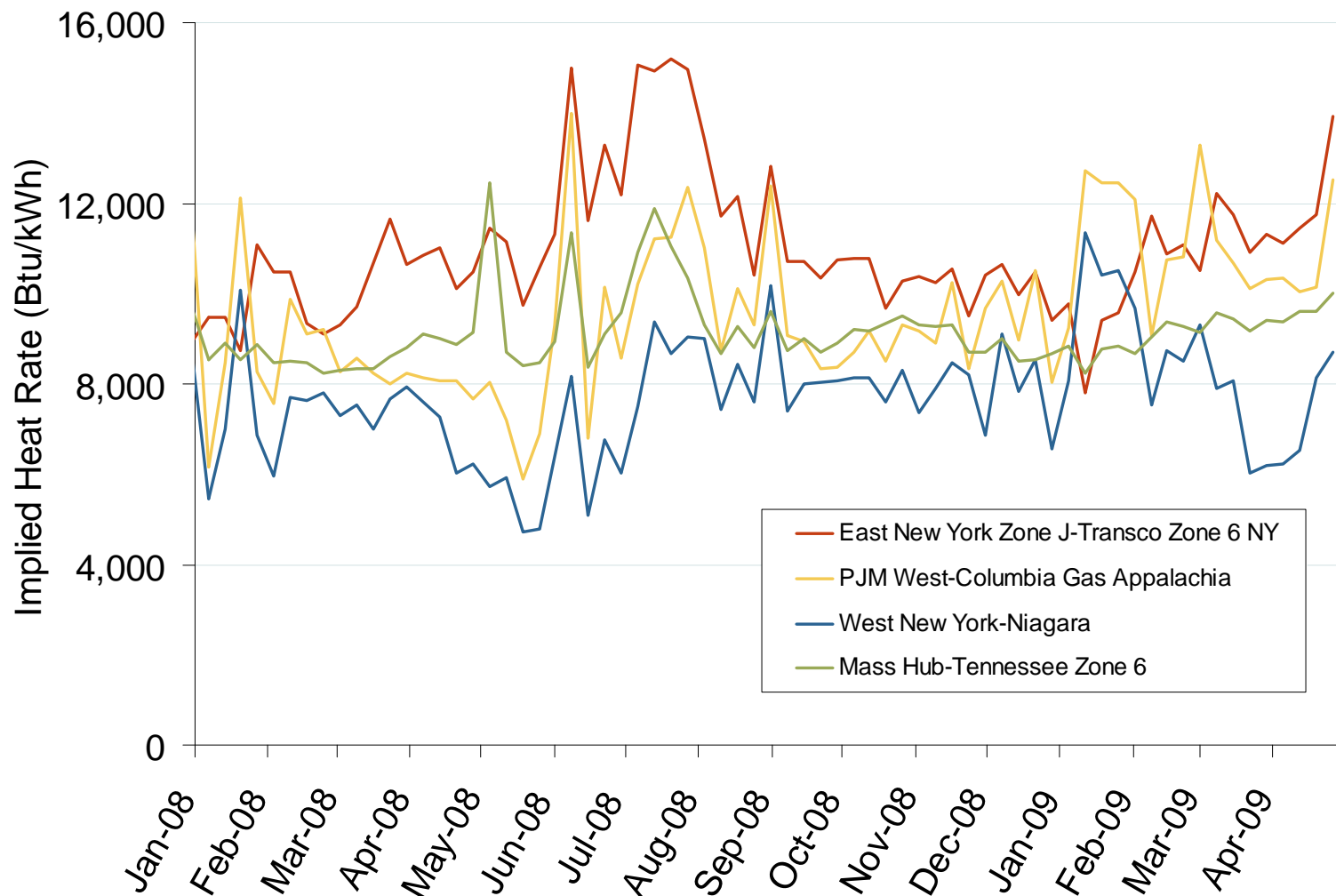


Source: Derived from *Platts* data.

