Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

New England (ISO-NE) Electric Regions
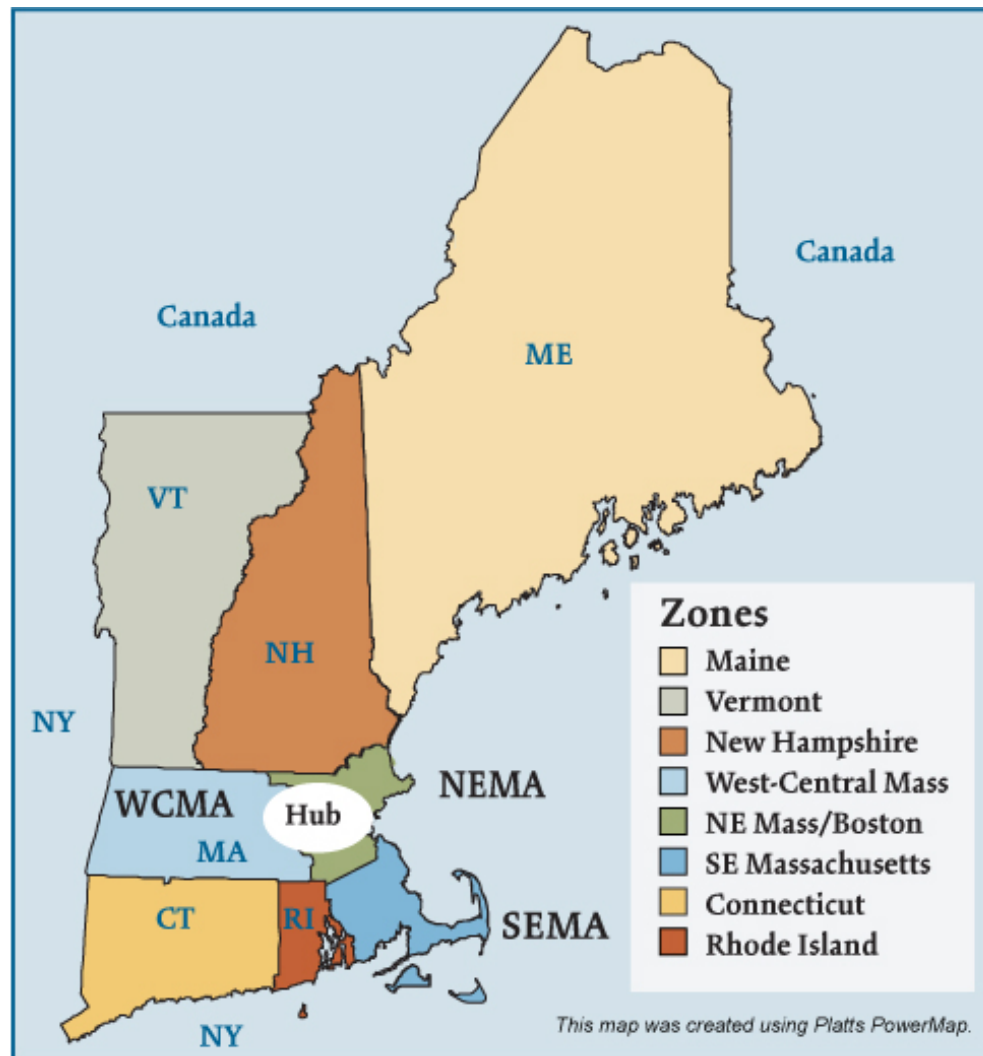
Overview

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

Updated August 3, 2007

1018

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
Summer Peak Demand (MW)	24,116	26,885	28,127

Source: Derived from ISO-NE Data

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

Updated May 3, 2007

1018

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

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).

Interconnections/Seams

Coming soon

Updated May 3, 2007

1018

Focal Points

Market Upgrades: In October 2006, the New England Independent System Operator (ISO-NE) enhanced its ancillary services market. It upgraded its forward reserve market to include a locational component to co-optimize the dispatch of energy and reserves and to allow demand resources to bid their resources directly into the energy and reserve markets. ISO-NE also implemented real-time pricing for regulation service.

Connecticut Power Line: Due to tight supplies and transmission constraints, southwestern Connecticut has higher congestion costs than other load zones. In summer 2006, as in previous summers, Connecticut had to use emergency resources to meet peak loads and reliability requirements. In October 2006, the Bethel-Norwalk 345-kV transmission line became operational. This line is a part of a two-phase project to improve reliability and increase import capacity for southwest Connecticut.

Cold Snap Procedures: Effective Dec. 8, 2006, the ISO implemented a set of procedures to be used during extreme winter weather conditions. Procedures include moving the operating day up by three hours; improving communication protocols and timelines for generators concerning fuel procurement; increasing coordination with the gas industry to ensure adequate pipeline availability; asking dual-fuel generators to switch to a non-gas fuel; and notifying load-response programs to be prepared to interrupt operations.

Updated May 3, 2007

1018

Supply and Demand Statistics for ISO-NE

Supply Demand Statistics			
	2004	2005	2006
Summer Generating Capacity MW	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):	132,517	136,355	120,828
Annual Net Generation GWh	129,459	131,874	117,359

Footnote (1)/ "Generating Capacity" is actually
generator capacity + firm purchases & sales

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

Updated February 2, 2007

1019

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

Yearly Average of RTO DA Prices -- All Hours

Annual Average Day Ahead Prices ($/MWh)			
	2005	**2006**	**4 Years**
Mass Hub	$78.54	$60.94	$61.03
Maine load zone	$70.82	$57.15	$55.81
NEMA (Boston) load zone	$79.84	$60.61	$61.18
Connecticut load zone	$83.15	$67.28	$64.44

Source: Derived from the *ISO-NE* data.

