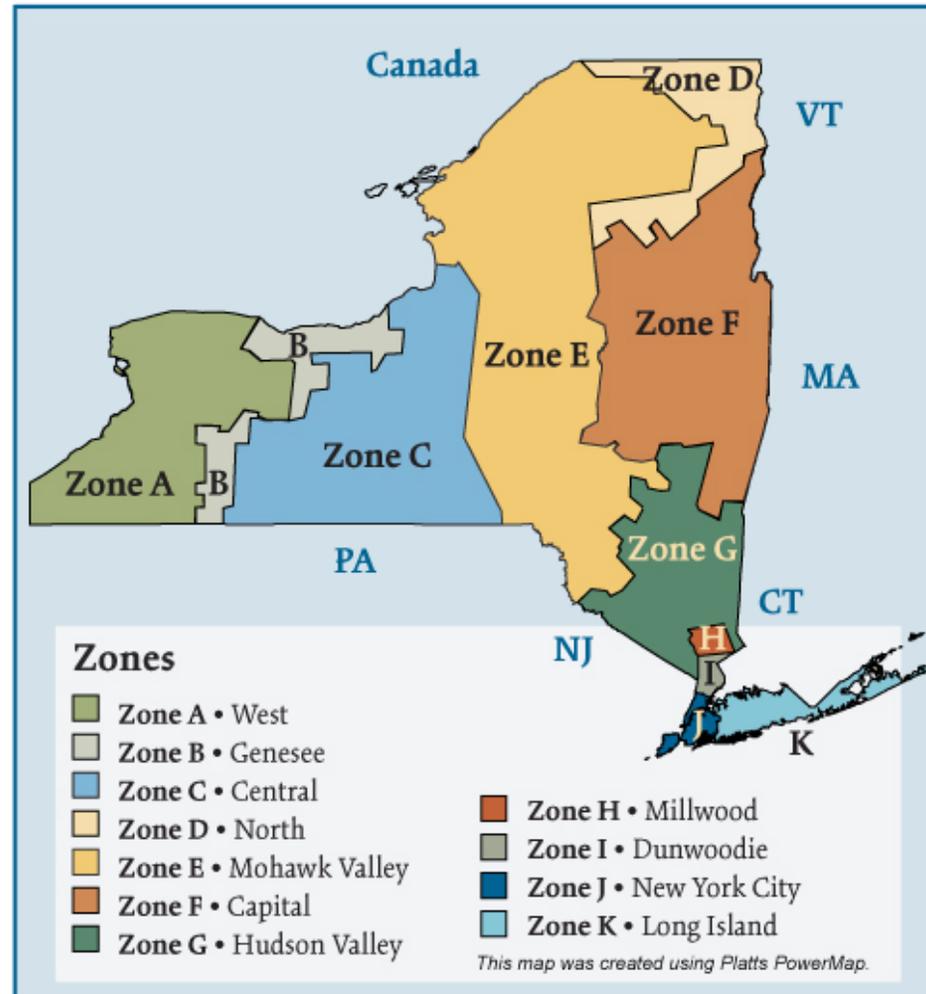


# New York (NYISO) Electric Regions



## Overview

### Geography

State covered: New York

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

Balancing authority: NYISO

Zones: Capital (Zone F), Central (Zone C), Dunwoodie (Zone I), Genesee (Zone B), Hudson Valley (Zone G), Long Island (Zone K), Millwood (Zone H), Mohawk Valley (Zone E), New York City (Zone J), North (Zone D), West (Zone A)

### RTO/ISO

NYISO (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,
- Regional and locational capacity market, and
- Financial transmission rights market.

### [NYISO 2006 State of the Markets Report](#)

Market Monitor:

Nicole Bouchez – Manager, Internal Market Monitor, New York ISO

David Patton – Independent Market Advisor, New York ISO and President of Potomac Economics

*Updated August 3, 2007*

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### **RTO/ISO (continued)**

Also, market participants trade electricity bilaterally through brokers, the IntercontinentalExchange (ICE) and the New York Mercantile Exchange's (Nymex) ClearPort, using Zone A (West) as a pricing point.

### **Generation/Supply**

Marginal fuel type: natural gas

Generating capacity (summer 2006): 39,704 MW

Capacity reserve (summer 2006): 5,765 MW

Reserve margin (summer 2006): 17%

The New York City metropolitan area (NYC) and Long Island (LI) are areas of concentrated demand. Both localities have requirements for installed generating capacity that are more stringent than the rest of the region, to ensure reliability of service.

### **Demand**

All time peak demand: 33,939 MW (set August 2, 2006)

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

Peak demand growth: 5.6 % (2006-2005)

Summer Peak Demand (MW) 28,433 (2004), 32,075 (2005), 33,939 (2006) (Source: NYISO)

Load pockets: Zone J New York City and Zone K Long Island

## Prices

### Annual Average Day-Ahead Price

#### Zone J New York City

**2004:** \$63.16/MWh

**2005:** \$93.77/MWh

**2006:** \$70.90/MWh

#### Zone K Long Island

**2004:** \$63.20/MWh

**2005:** \$99.32/MWh

**2006:** \$86.15/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).

### Interconnections/Seams

Coming soon

## Focal Points

**NYC Adds 1,000 MW:** In 2006, two 500-MW combined-cycle, gas-fired power plants entered service in New York City. These included the SCS/Astoria, run by Astoria Energy LLC, a subsidiary of Massachusetts-based SCS Energy LLC., and the New York Power Authority's Astoria unit. These new facilities provided a local buffer of capacity to the import-dependent New York City market.

**Software Upgrade:** On Feb. 1, 2005, the New York Independent System Operator (NYISO) launched a market software overhaul dubbed Standard Market Design 2.0 (SMD-2). This upgrade increased efficiency and enabled various market enhancements, including demand curves for reserves and regulation services and three-part offers in real-time for generators (start-up costs, minimum generation costs, and incremental energy costs).

## Supply and Demand Statistics for NYISO

<b>Supply Demand Statistics</b>			
	2004	2005	2006
Summer Generating Capacity (MW)	38,111	37,548	39,704
Summer Peak Demand (MW)	28,433	32,075	33,939
Summer Reserves (MW)	9,678	5,473	5,765
Summer Reserve Margin	34%	17%	17%
Annual Load (GWh)	160,211	167,208	166,893
Annual Net Generation (GWh)	147,170	153,264	NA

Source: Derived from FERC staff discussions with NYISO.

