

The Evolution of the CME Group Electricity Complex

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CME Group Overview

- **The world's most diverse derivatives marketplace**
- **Operates four separate Exchanges CME, CBOT, NYMEX, and COMEX**
- **The widest range of benchmark products available across all major asset classes, including futures and options based on interest rates, equity indexes, foreign exchange, energy, metals, agricultural, environmental emissions, and alternative investment products**
- **All CME Group futures and options contracts are Designated Contract Markets, the highest level of Commodity Futures Trading Commission regulation**

CME Group Overview

Leading size and scale—3.4 billion contracts, 2011

Advanced Globex trading technology

Financial safeguards

Transparent and anonymous marketplace

CME ClearPort

- **Brings together more than 10,000 registered users around the world**
 - **Commercial, banking, hedge funds, trading entities**
 - **IDBs, FCMs and clearing firms.**
- **1,180 listed contracts available for clearing, with more to come.**

CME Group Energy Product Complex

Petroleum

Ethanol

Emissions

Natural Gas

Electricity

Natural Gas Liquids

Coal

Uranium

Freights

CME Group Electricity Complex

- **Complex Provides Risk Management and Price Discovery for U.S. ISO/RTO Markets**
- **2.5 and 5 MW Contract Units to Cover DA and RT Risk Management Requirements**
- **Contracts Settle on ISO/RTO DA and RT Posted Prices**
- **Monthly Futures Contracts Listed for Current and Next Five Years**
- **Daily Futures Contracts Listed for Current Month and Next Month**

CME Group Electricity Complex Developments

- 1996:** NYMEX launched its first two electricity futures contracts in the Western U.S. The contracts were deliverable at the California Oregon Border and the Palo Verde nuclear plant.
- 1998:** NYMEX launched its first Eastern electricity futures: Cinergy and Entergy. Final settlement of these contracts was by physical delivery.
- 2003:** NYMEX launched its financially settled electricity futures complex with final settlement on PJM real-time Western Hub prices. These contracts were the first NYMEX futures contracts with ISO price final settlement
- 2008:** CME Group launched a comprehensive slate of PJM zone futures contracts intended to provide aggregator risk management throughout the competitive retail markets of PJM. Day-ahead futures coverage was also extended to primary PJM hubs.
- 2009:** ISO New England futures contracts launched for all state and intra-state zones with the exception of Vermont.
- 2011:** NYISO capacity futures contracts launched for NYC and Rest of State.
Open interest reached 1 billion MWh on 10/14/11
Volume Over 2 billion MWh in 2011
- 2012** Cinergy Hub to Indiana Hub MISO transition

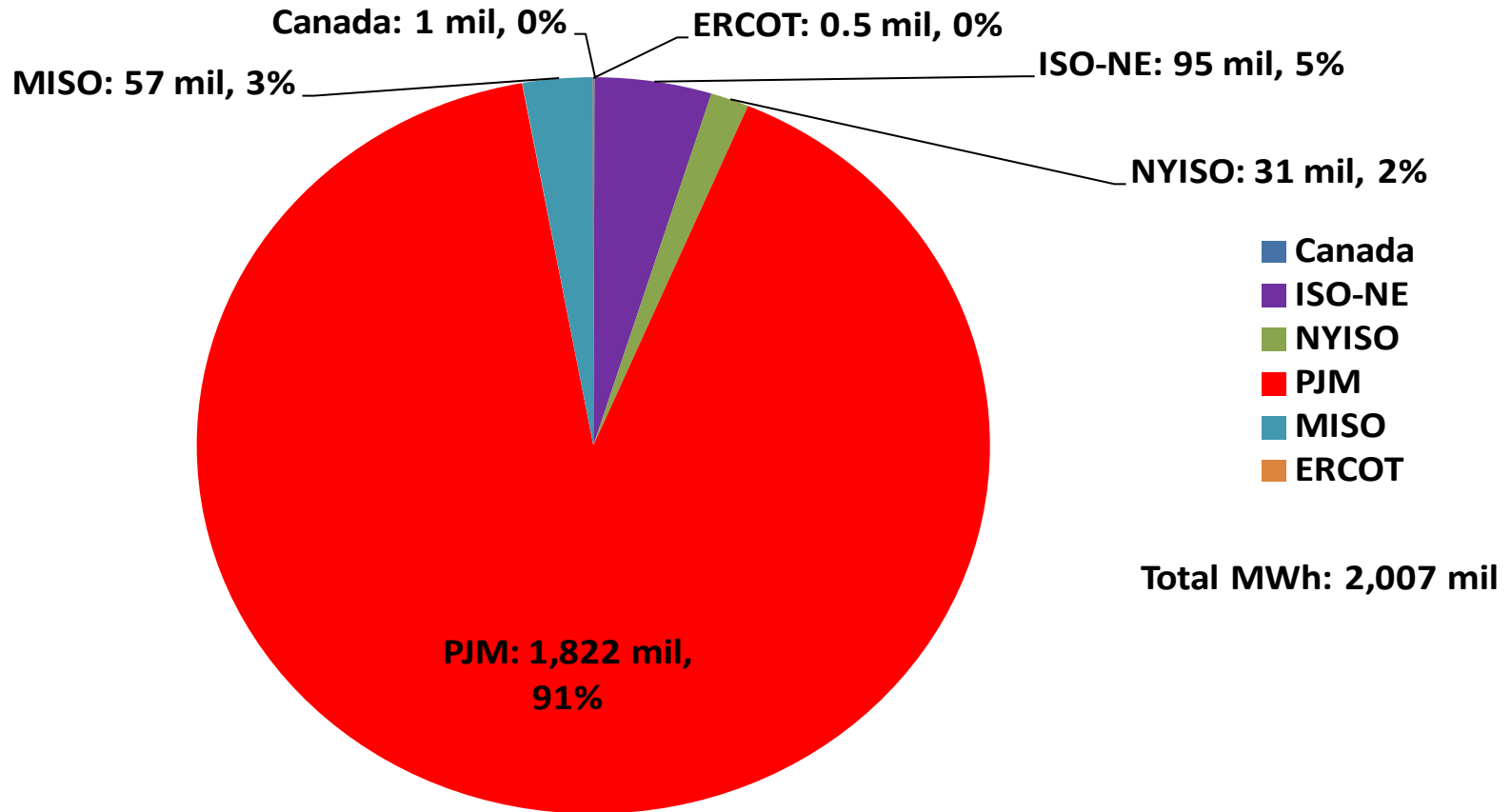
Number of Contracts by Region and Type

Region	Futures	Options	Total
Canadian	14		14
ERCOT	80		80
ISO-NE	19	2	21
MISO	23	2	25
NYISO	23	3	26
PJM	60	14	74
Western Power	21	1	22
Total	240	22	262

