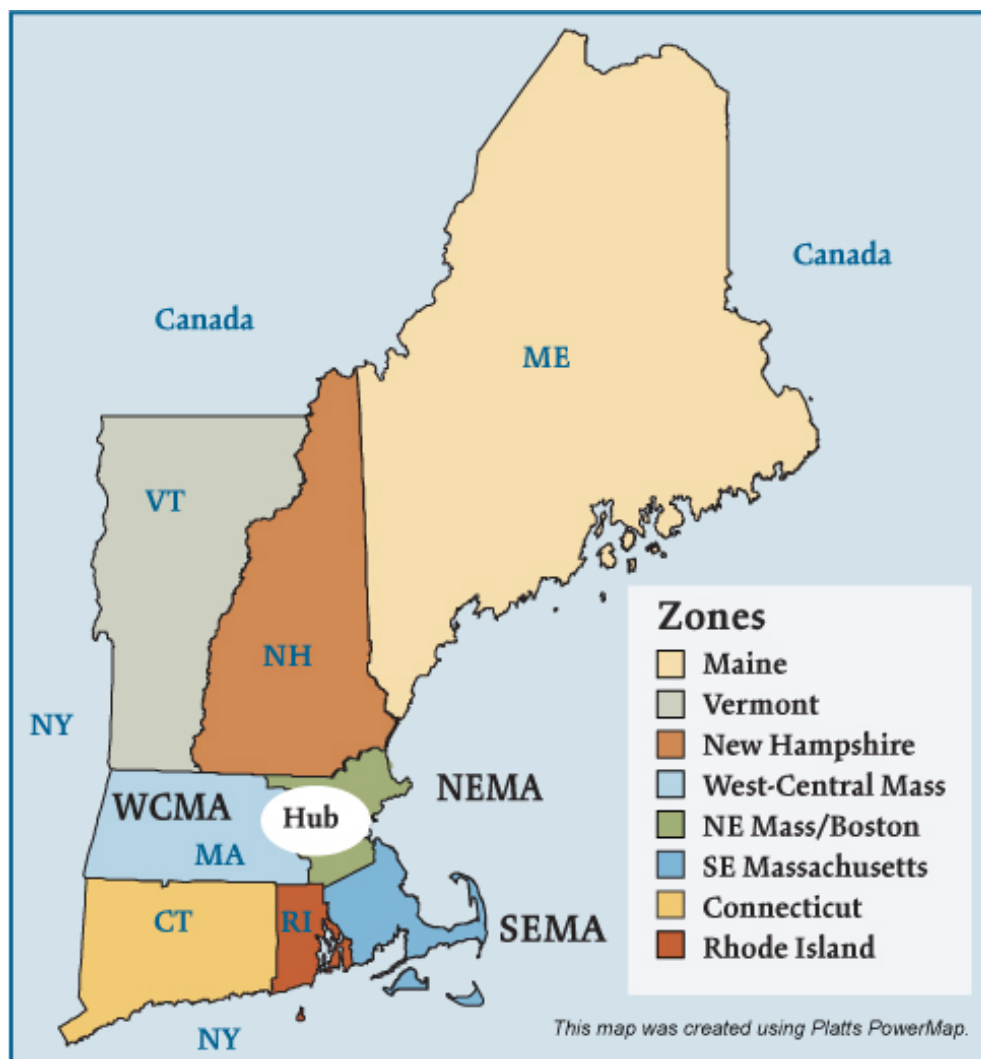


## New England (ISO-NE) Electric Regions



## 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 2009 State of the Markets Report](#)

Market Monitor: David LaPlante – Internal Market Monitor

## New England Electric Market: Overview and Focal Points

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

#### 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

*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

## 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

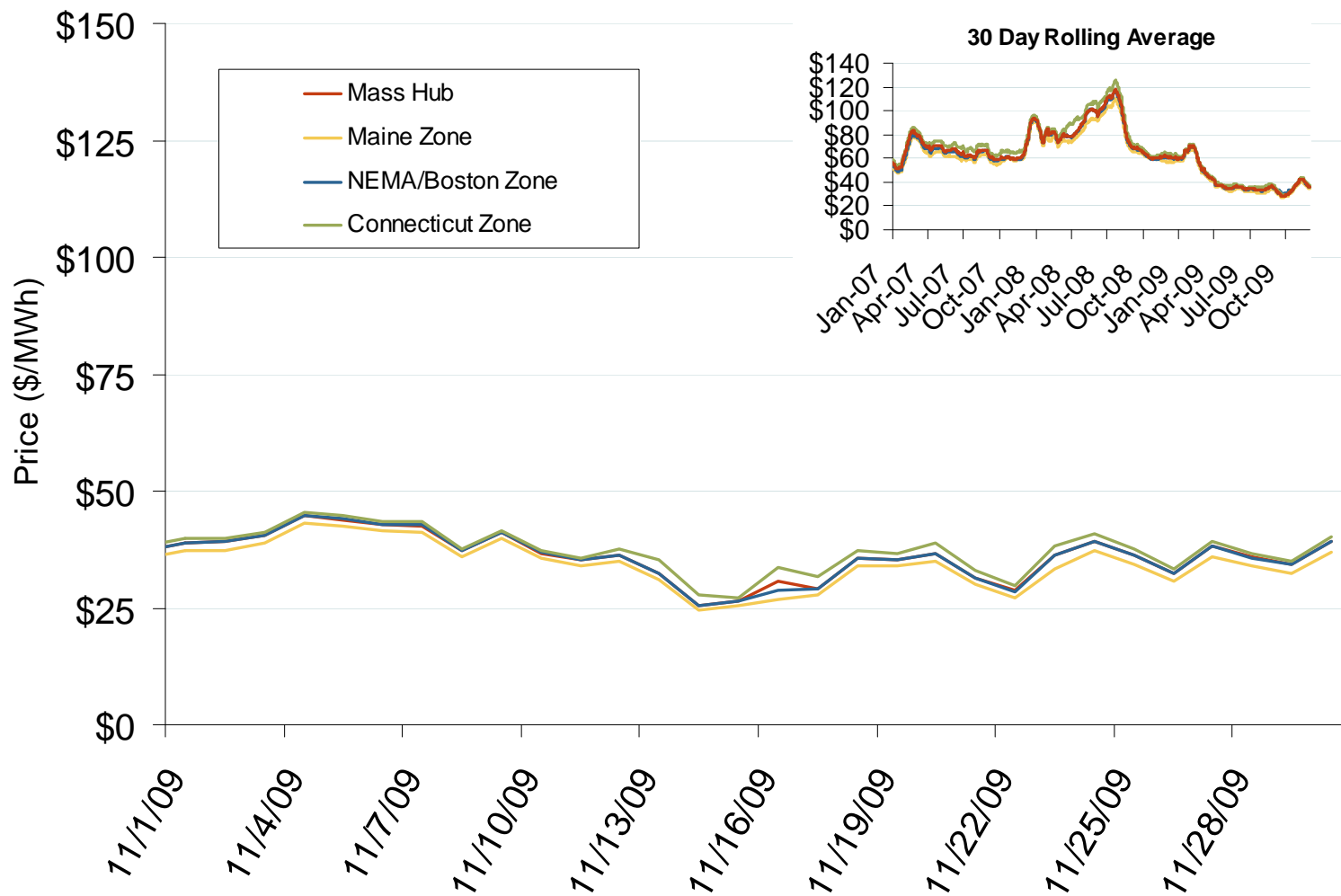
(1) - "Generating Capacity" is generator capacity + firm purchases & sales

