OE ENERGY MARKET SNAPSHOT

Western States Version – October 2009 Data

- **Natural Gas and Fuel Markets**
- **Electricity Markets**

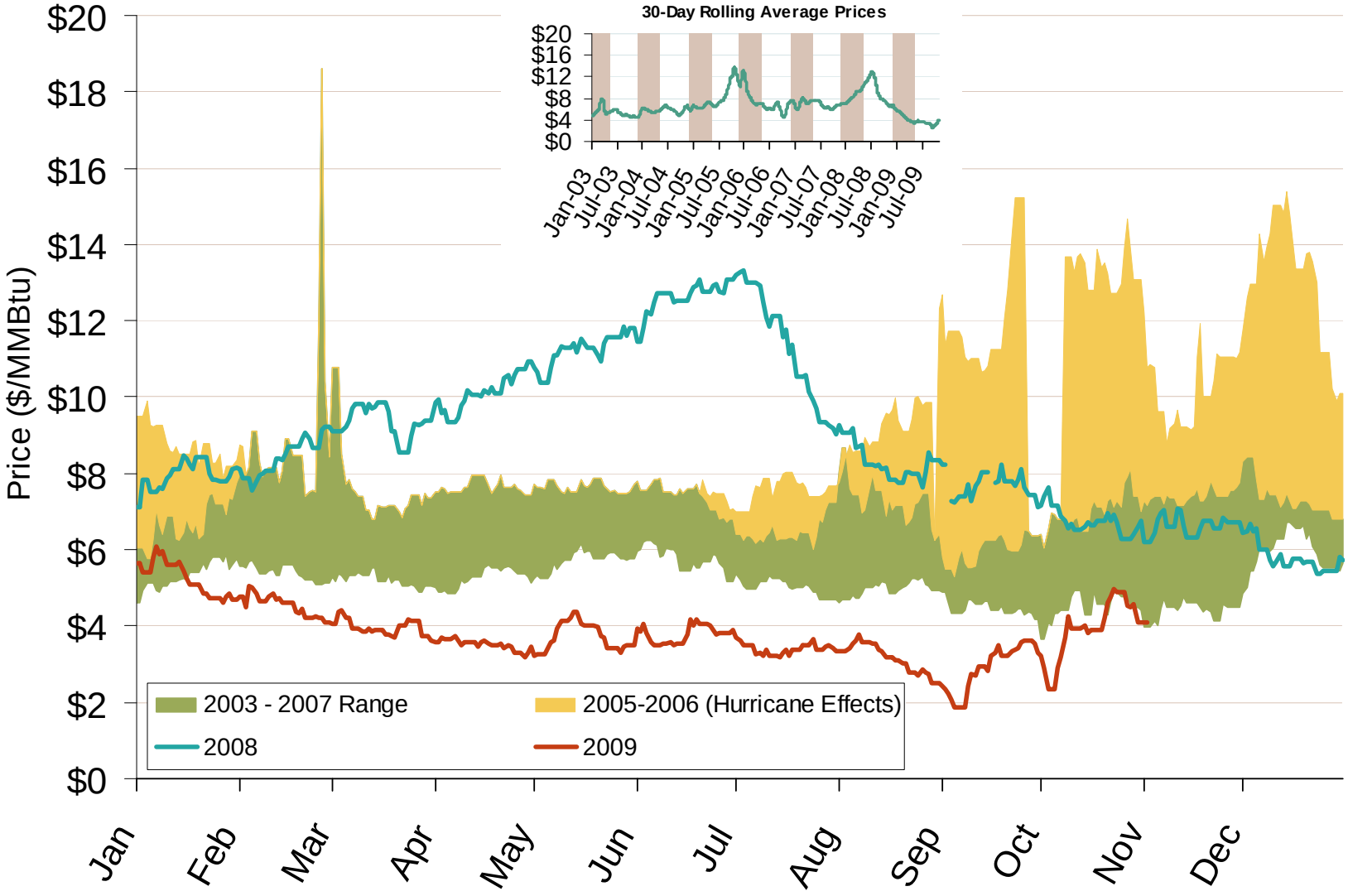
Office of Enforcement
Federal Energy Regulatory Commission
November 2009

Natural Gas and Fuel Markets

Natural Gas Market Overview: 5 Year Range of Henry Hub Spot Prices

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

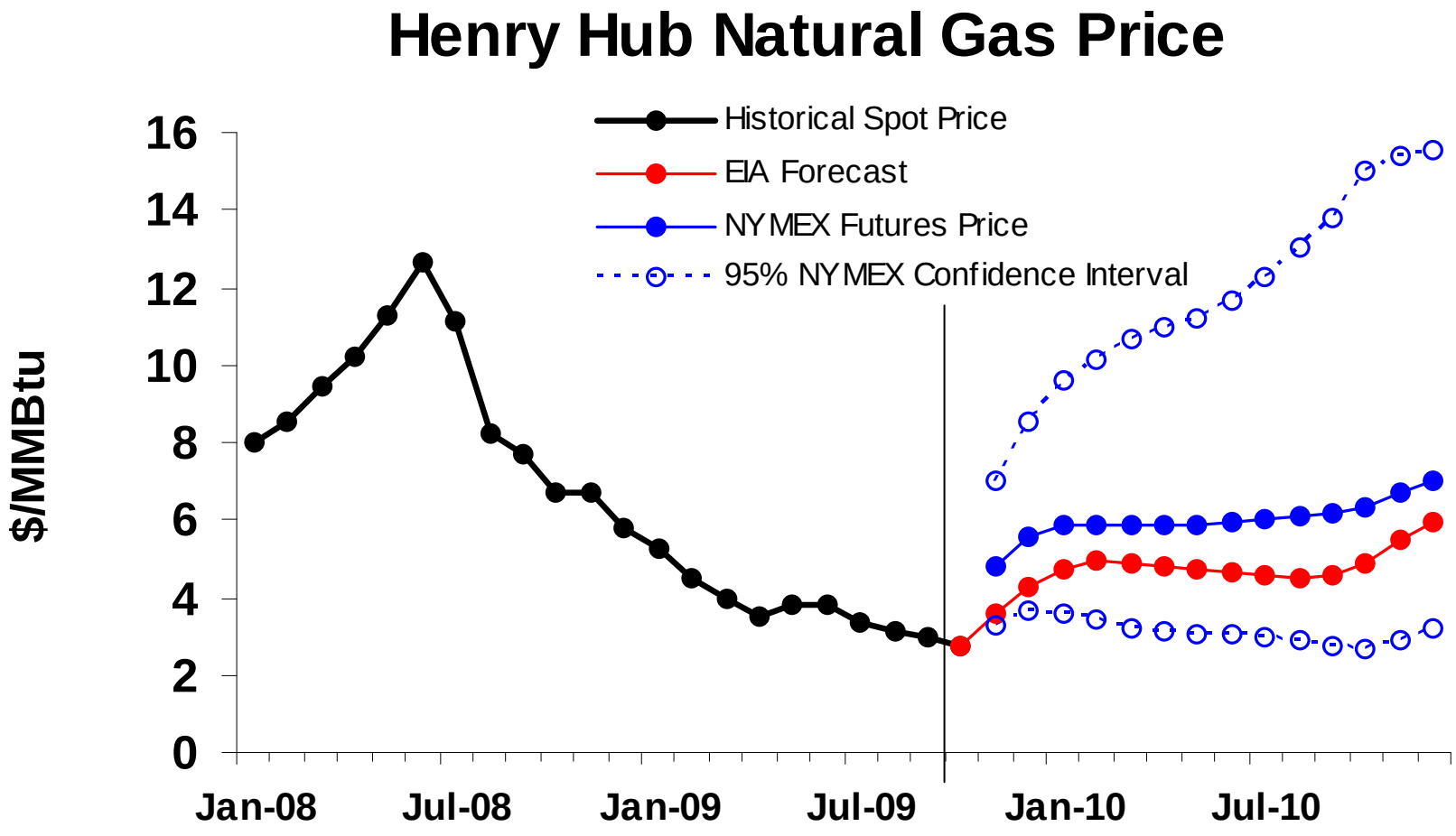
Henry Hub Natural Gas Daily Spot Prices
2008, 2009 and 2003-2007 Range



Source: Derived from *Platts* data.

Updated November 2, 2009

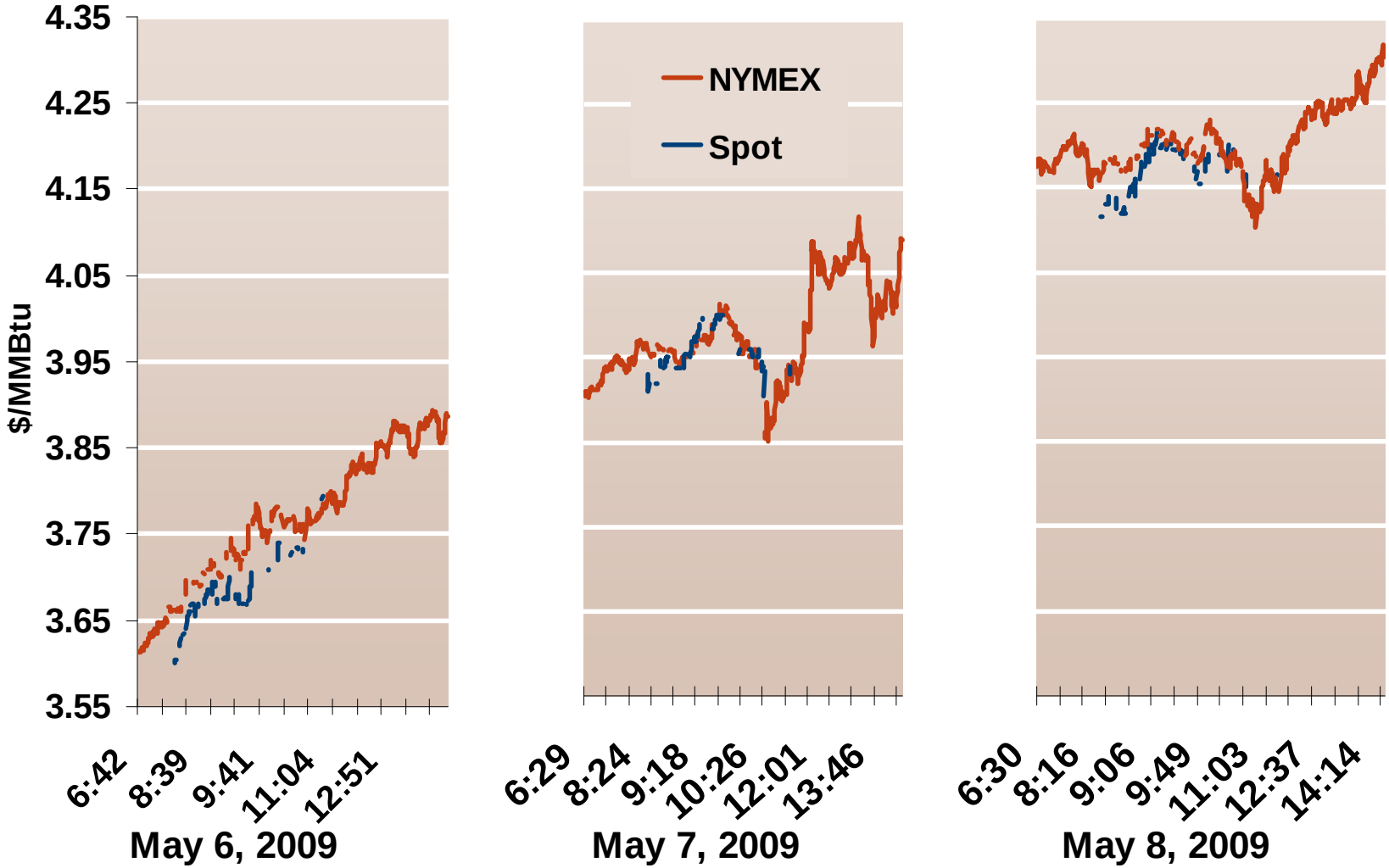
Underlying Technical Factors Switched Direction



Note: Confidence interval derived from options market information on October 1, 2009

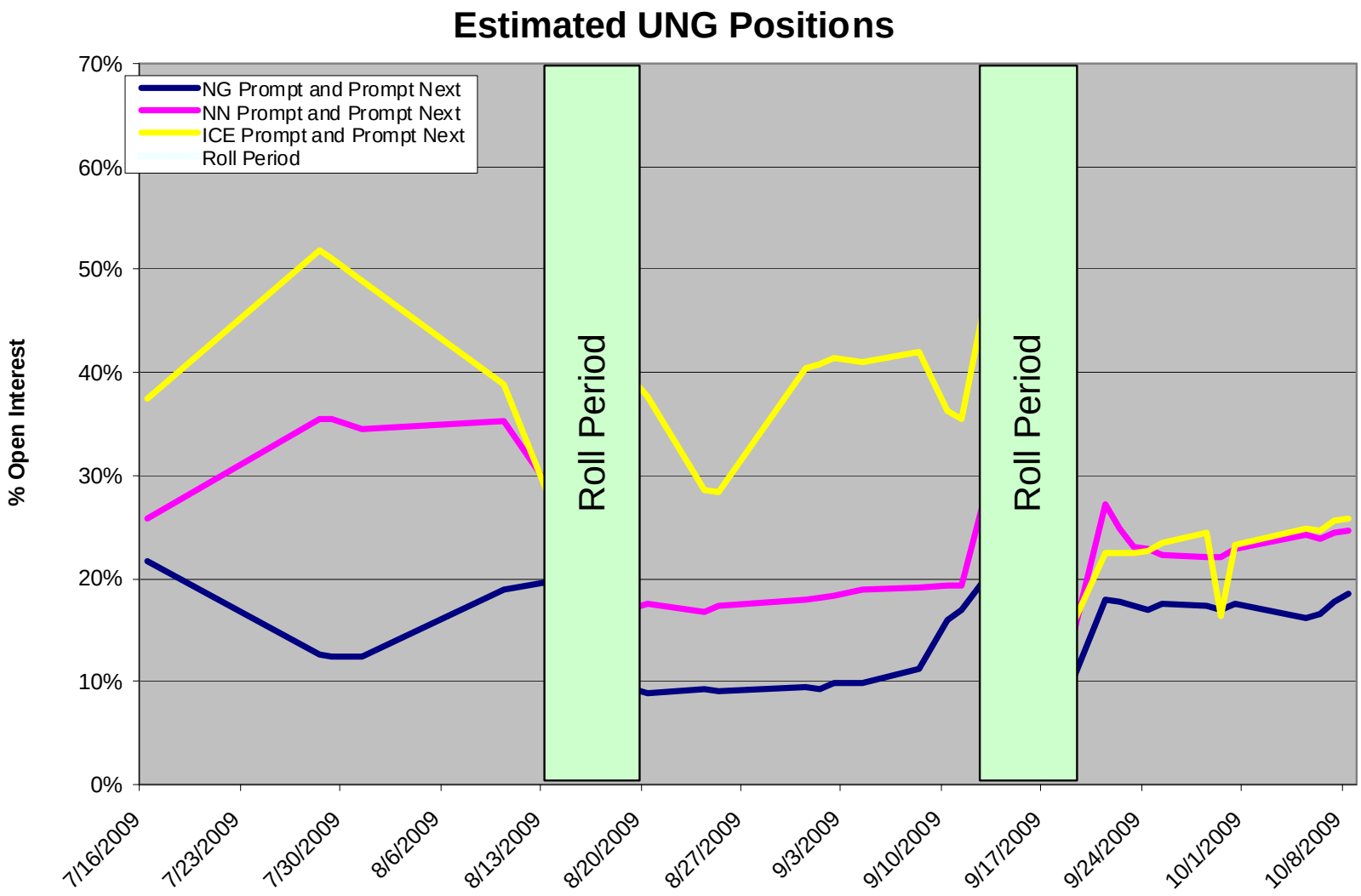
Short-Term Energy Outlook, October 2009

Physical Markets Follow Financial Markets (May)

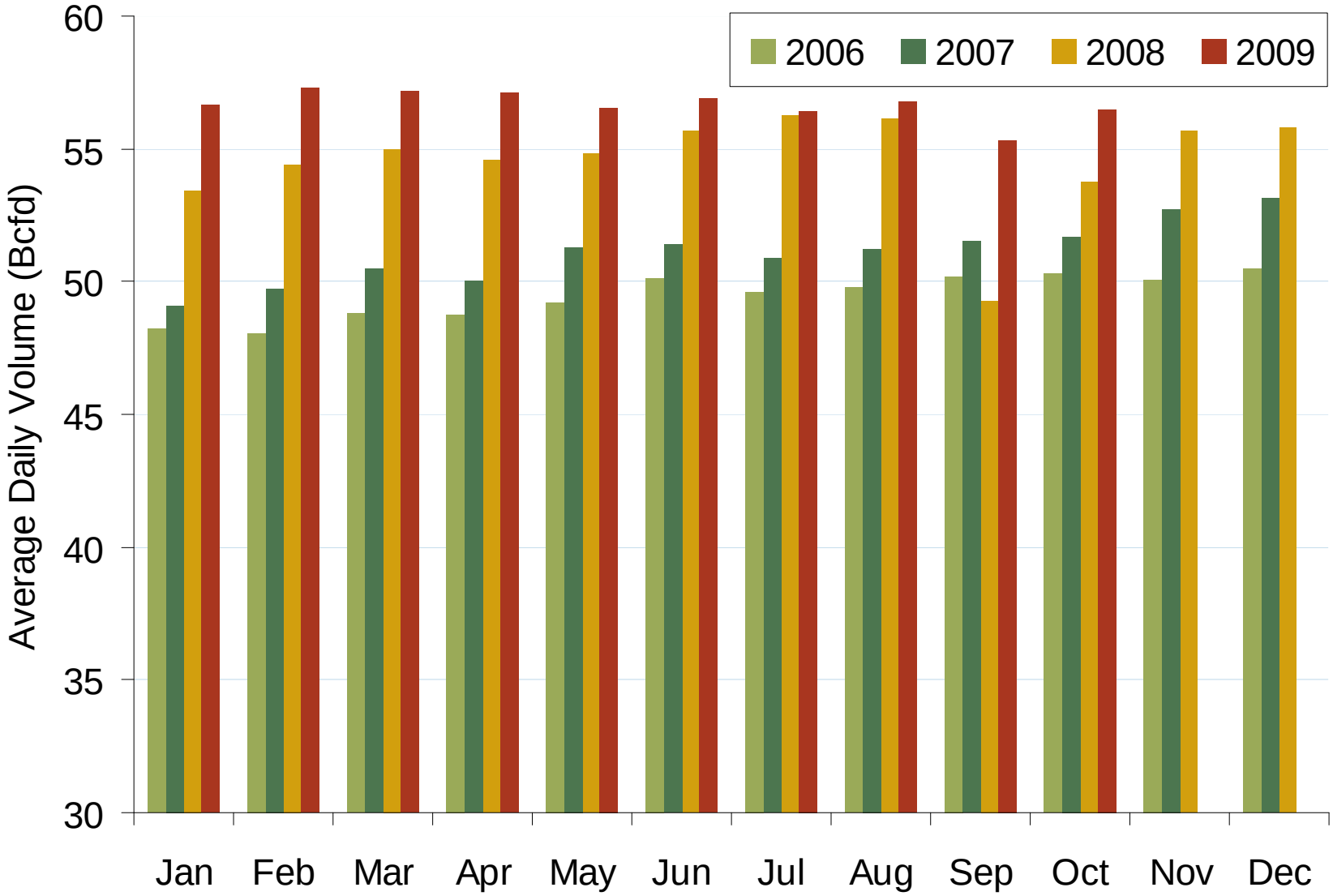


Source: Derived from *Bloomberg* data for Henry Hub Contract.

