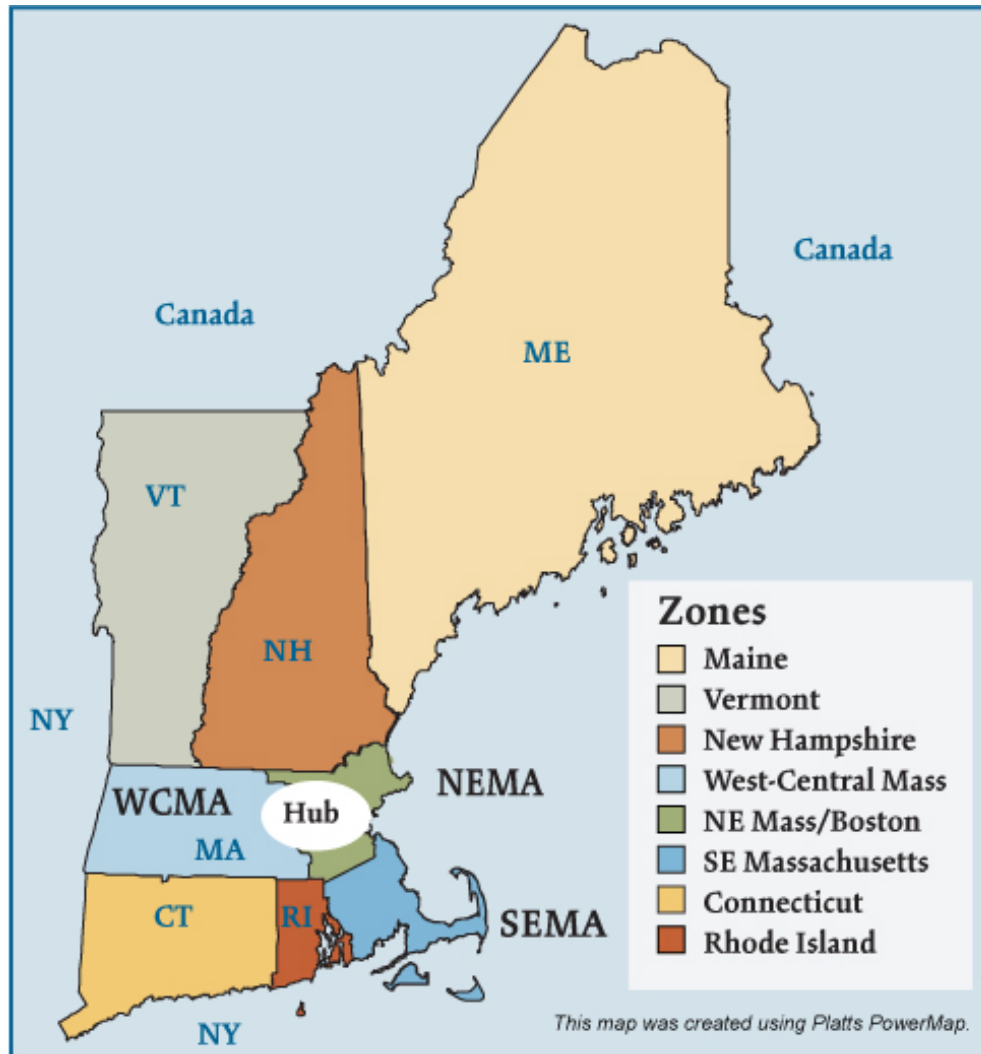


## New England (ISO-NE) Electric Regions



## 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

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

**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)

	2004	2005	2006
<b>Summer Peak Demand (MW)</b>	<b>24,116</b>	<b>26,885</b>	<b>28,127</b>

*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

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

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

Source: Derived from FERC staff discussions with ISO-NE.