(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

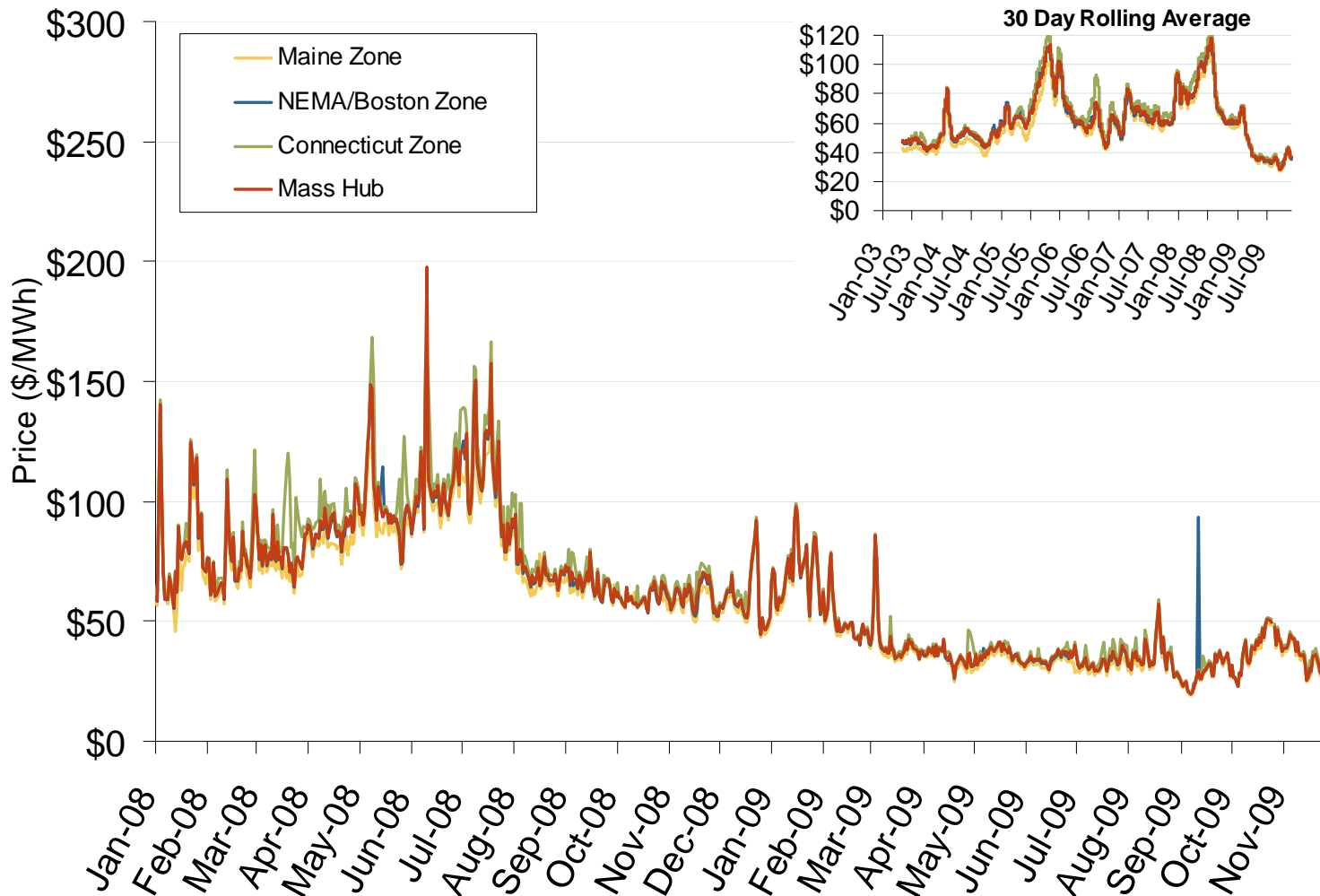


Source: Derived by Bloomberg from ISO-NE data as reported by Bloomberg.

Updated December 8, 2009