ETFs, like UNG, Built and Hold Large Positions in Financial Markets

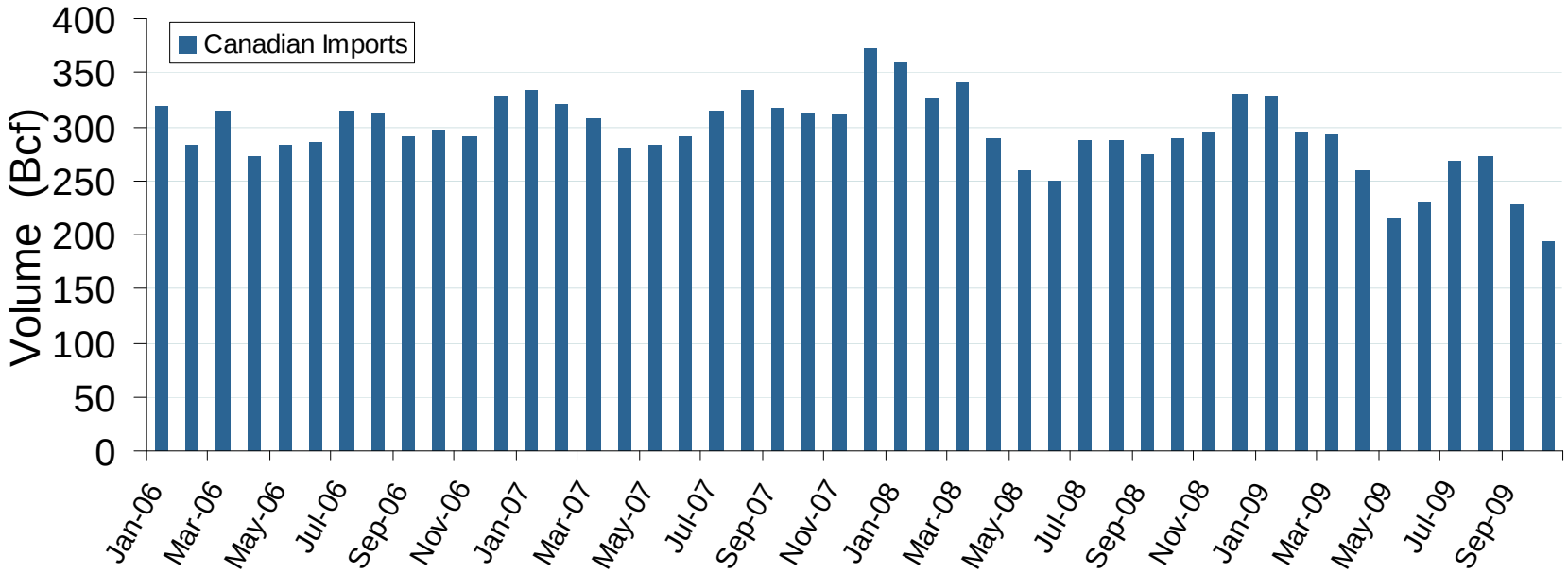


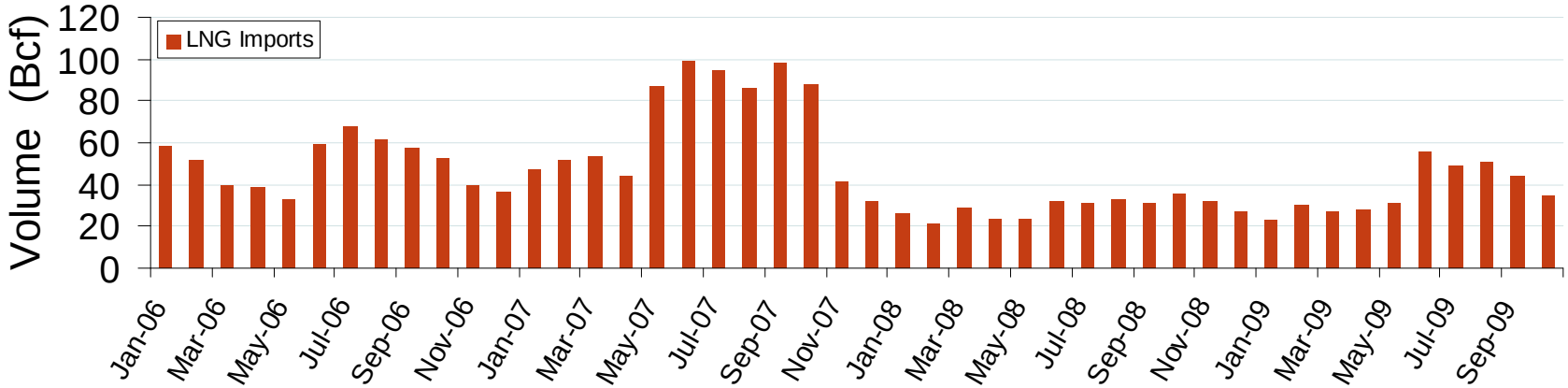
Robust Production



Source: Derived from *EIA and Bentek data.*

Canadian and LNG Natural Gas Imports Into the U.S.

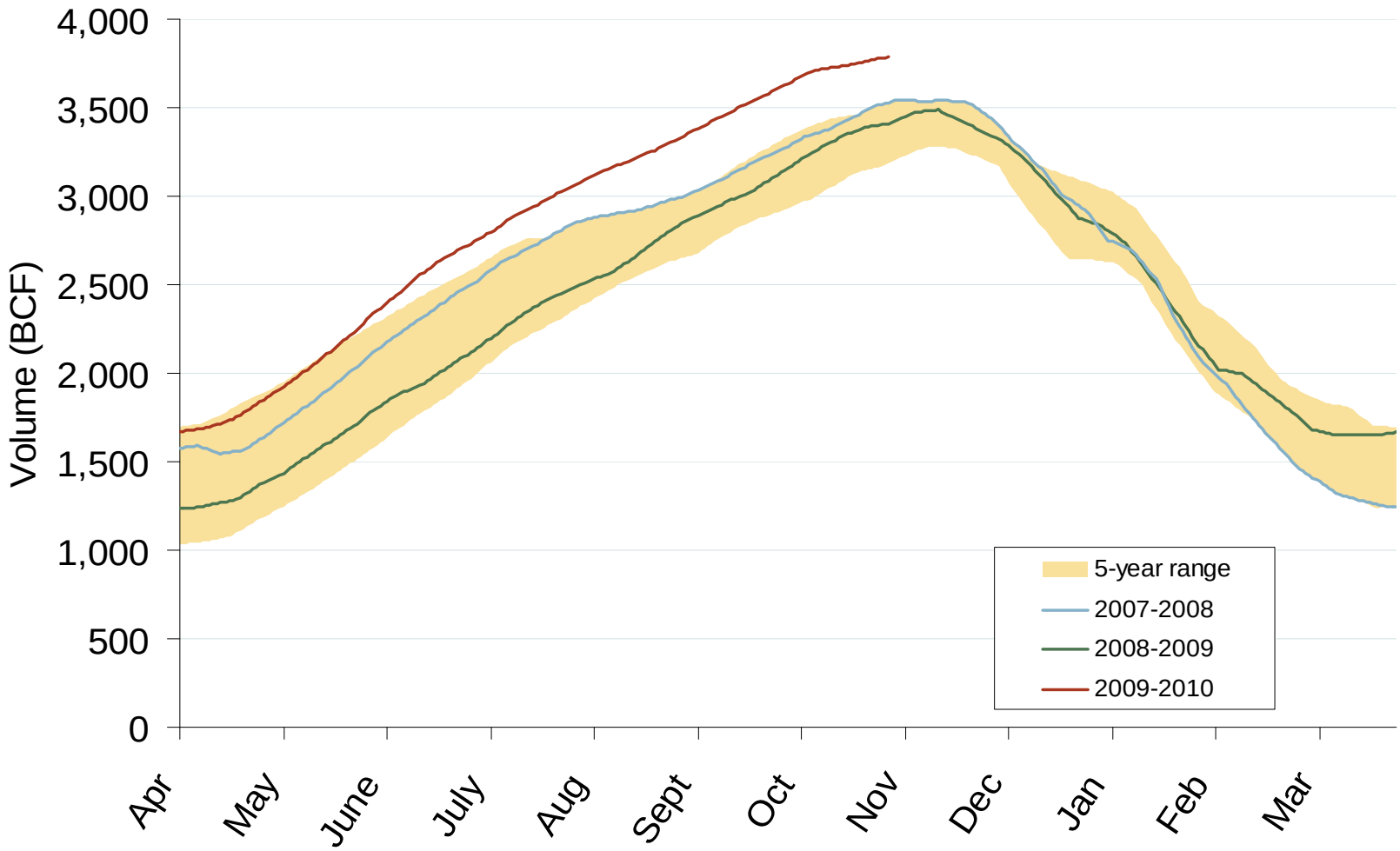




Source: EIA Natural Gas Monthly, Bentek, and Waterborne LNG.

Updated November 6, 2009

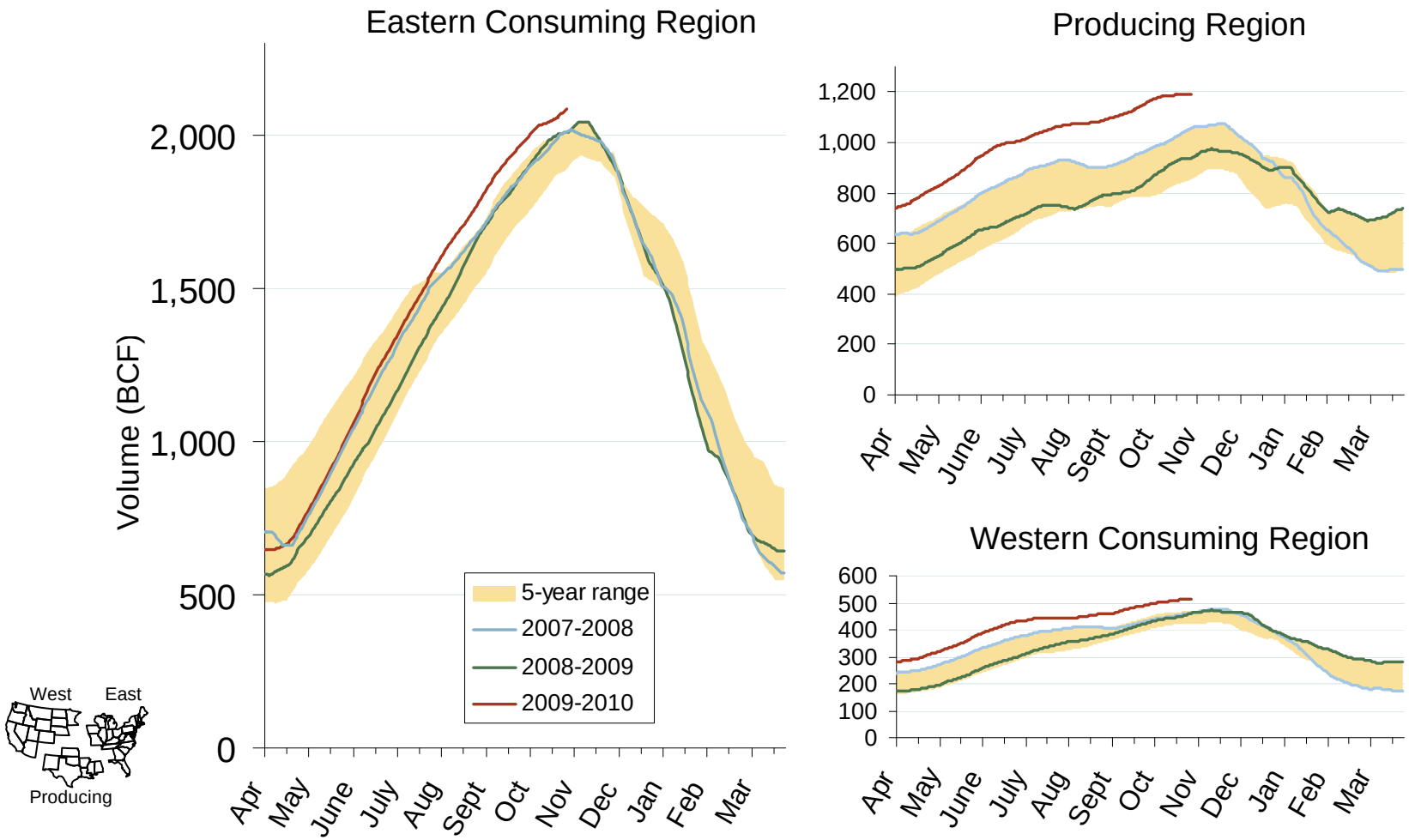
Total U.S. Working Gas in Storage



Source: Derived from *EIA* data.

Updated November 6, 2009

Regional Totals of Working Gas in Storage



Source: Derived from *EIA* data.

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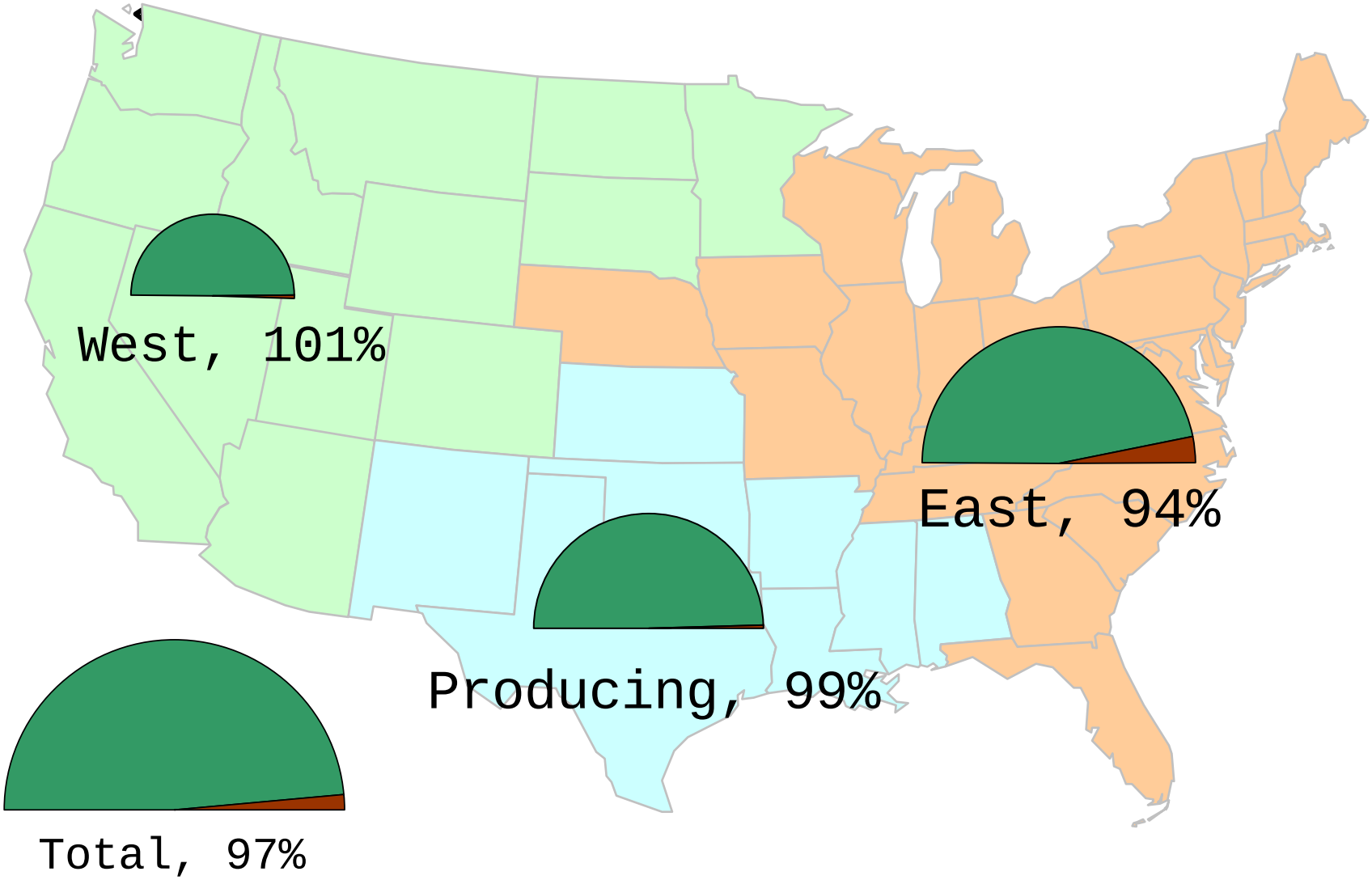
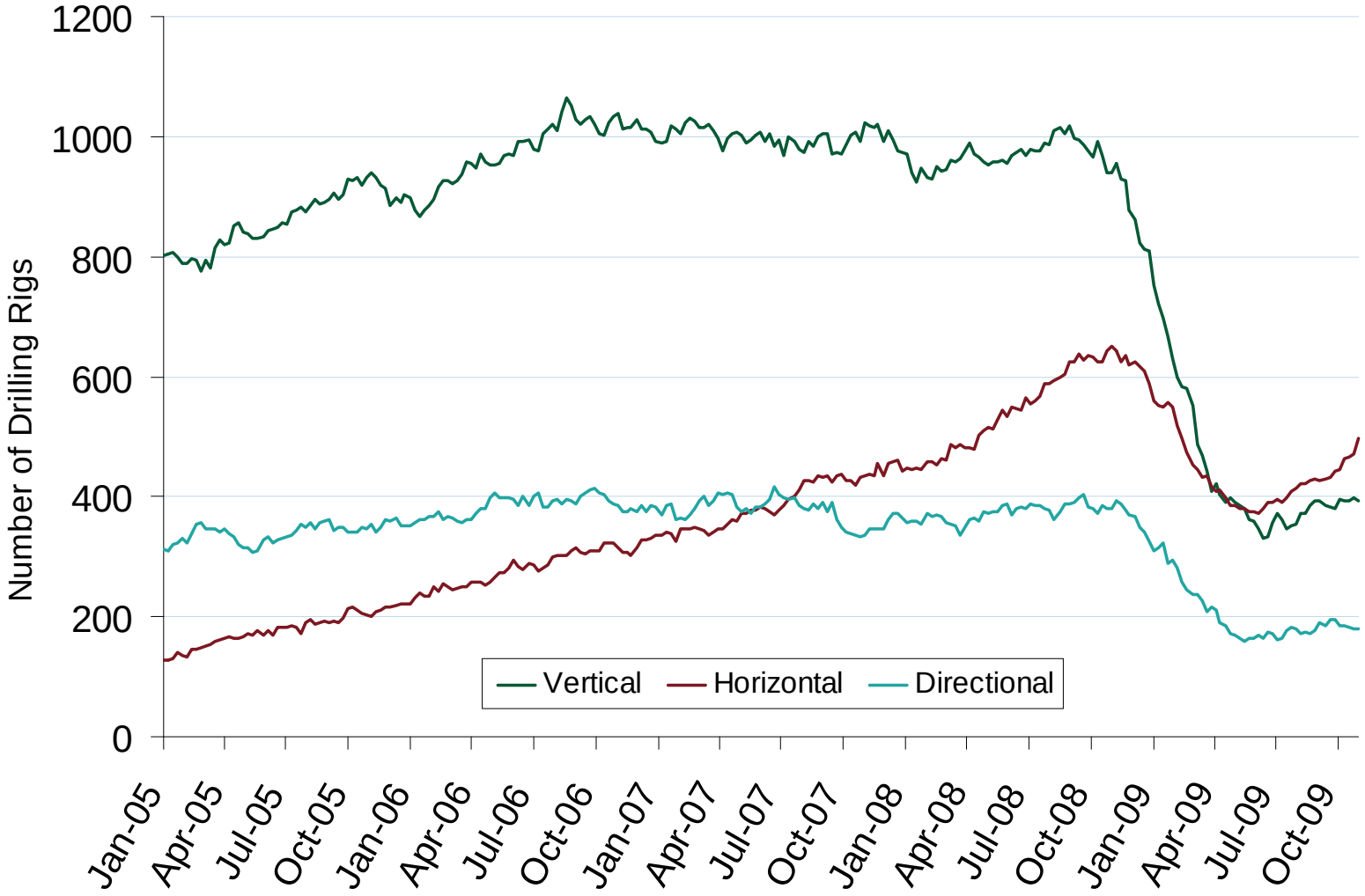
How Full is Natural Gas Storage?