Updated February 2, 2007

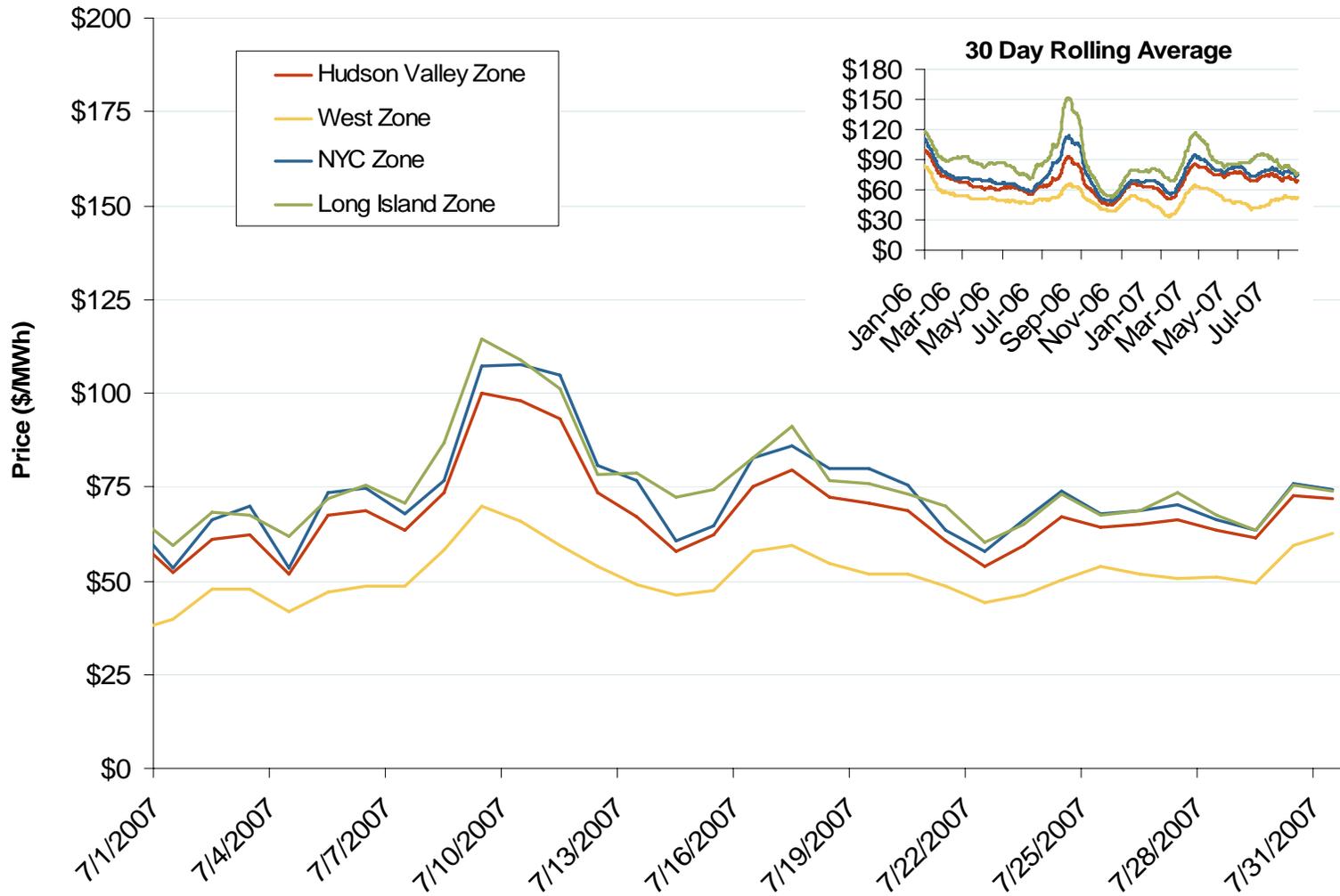
## Yearly Average of RTO DA Prices -- All Hours

<b>Annual Average Day Ahead Prices (\$/MWh)</b>			
	<b>2005</b>	<b>2006</b>	<b>5 Year</b>
Zone A West	\$65.24	\$50.20	\$46.95
Zone G Hudson Valley	\$79.47	\$64.05	\$57.33
Zone J New York City	\$93.77	\$70.90	\$67.42
Zone K Long Island	\$99.32	\$86.15	\$71.67

Source: Derived from NYISO data.

Updated January 12, 2007

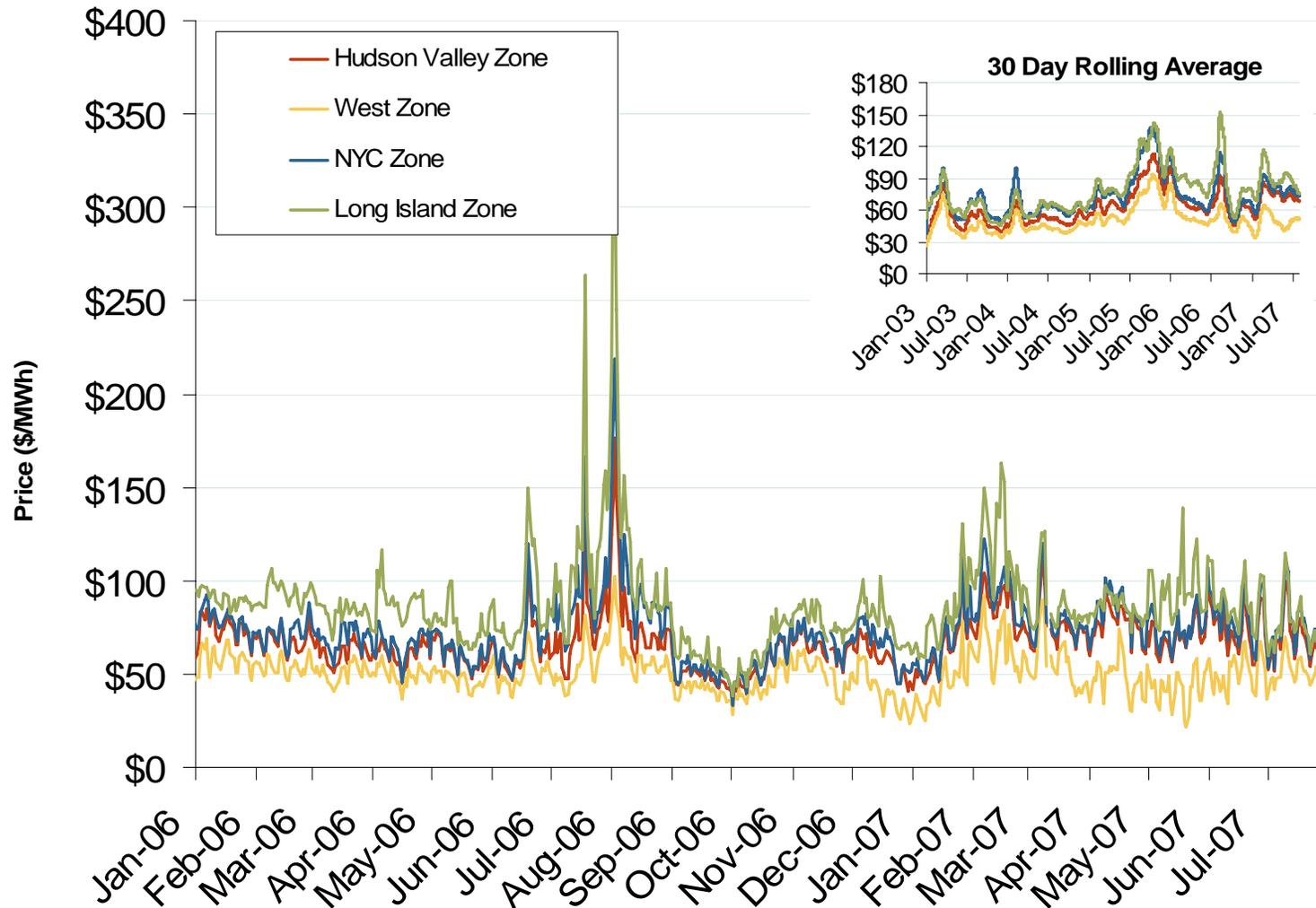
# Daily Average of NYISO Day-Ahead Prices - All Hours