1129

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



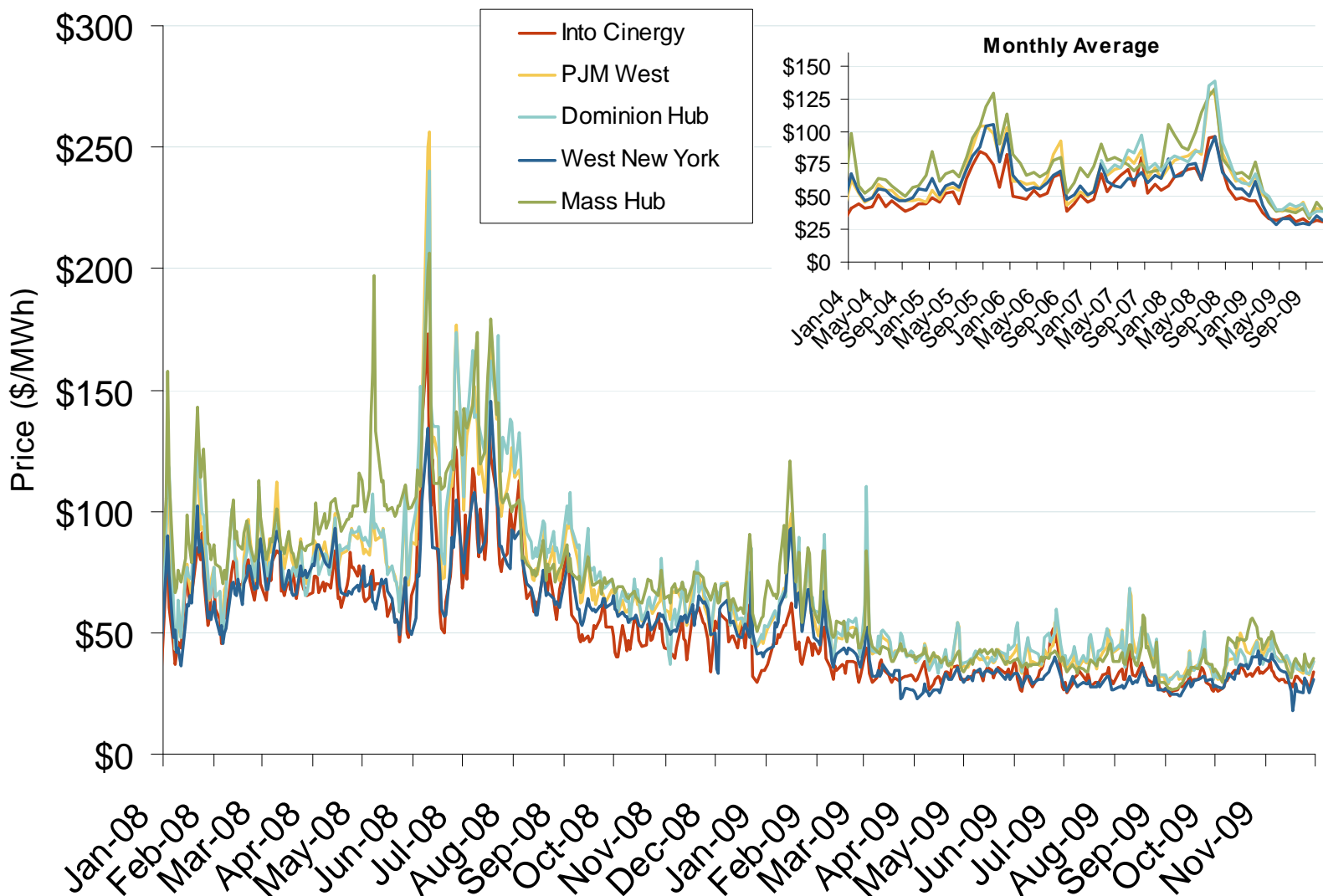
Source: Derived by *Bloomberg* from *ISO-NE* data as reported by *Bloomberg*.