Source: Derived from EIA data.

U.S. Oil and Natural Gas Drilling Rig Count by Type



Source: Derived from *Platts* and *Baker Hughes* data.

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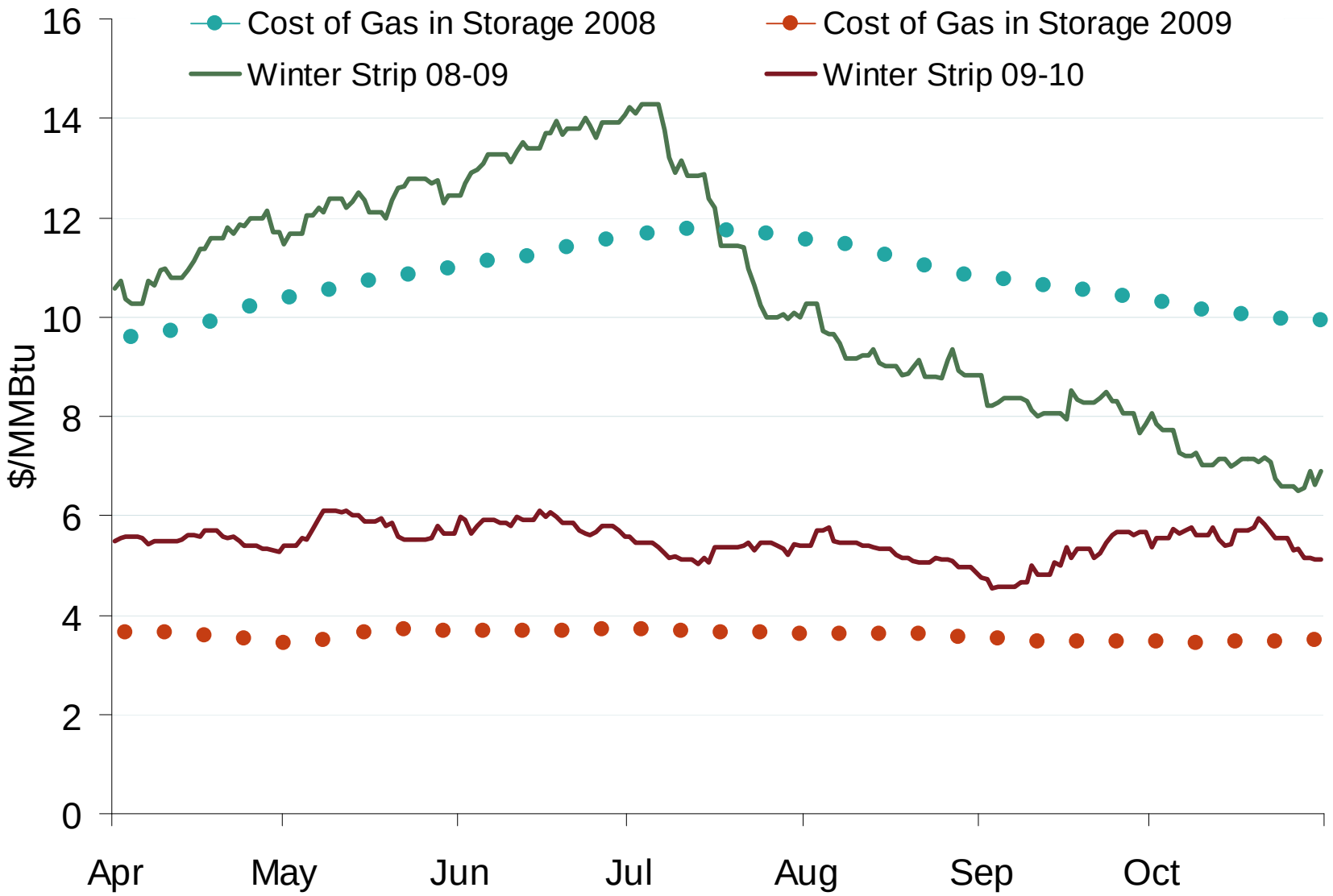
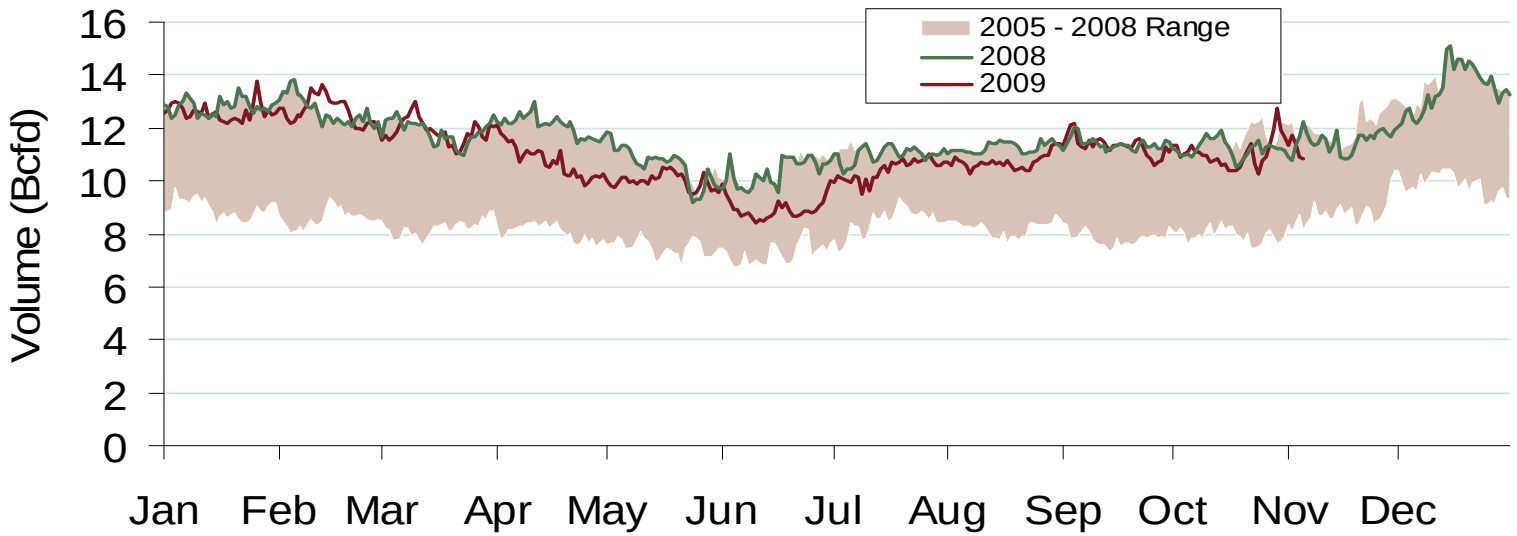
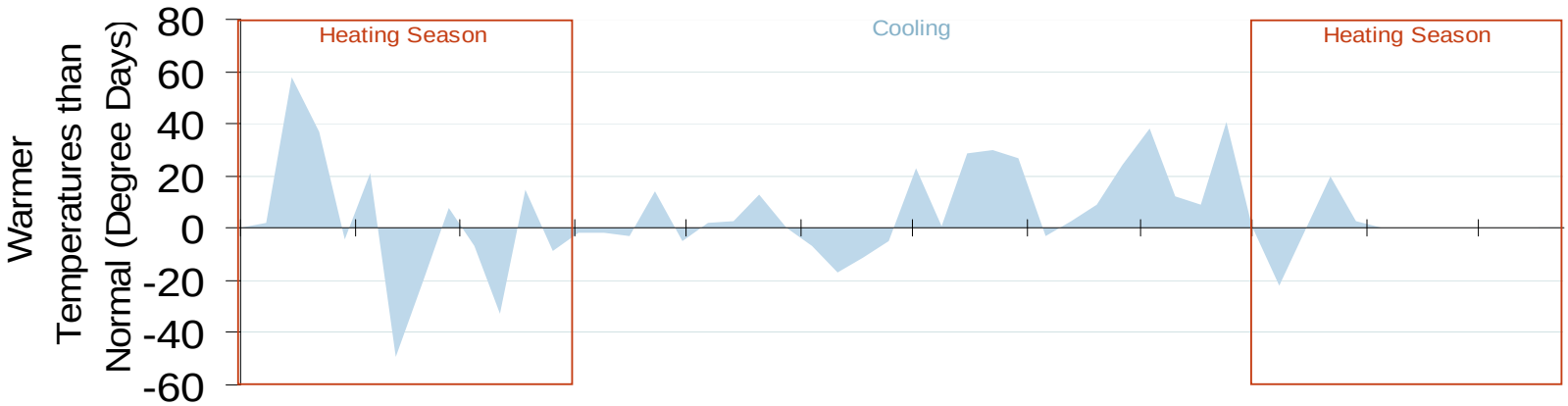
Winter Forwards Lower Than Last Year



Source: Derived from *NYMEX Clearport*

Daily Western Natural Gas Demand
All Sectors





Source: Derived from *Bentek* data.

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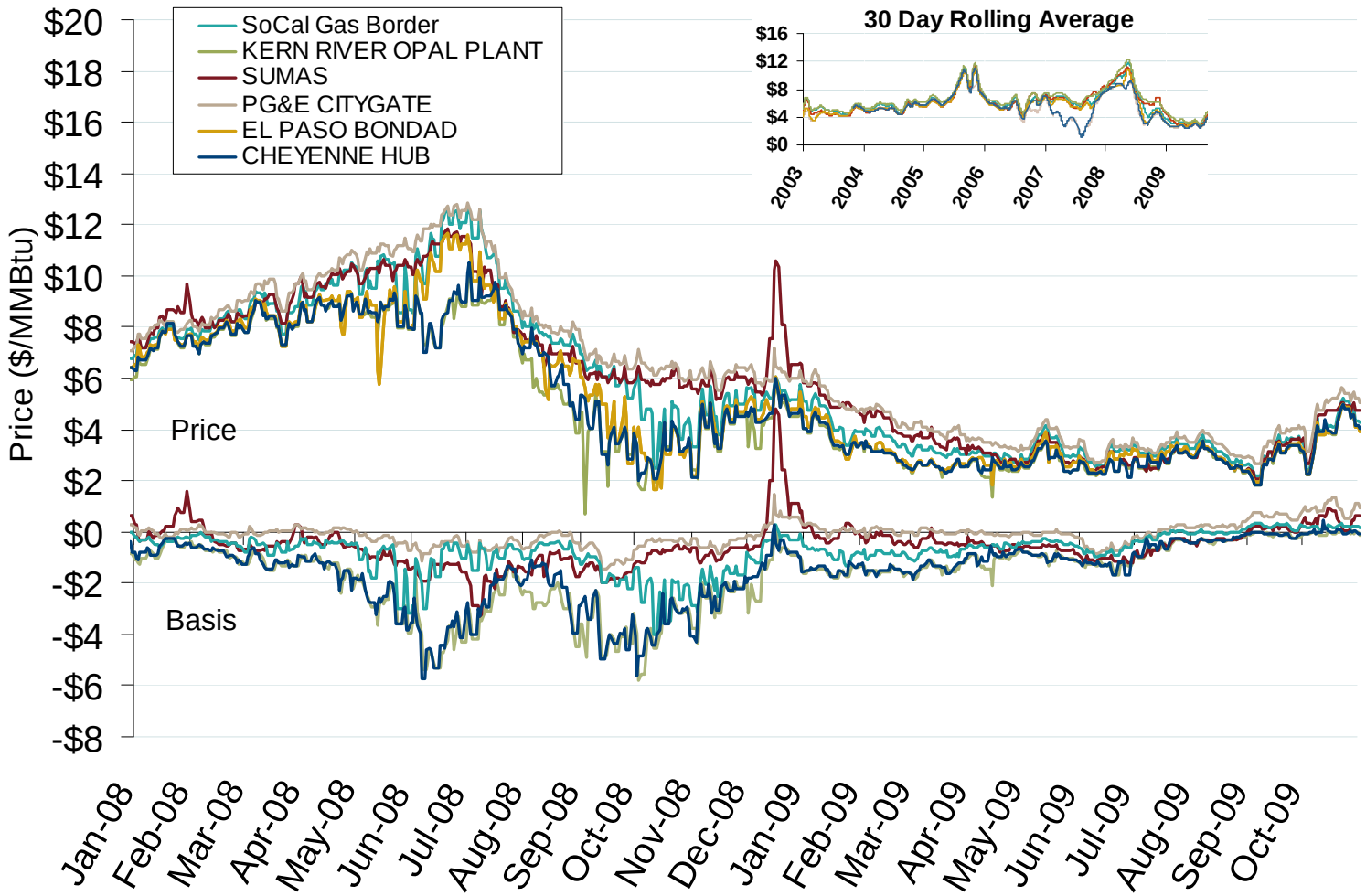
Western Day-Ahead Hub Spot Prices and Basis



Source: Derived from *Platts* data.

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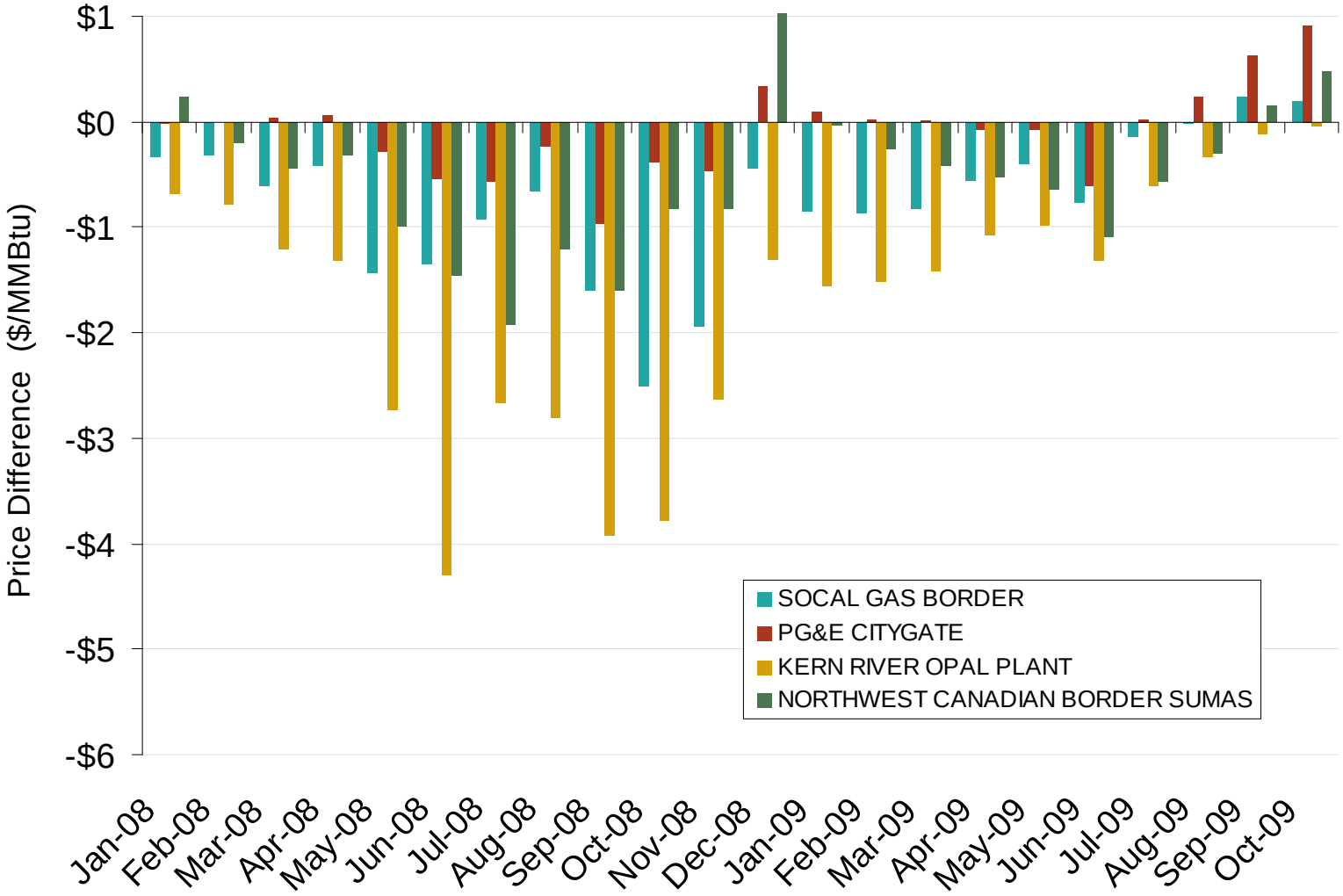
Western Monthly Average Basis Value to Henry Hub



Source: Derived from *Platts* data.