Source: Derived from NYISO data.

Updated August 3, 2007

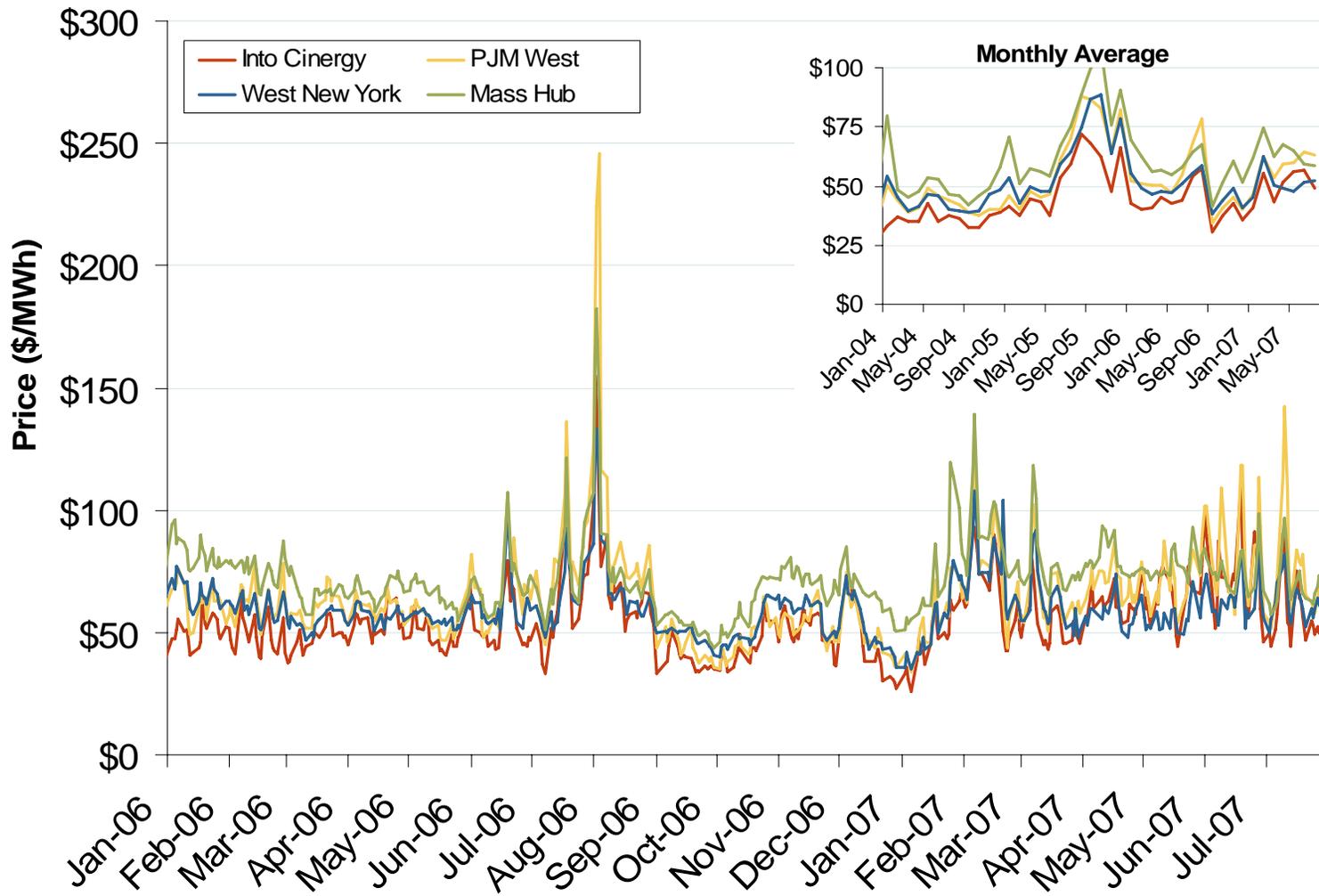
# Daily Average of NYISO Day-Ahead Prices - All Hours



Source: Derived from NYISO data.