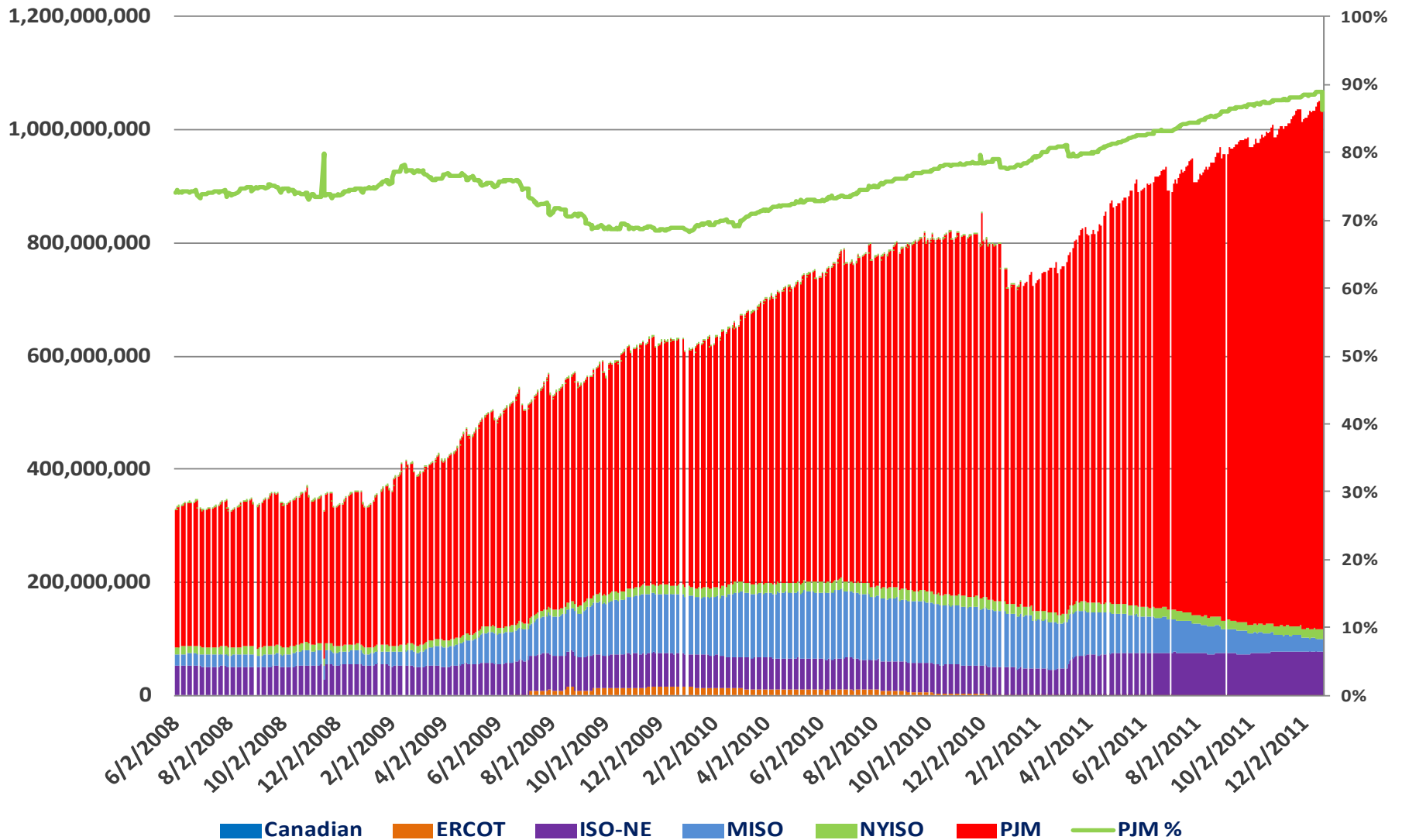
CME Group Electricity Futures and Options Complex

Market	Listed	Contract Type
• PJM	74	DA, RT, Options
• NYISO	26	DA, Options, Capacity
• ISO-NE	21	DA, Options
• MISO	25	DA, RT, Options
• ERCOT	80	RT, DA
• CAISO and DJ	22	DA, RT
• Canadian	14	
Total:	262	

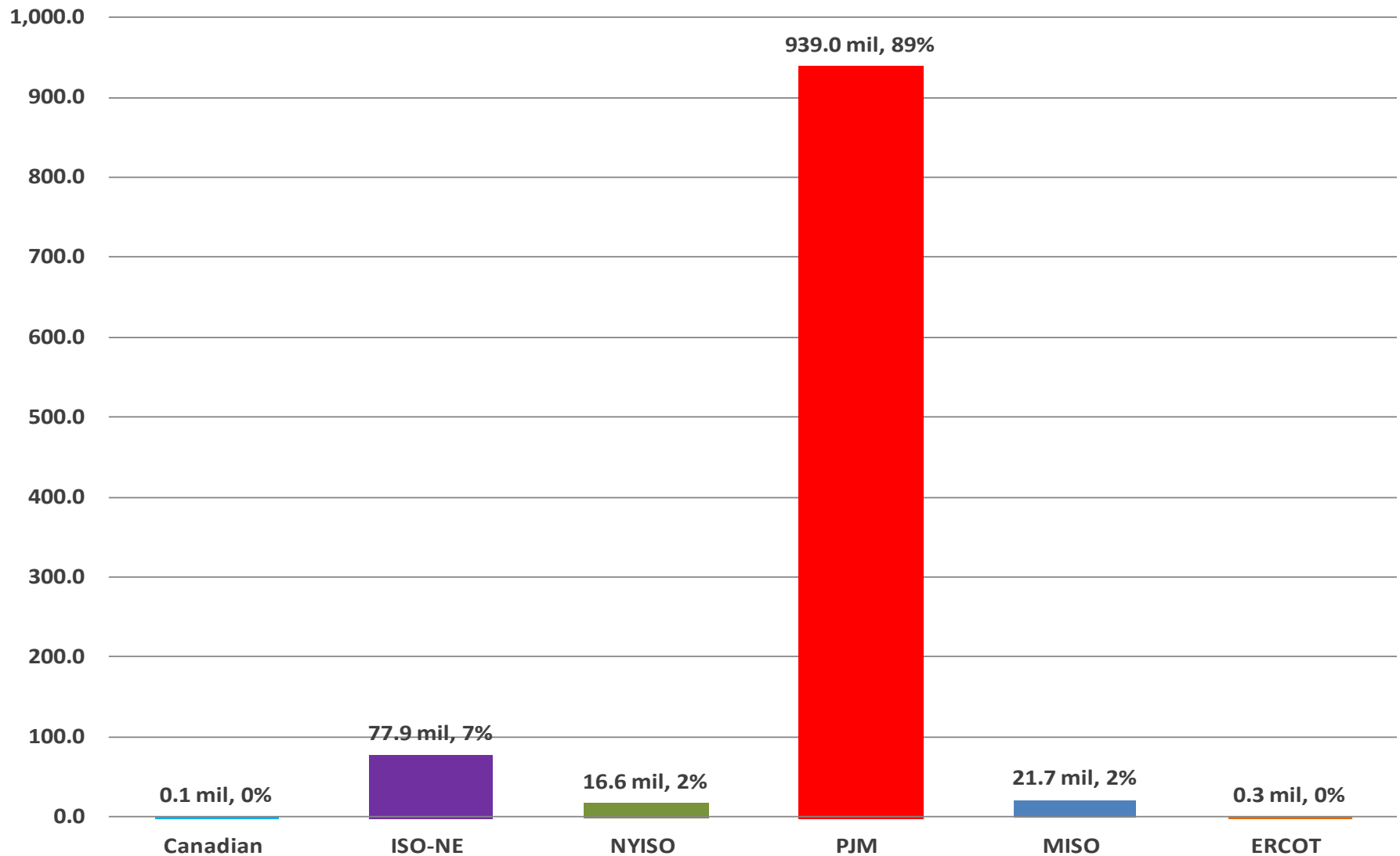
2011 Volume (MWh)



