

The Use of ISO/RTO Prices for Futures Contract Final Settlement

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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—3.1 billion contracts, 2010

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.**
- **1,134 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.
- 2003:** NYMEX launched its financially settled electricity futures complex with final settlement on PJM real-time Western Hub prices.
- 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.

All time record open interest 1 billion MWh reached 9/14/11.

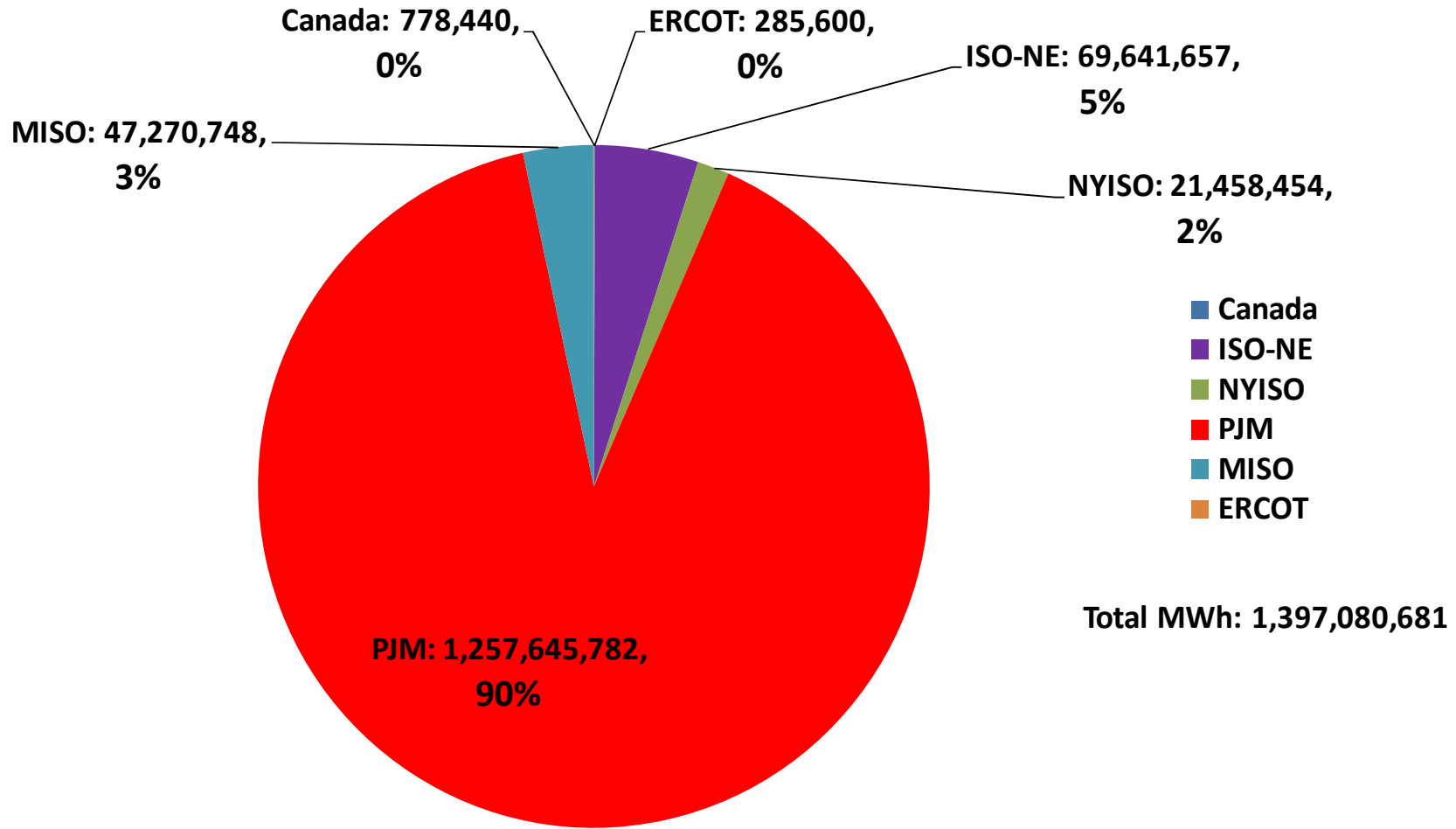
Number of Contracts by Region and Type

Region	Futures	Options	Total
Canadian	14		14
ERCOT	80		80
ISO-NE	19	2	21
MISO	23	2	25
NYISO	23	3	26
PJM	52	9	61
Western Power	21	1	22
Total	232	17	249