Updated December 8, 2009

1021



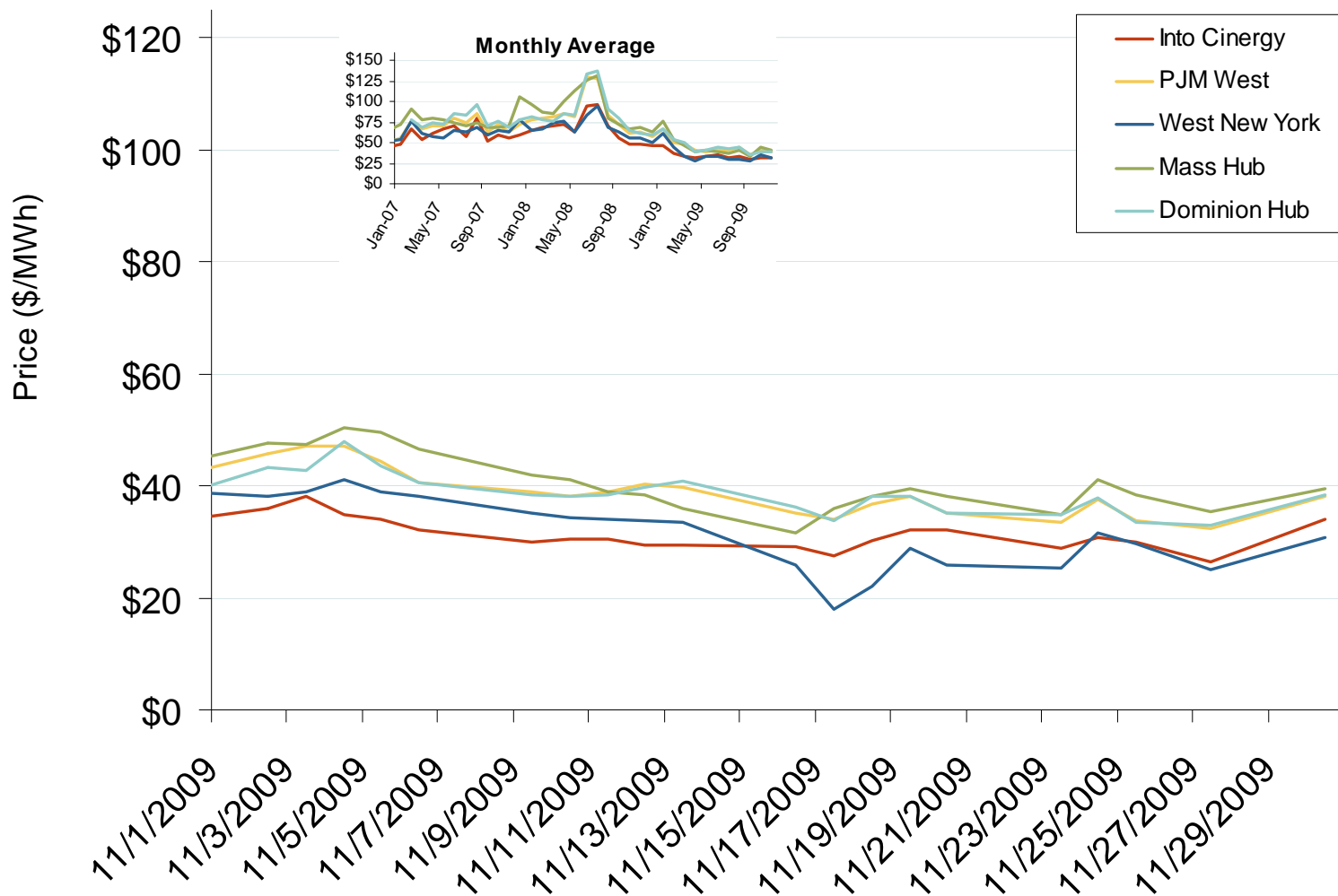
# Eastern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated December 8, 2009 1022