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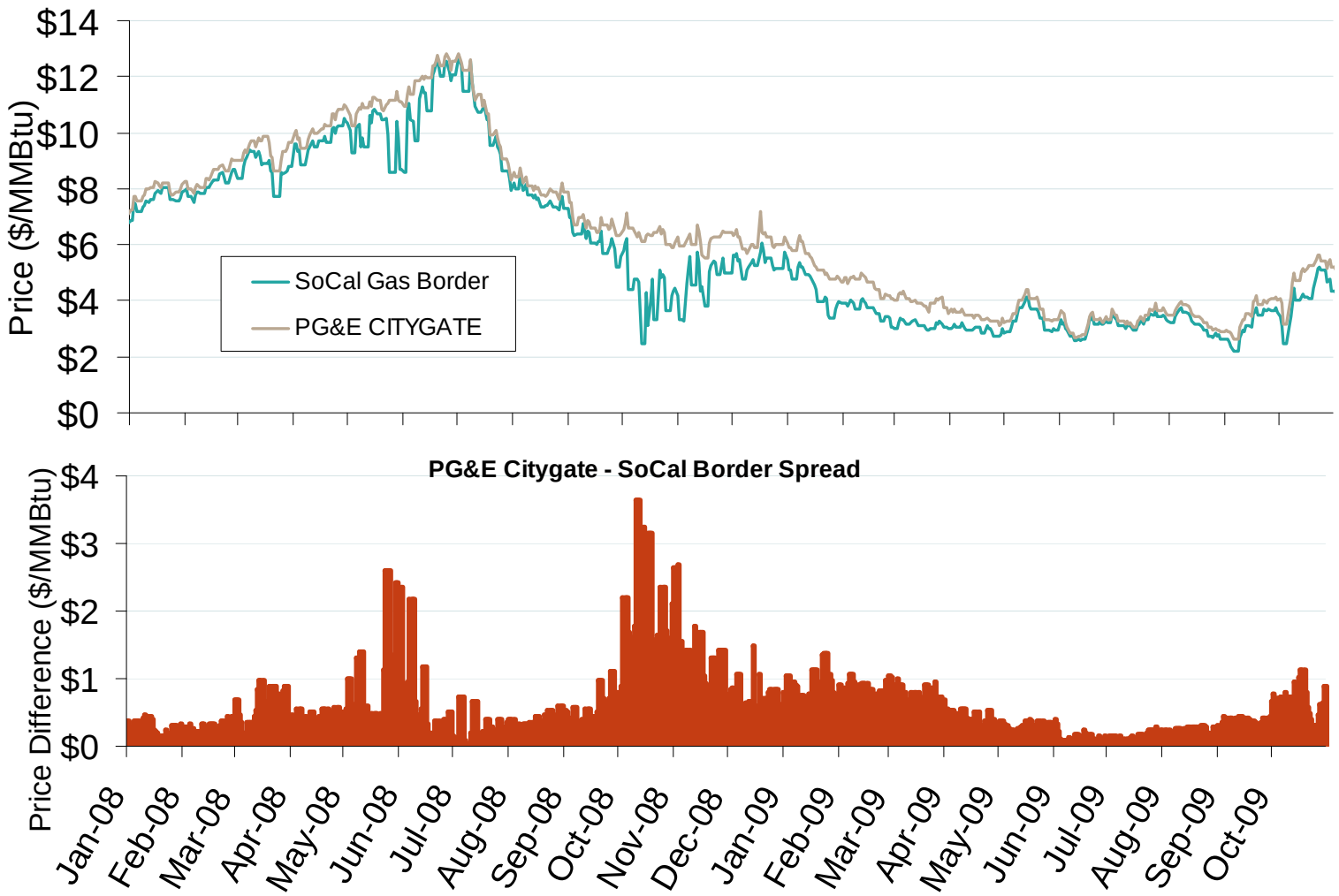
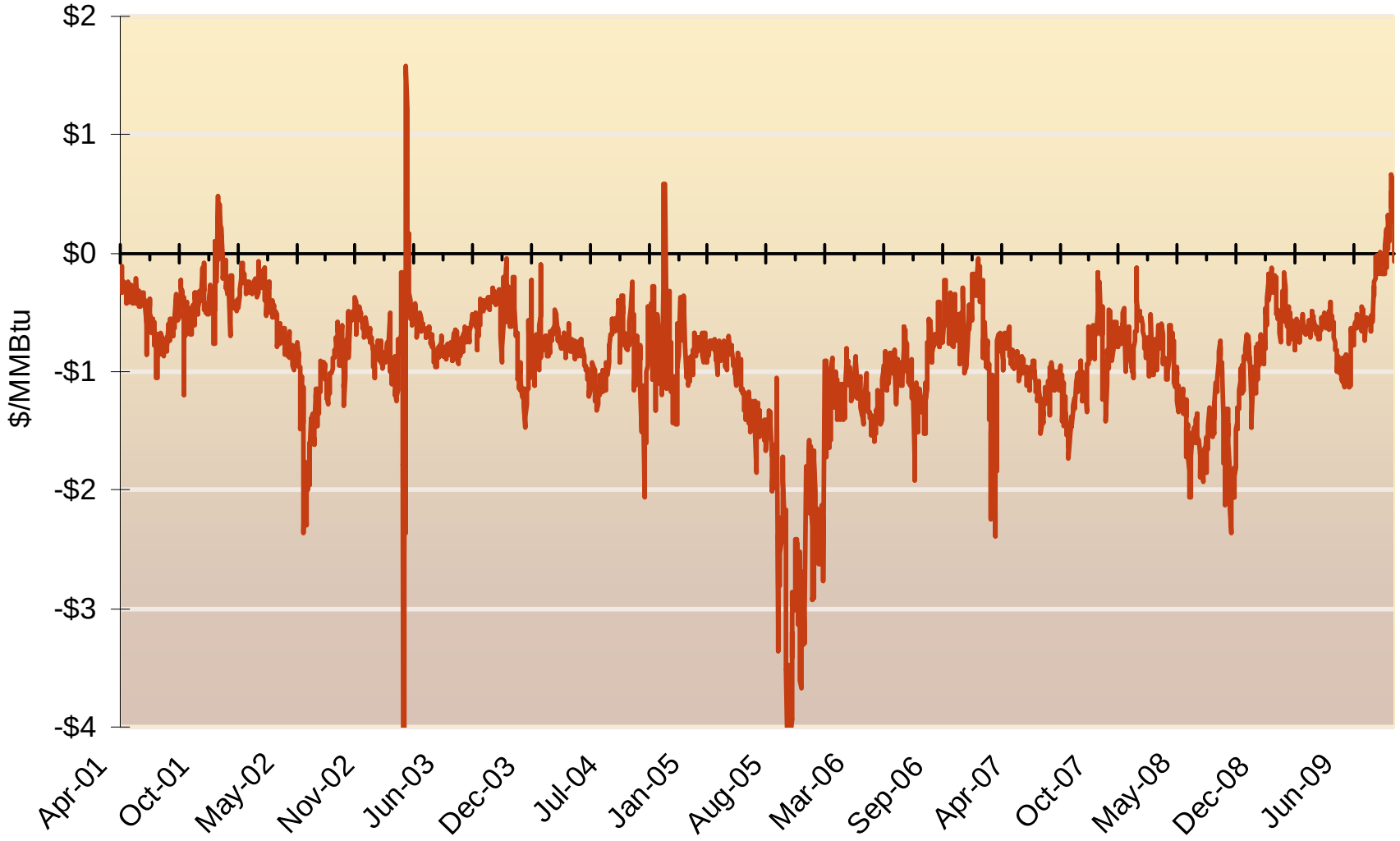
Difference in Northern and Southern California Daily Spot Prices



Updated November 6, 2009

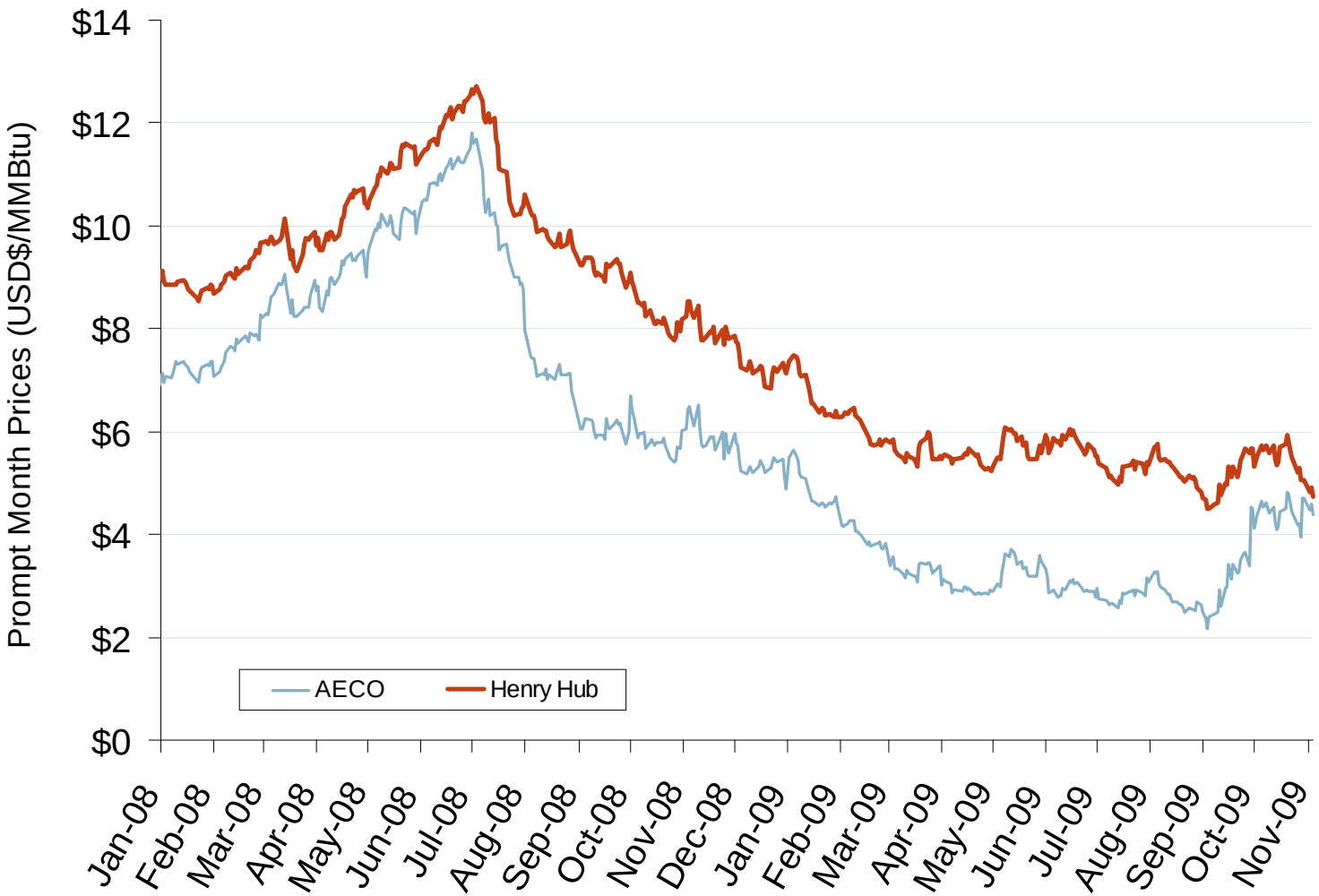
Source: Derived from *Platts* data.

AECO Prices Rise Above Henry Hub



Source: Derived from Intercontinental Exchange day-ahead gas price data.

Henry Hub and AECO Prompt-Month Futures Prices



Source: Derived from *ICE* data.

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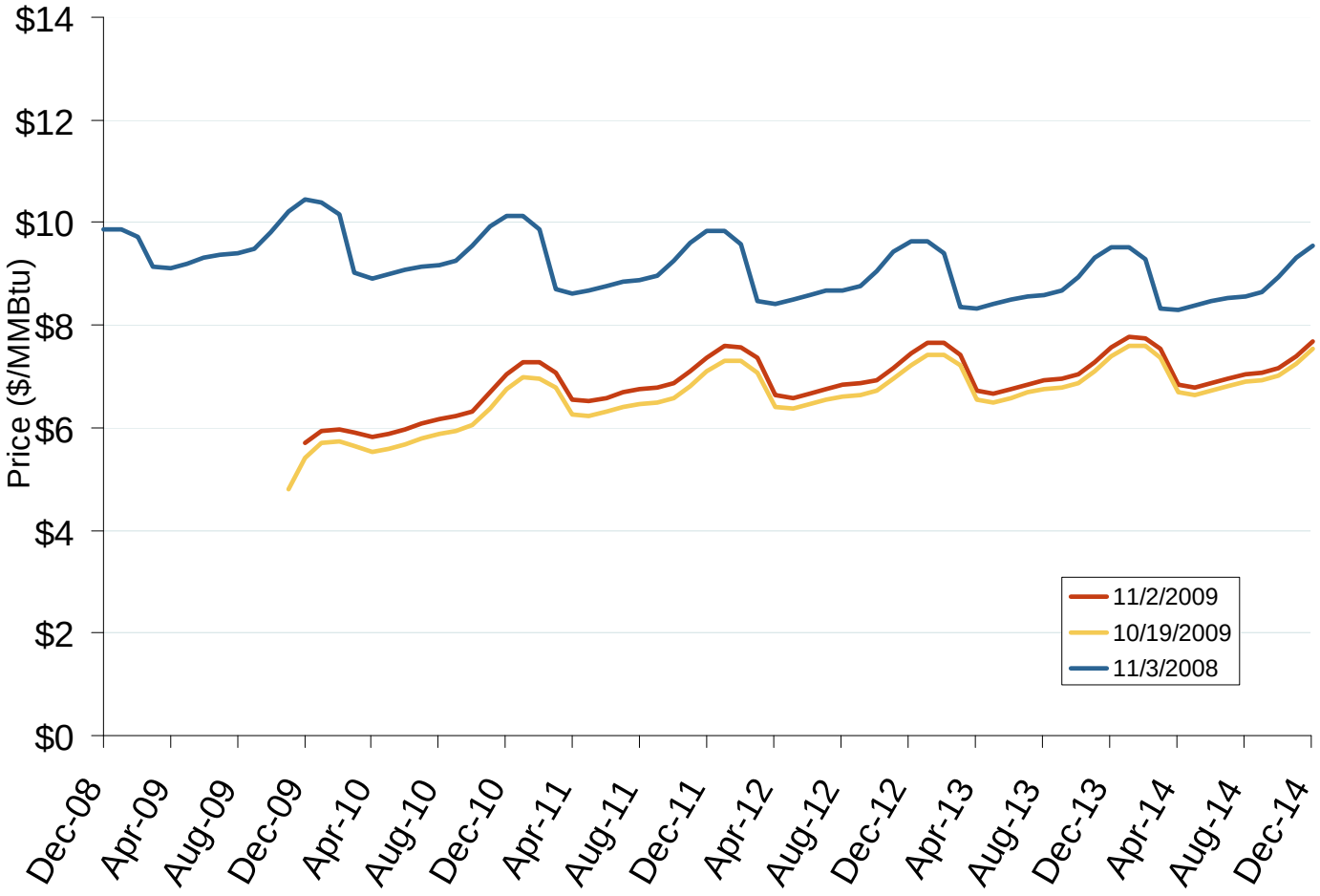
NYMEX Natural Gas Forward Price Curve



The NYMEX futures contract trades in 10,000 million Btu units. The blue series shows the forward price curve for these contracts 1-year ago. The red and yellow curves show prices for contracts traded on the current and previous months.

Source: Derived from *NYMEX* data.

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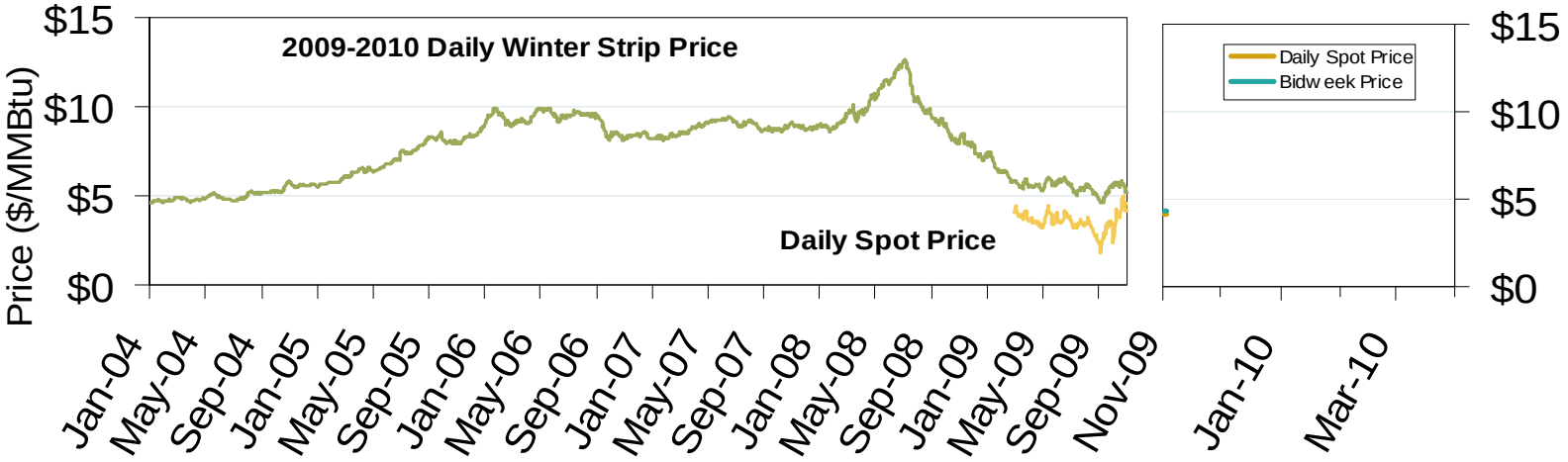
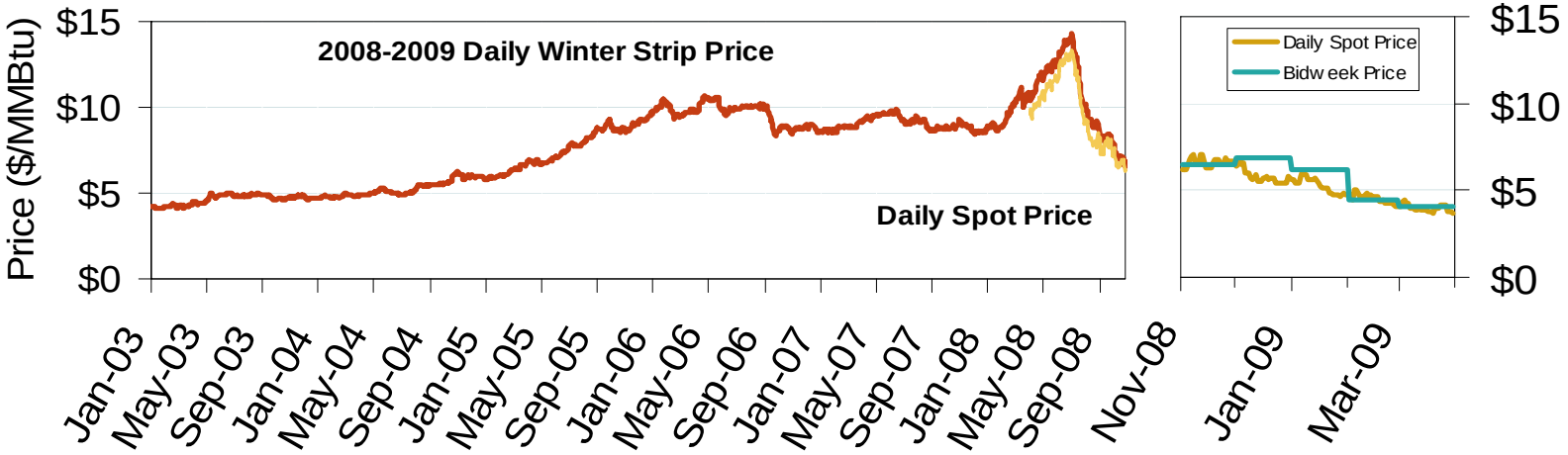
Natural Gas Winter Futures Strip and Daily Henry Hub Spot and Bidweek Prices





Source: Derived from *Platts* and *Nymex* data.