Updated June 29, 2007

1019

## Annual Average Bilateral Prices

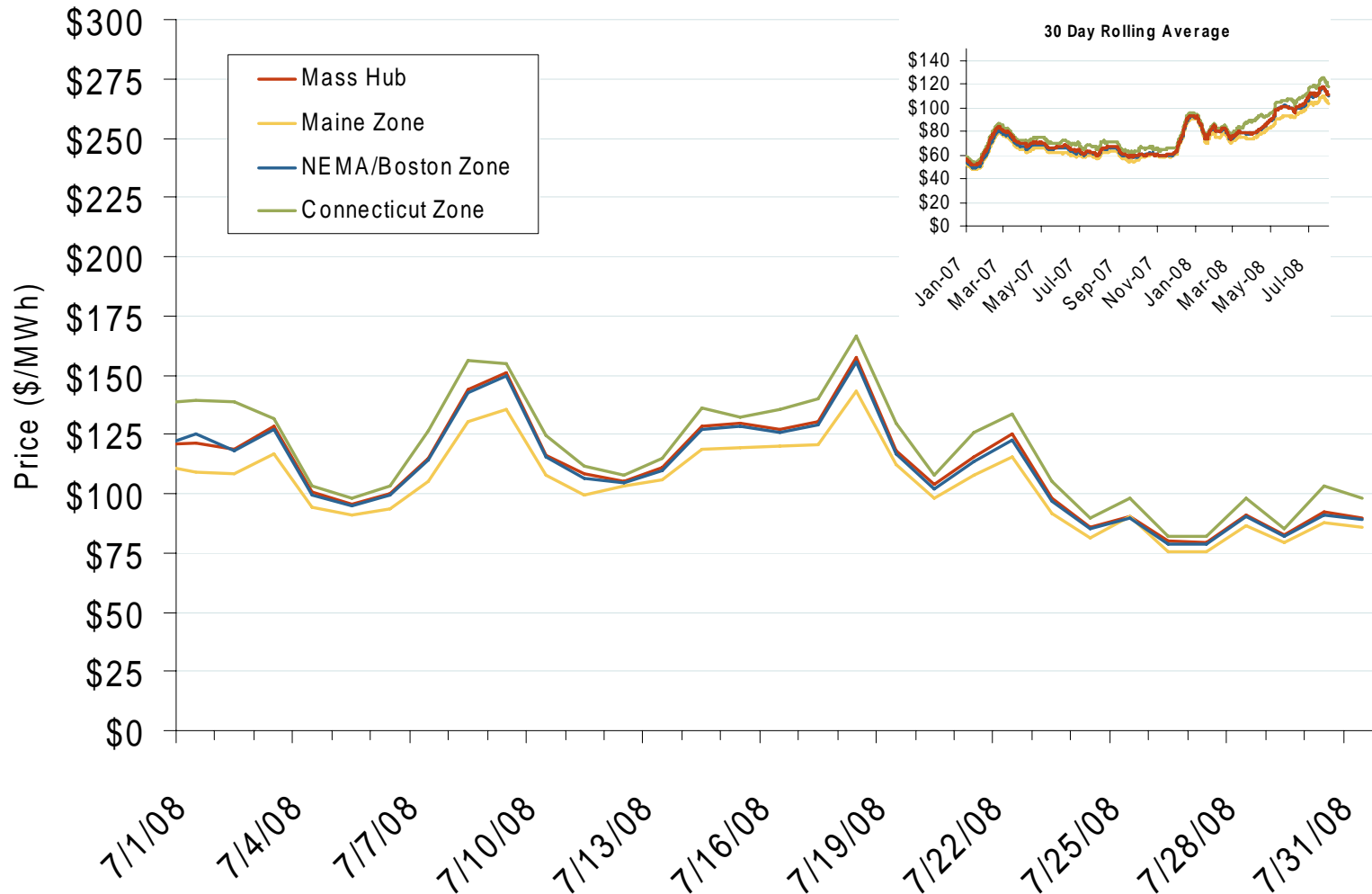
<b>Annual Average Day Ahead On Peak Prices (\$/MWh)</b>				
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>5 Years</b>
Mass Hub	\$89.87	\$69.85	\$77.39	\$71.39
Ny Zone G	\$92.46	\$75.95	\$83.51	\$75.05
NY Zone J	\$110.03	\$85.96	\$94.15	\$88.91
NY Zone A	\$76.04	\$58.70	\$64.02	\$60.50
PJM West	\$76.64	\$61.90	\$71.15	\$61.83

Source: Derived from *Platts* data.