Updated January 14, 2007

1020
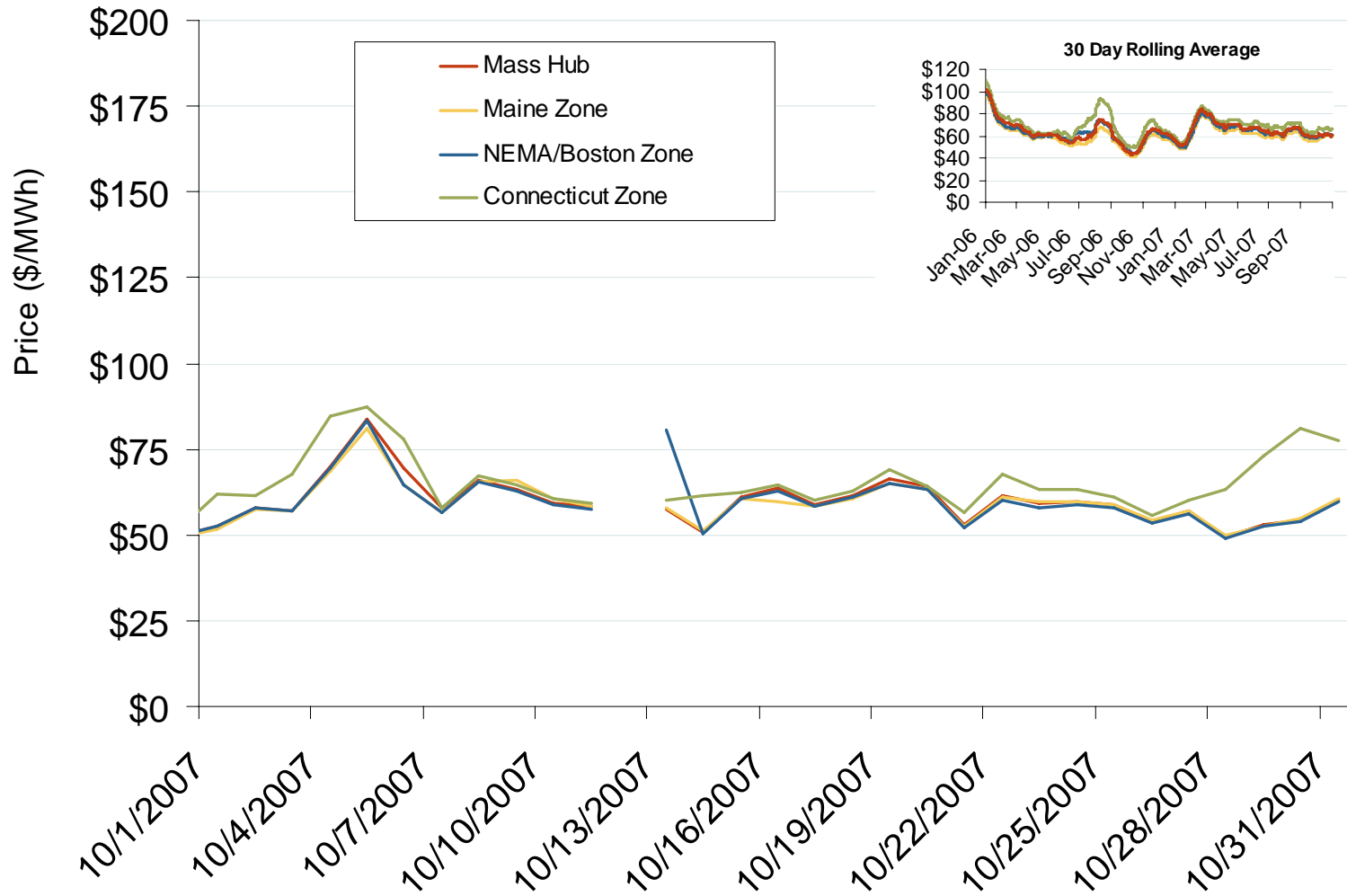
Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

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

Source: Derived from *ISO-NE* data.