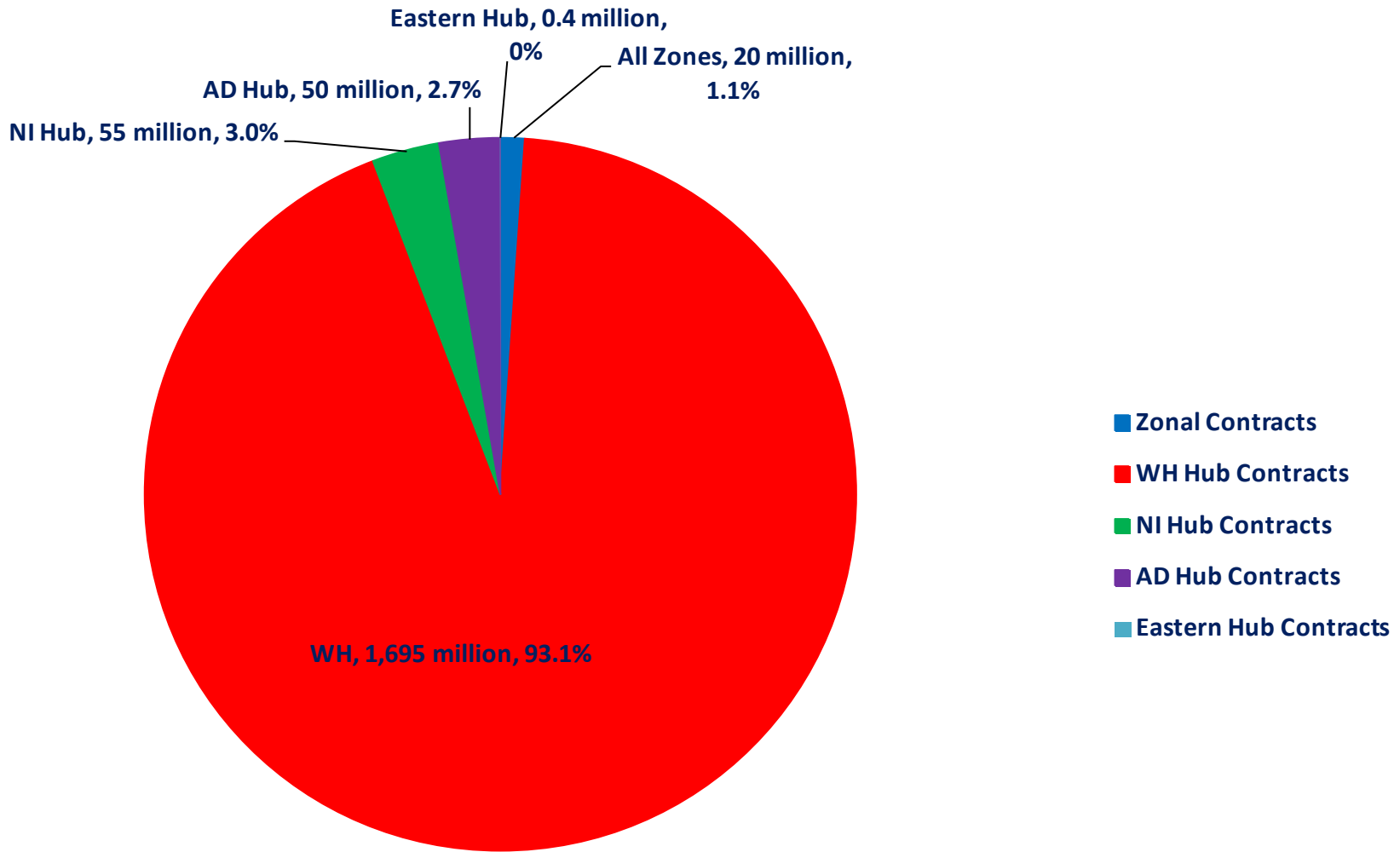
Historical Daily Open Interest by Market