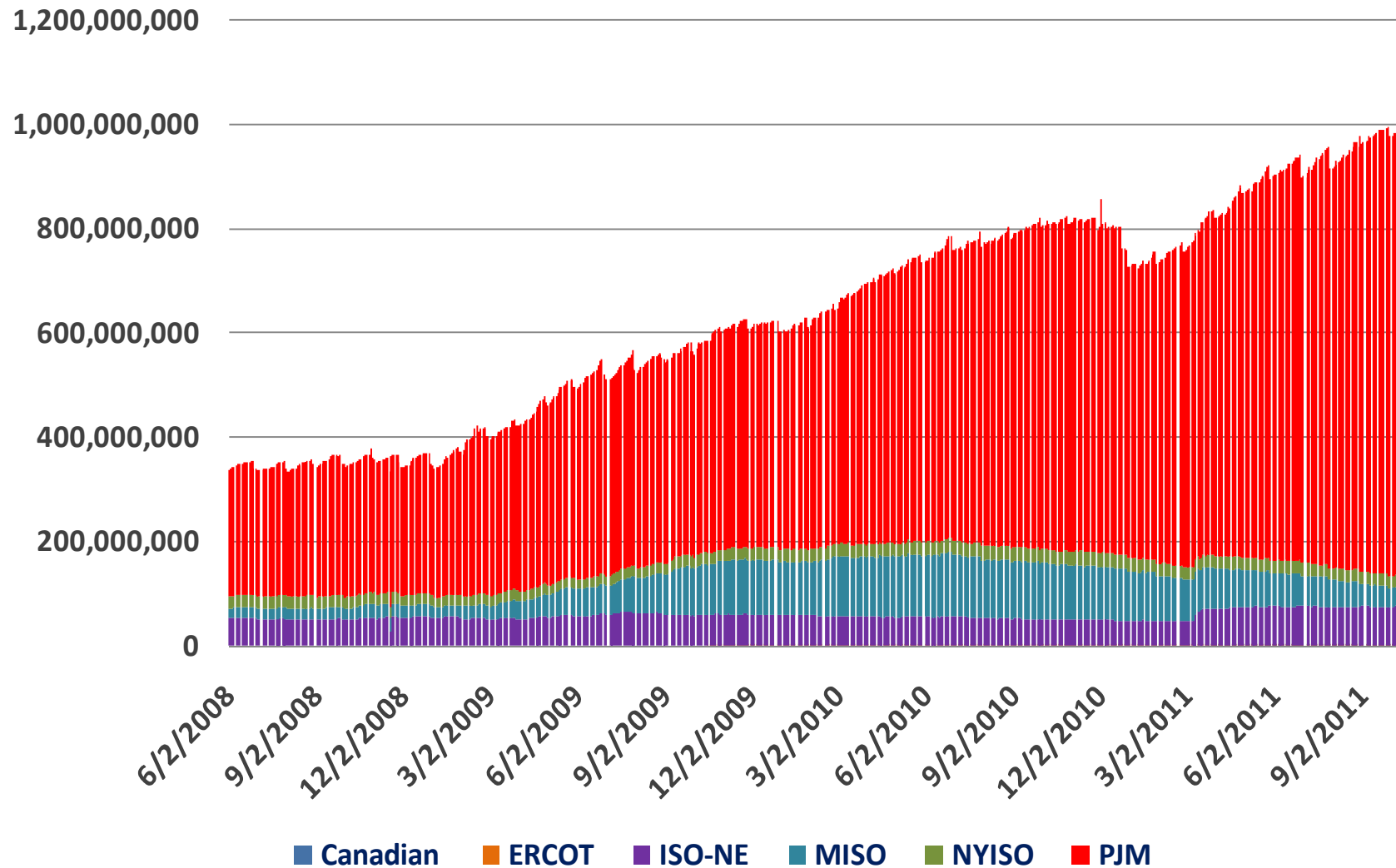
CME Group Electricity Futures and Options Complex