Updated November 2, 2007 1129

November 2007

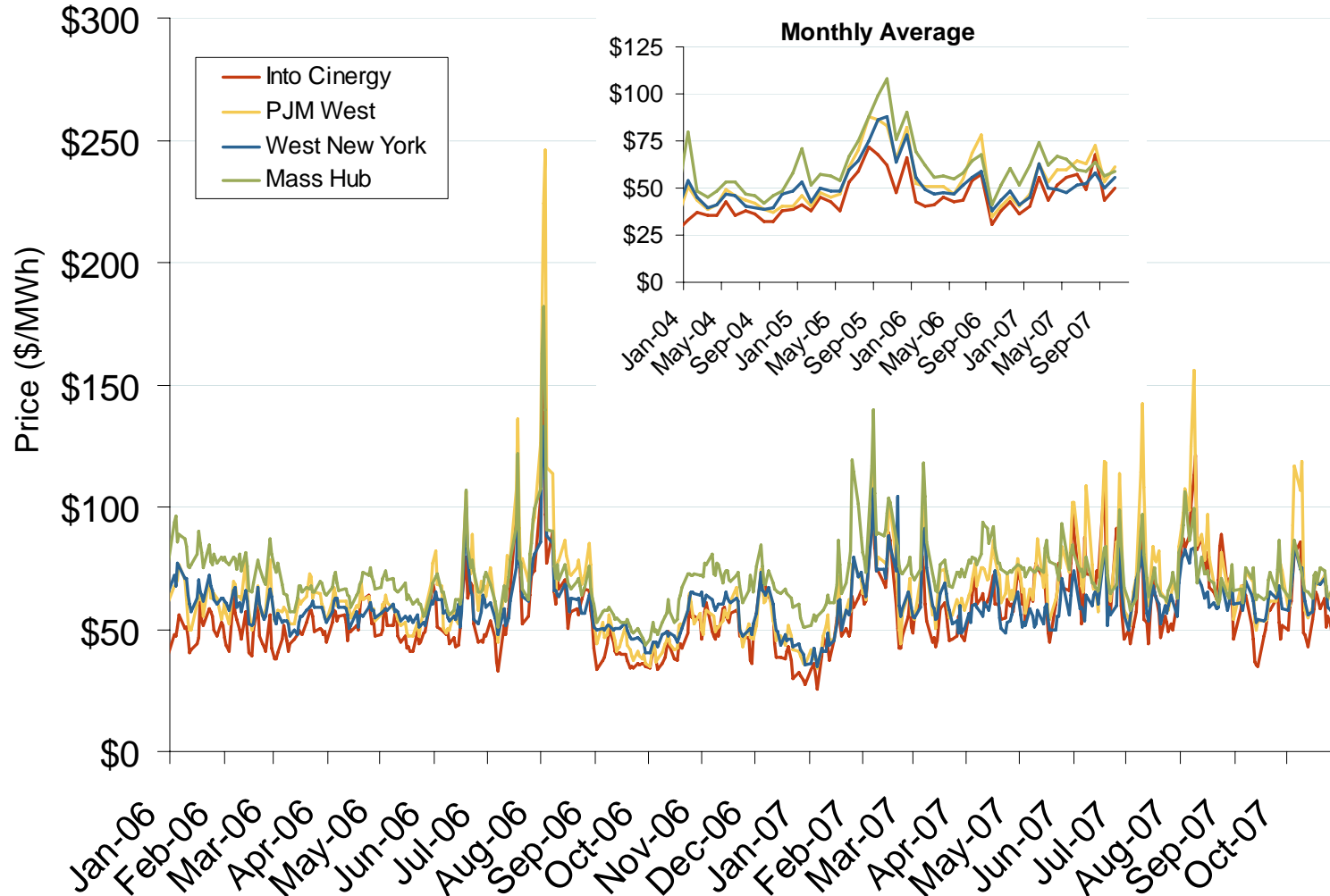**Federal Energy Regulatory Commission • Market Oversight @ FERC.gov**

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

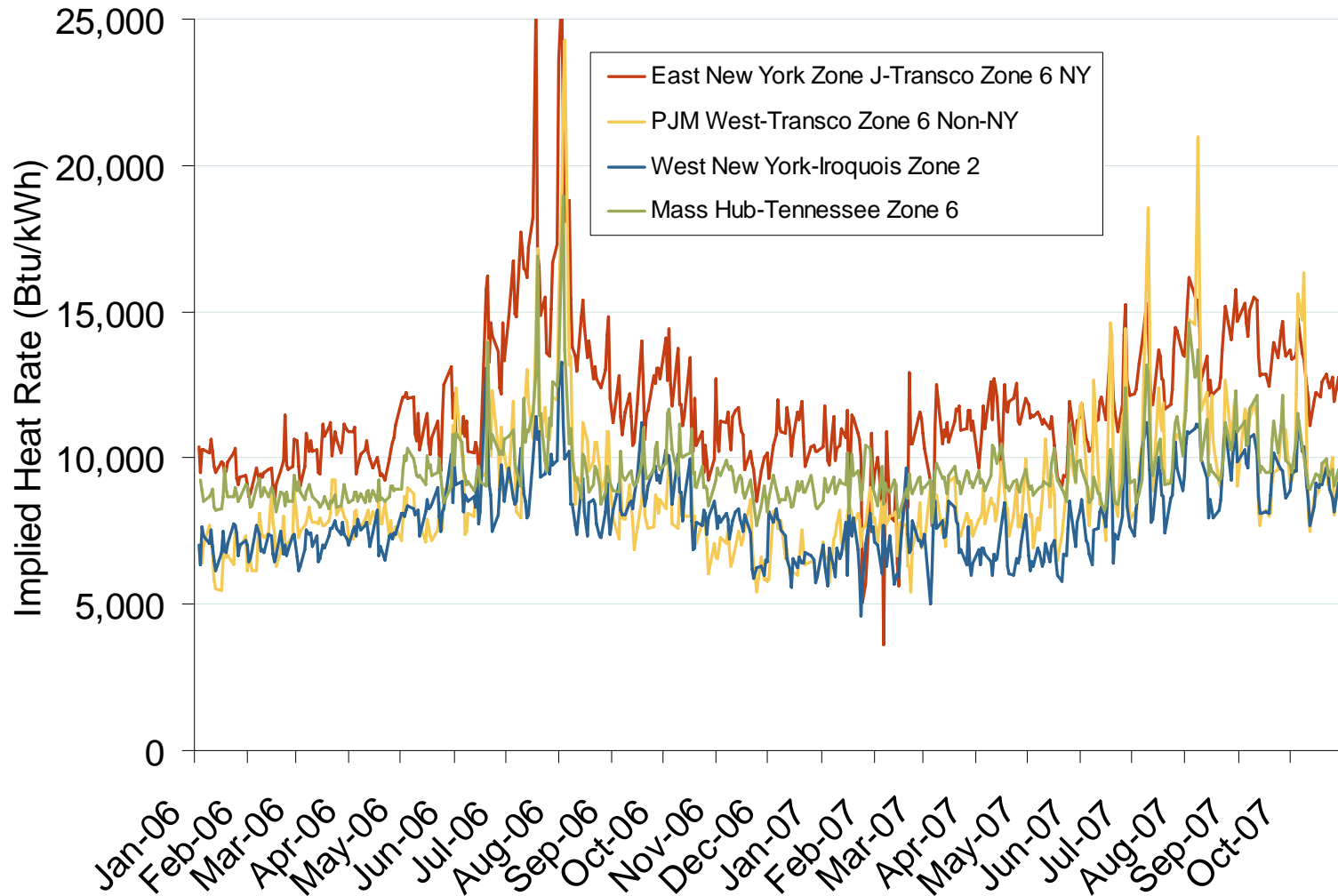Source: Derived from *ISO-NE* data.