Open Interest as of December 22, 2011 - 1,056 million MWhrs

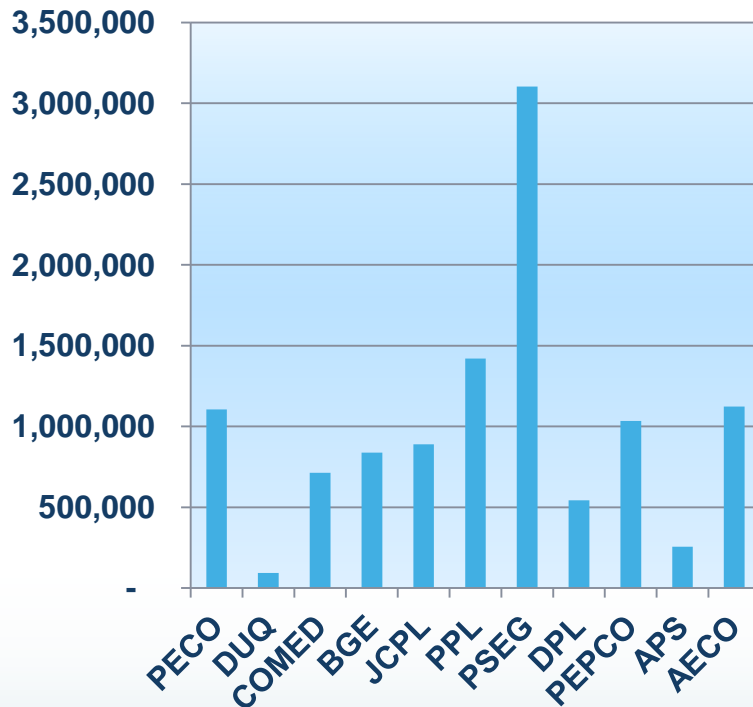


2011 PJM Volume by Market Segment (MWh)

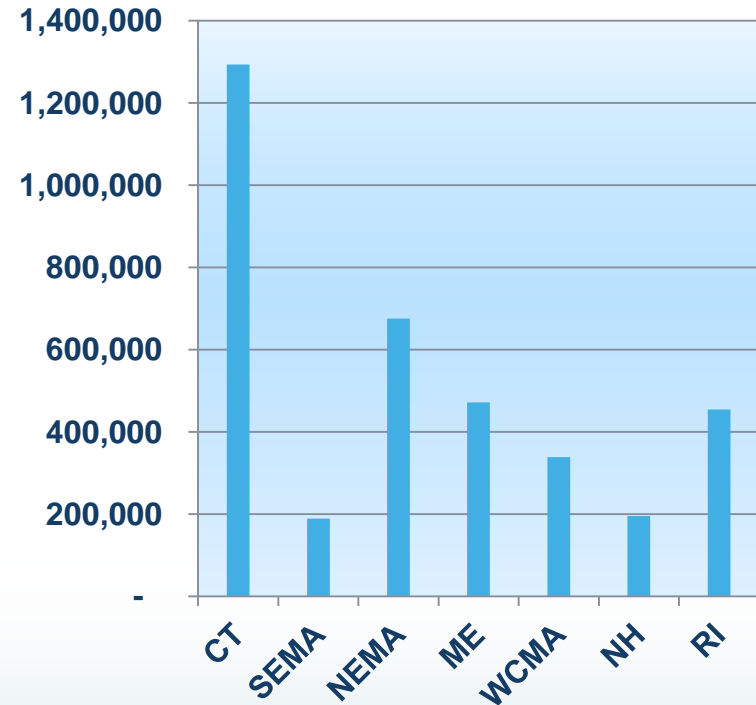


CMEG PJM and ISO-NE Zone MWh Open Interest as of 3/5/12

CMEG PJM Peak Zone Futures



CMEG ISO-NE Peak State and Intrastate Zone Futures



PJM Western Hub Peak Calendar-Month Real-Time LMP Swap Futures

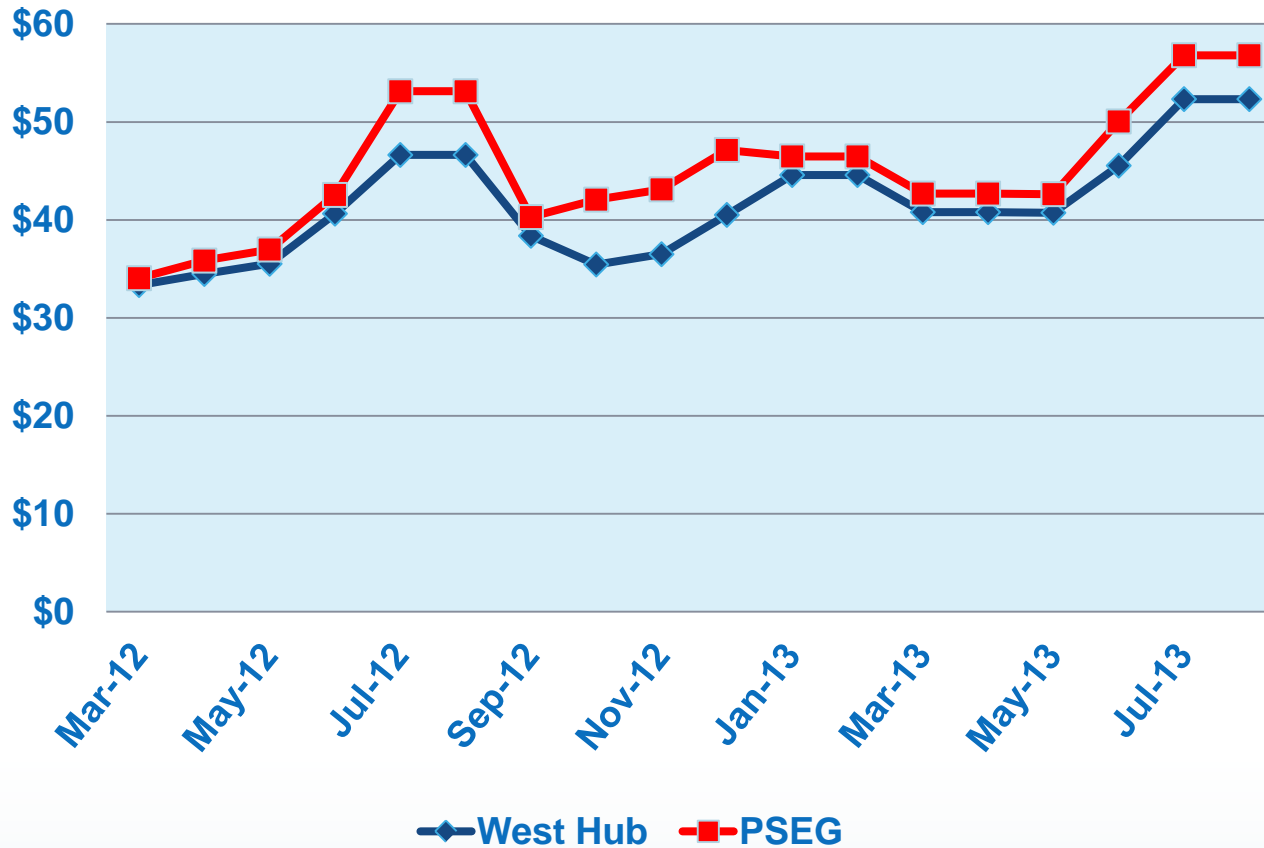
Contract Unit: 80 Megawatt hours (MWh) (5 MW per peak hour).

Price Quotation: The contract quantity shall be 80 Megawatt Hours (MWH) and is based on 5 megawatts for peak daily hours. Transaction sizes for trading in any delivery month shall be restricted to whole number multiples of the number of peak days in the contract month.

Floating Price: The Floating Price for each contract month will be equal to the arithmetic average of the PJM Western Hub Real-Time LMP for peak hours provided by PJM Interconnection, LLC (PJM) for the contract month. For settlement of this contract, the prices provided by PJM will be considered final on the payment date stated in Rule 176.10 and will not be subject to any further adjustment.

Termination of Trading: Trading shall cease on the last business day of the contract month

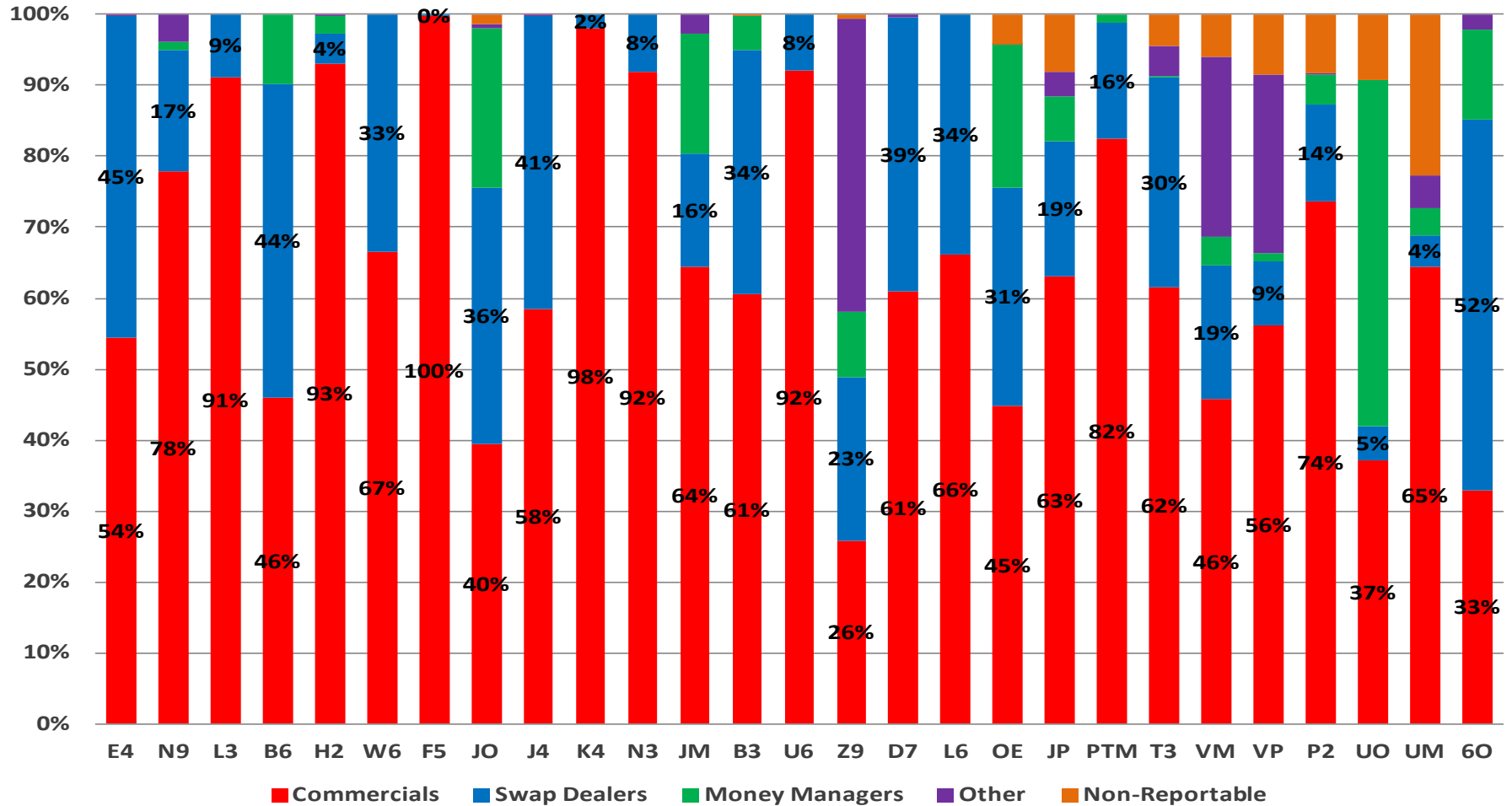
PJM Western Hub and PSEG Peak Day-Ahead 2/29/12 Settlement Prices