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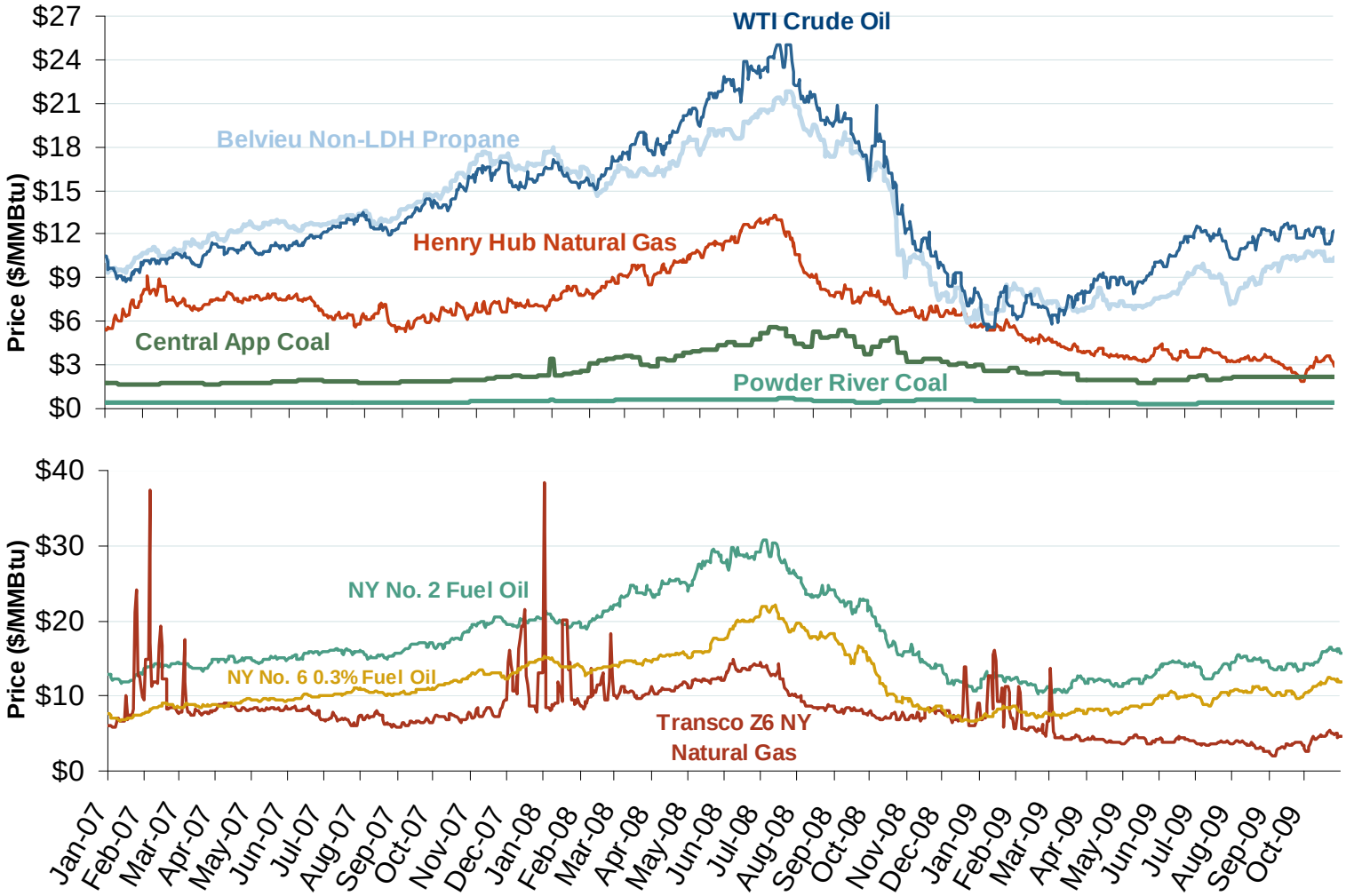
Oil, Coal, Natural Gas and Propane Daily Spot Prices



Source: Derived from *ICE* and *Bloomberg* data.

Note: Coal prices are quoted in $/ton. Conversion factors to $/MMBtu are based on contract specifications of 12,000 btus/pound for Central Appalachian coal and 8800 btus/pound for Powder River Basin coal.

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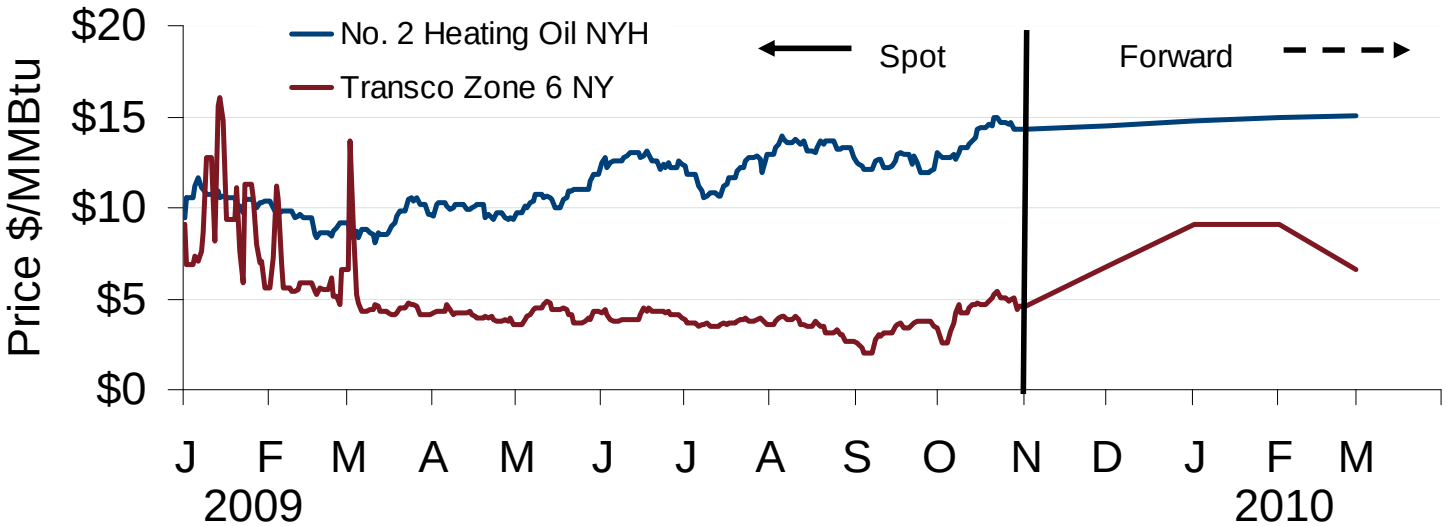
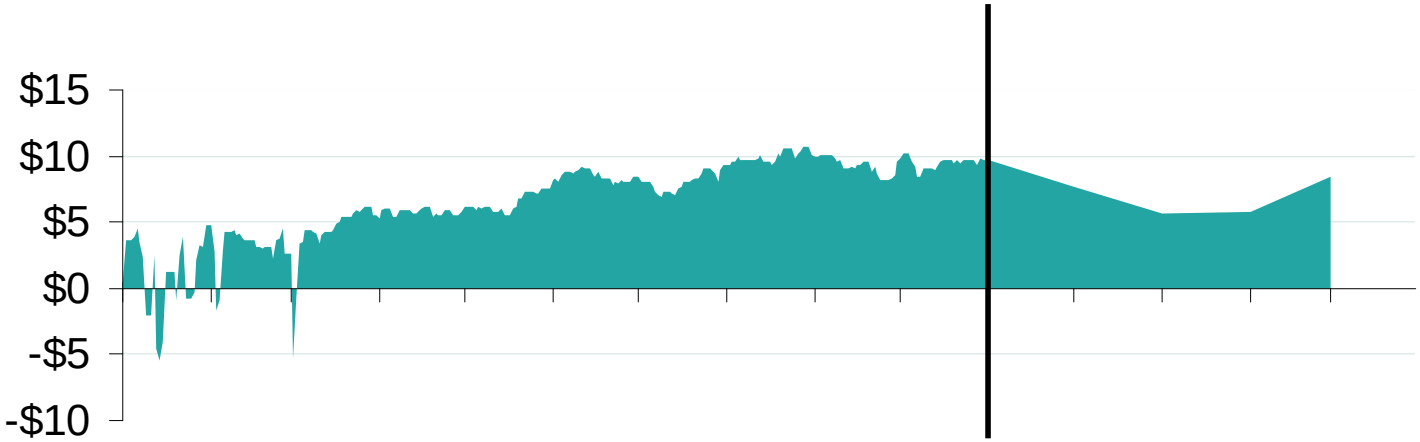
Northeast Heating Oil vs. Natural Gas Spread





Source: Derived from ICE & NYMEX Clearport

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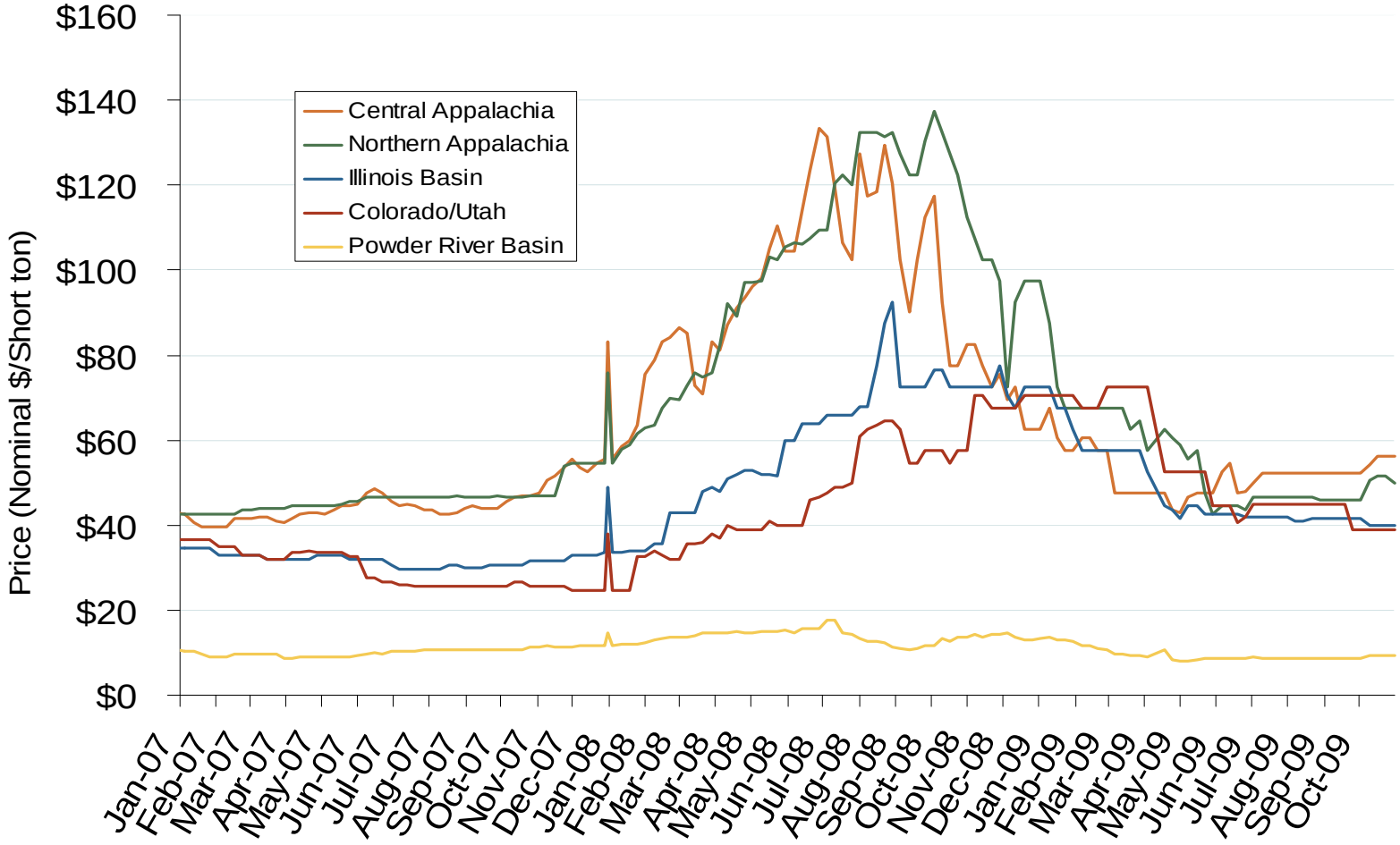
Regional Coal Spot Prices



Note: the Central Appalachian (CAPP) coal is priced at Big Sandy. All others are mine mouth prices. Prices do not include transportation costs to a plant, as those can vary widely by contract specifications. Prices exclude incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.

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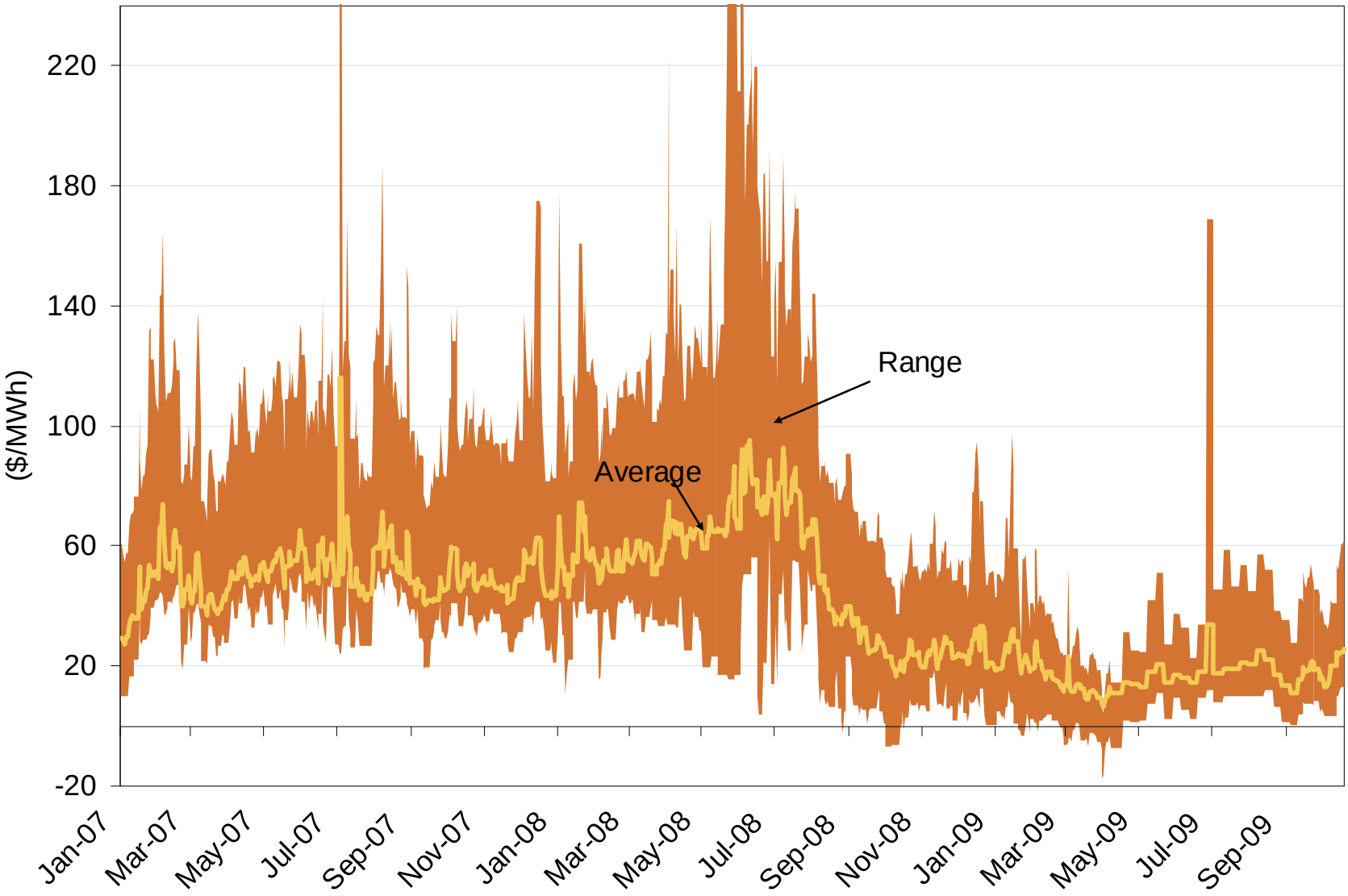
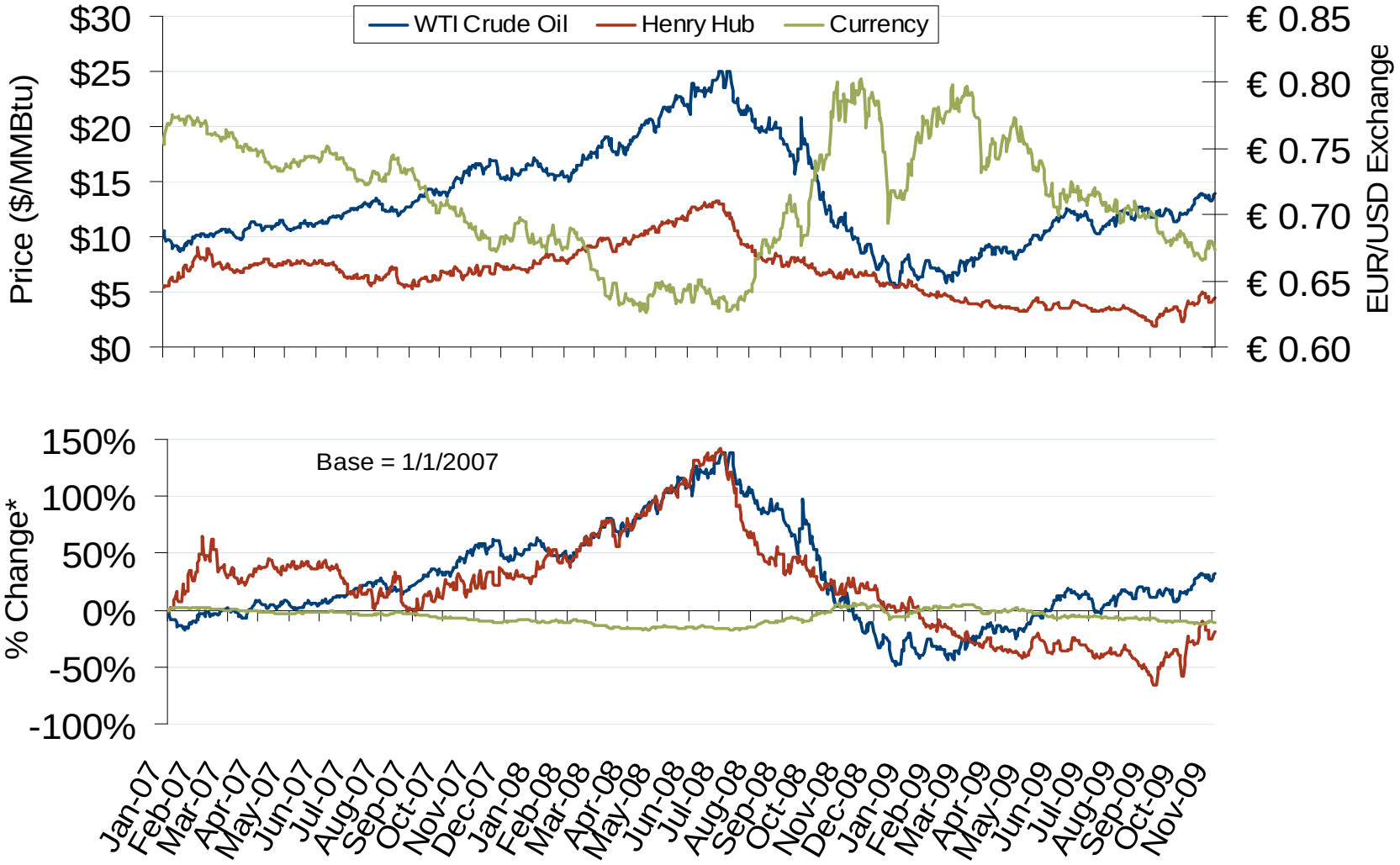
Low Gas Prices Depress Spot-Coal Generator Margins



Source: Spot coal prices derived from Bloomberg data. Peak power prices from Intercontinental Exchange select price points.