Updated May 7, 2009

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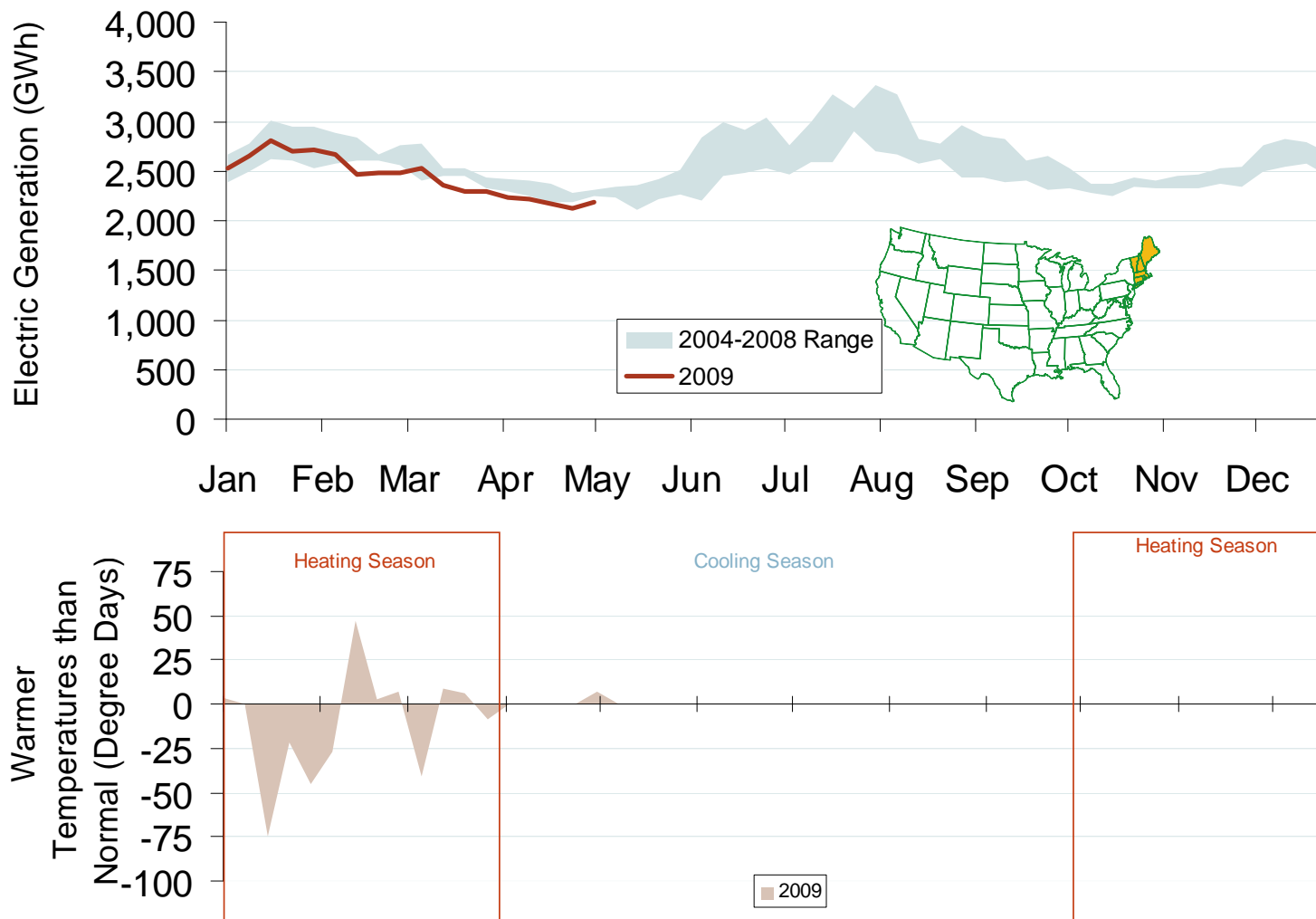
## Implied Heat Rates at Eastern Trading Points Weekly Averages