Updated March 7, 2008

1020

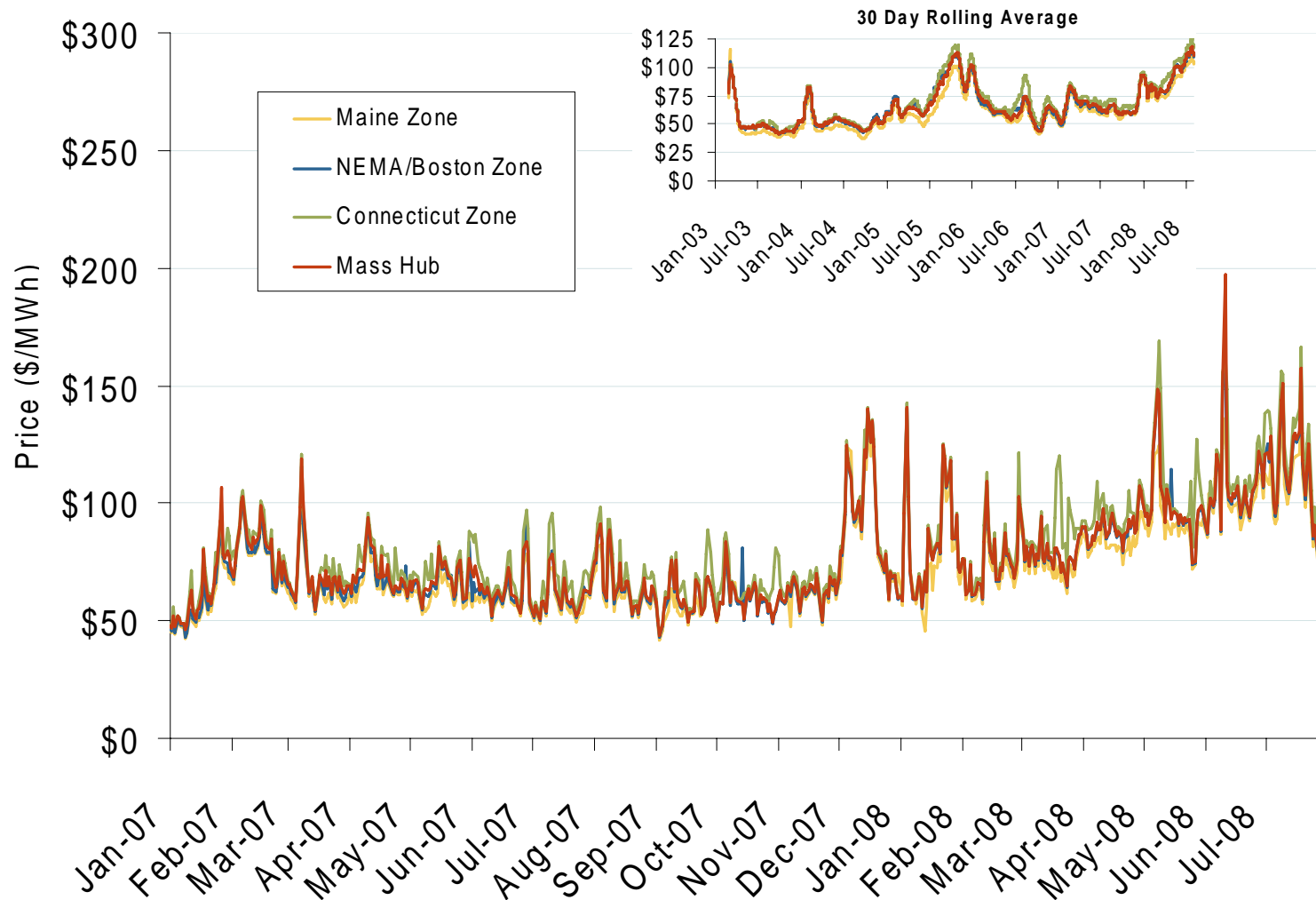
# Daily Average of ISO-NE Day-Ahead Prices - All Hours