Market	Listed	Contract Type
• PJM	61	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:	249	

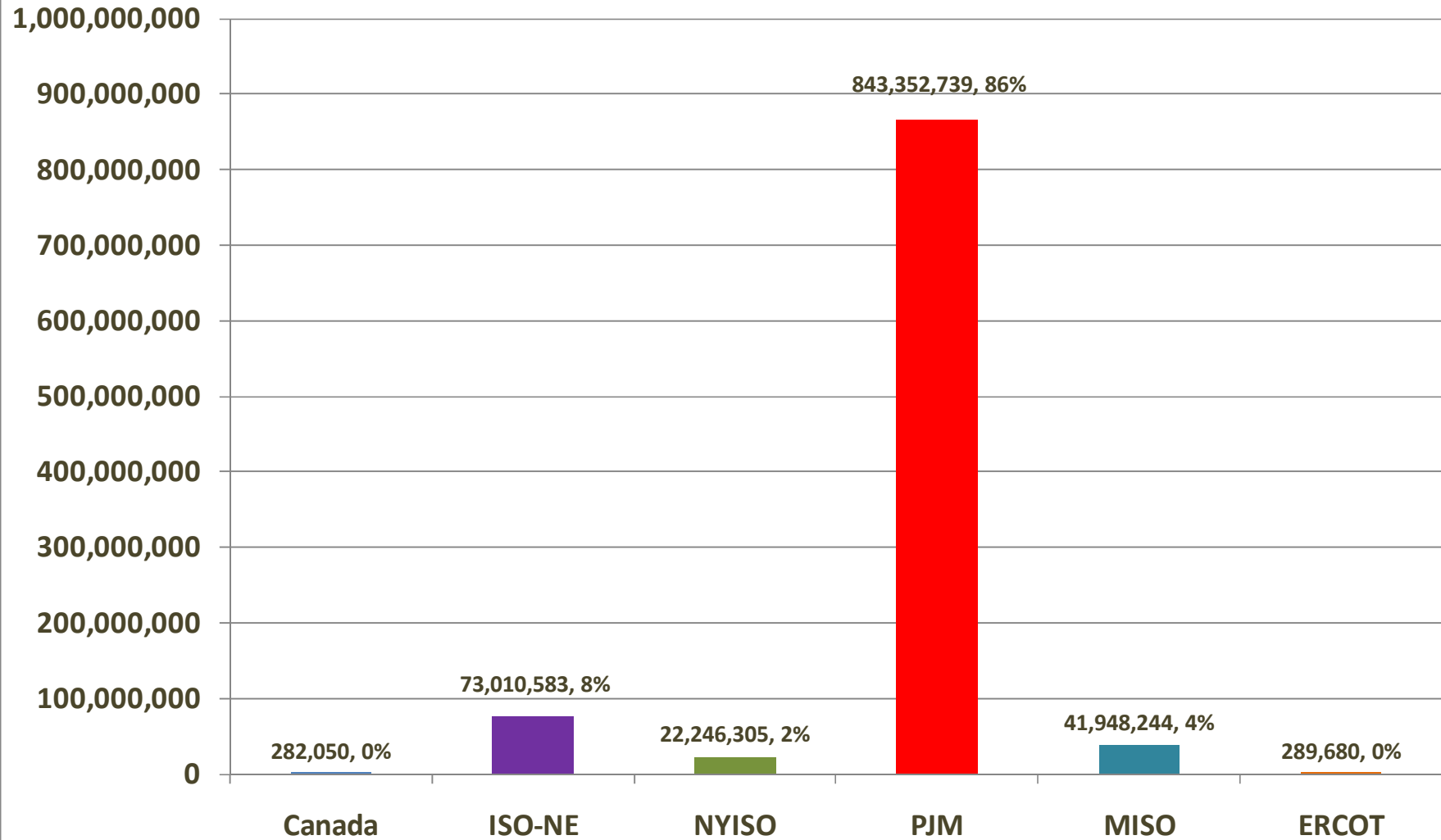
YTD Volume as of September 30, 2011



Historical Daily Open Interest by Market