# Eastern Daily Bilateral Day-Ahead On-Peak Prices

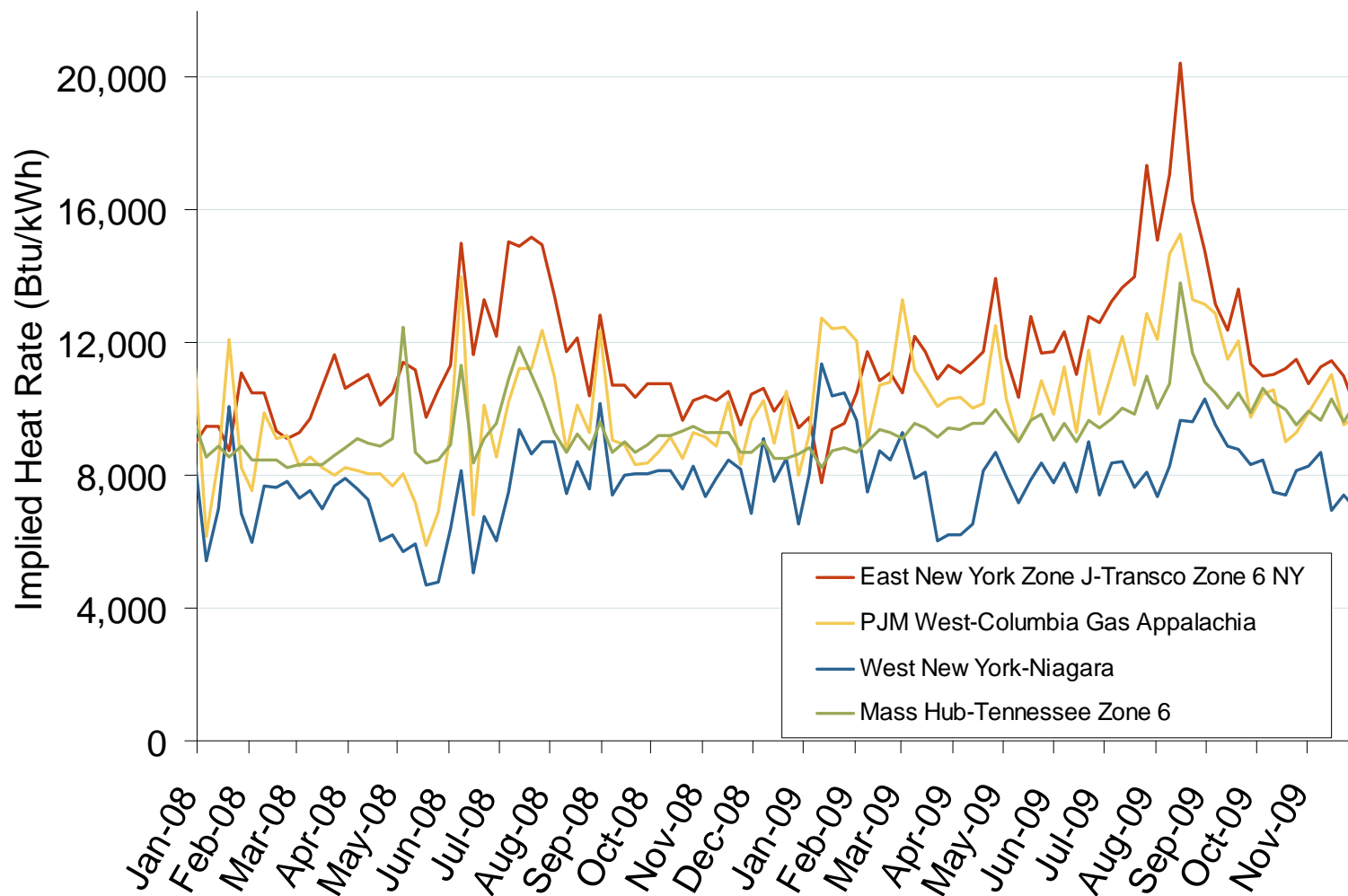


Source: Derived from Platts data.