Updated November 2, 2007

1021
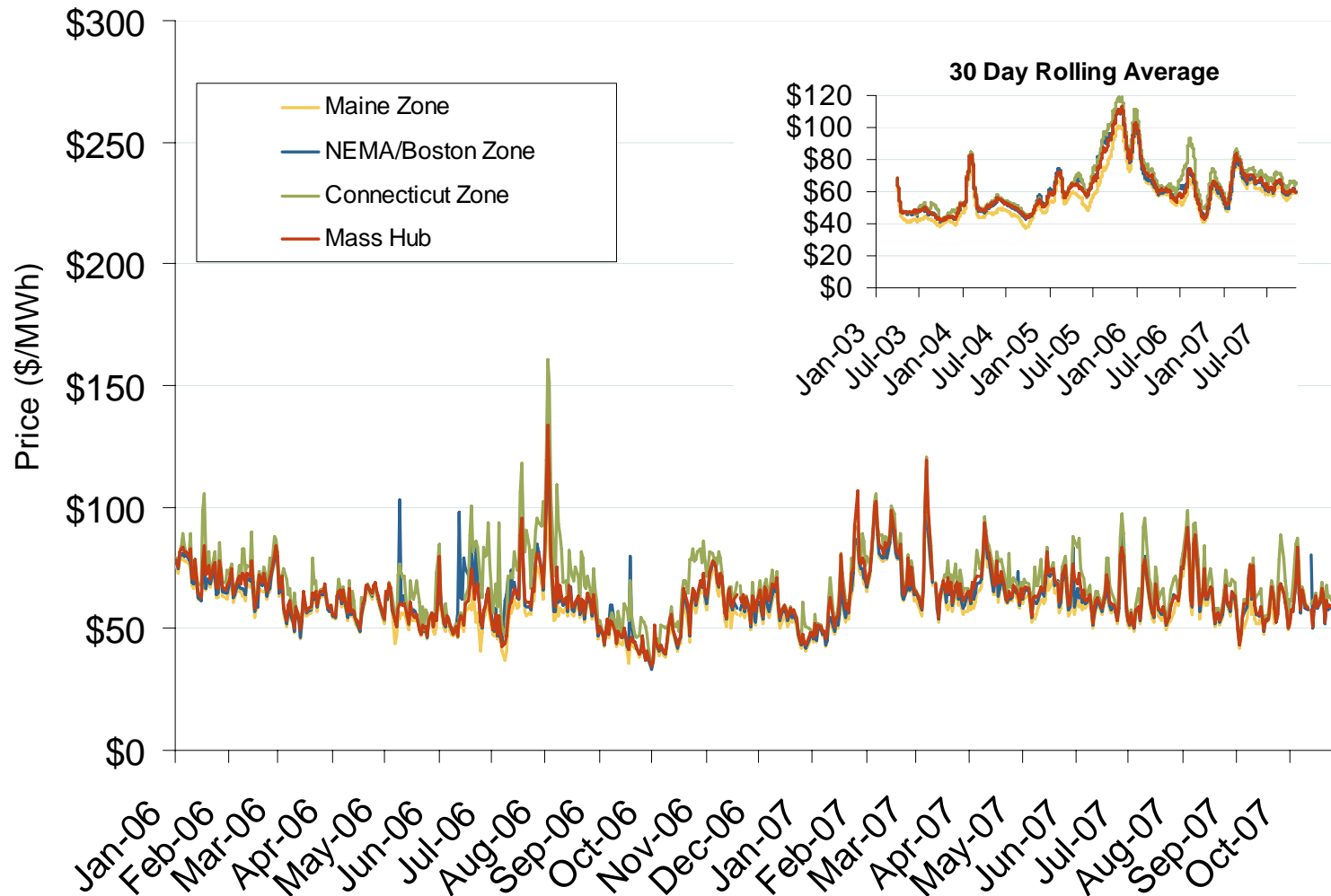
November 2007

Eastern Daily Bilateral Day-Ahead On-Peak Prices

Source: Derived from *Platts* data.

Updated November 2, 2007

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

Implied Heat Rates at Eastern Trading Points

Legend:
- East New York Zone J-Transco Zone 6 NY
- PJM West-Transco Zone 6 Non-NY
- West New York-Iroquois Zone 2
- Mass Hub-Tennessee Zone 6

Y-axis: Implied Heat Rate (Btu/kWh)