Open Interest as of October 14, 2011 - 1,001,336,443 MWhrs



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

NYISO Capacity Futures Contracts

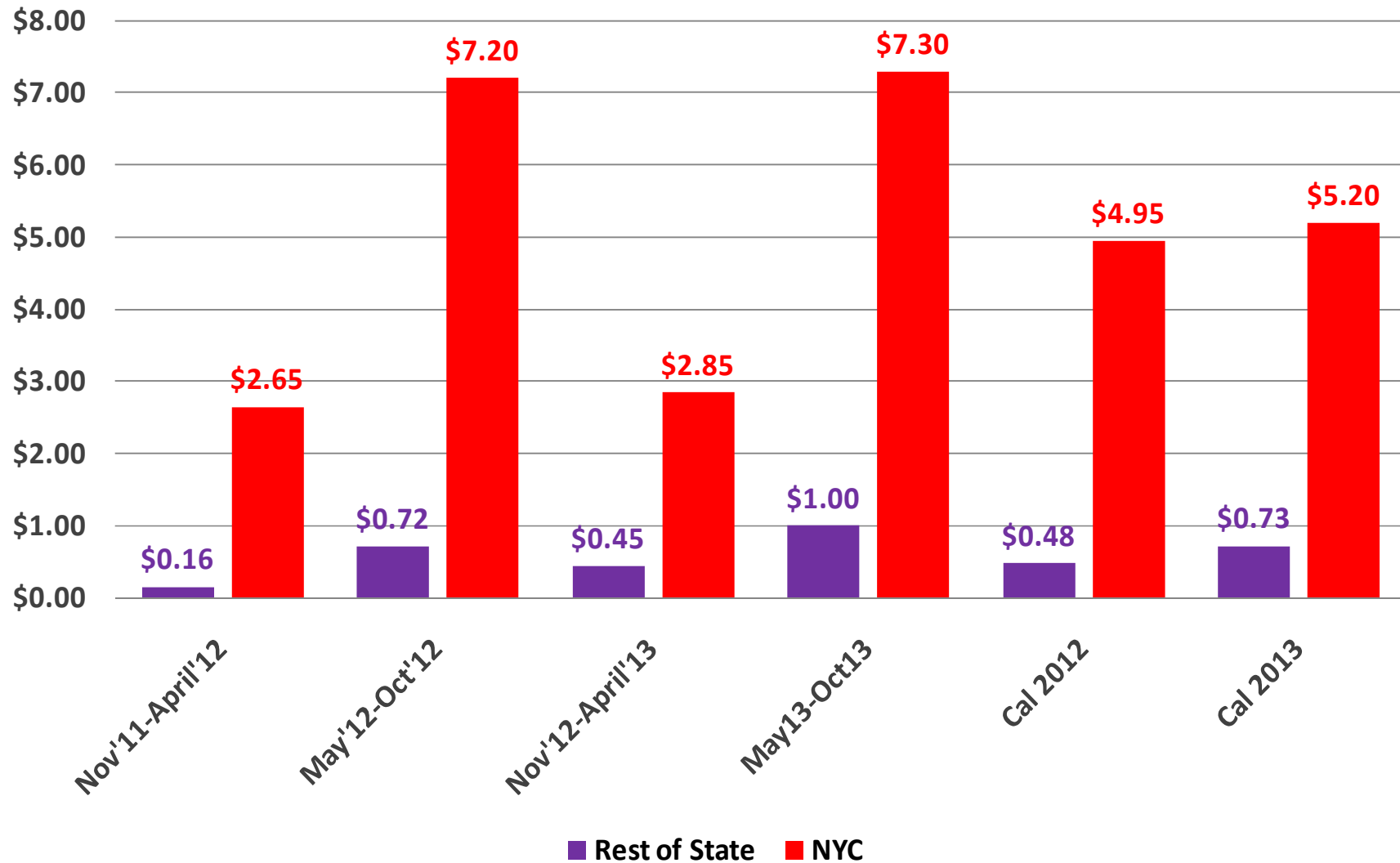
A Fundamentally Different Contract: Max Demand vs. Consumption (Capacity vs. Flow)