Updated December 8, 2009

12062

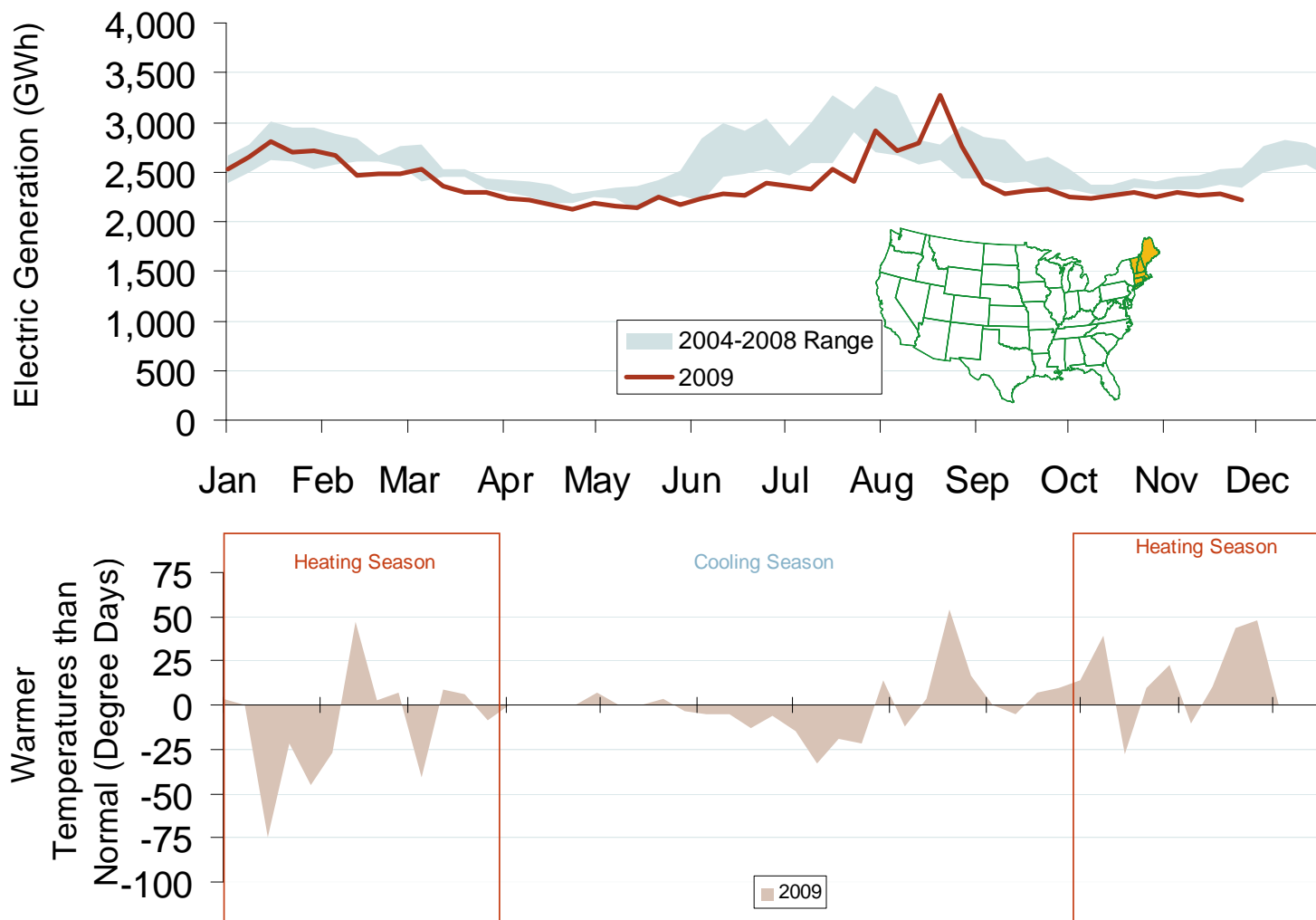
## Implied Heat Rates at Eastern Trading Points Weekly Averages