Source: Derived from *Platts* data

Updated November 2, 2007

1136

November 2007

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

Weekly Electric Generation Output and Temperatures
New England
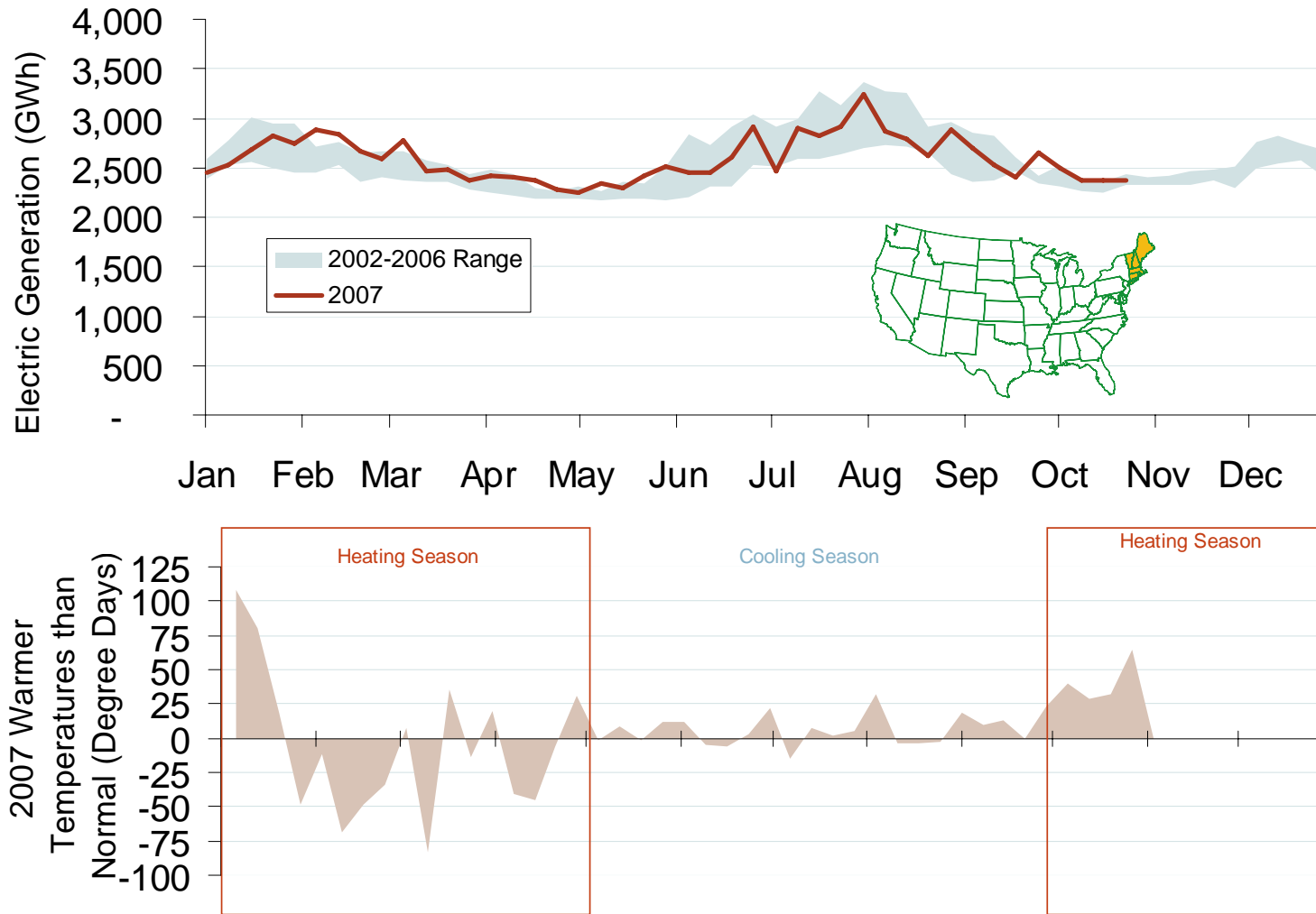
Source: Derived from *EEI* and *NOAA* data.