Oil, Natural Gas and Currency Spot Prices



Source: Derived from *Bloomberg* data.

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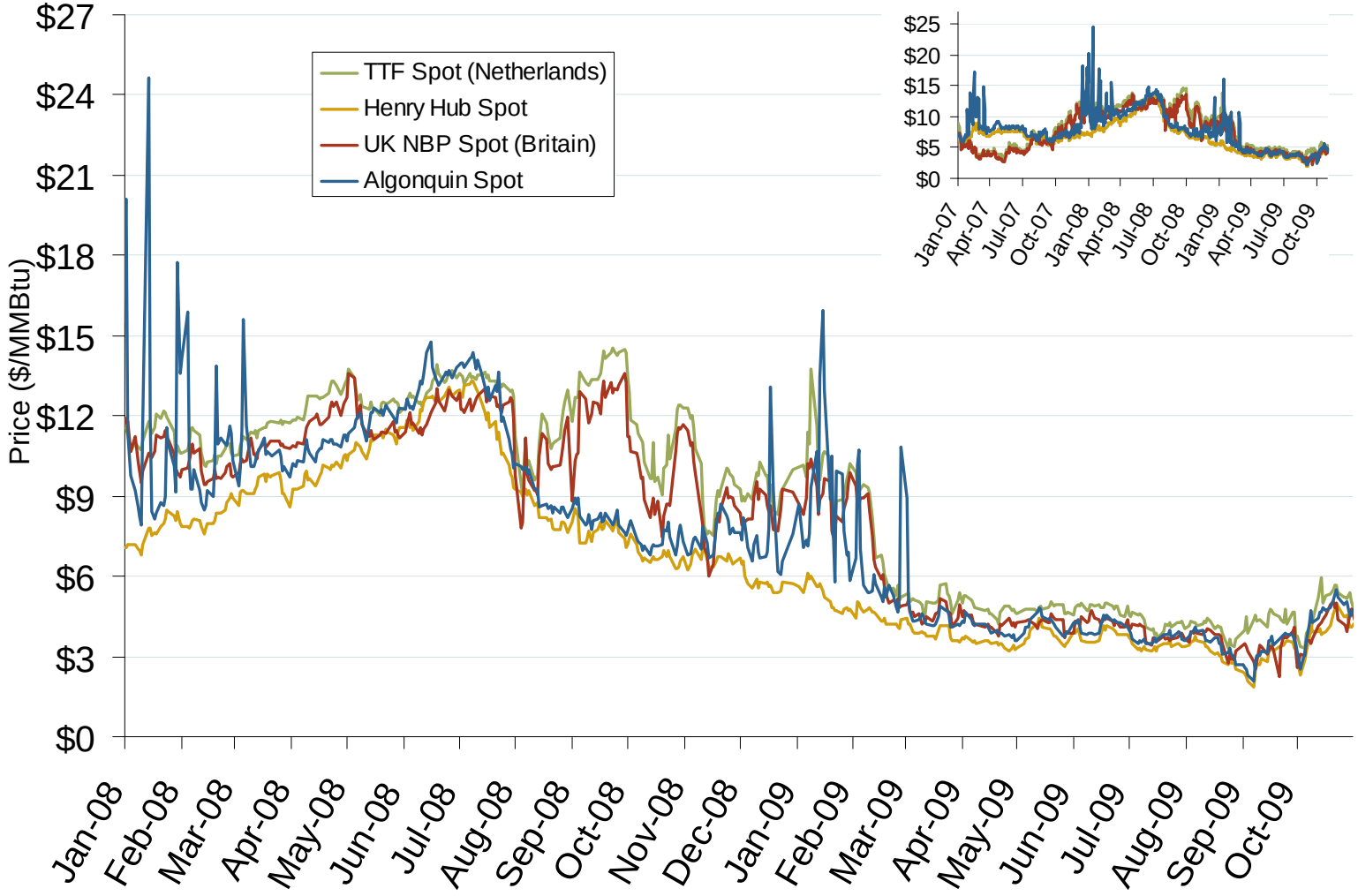
Atlantic Basin European and US Spot Natural Gas Prices



Source: Derived from *Bloomberg* and *ICE* data.

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World LNG Estimated November 2009 Landed Prices

Source: *Waterborne Energy, Inc.* Data in $US/MMBtu.

November 2009 Western Snapshot Report

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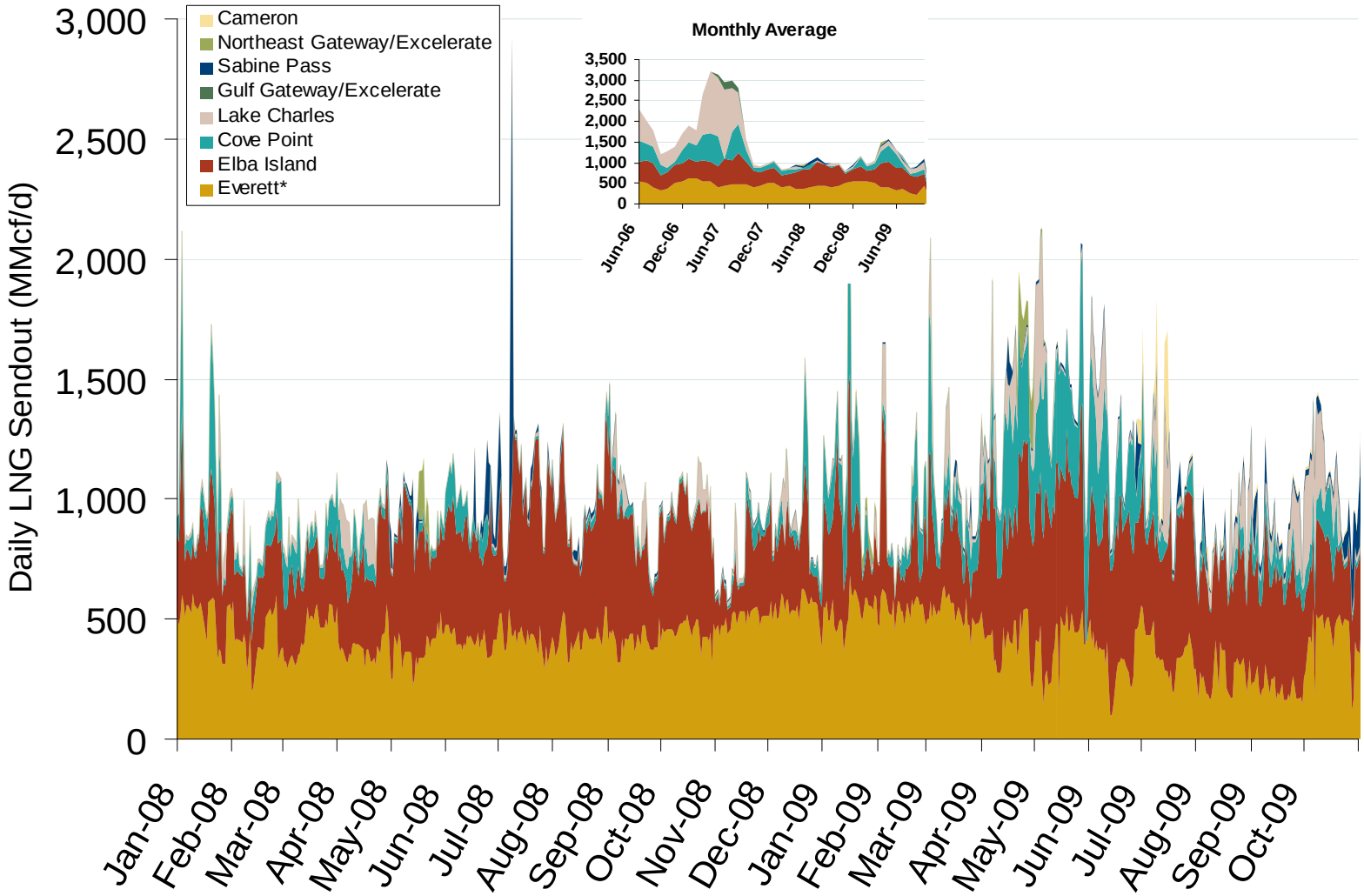
Daily Gas Sendout from Existing U.S. LNG Facilities



Source: Derived from *Bentek* data.

* Everett data includes flows onto the AGT and TGP interstate lines, plus estimates of flows to the Mystic 7 power plant, Keyspan Boston Gas, and LNG trucked out of the terminal. Excludes Freeport LNG which flows via intrastate pipelines.

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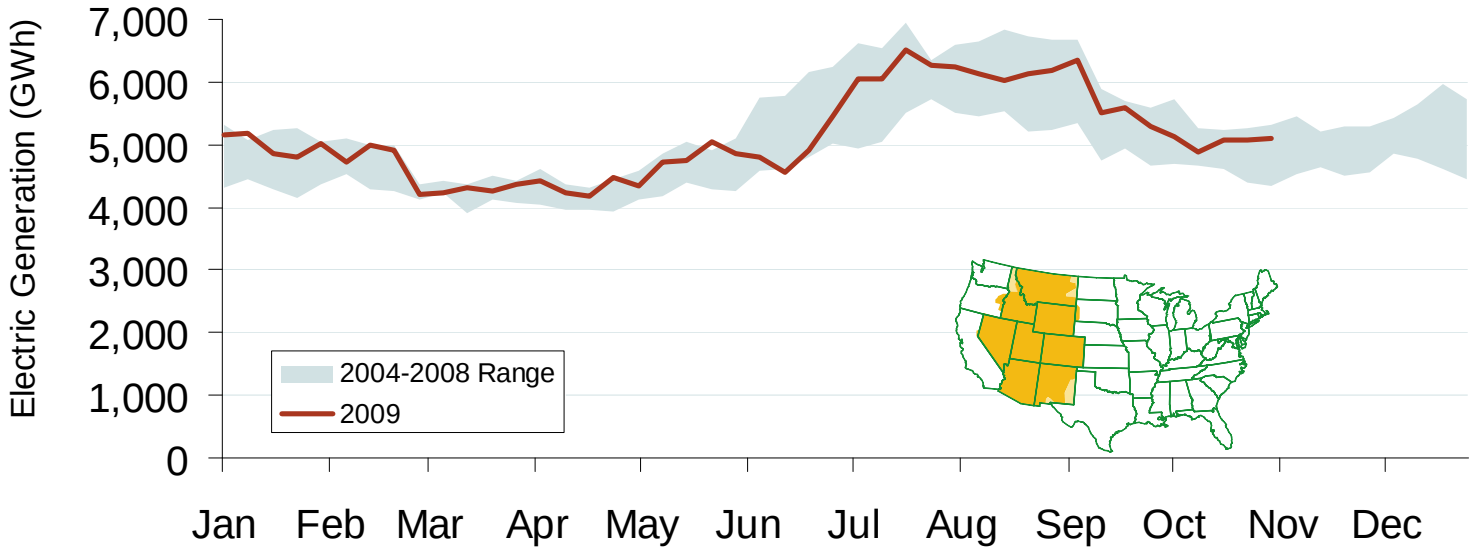
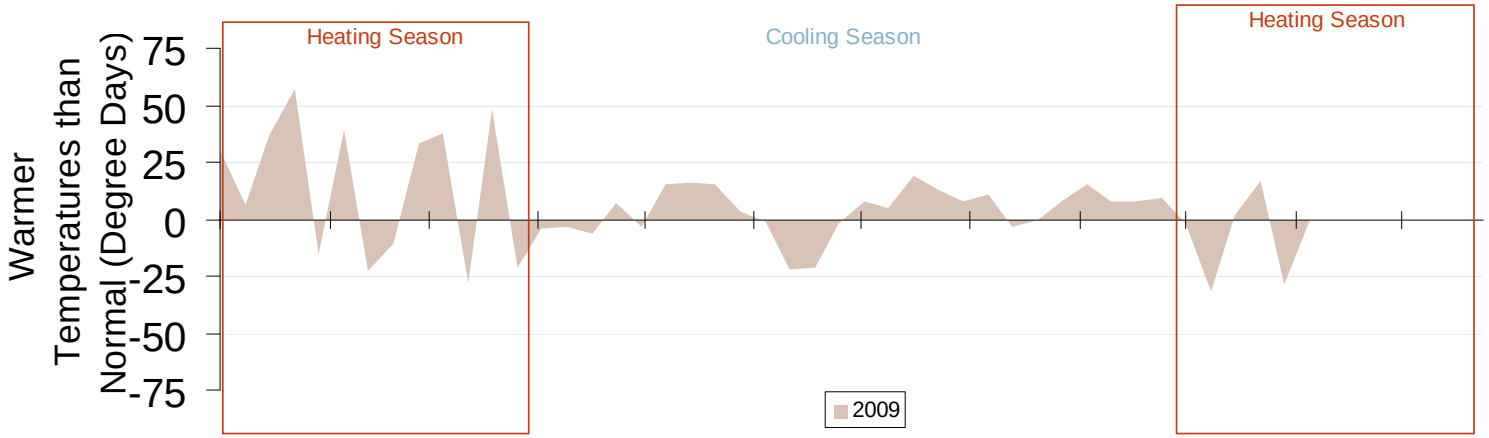
Electricity Markets

Weekly Electric Generation Output and Temperatures Rocky Mountains Region





Source: Derived from *EEI* and *NOAA* data.

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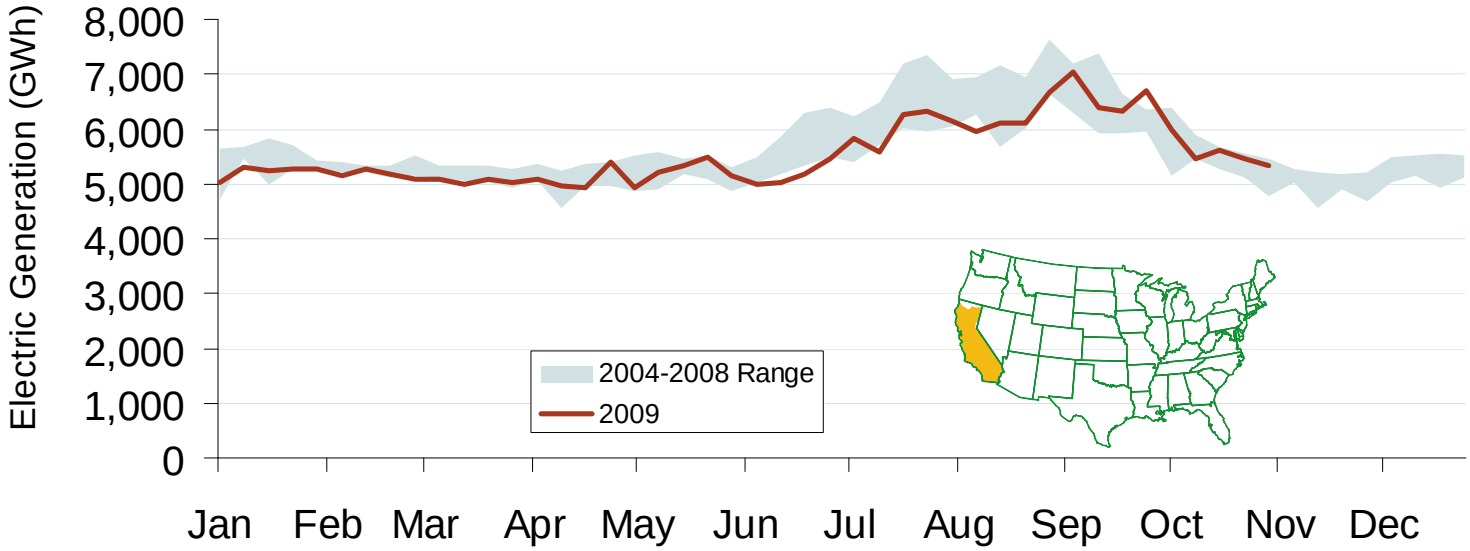
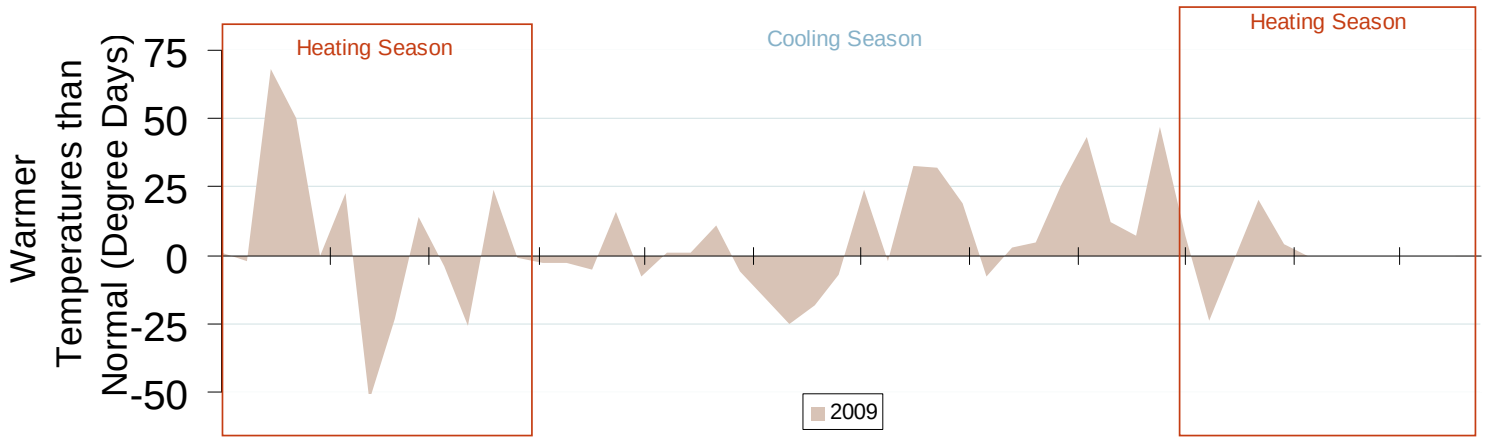
Weekly Electric Generation Output and Temperatures California





Source: Derived from *EEI* and *NOAA* data.