Updated August 3, 2007

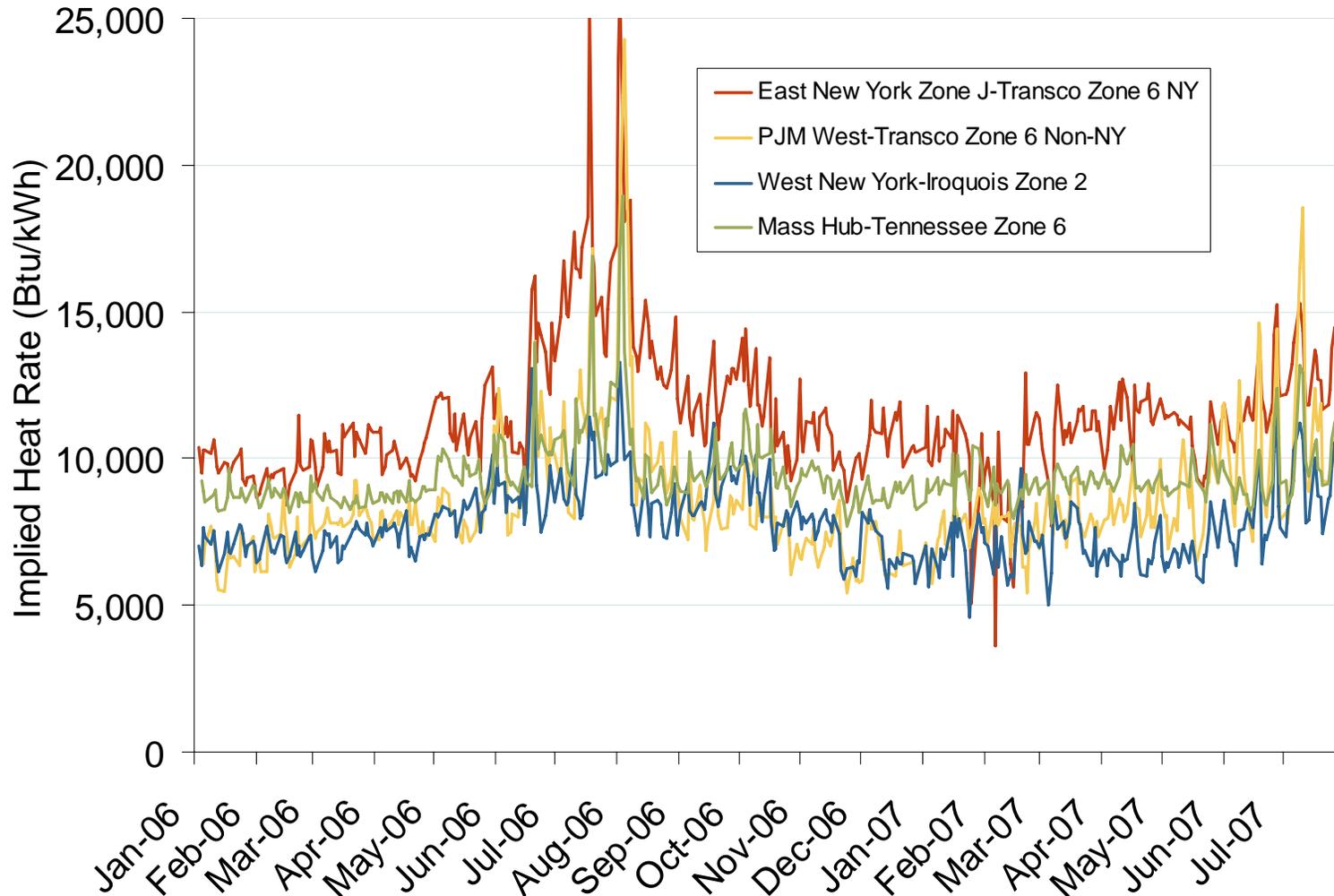
## Eastern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated August 3, 2007

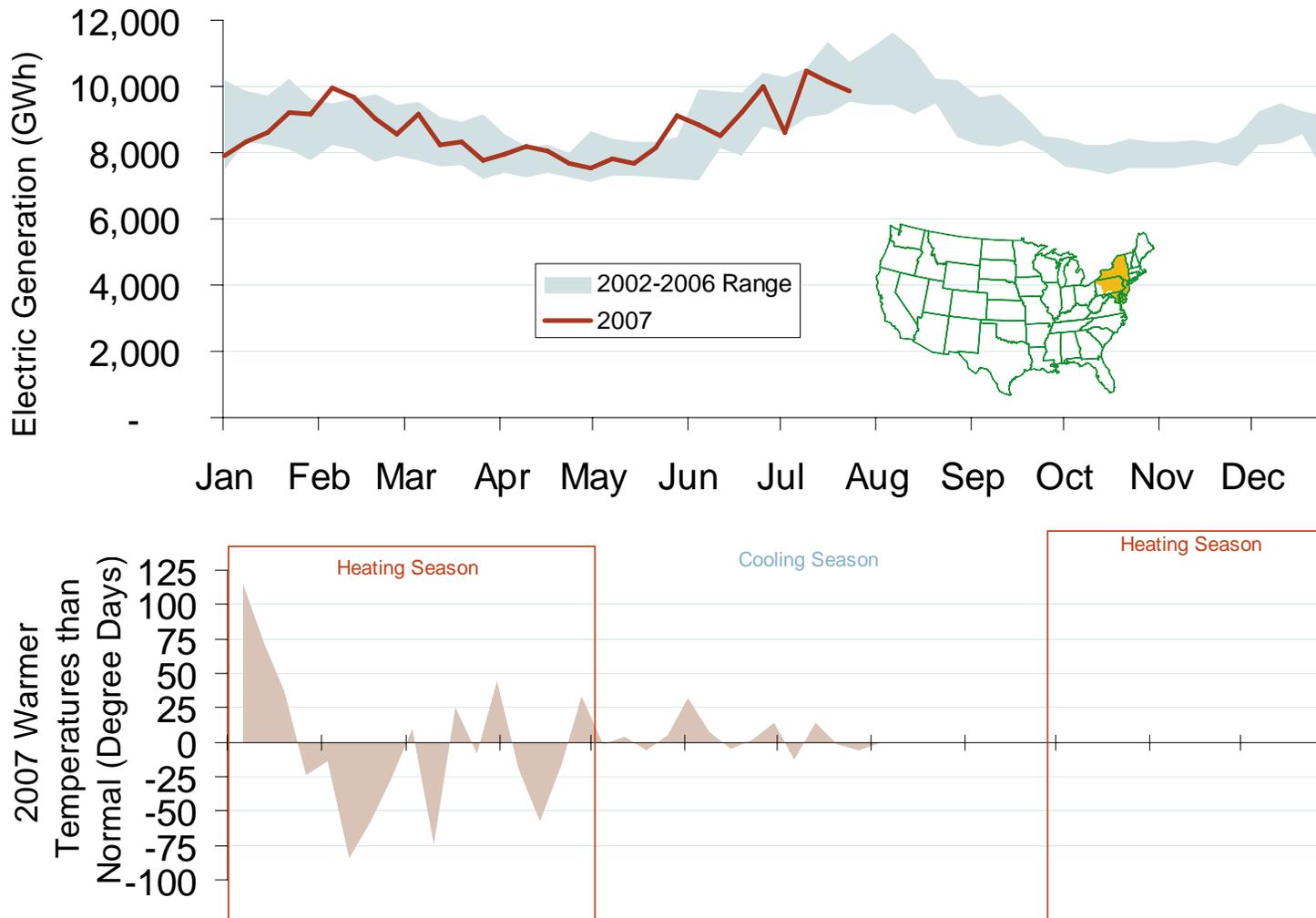
## Implied Heat Rates at Eastern Trading Points