Updated November 2, 2007
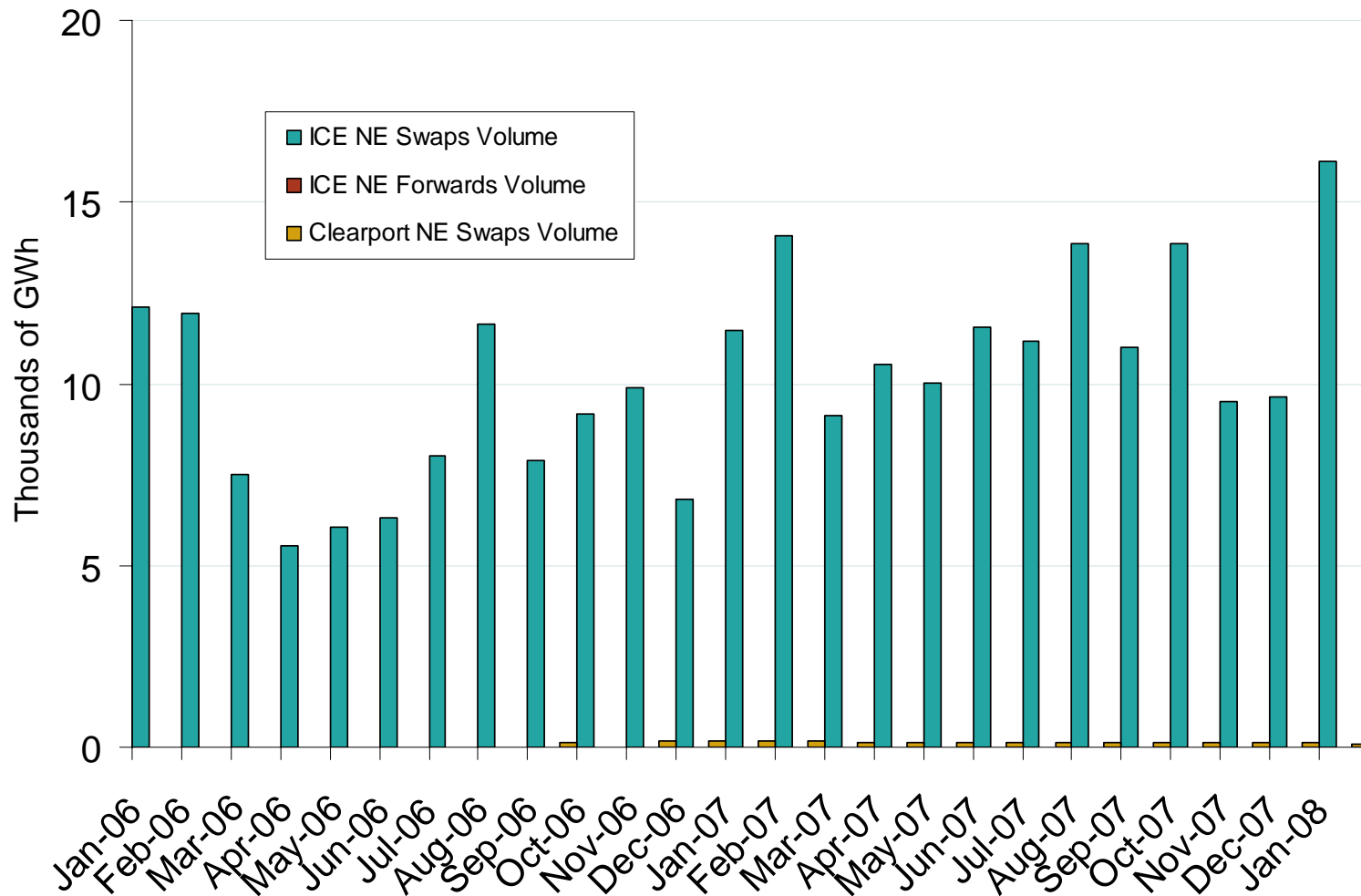
1111

November 2007

New England Electric Forward Price Curve and New York and Henry Hub Natural Gas Forward Curves
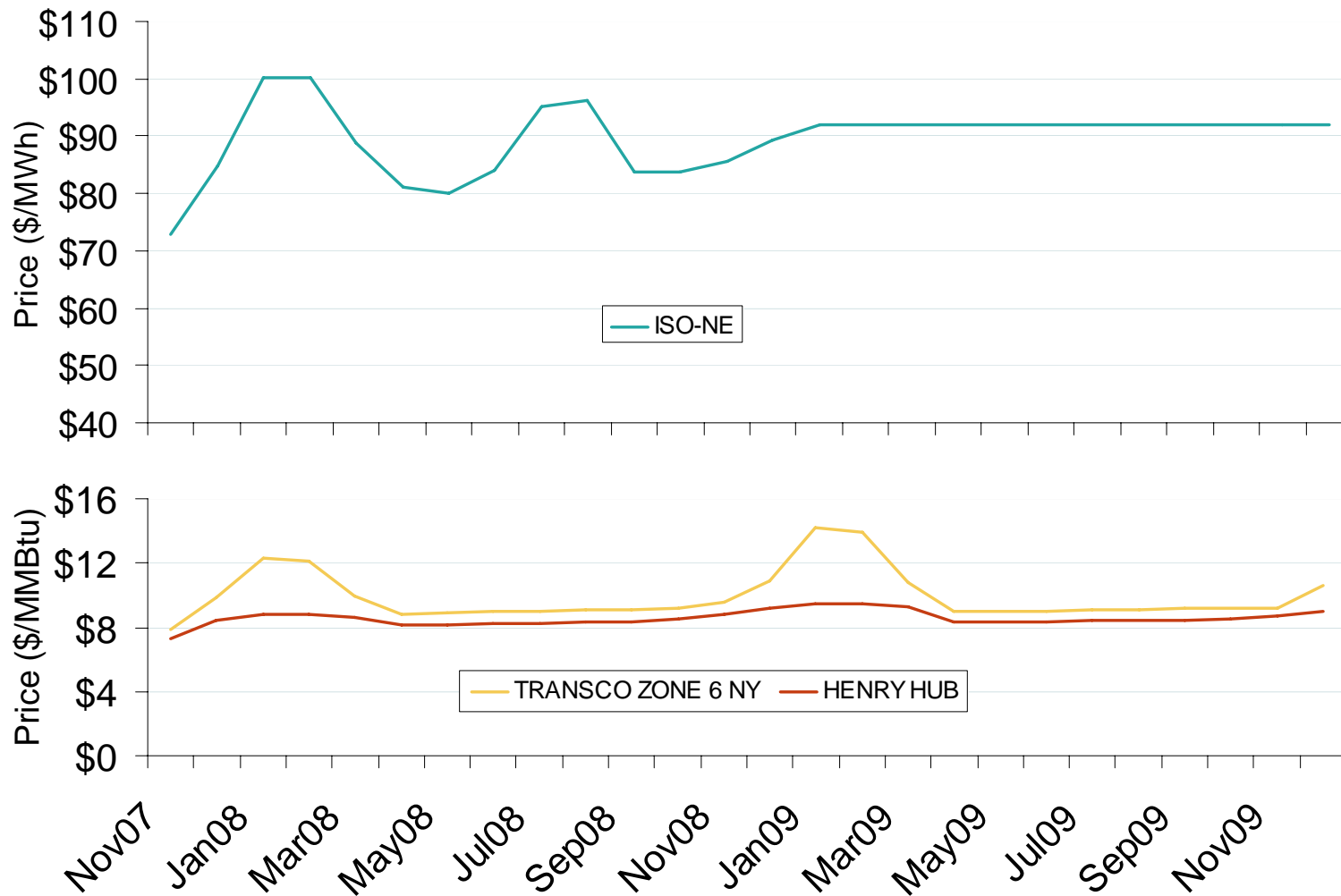
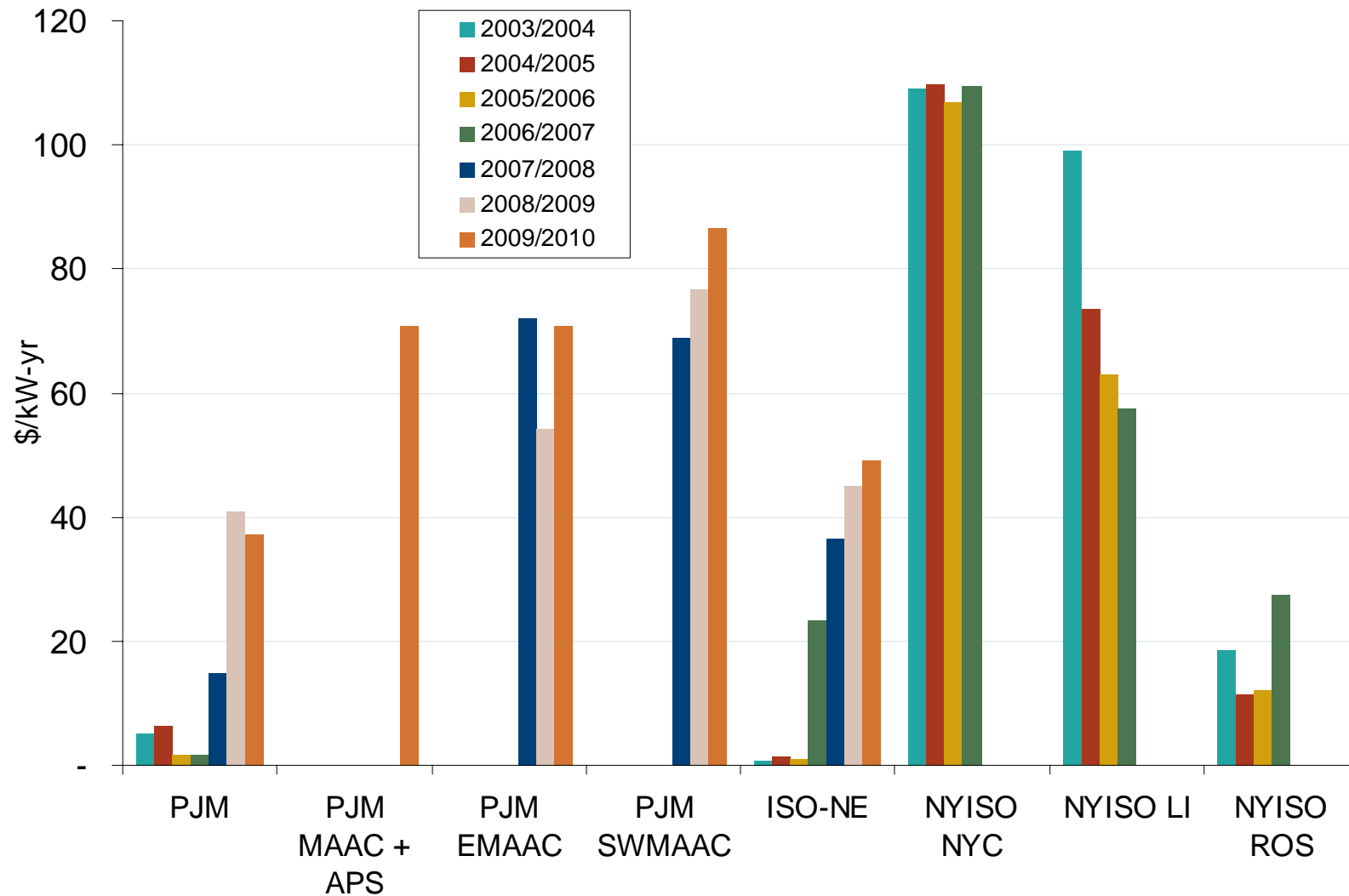Source: Derived from *Nymex* data.