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

Updated August 14, 2008

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

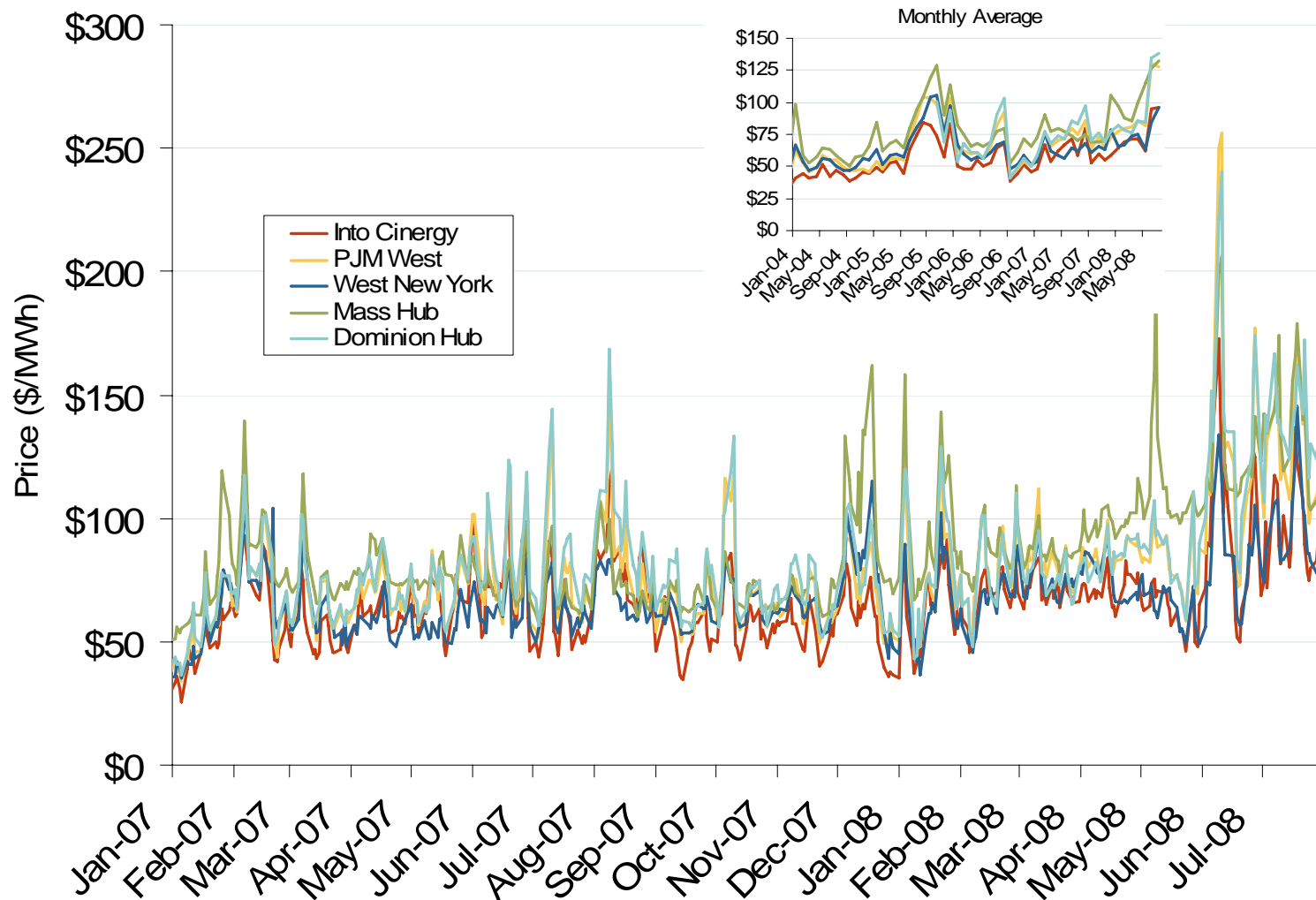


Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg.