CFTC Commitment of Traders Report

Distribution of Positions Held by Different Type of Traders

Open Interests by Trader Type as of December 20, 2011



Contract Code and Name

Contract Code	Contract Name
E4	PJM Western Hub Off-Peak Calendar-Month Day-Ahead LMP Swap Futures
N9	PJM Western Hub Off-Peak Calendar-Month Real-Time LMP Swap Futures
L3	PJM Northern Illinois Hub Off-Peak Calendar-Month Day-Ahead LMP Swap Futures
B6	PJM Northern Illinois Hub 5 MW Off-Peak Calendar-Month Real-Time LMP Swap Futures
H2	ISO New England Internal Hub 5 MW Off-Peak Calendar-Month Day-Ahead LMP Swap Futures
W6	PJM PSEG Zone Off-Peak Calendar-Month Day-Ahead LMP Swap Futures
F5	PJM PPL Zone Off-Peak Calendar-Month Day-Ahead LMP Swap Futures
JO	PJM Calendar-Month LMP Swap Options
J4	PJM Western Hub Peak Calendar-Month Day-Ahead LMP Swap Futures
K4	NYISO Zone A 5 MW Off-Peak Calendar-Month Day-Ahead LBMP Swap Futures
N3	PJM Northern Illinois Hub Peak Calendar-Month Day-Ahead LMP Swap Futures
JM	PJM Peak Calendar-Month LMP Swap Futures
B3	PJM Northern Illinois Hub 5 MW Peak Calendar-Month Real-Time LMP Swap Futures
U6	ISO New England Internal Hub 5 MW Peak Calendar-Month Day-Ahead LMP Swap Futures
Z9	PJM AEP Dayton Hub 5MW Peak Calendar-Month Real-Time LMP Swap Futures
D7	PJM AEP Dayton Hub Peak Calendar-Month Day-Ahead LMP Swap Futures
L6	PJM PSEG Zone Peak Calendar-Month Day-Ahead LMP Swap Futures
OE	ISO New England Peak Calendar-Month LMP Swap Options
JP	PJM Off-Peak Calendar-Month LMP Swap Futures
PTM	Midwest ISO Indiana Hub 5 MW Peak Calendar-Month Real-Time Swap Futures
T3	NYISO Zone G 5 MW Peak Calendar-Month Day-Ahead LBMP Swap Futures
VM	PJM AEP Dayton Hub Peak Calendar-Month LMP Swap Futures
VP	PJM AEP Dayton Hub Off-Peak LMP Swap Futures
P2	ISO New England Connecticut Zone 5 MW Peak Calendar-Month Day-Ahead LMP Swap Futures
UO	PJM Northern Illinois Hub Off-Peak LMP Swap Futures
UM	PJM Northern Illinois Hub Peak Calendar-Month LMP Swap Futures
6O	PJM Electricity Option on Calendar Futures Strip Options

NYISO Capacity Futures Contracts

A Fundamentally Different Contract: Max Demand vs. Consumption (Capacity vs. Flow)

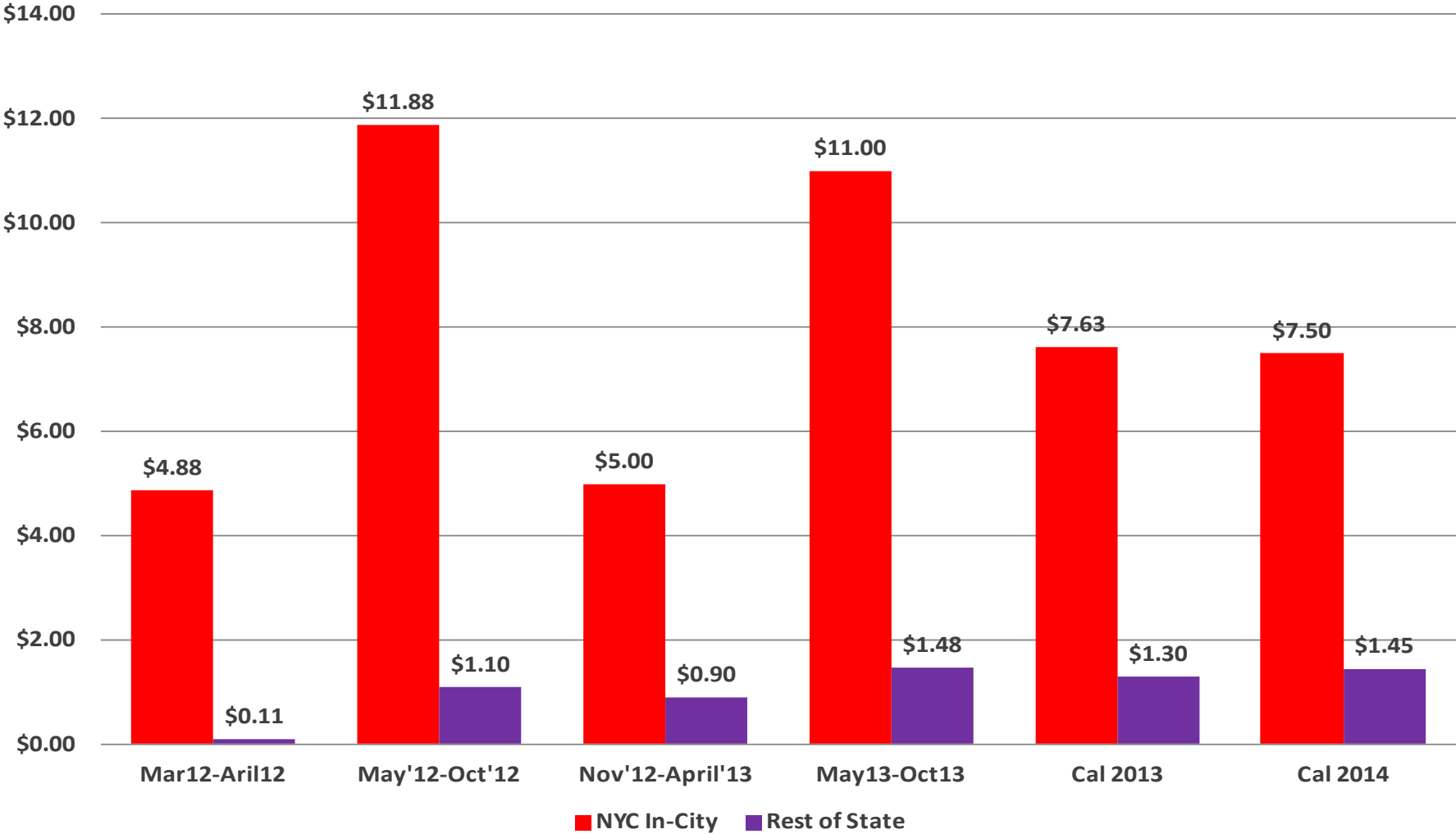
**Annual Auction Volume: 63,000 MW-Month for NYC
134,000 MW-Month for Rest of the State**