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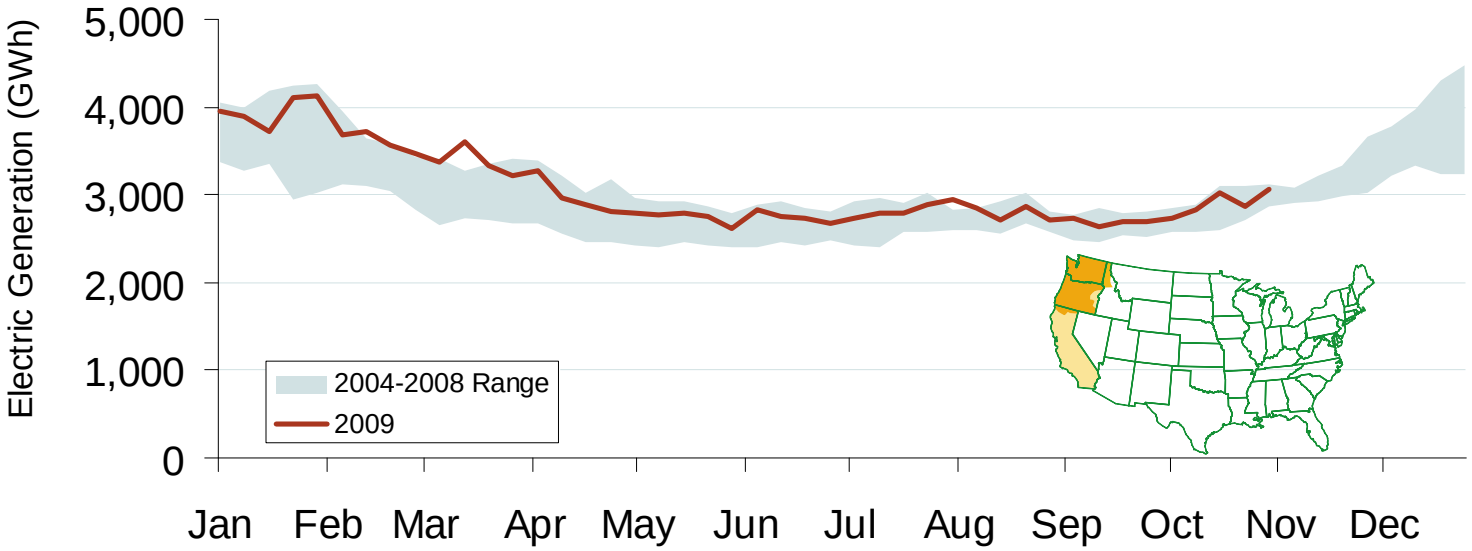
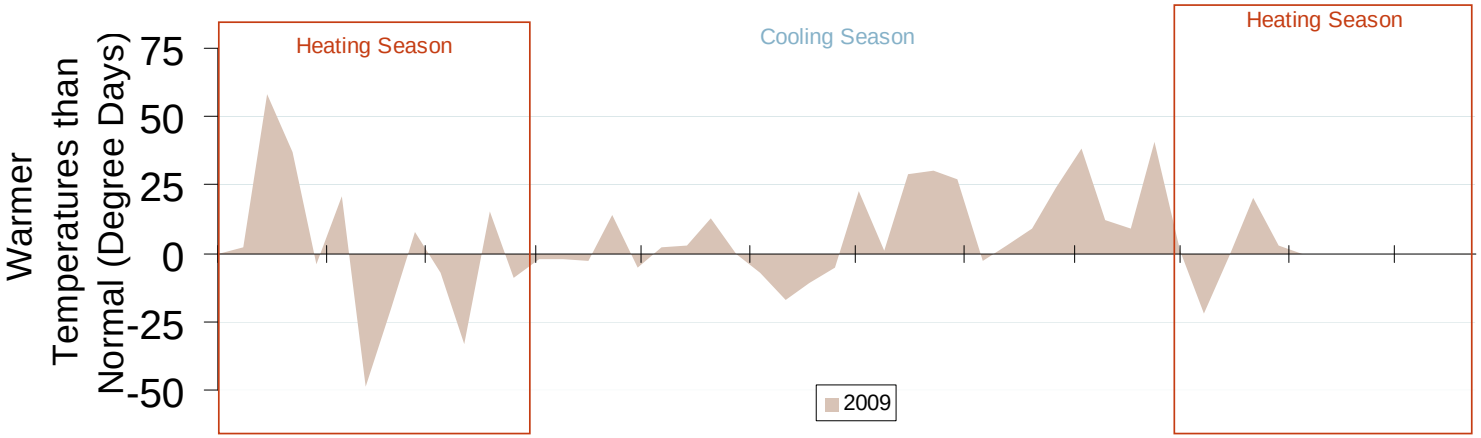
Weekly Electric Generation Output and Temperatures Pacific Northwest Region





Source: Derived from *EEI* and *NOAA* data.

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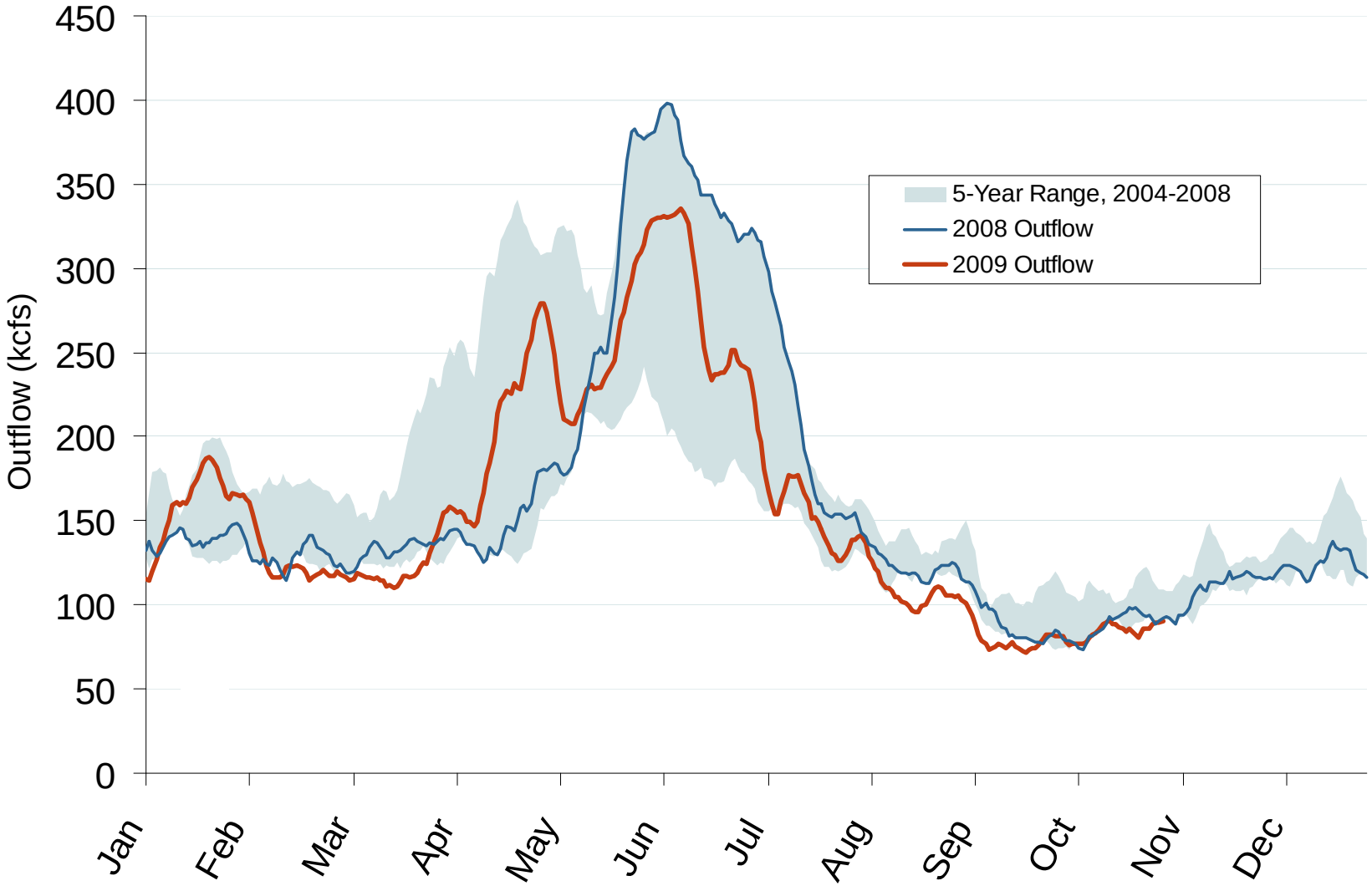
Stream Flow at The Dalles Dam



Source: Derived from *USACE* data.

Trend lines are 7-day moving averages.

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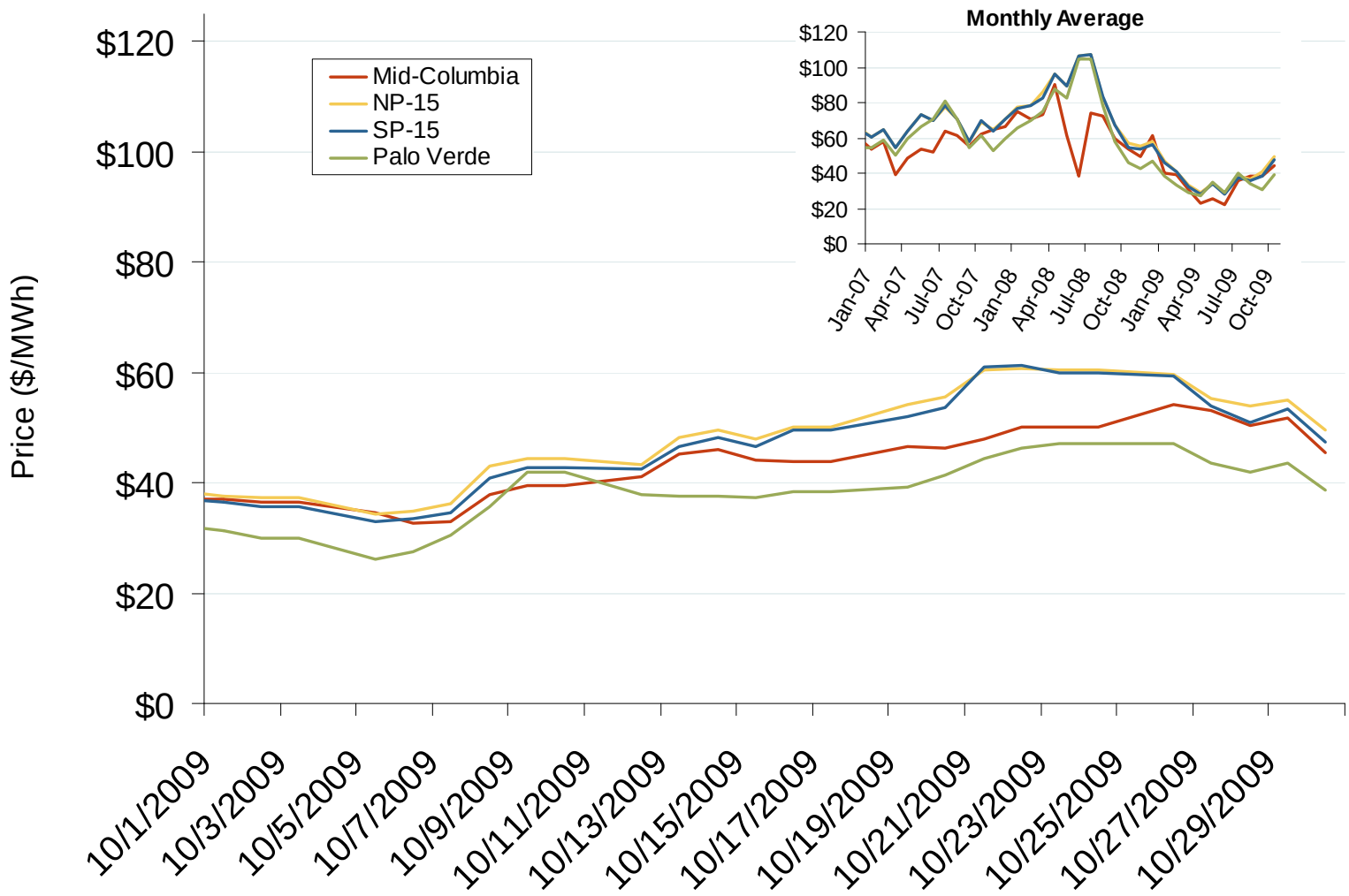
Western Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

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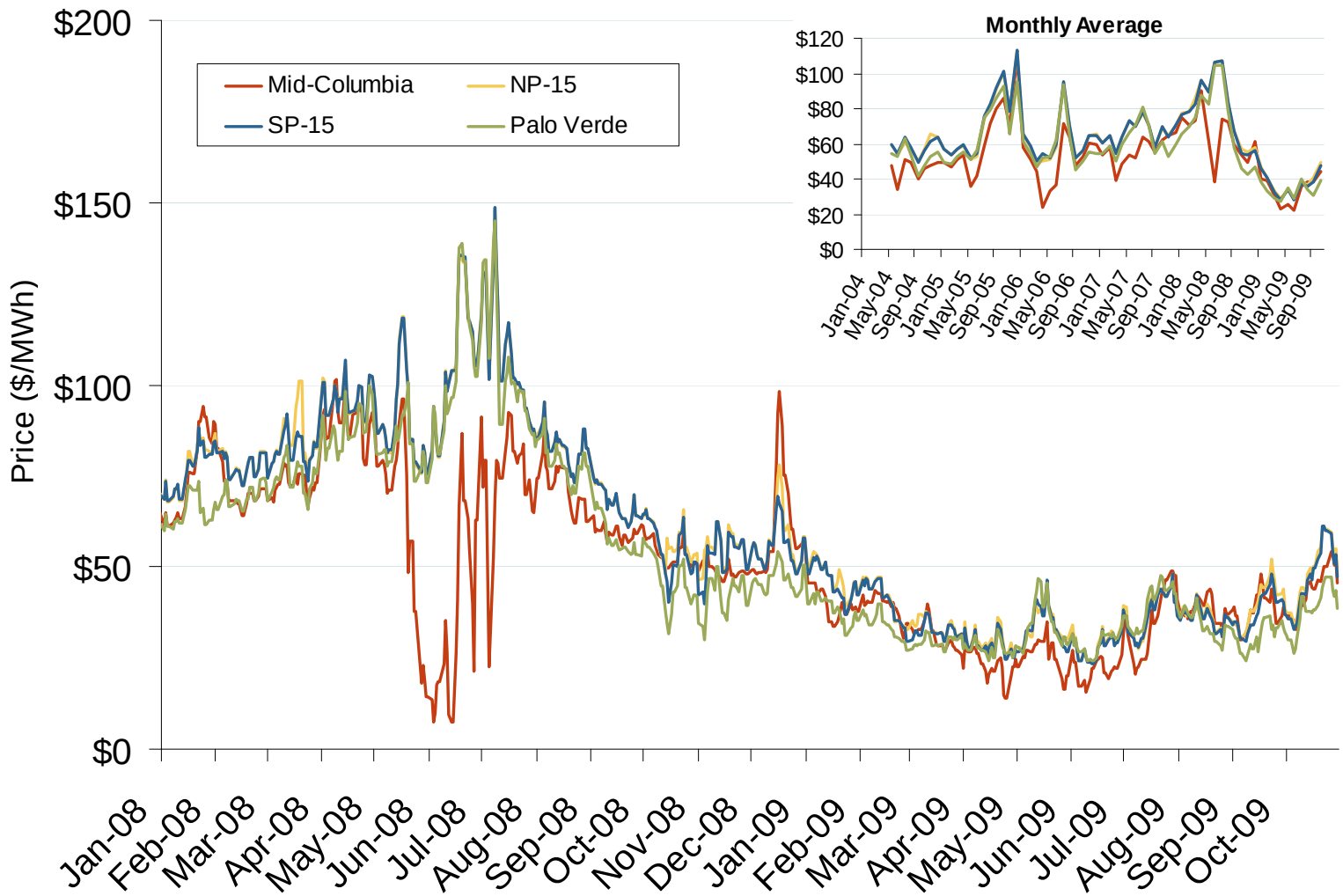
Western Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

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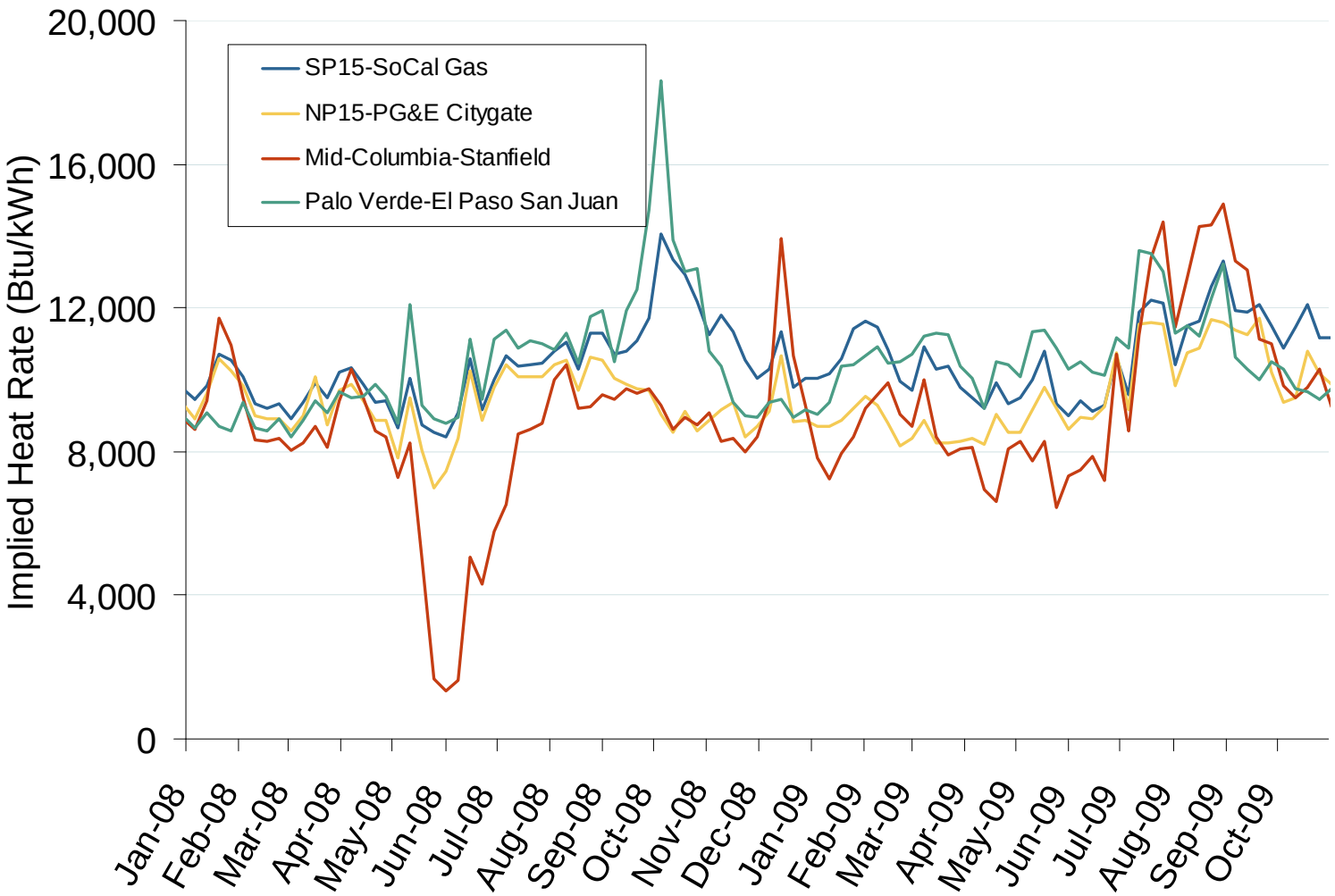
Implied Heat Rates at Western Trading Points Weekly Averages