Updated November 2, 2007

1127

November 2007

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   November 2, 2007
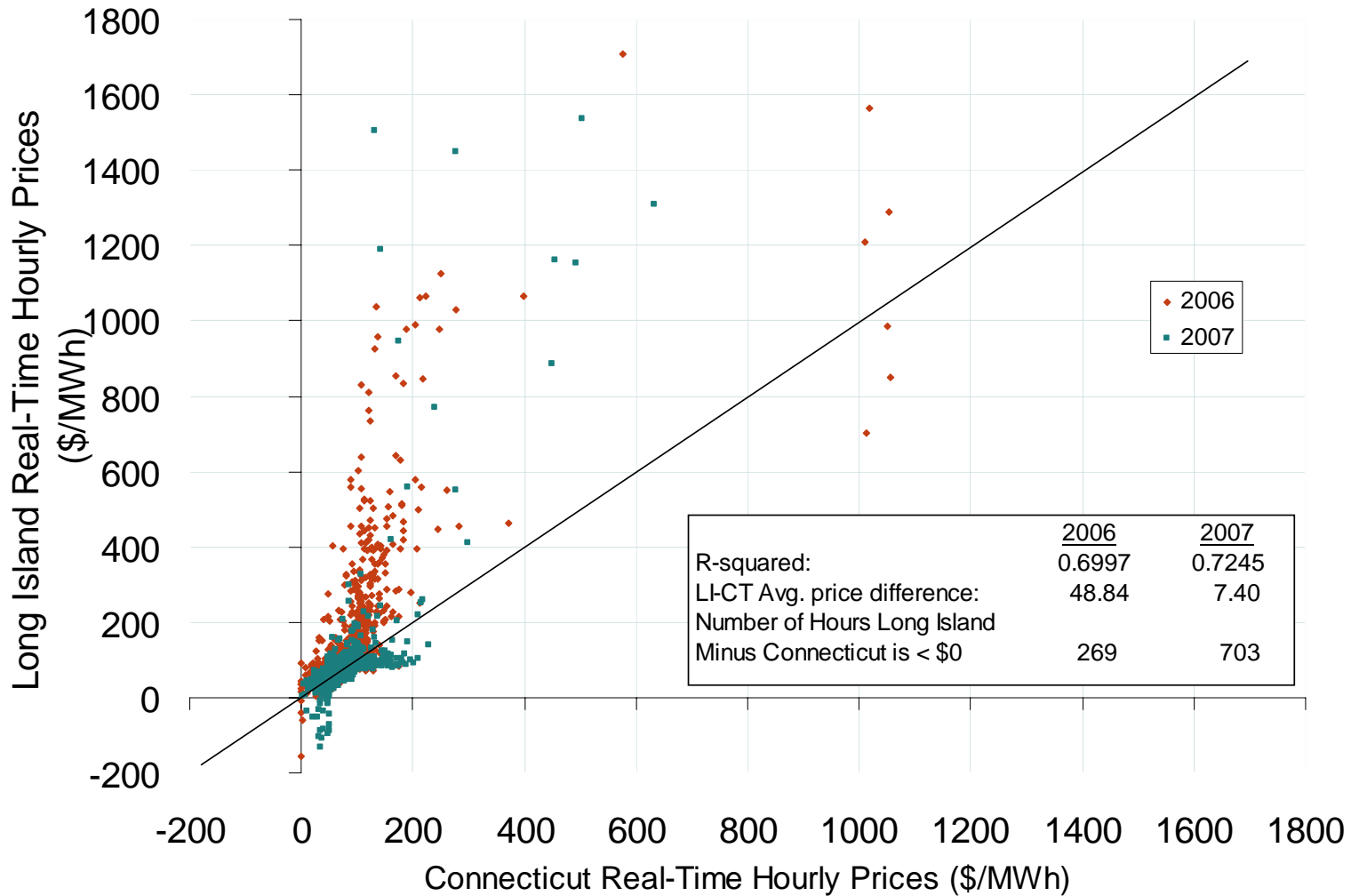
1023