Updated August 14, 2008 1021



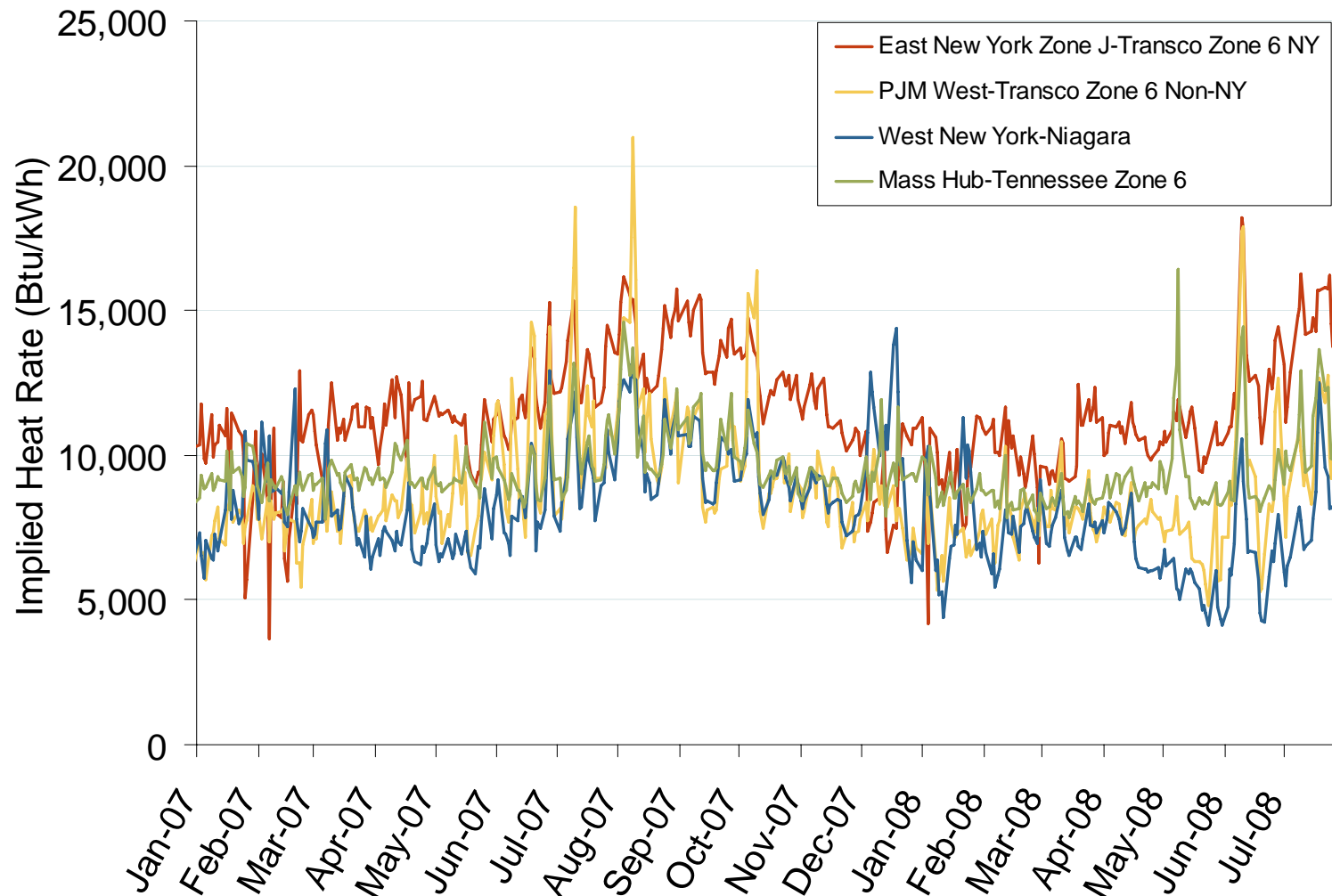
## Eastern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated August 14, 2008 1022

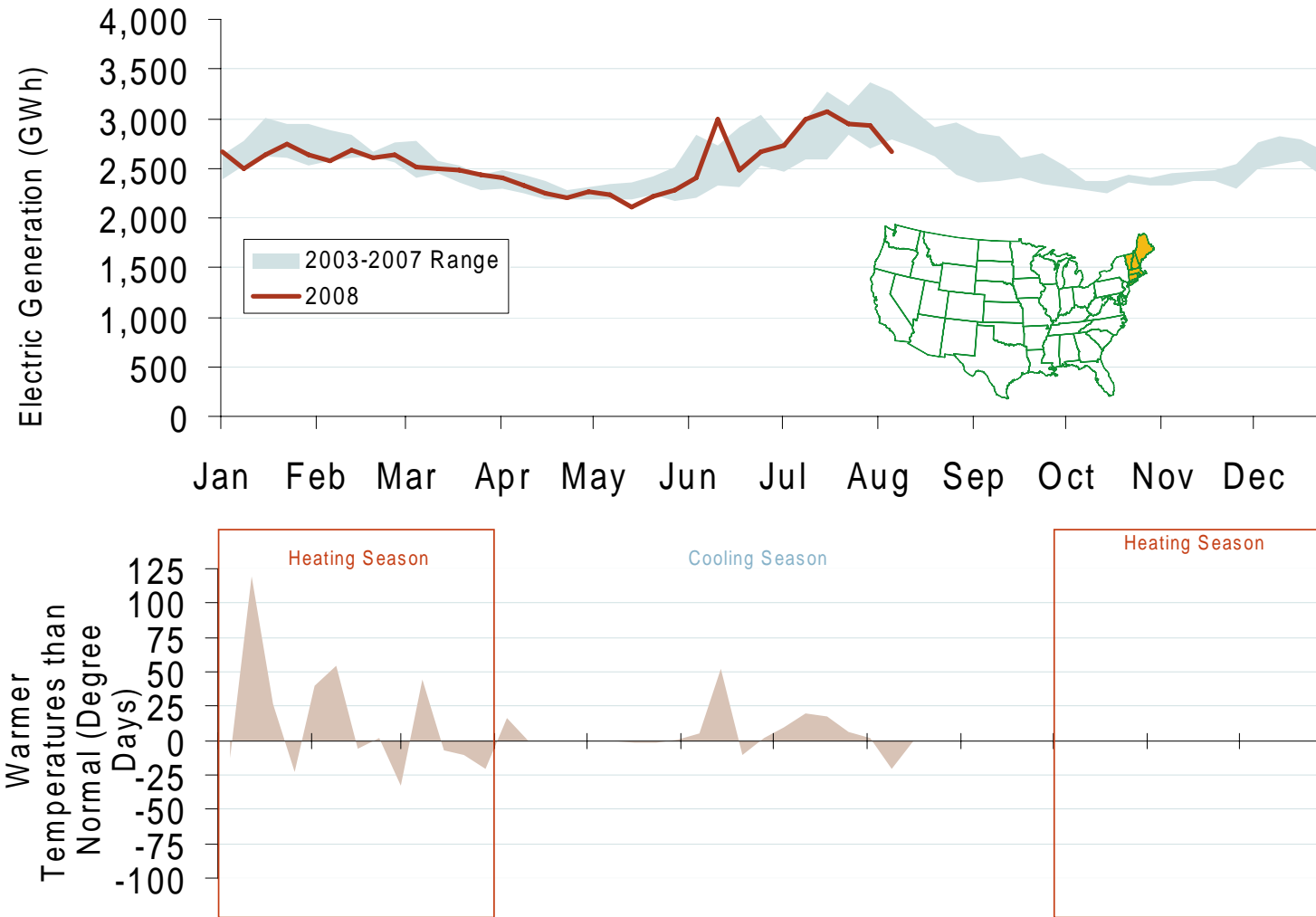
## Implied Heat Rates at Eastern Trading Points