Source: Derived from *Platts* data

Updated August 3, 2007

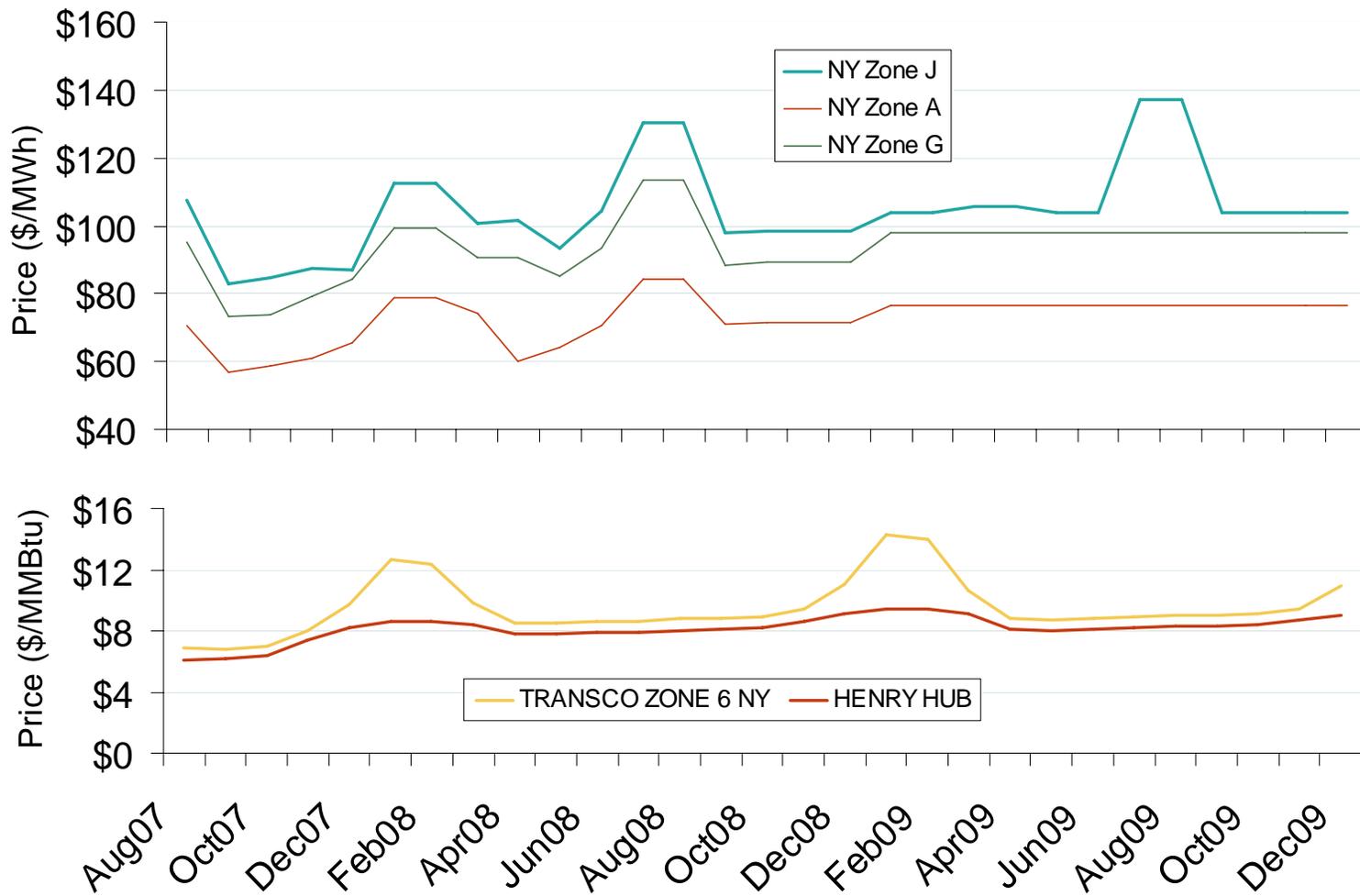
# Weekly Electric Generation Output and Temperatures Mid Atlantic Region



Source: Derived from EEI and NOAA data.