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

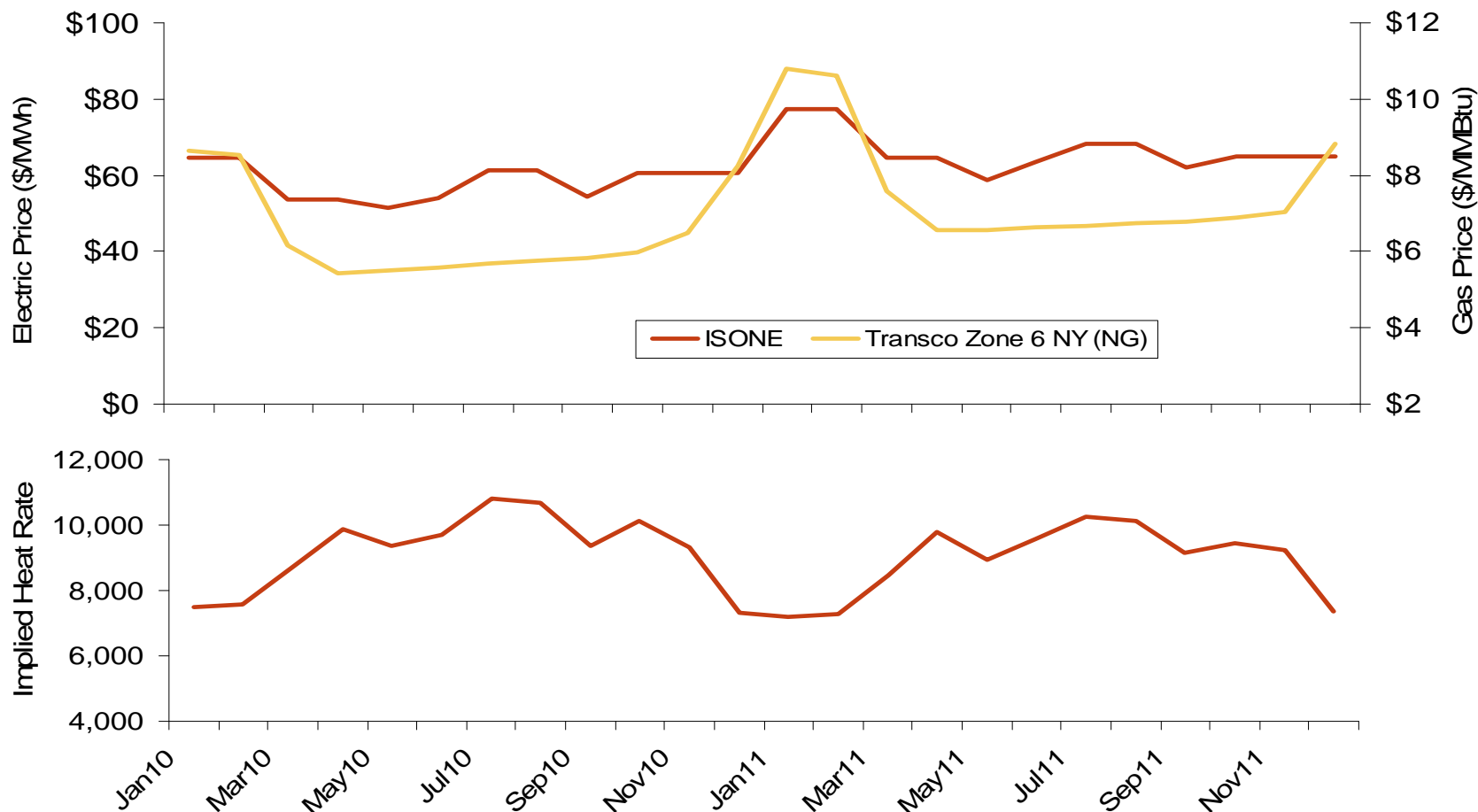
Updated December 8, 2009 1136

# Weekly Electric Generation Output and Temperatures New England



Source: Derived from *EEl* and NOAA data.