**Recent Spot Prices: \$3 - 12 per kW-Month for NYC
\$0.01 – 1.50 per kW-Mont for Rest of the State**

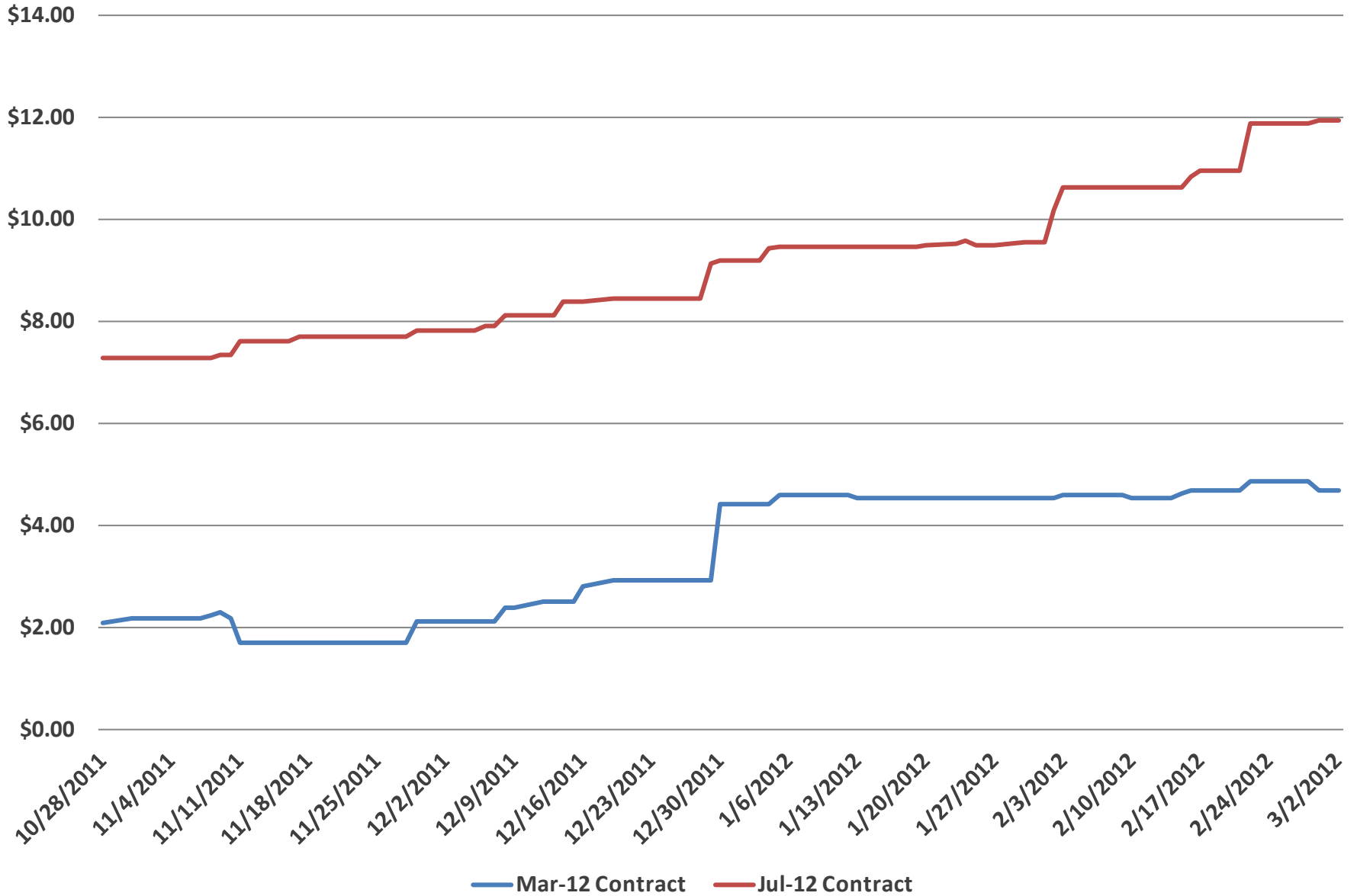
**Market Participants: Generators
Load Serving Entities
Wholesale Energy Marketers
Financial Participants**