Updated August 3, 2007

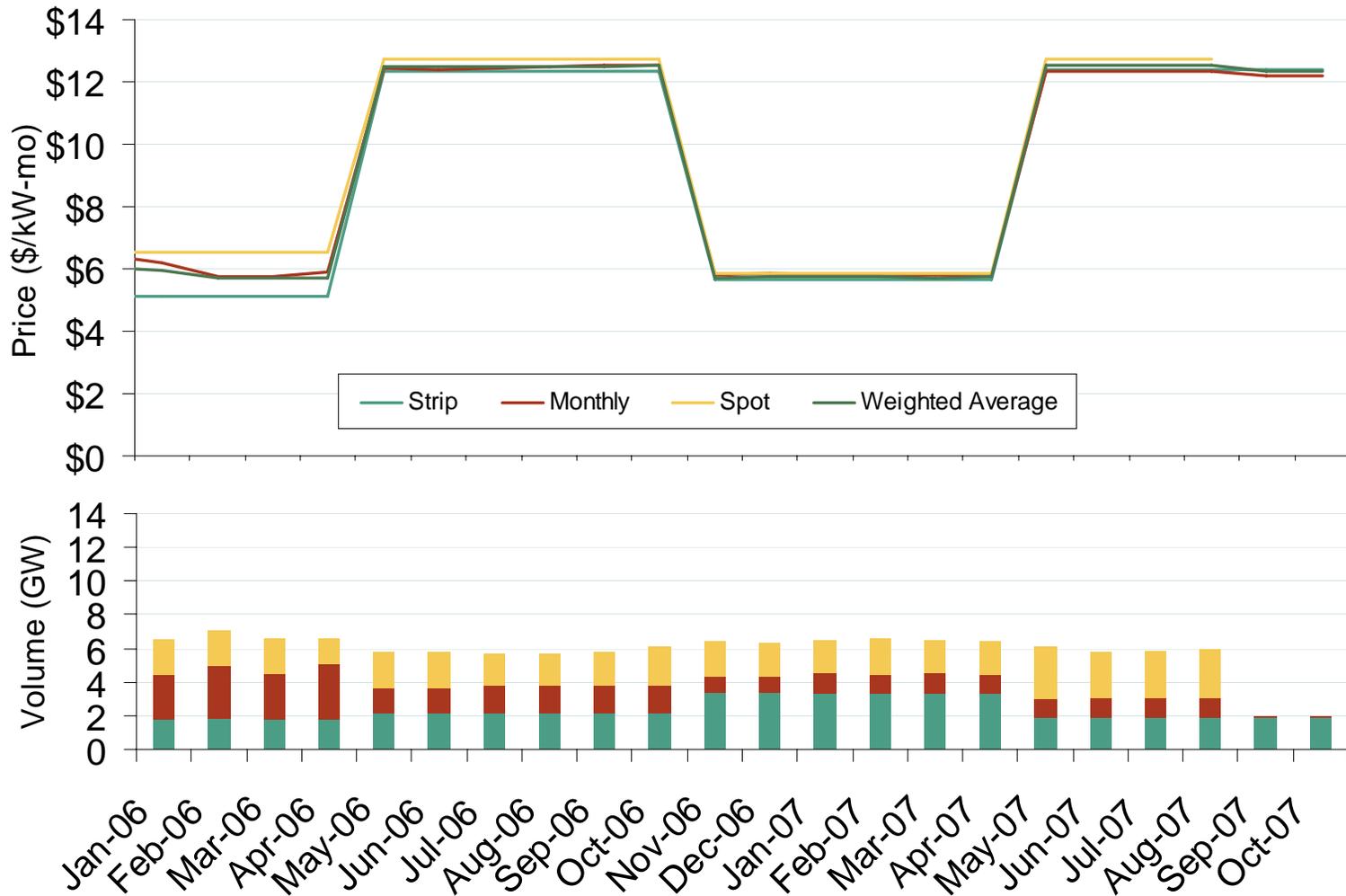
# New York Electric Forward Price Curves and New York and Henry Hub Natural Gas Forward Curves



Source: Derived from Nymex data.

Updated August 8, 2007

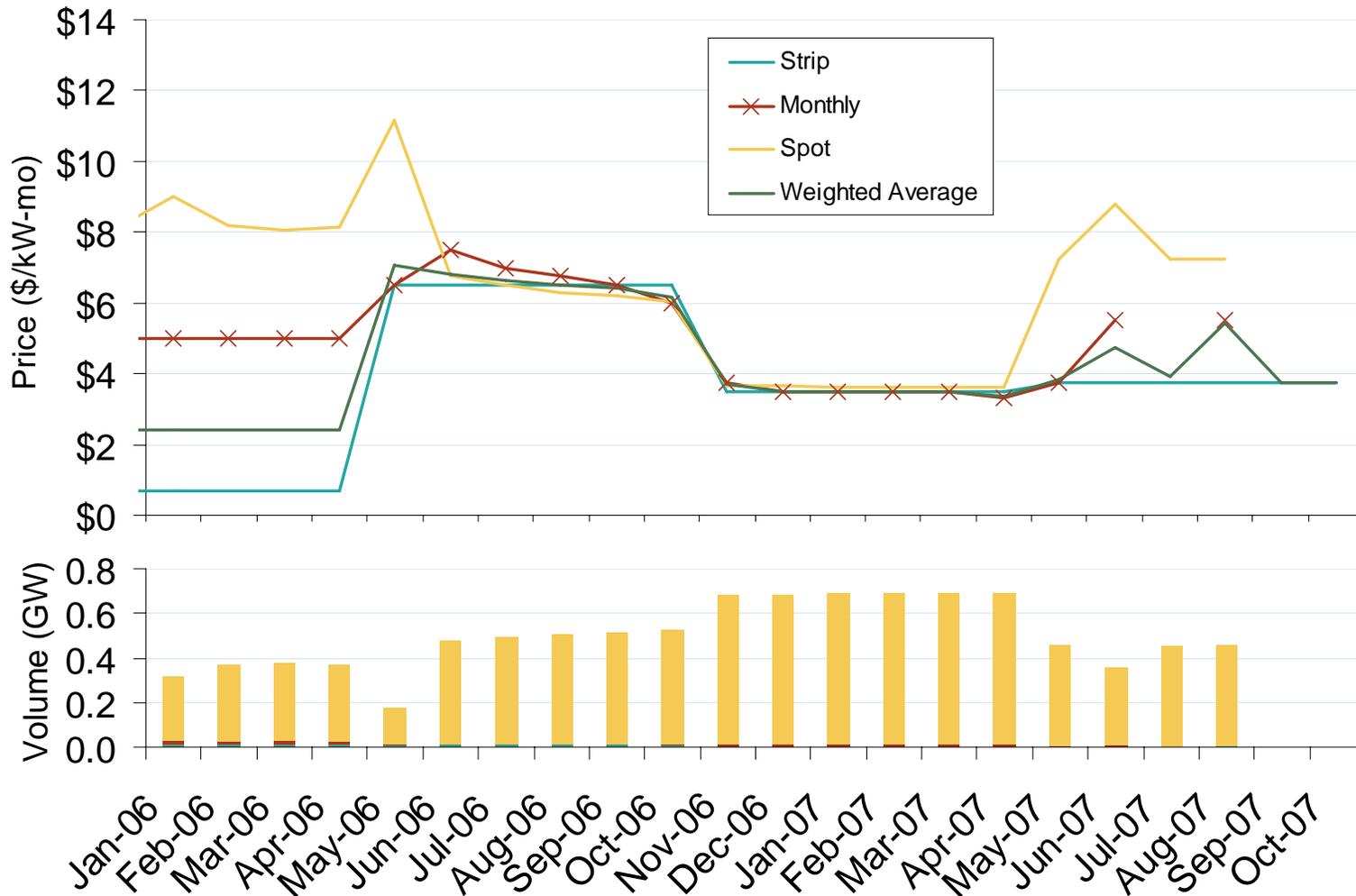
## Weighted Average ICAP Clearing Prices and Volumes: New York City



Source: Derived from NYISO data.