**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 – 0.65 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

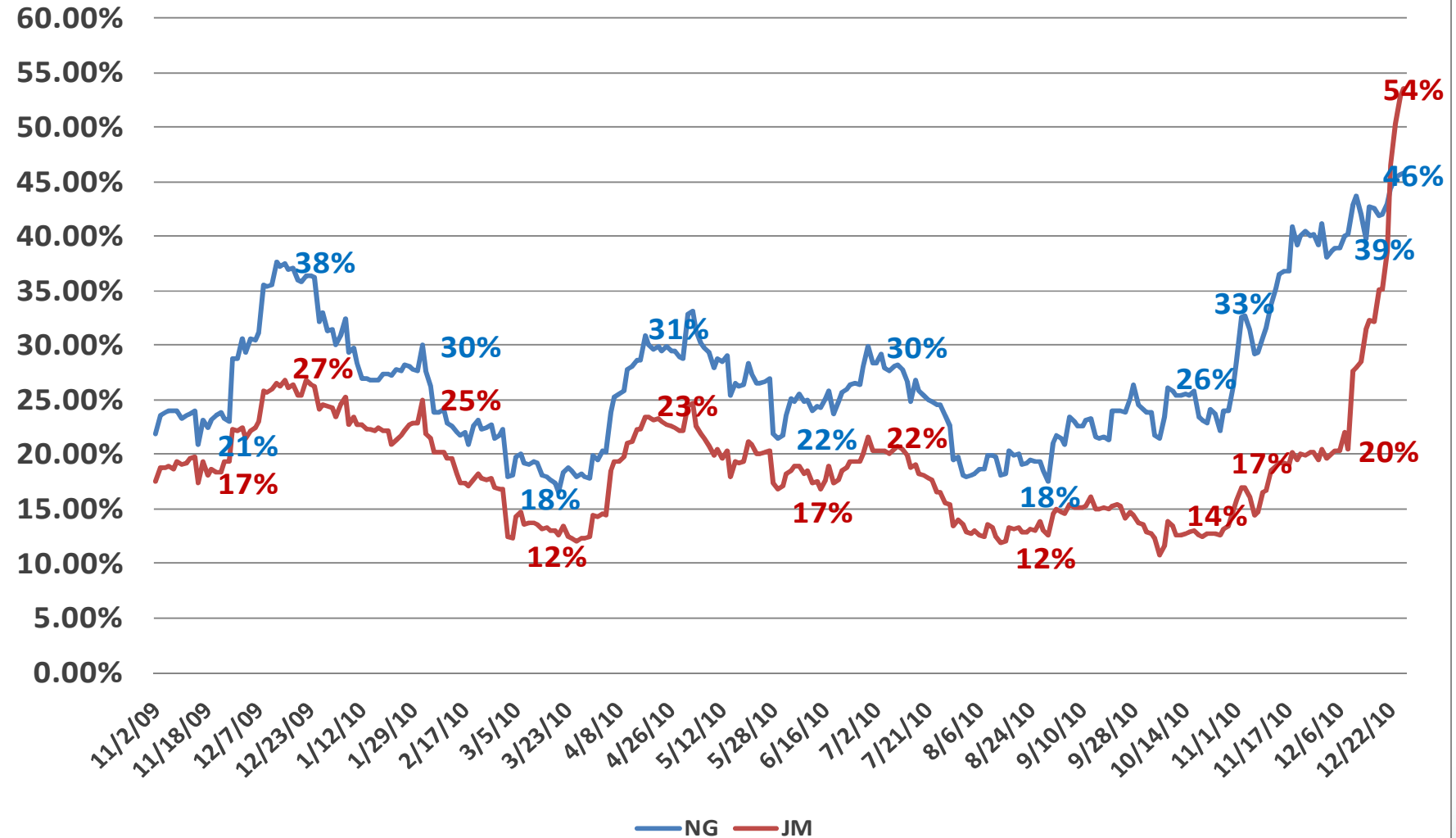


Volatility Calculations