NYISO Capacity Forward Curve \$/kW-Month

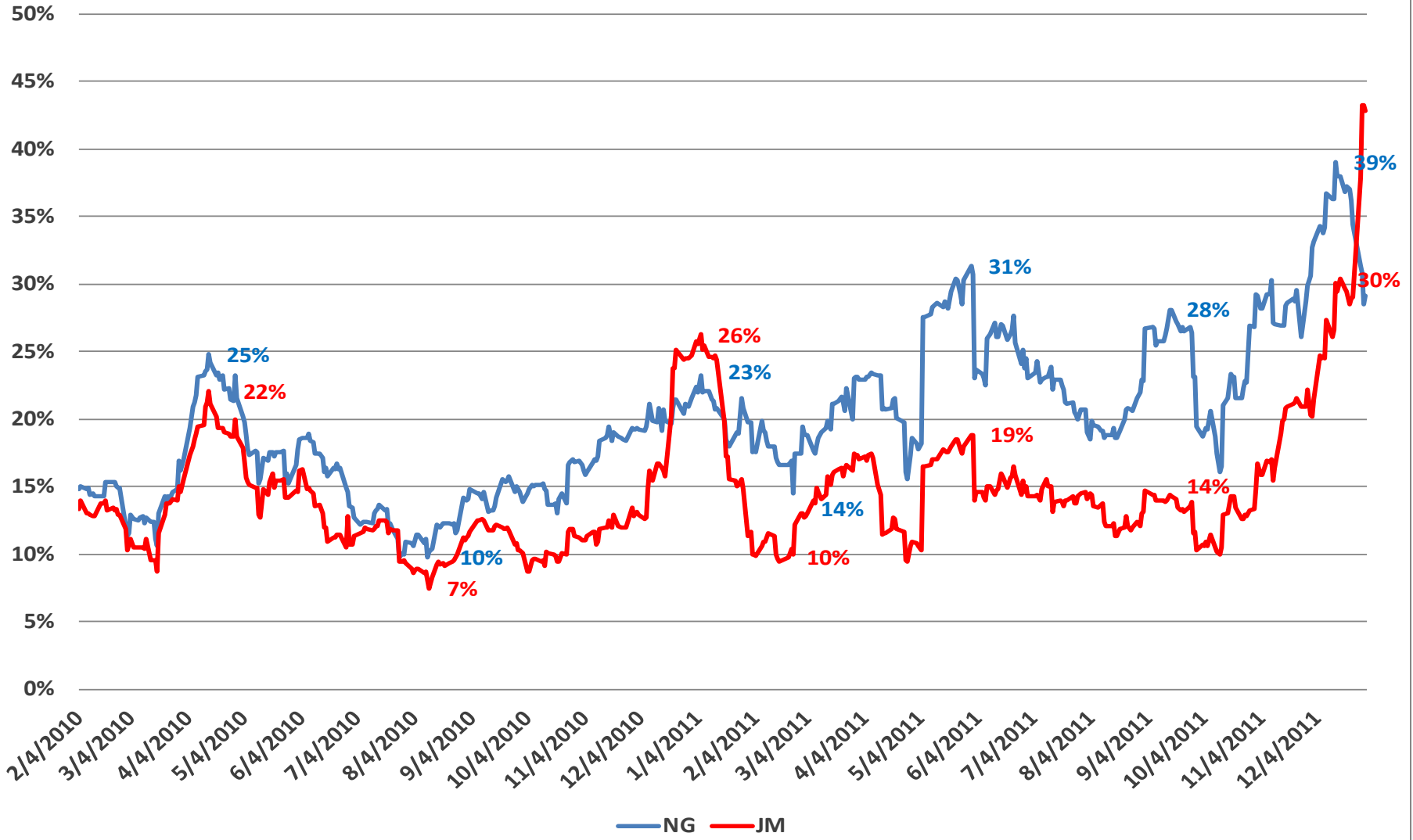
As of 2/27/2012



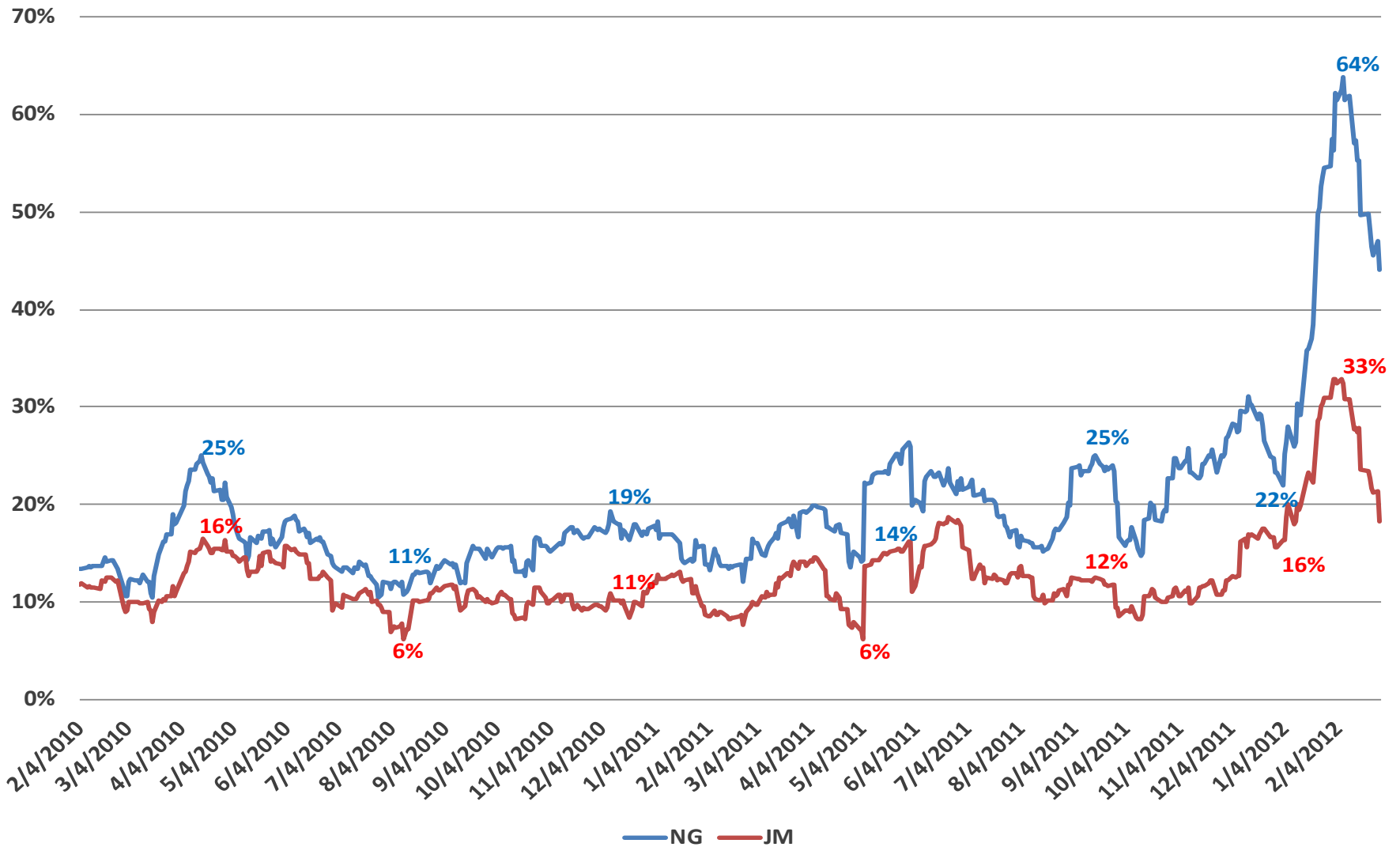
NYISO NYC In-City Capacity Contract Historical Price