Source: Derived from *Platts* data

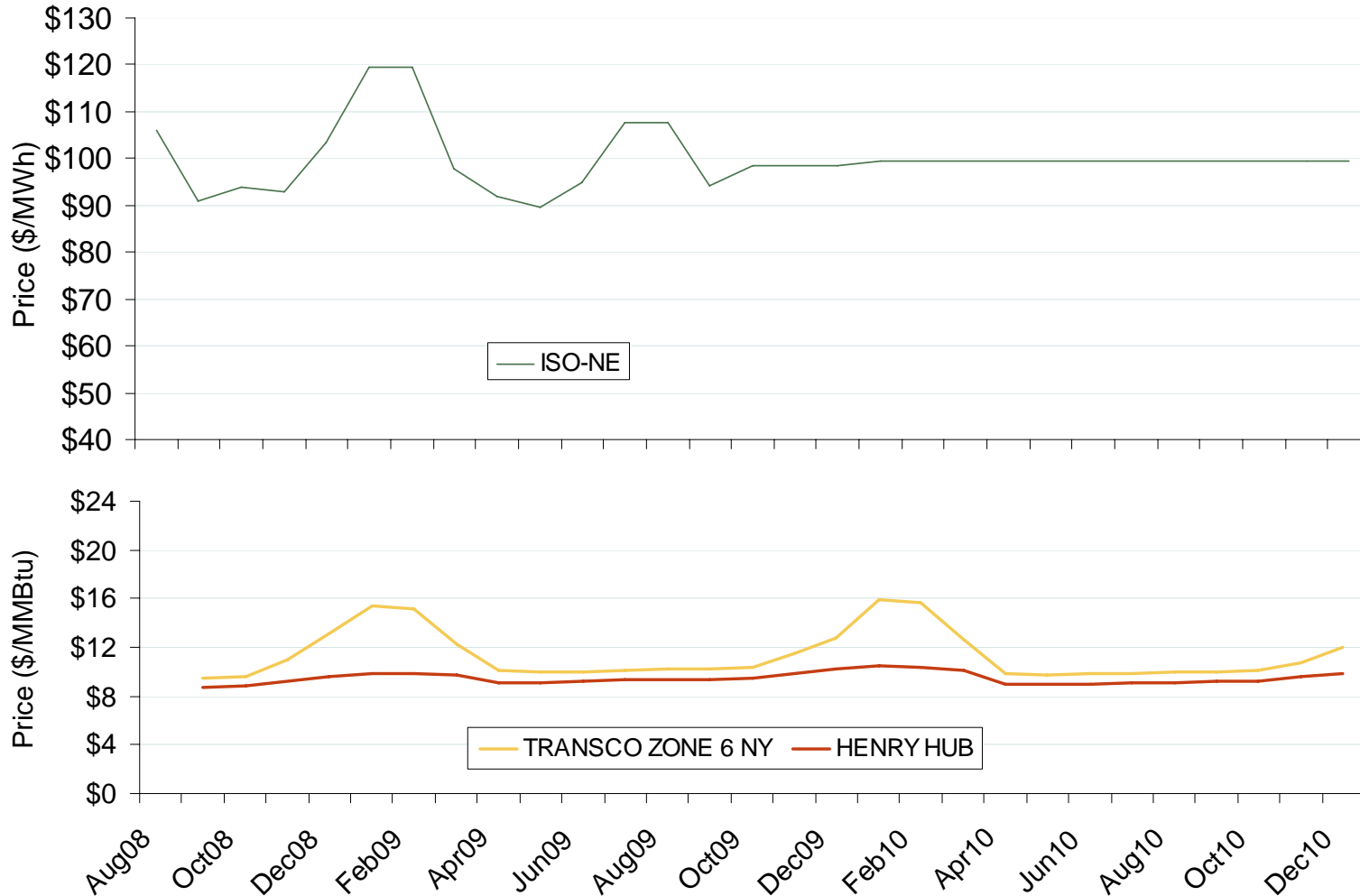
Updated August 14, 2008 1136

# Weekly Electric Generation Output and Temperatures New England



Source: Derived from *EEl* and NOAA data.