Source: Derived from *Platts* data

Updated May 7, 2009

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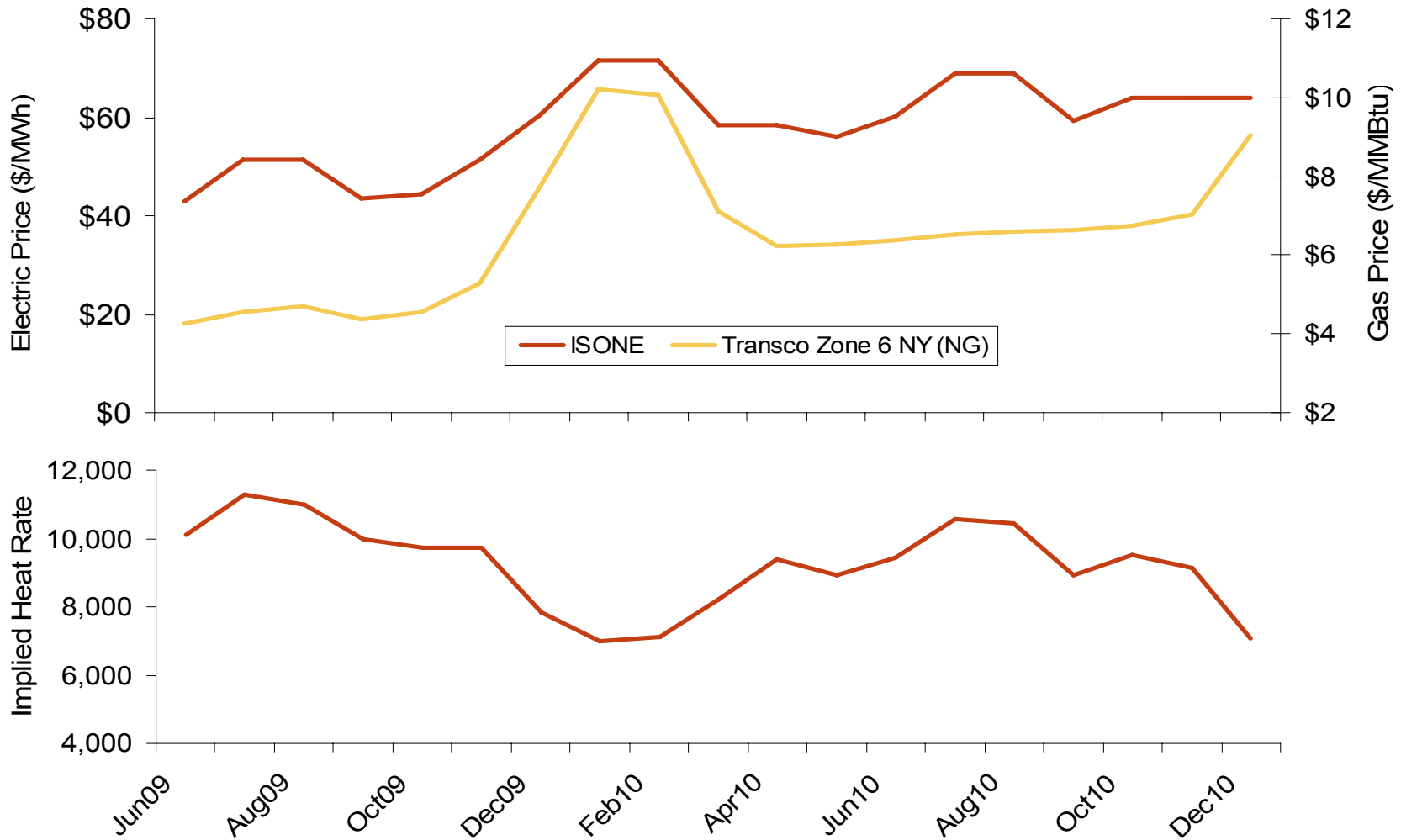
# Weekly Electric Generation Output and Temperatures New England



Source: Derived from *EEl* and NOAA data.

Updated May 7, 2009

## New England Electric Forward Price Curve and Implied Heat Rate



Source: Derived from Nymex data.