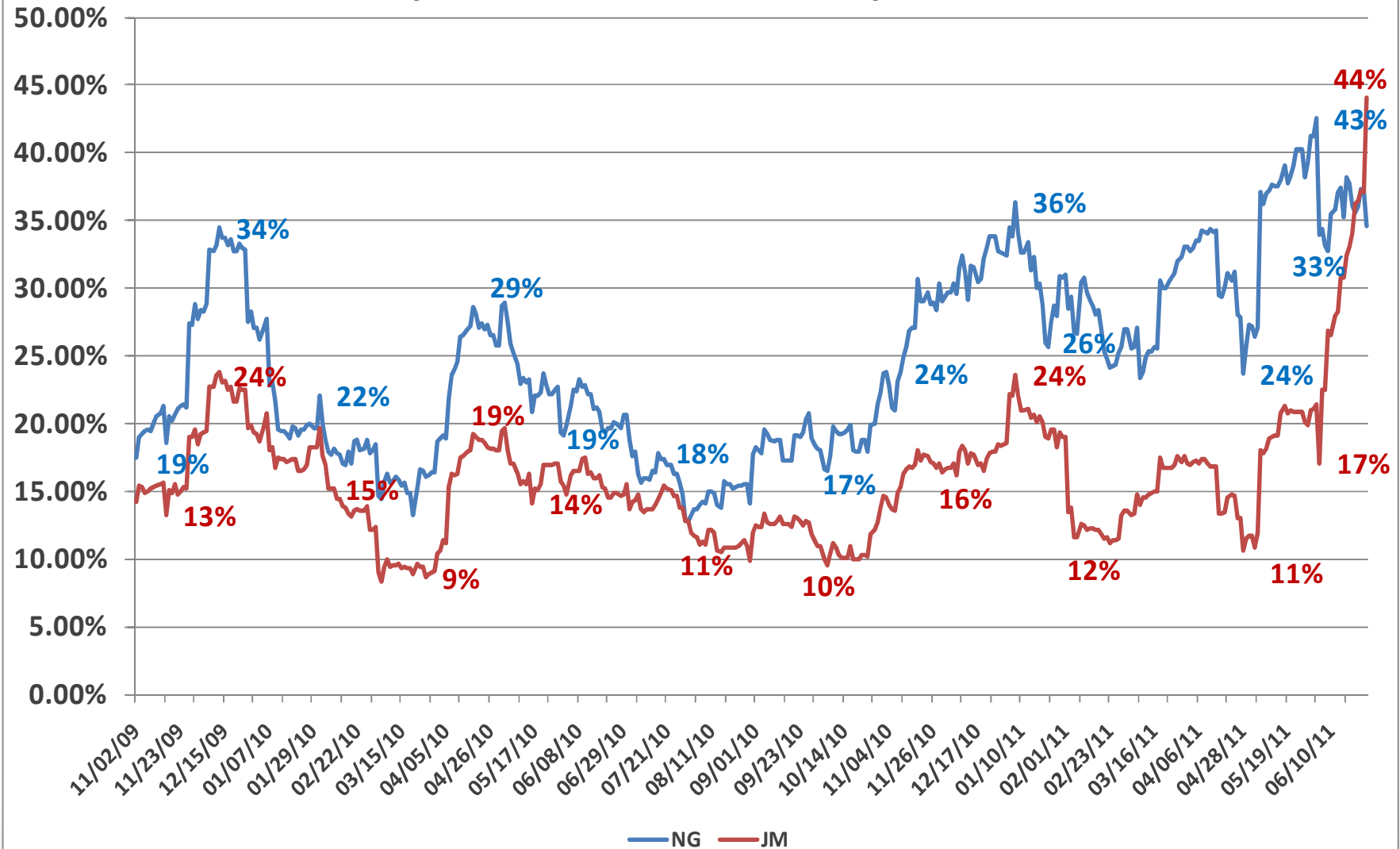
Historical Volatility: STD of Log of Price Changes with an Annulization Factor Applied. 10, 30, 50, 100 Day HVG Are Standard Calculations