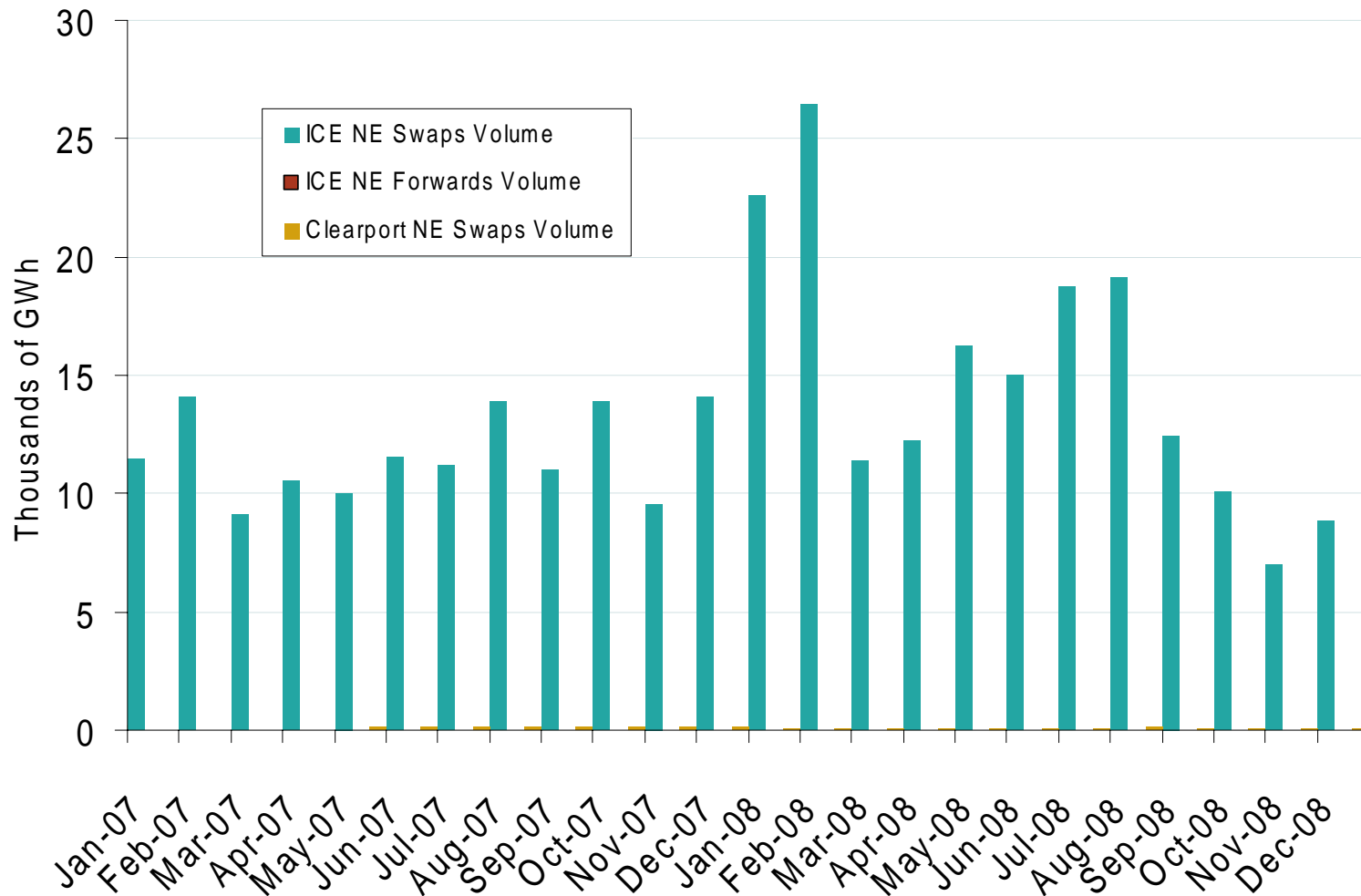
# New England Electric Forward Price Curve and New York and Henry Hub Natural Gas Forward Curves



Source: Derived from Nymex data.