Corrected August 8, 2007

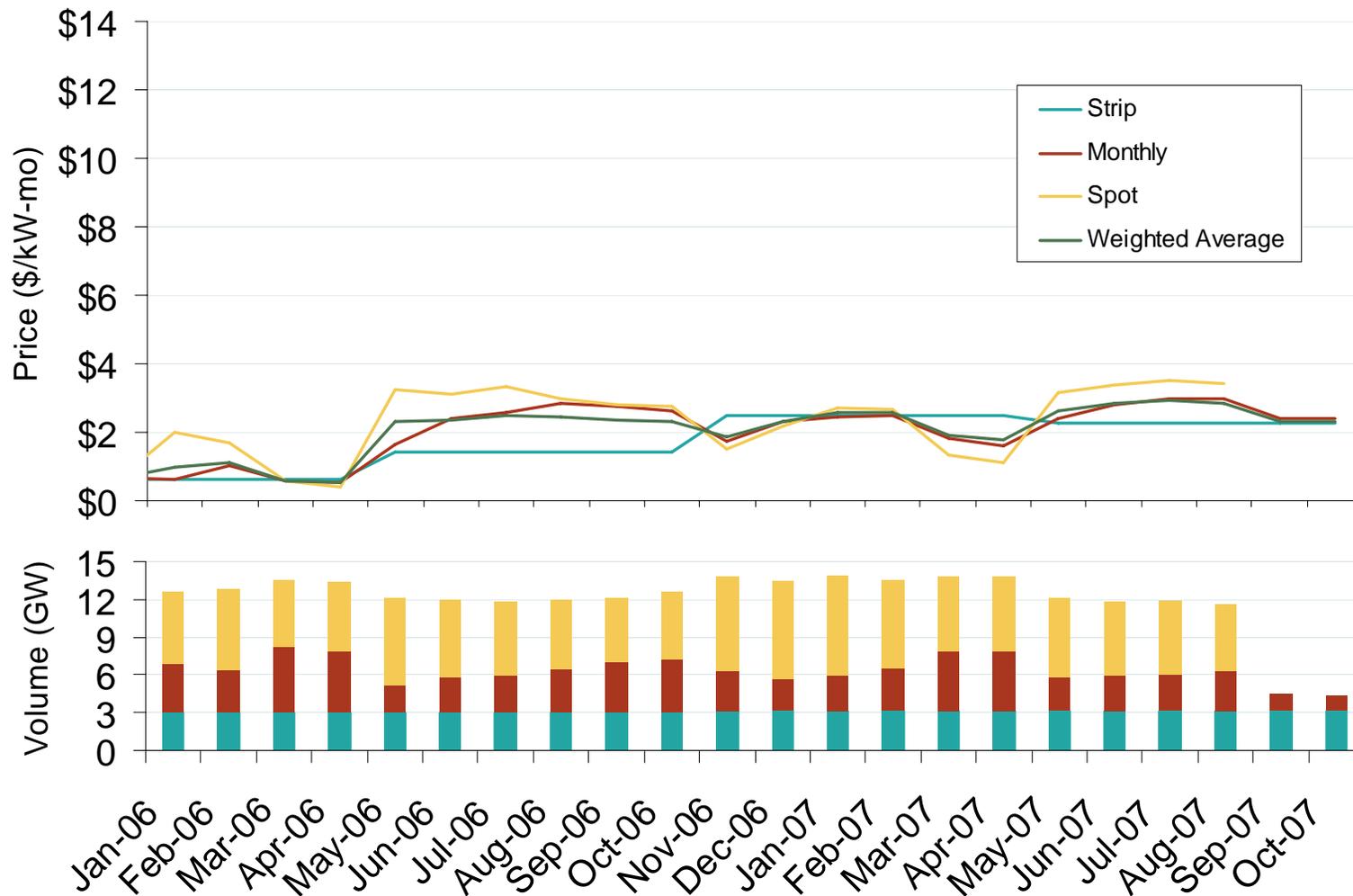
# Weighted Average ICAP Clearing Prices and Volumes: Long Island



Source: Derived from NYISO data.

Updated August 3, 2007

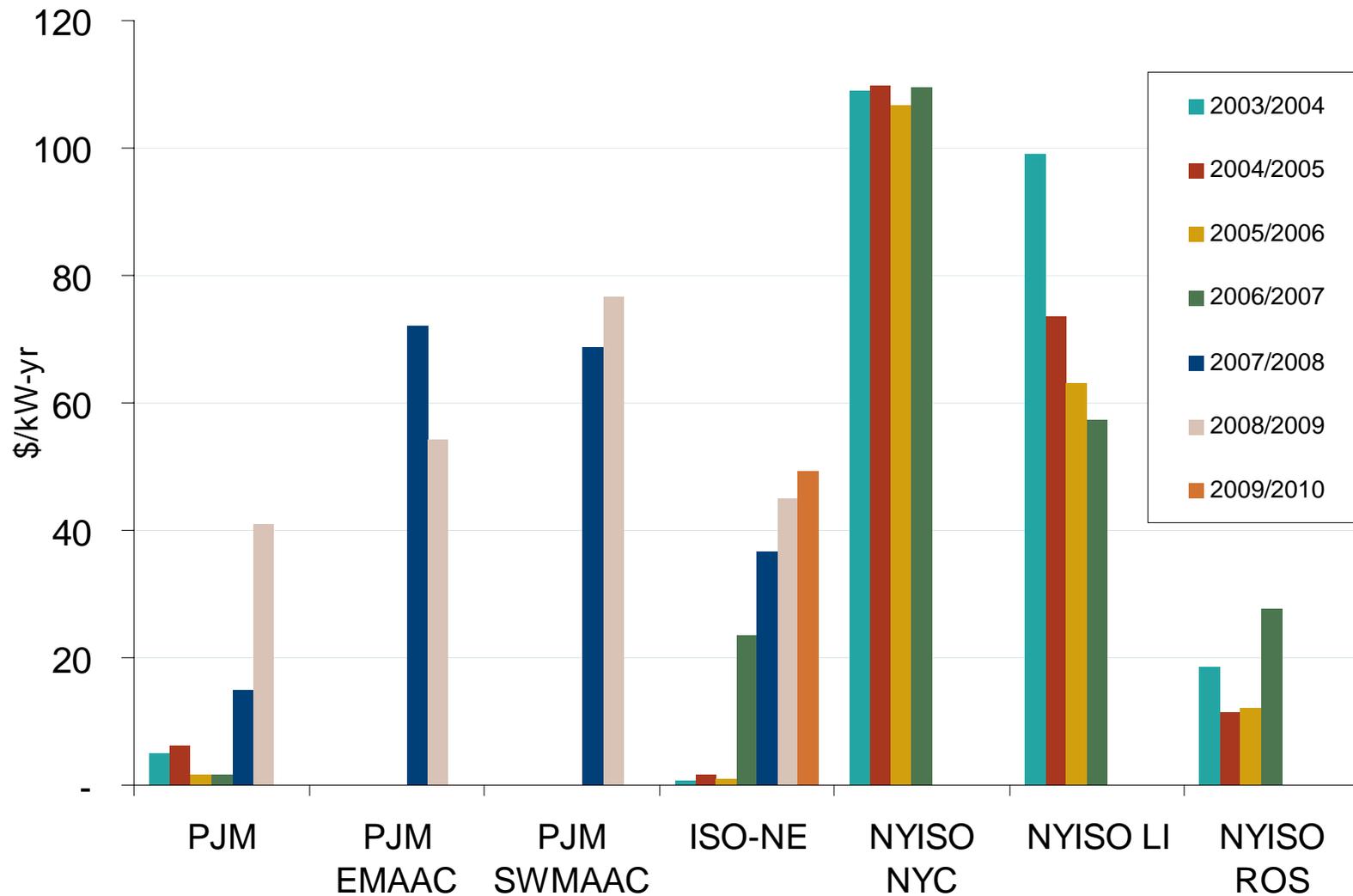
## Weighted Average ICAP Clearing Prices and Volumes: Rest of New York State