PJM, NYISO and ISO-NE Capacity Prices

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

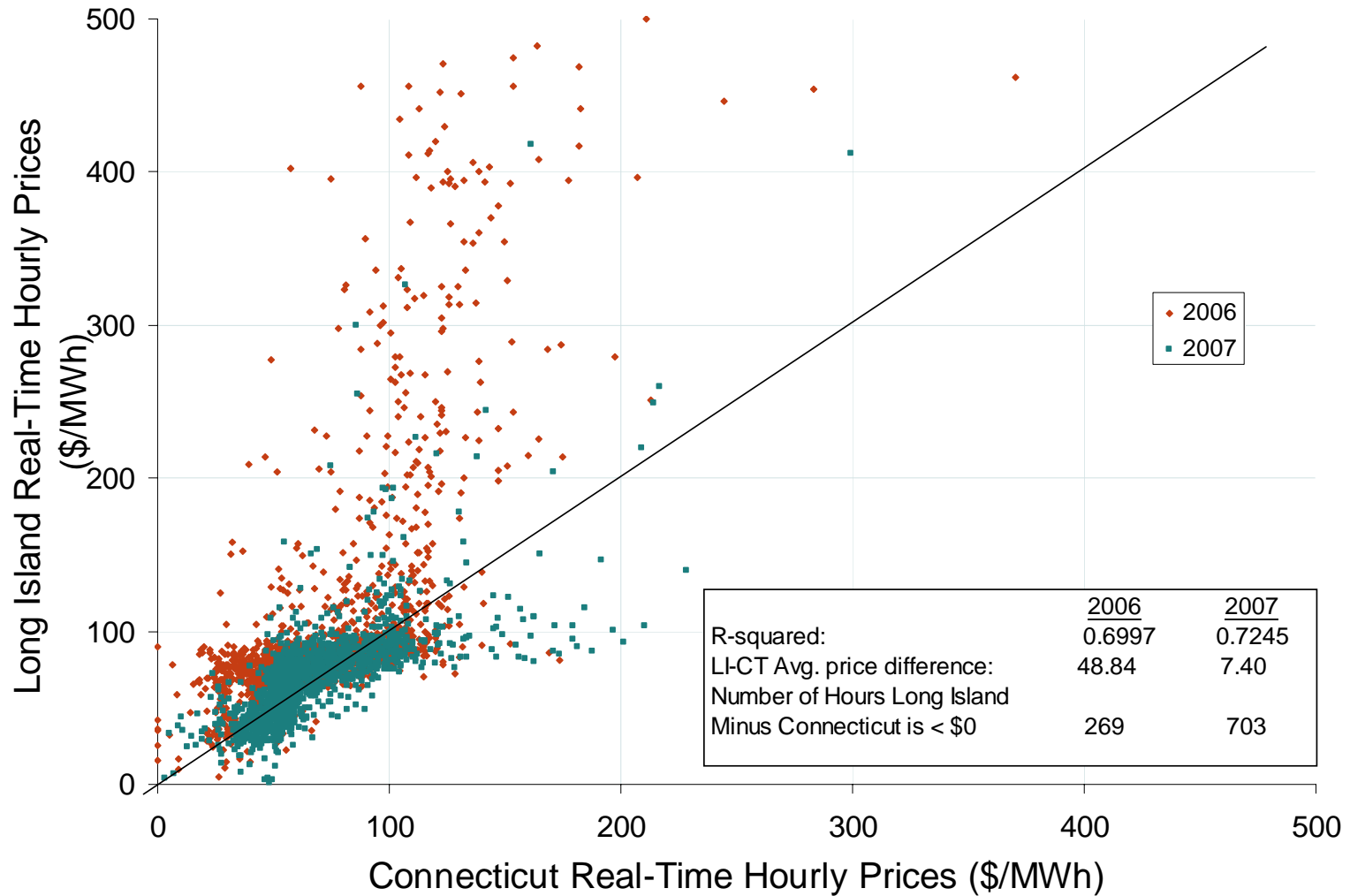*Updatd October 22, 2007*

1144

November 2007

Hourly Real-Time Prices at Long Island (NYISO) and Connecticut (ISO-NE) Summer 2006 and 2007 (July and August)

Source: Derived from *NYISO* and *ISO-NE* data.

Created November 5, 2007   1159

November 2007

Hourly Prices at Long Island (NYISO) and Connecticut (ISO-NE) Summer 2006 and 2007 (July and August)

	2006	2007
R-squared:	0.6997	0.7245
LI-CT Avg. price difference:	48.84	7.40
Number of Hours Long Island Minus Connecticut is < $0	269	703

Source: Derived from *NYISO* and *ISO-NE* data.

Created November 5, 2007

1159

November 2007