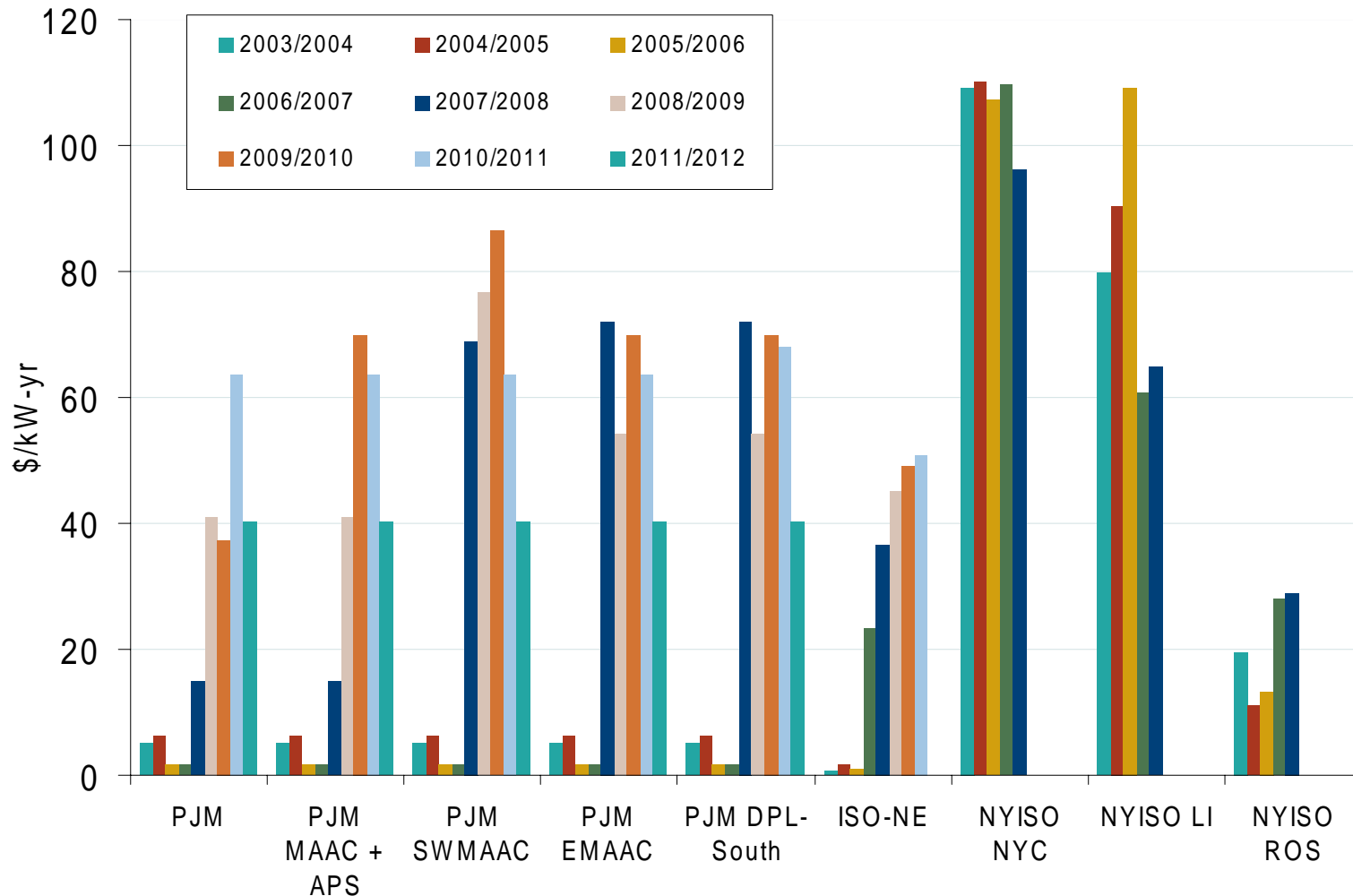
Updated August 14, 2008

## 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 Nepoch 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.

## 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

Updated May 16, 2008

1144