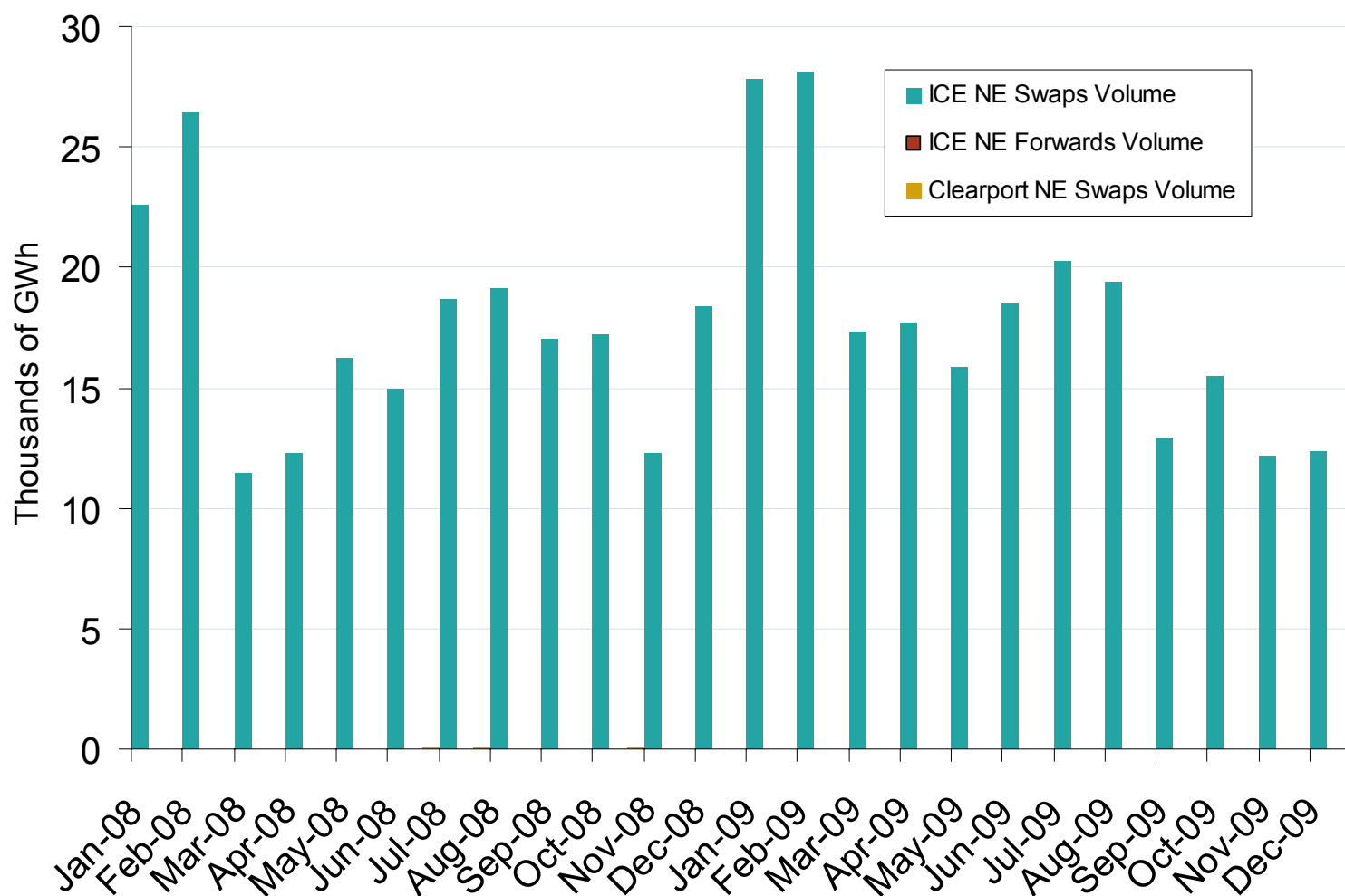
Updated May 7, 2009

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## New England Electric Market: Physical &amp; Financial Market Volumes