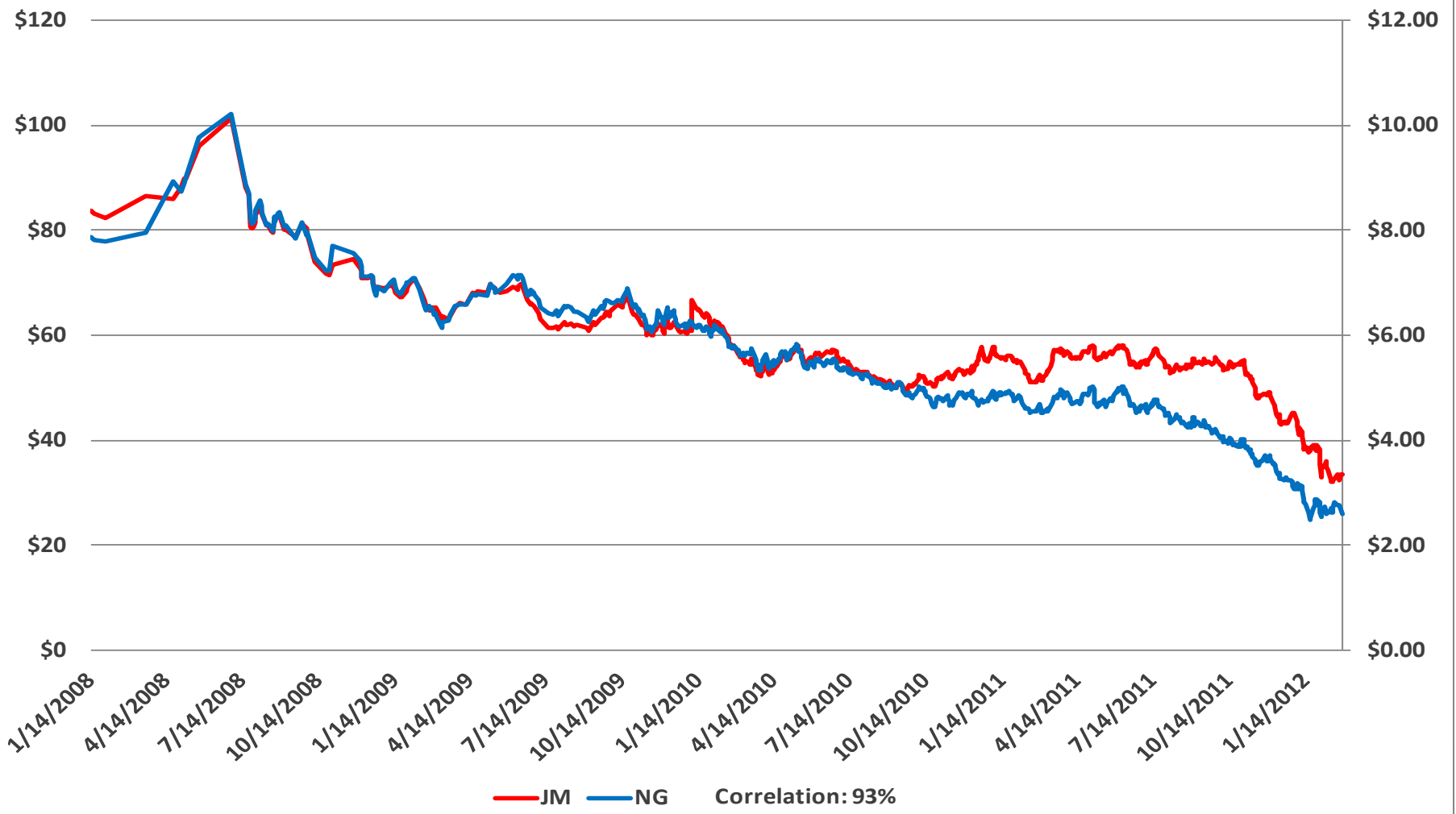
January 2012 NG and JM 20 Day Hist Vol



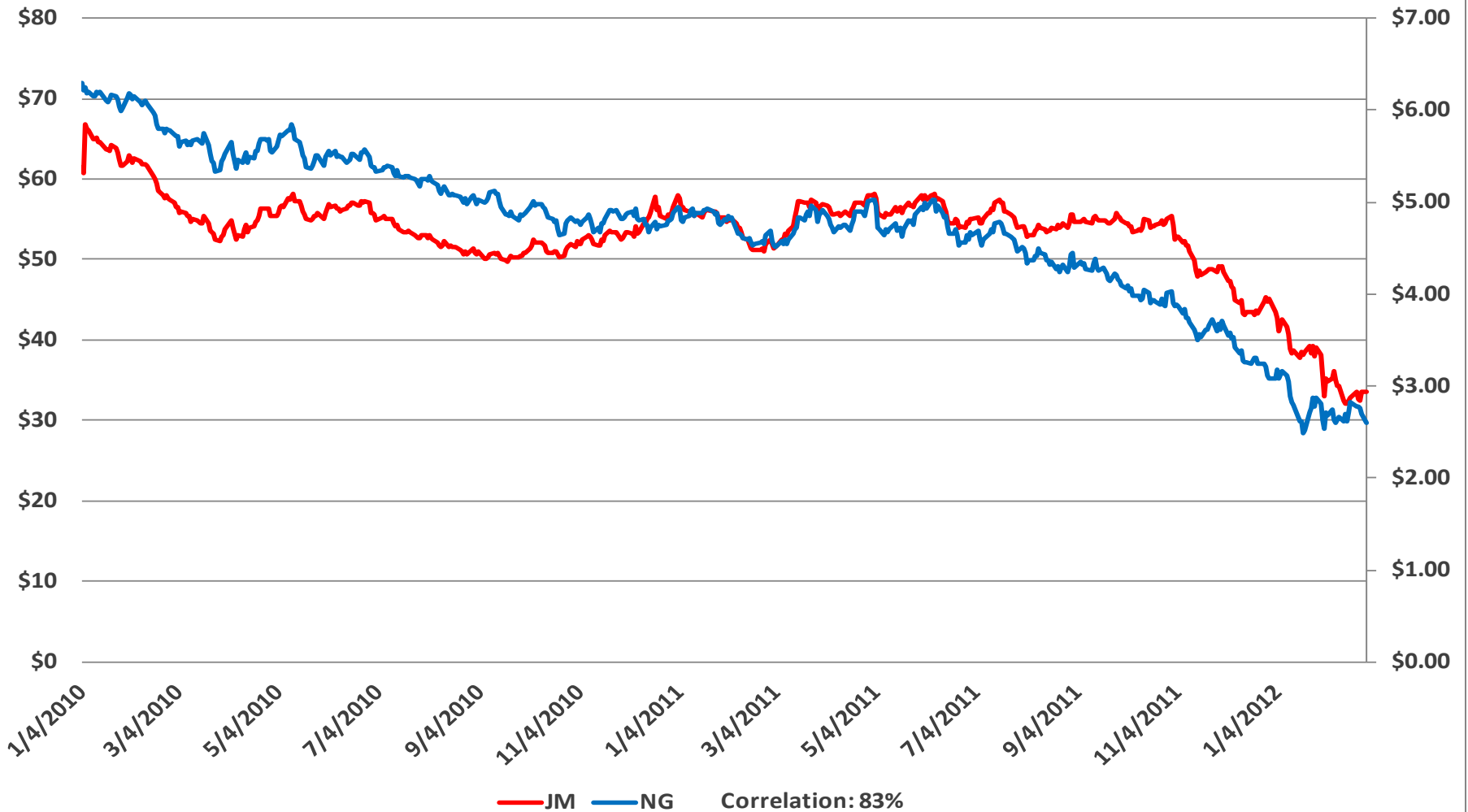
July 2012 NG and JM 20 Day Hist Vol



Henry Hub Natural Gas & PJM Western Hub Peak Prompt Month Forward Price Since January 2008



Henry Hub Natural Gas & PJM Western Hub Peak Prompt Month Forward Price Since January 2010



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