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

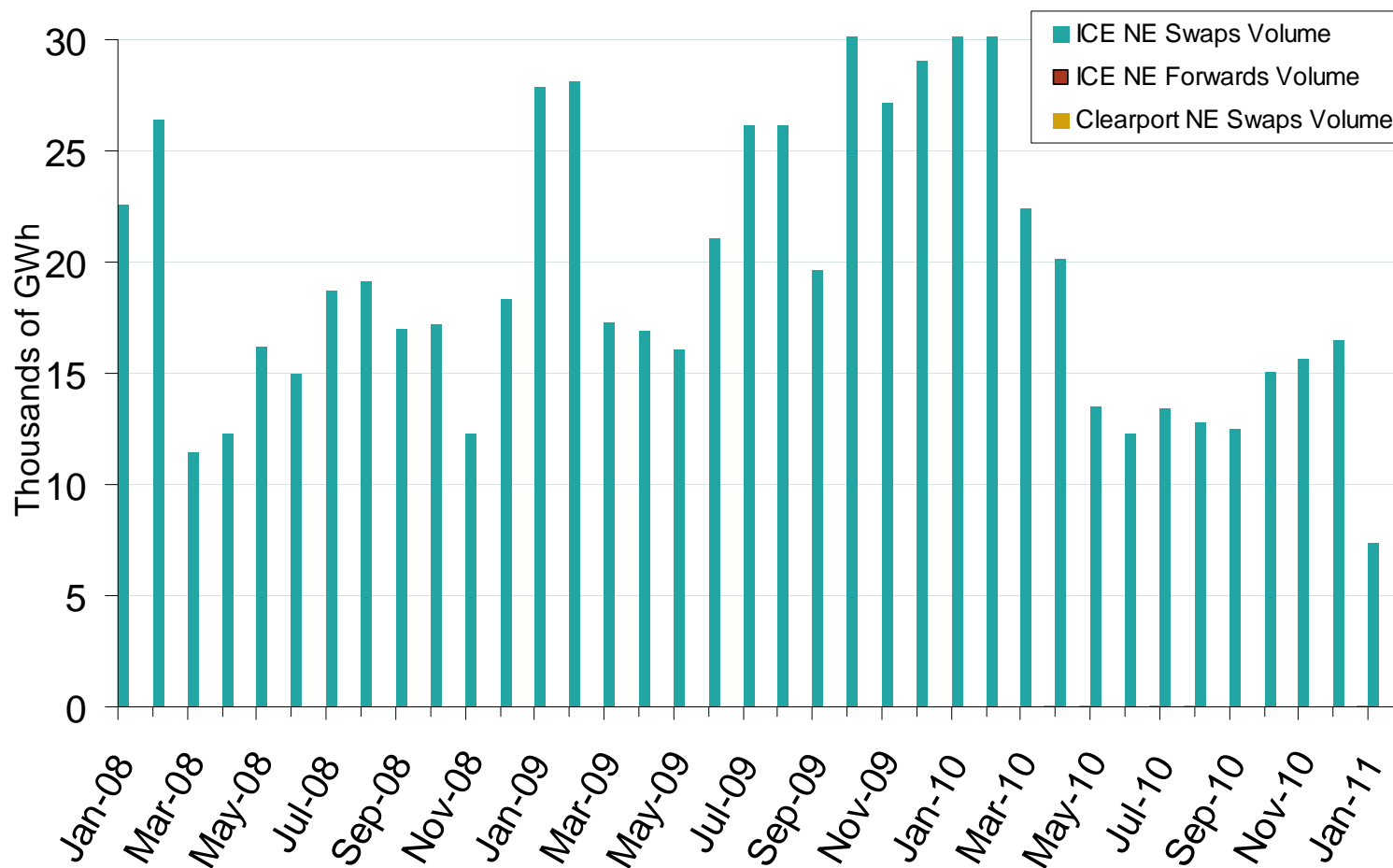


Source: Derived from Nymex data.

Updated December 8, 2009

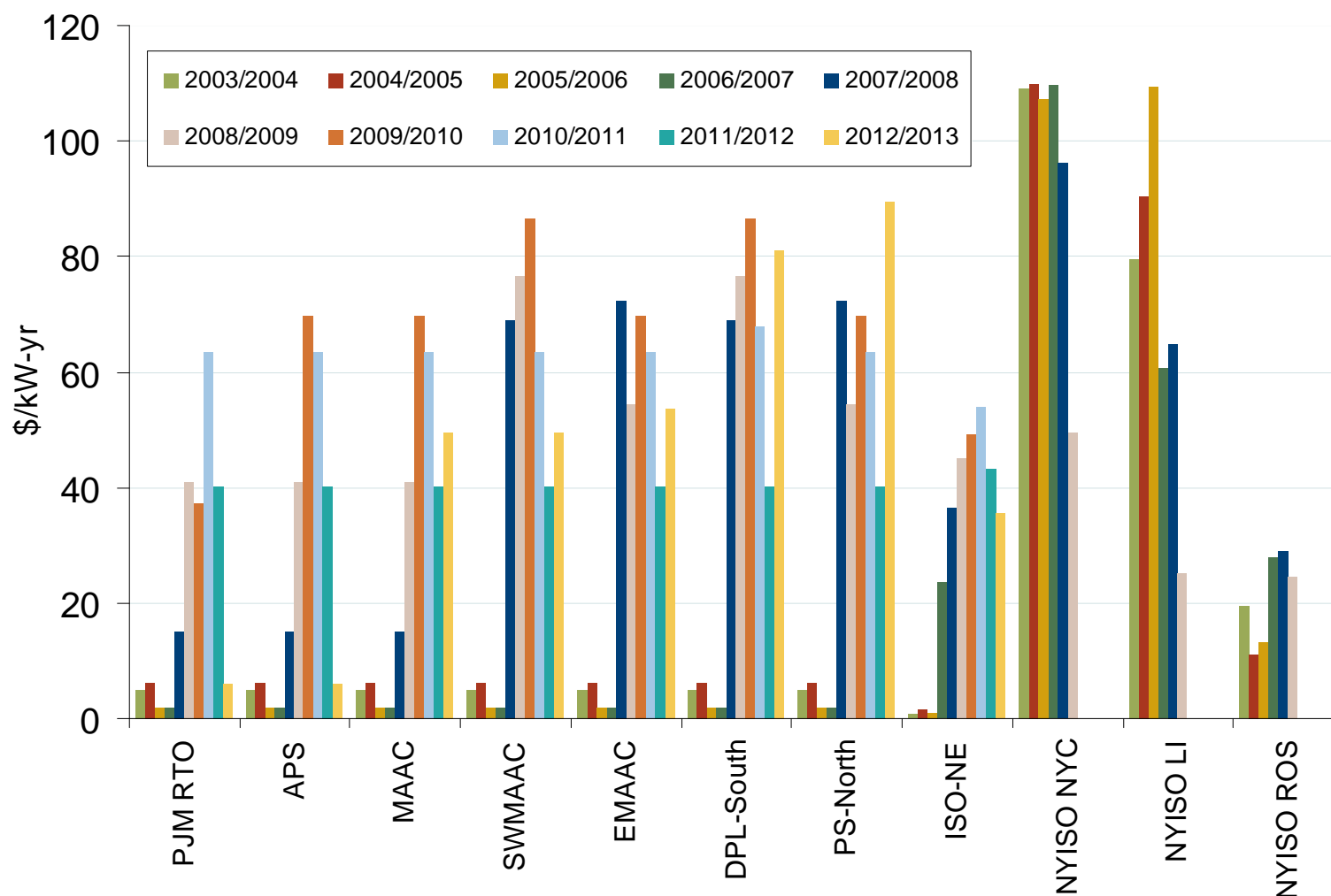
1127

## 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 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

1144