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

## New England Forward and Swap Volumes

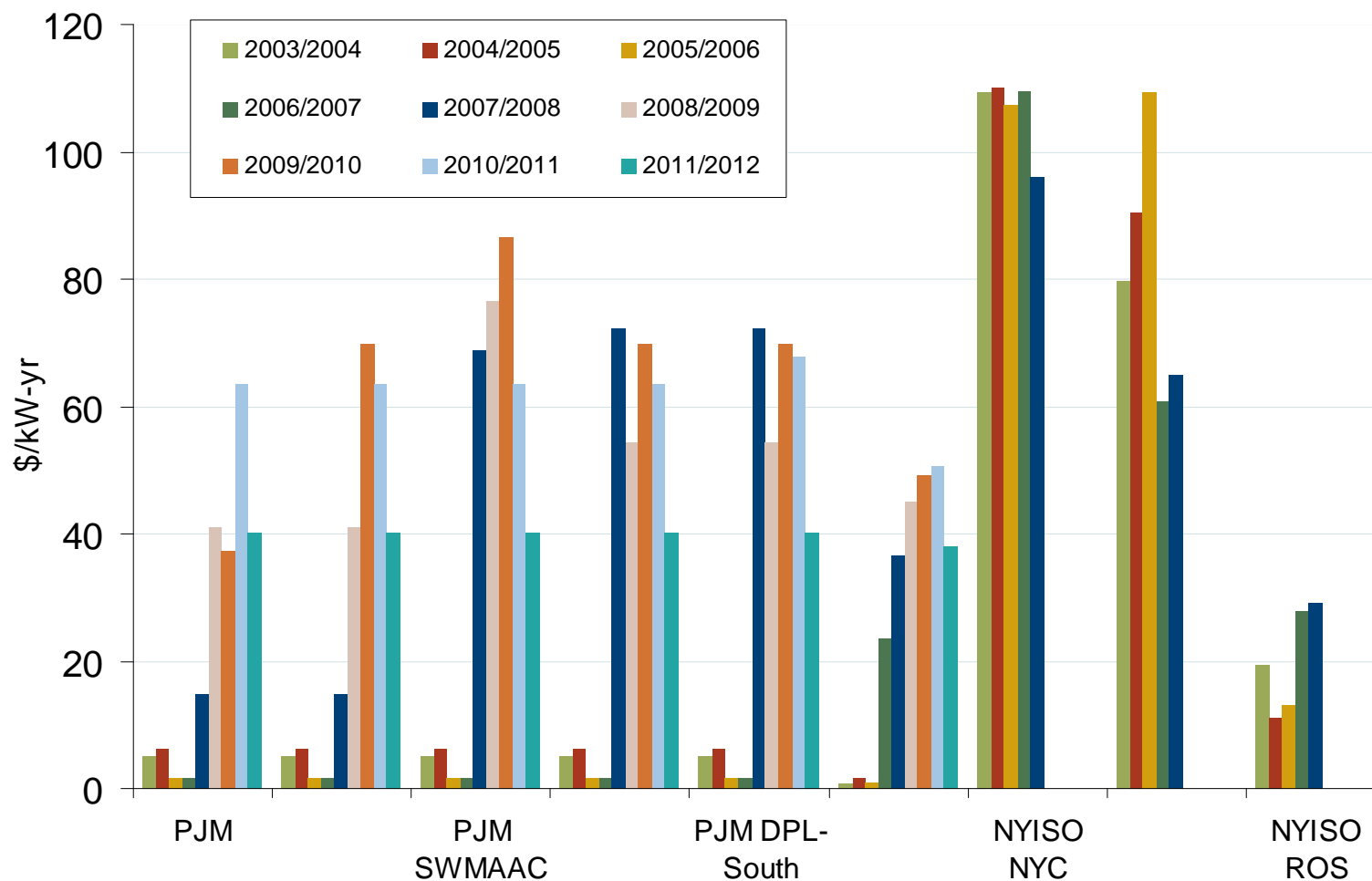


Source: Derived from *ICE* and *Nymex ClearPort* data. ICE on-peak forward (physical) and swap (financial) volumes are for the NeePool Mass Hub and include monthly, dual monthly, quarterly, and calendar year contracts traded for each month. Nymex ClearPort on-peak swaps (financial) volume are for the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

Updated May 7, 2009

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## 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 February 6, 2009

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