Source: Derived from NYISO data.

Updated August 3, 2007

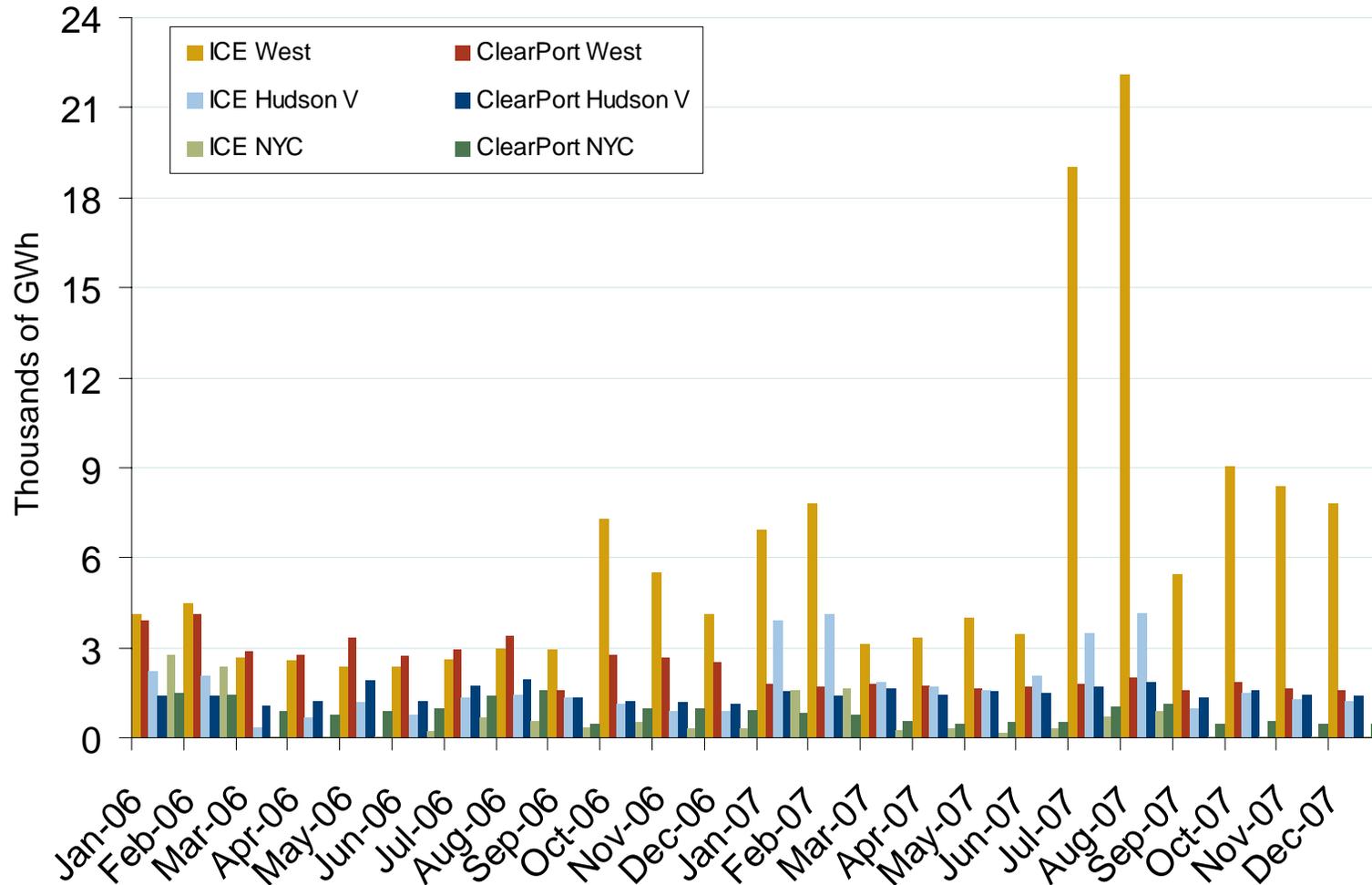
## PJM, NYISO and ISO-NE Capacity Prices



Source: Derived from PJM, NYISO and ISO-NE data

Created August 3, 2007

## Various New York Swap Volumes



Source: Derived from ICE and Nymex ClearPort data. ICE on-peak swaps (financial) volume are for zones A, G and J and include monthly, dual monthly, quarterly, and calendar year contracts traded for each month. Nymex ClearPort on-peak swaps (financial) volume are for zones A, G and J and are traded by month.

Updated August 3, 2007