**Implied Volatility: Forward View Requires
a Related Options Market**

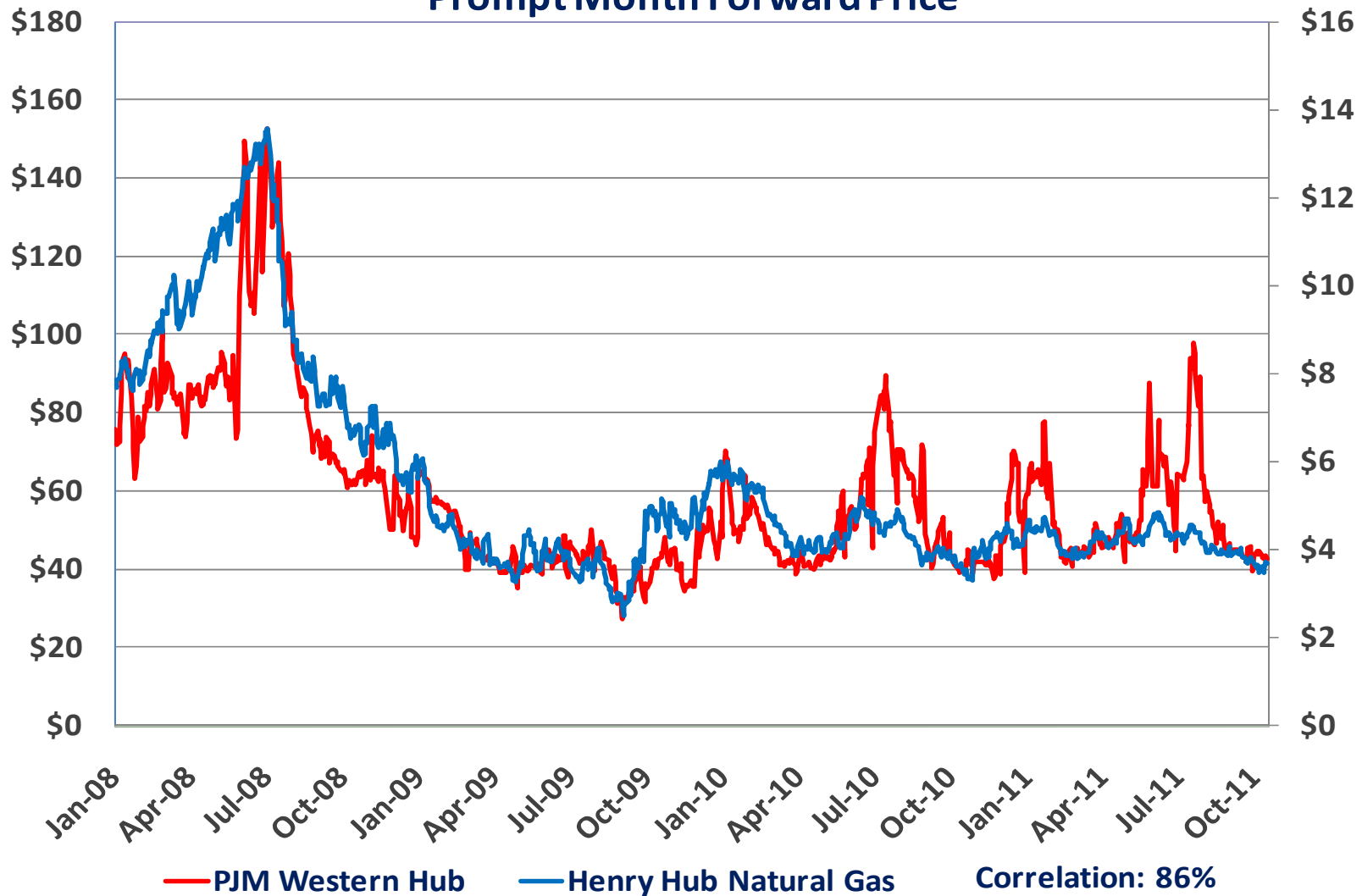
January 2011 NG and JM 20 Day Hist Vol



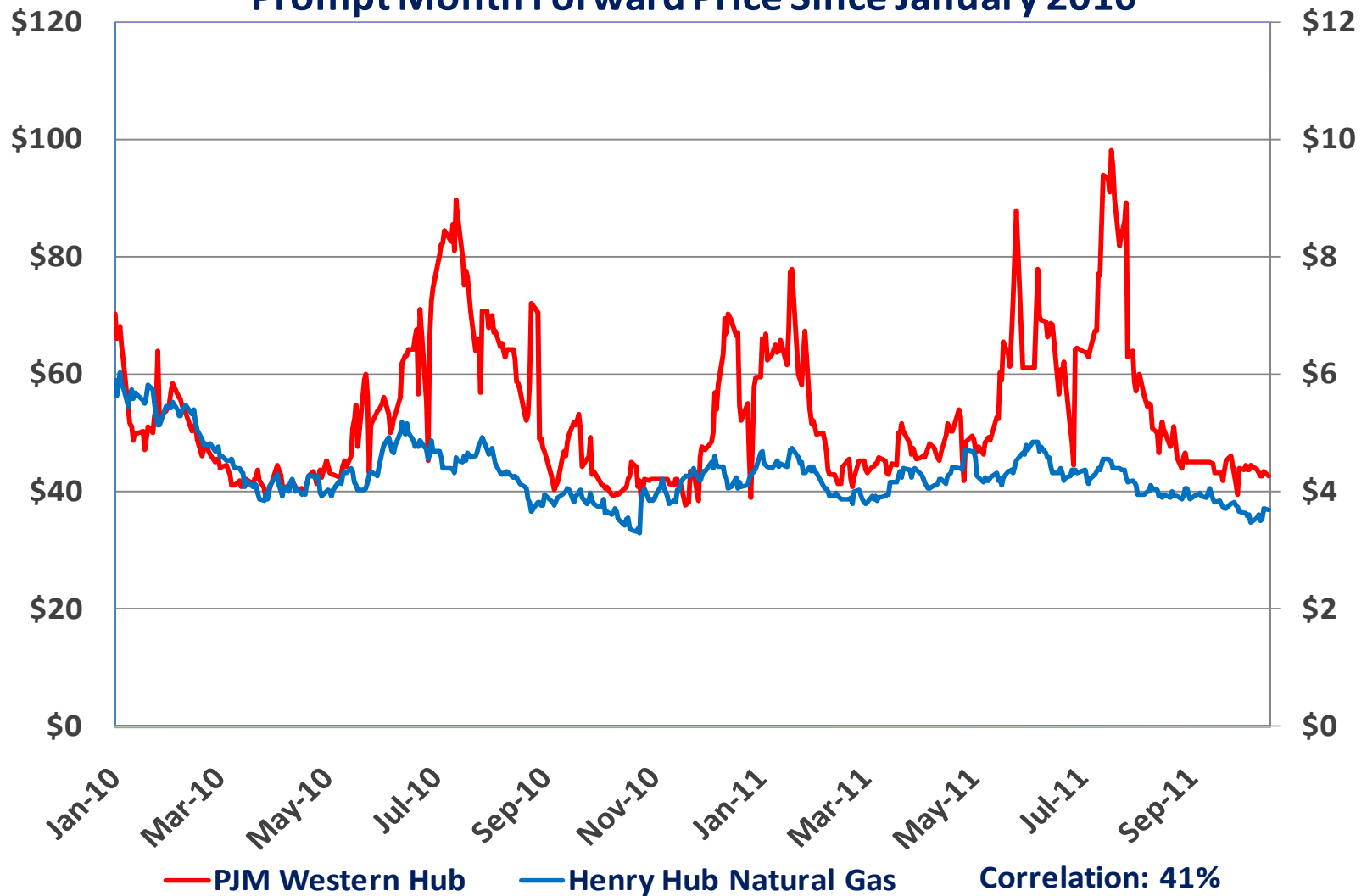
July 2011 NG and JM 20 Day Hist Vol



Henry Hub Natural Gas & PJM Western Hub Prompt Month Forward Price



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



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