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

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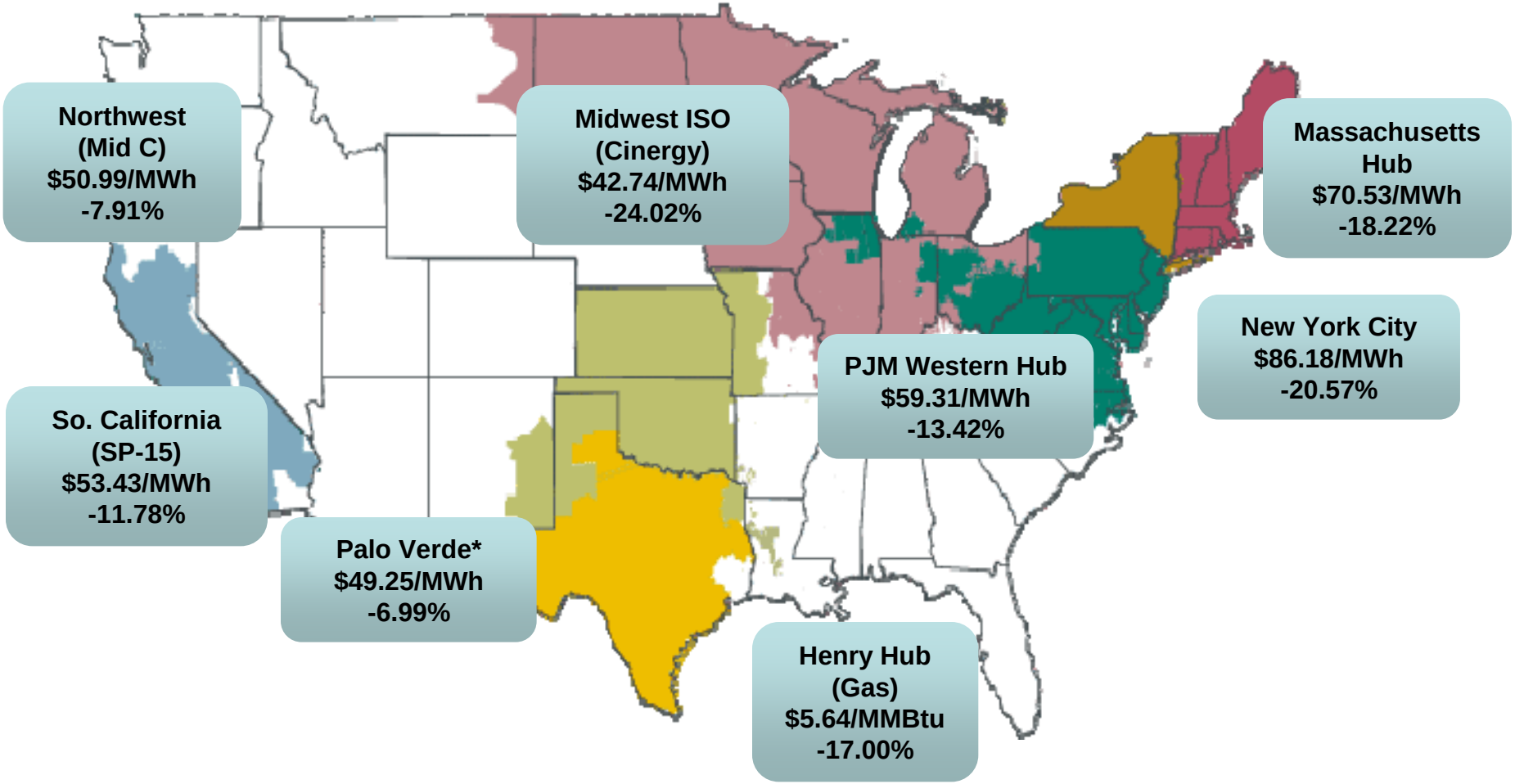
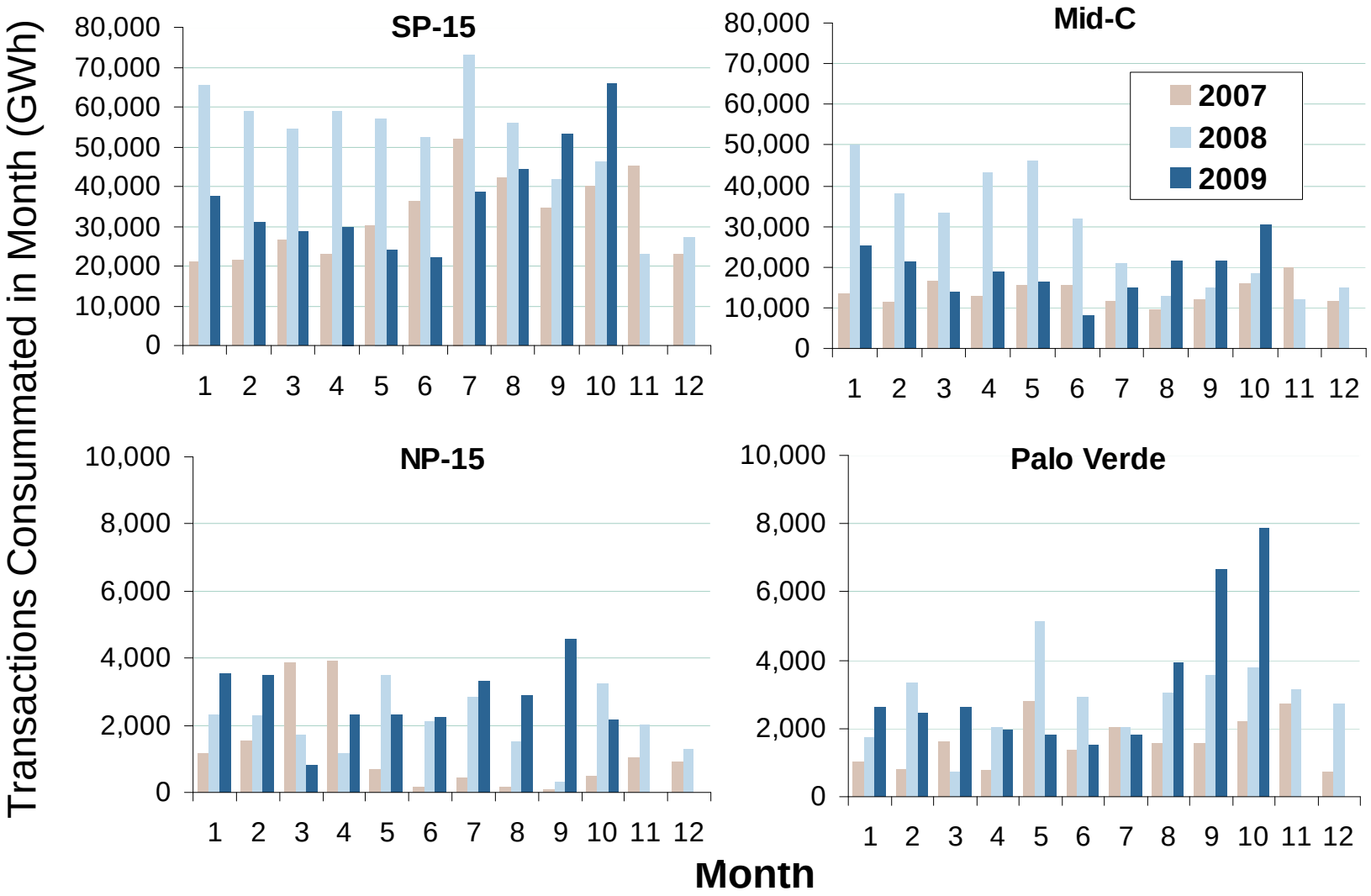
Winter (Jan-Feb) On-Peak Forward Prices 2009 vs. 2010



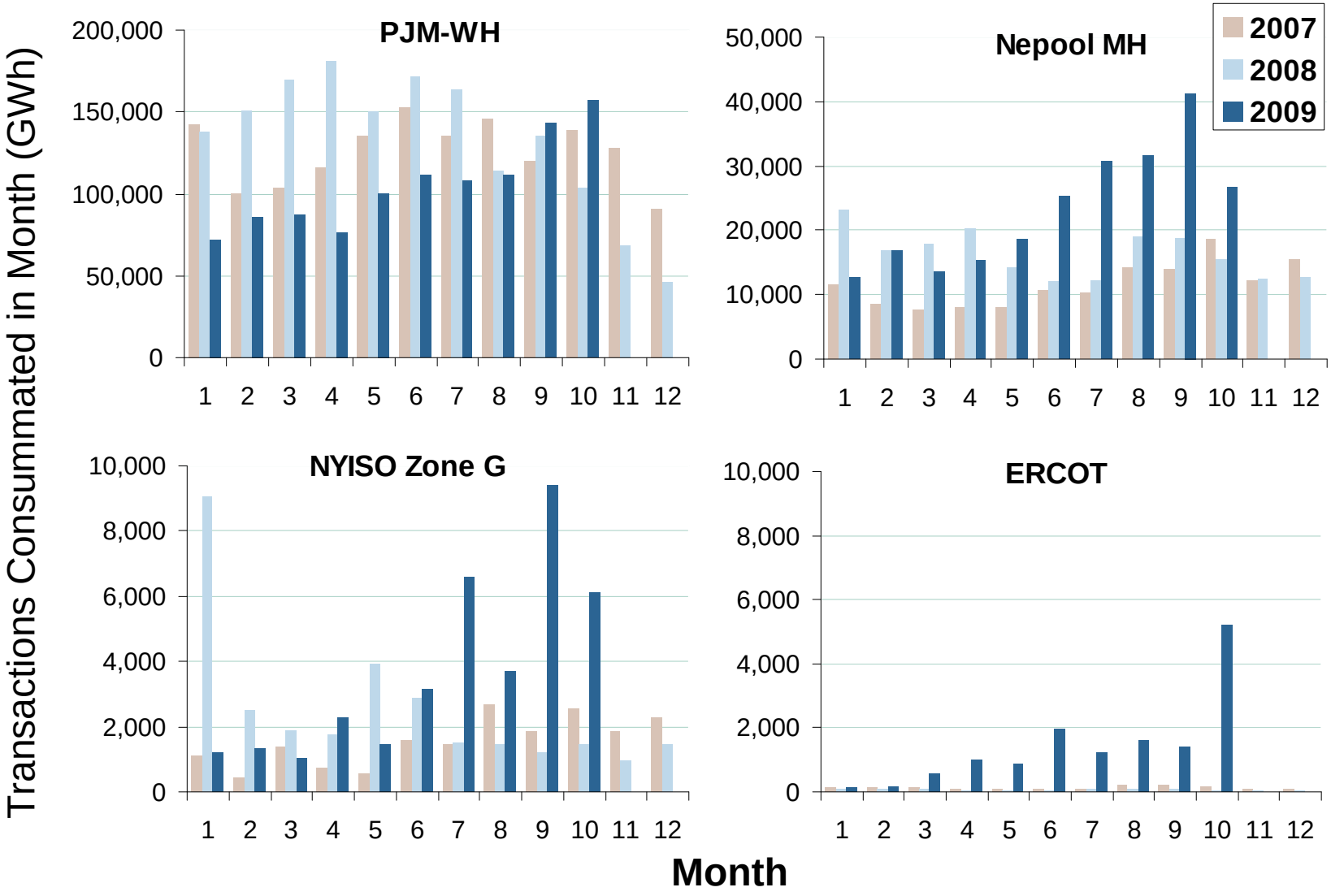
Source: Winter is defined here as January and February. Palo Verde price and change is for the first quarter instead of Jan-Feb. Forward on-peak electric and natural gas data is from ICE as of 10/26/09 and is compared to the same forward packages from last Jan-Feb as of 10/24/08.

Financial Volumes on ICE Pick-Up Across West



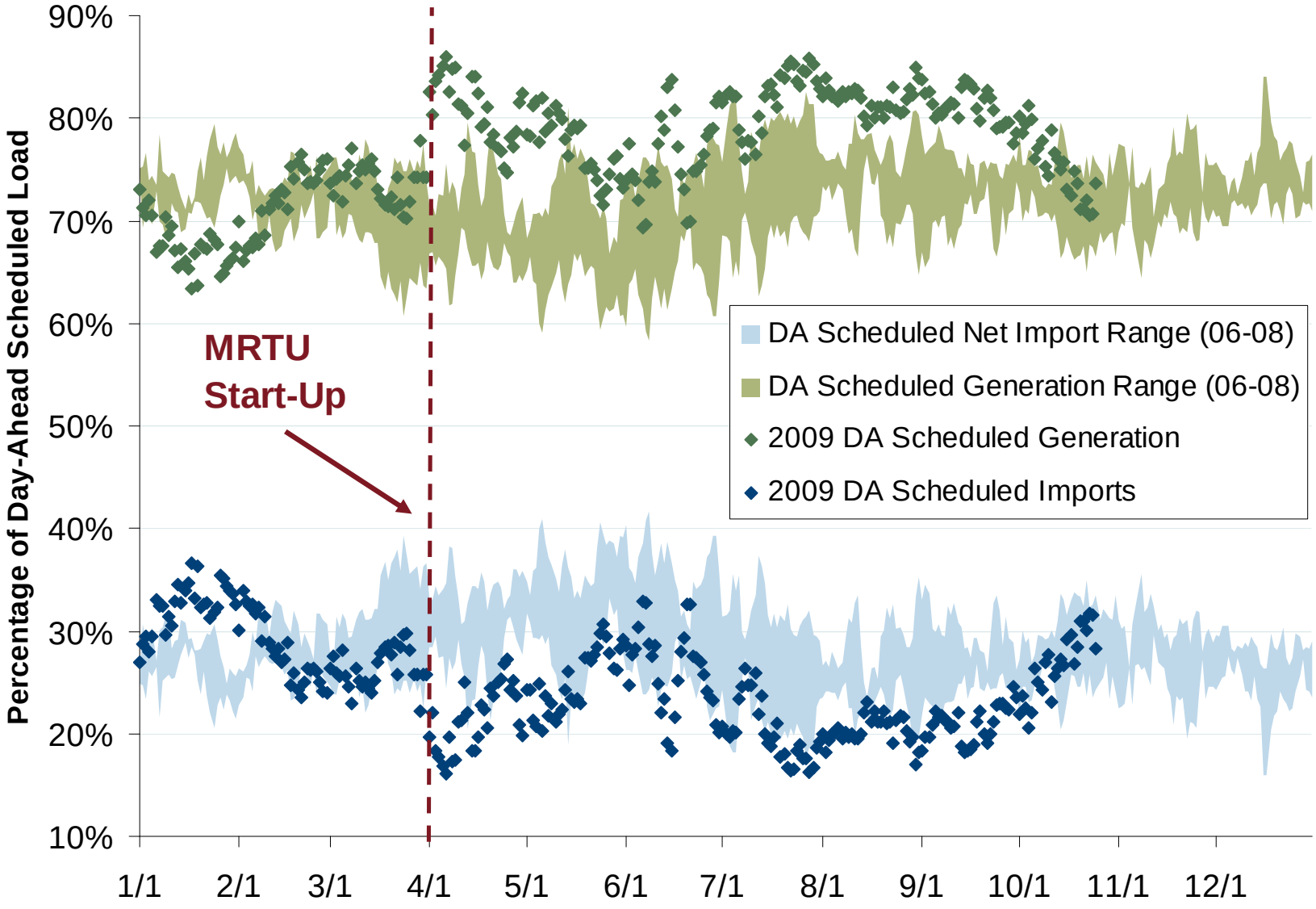
Notes: Derived from IntercontinentalExchange (ICE) data. Financial-Swap volumes aggregated by trade date.

Financial Volumes on ICE Pick-Up Across East, Texas



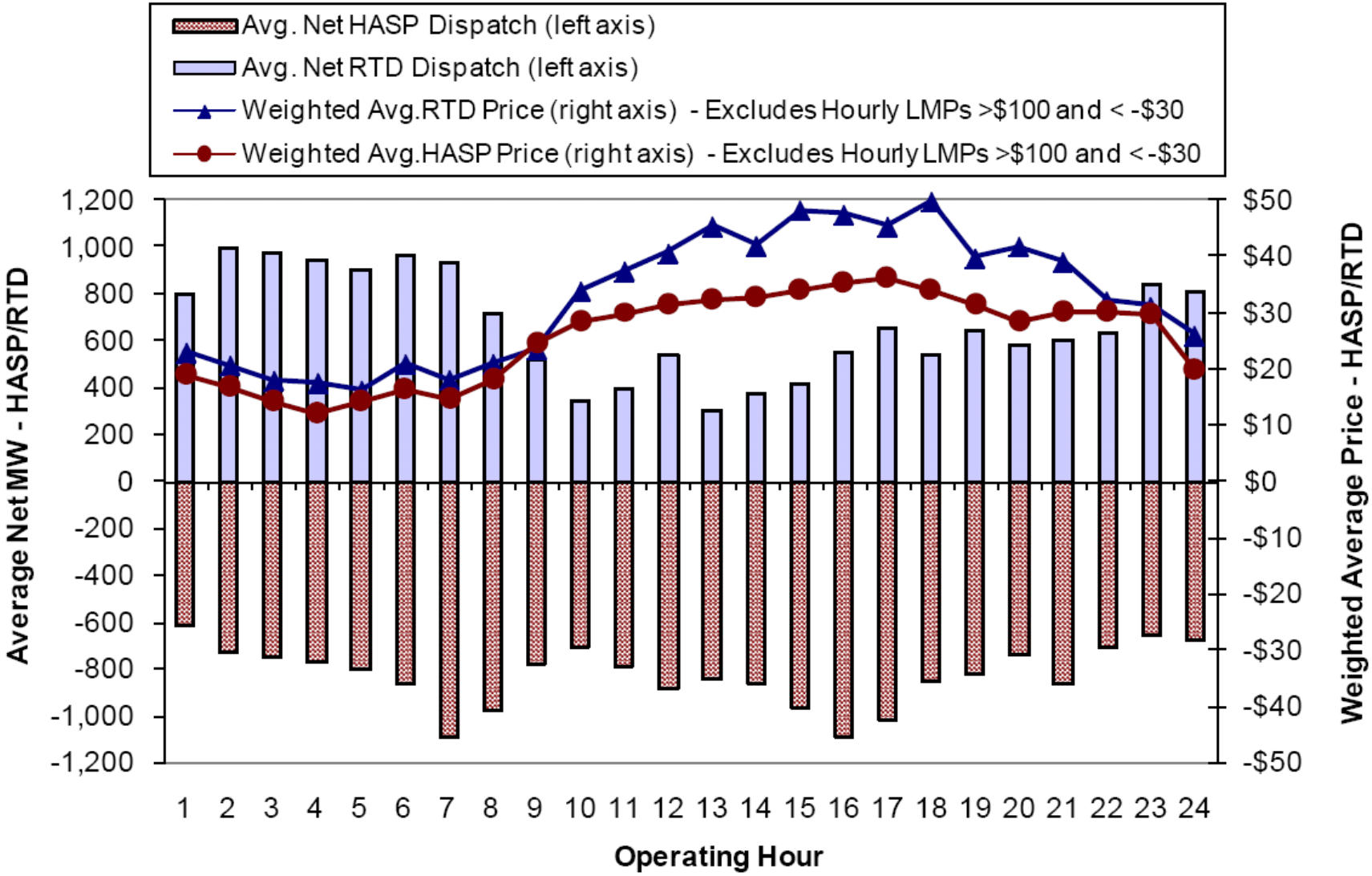
Notes: Derived from IntercontinentalExchange (ICE) data. Financial-Swap volumes aggregated by trade date.

Net Imports into CAISO Drop with MRTU Start-Up



Note: CAISO OASIS data (System Load and Resource Schedules).

CAISO "Selling Low" and "Buying High"



Source: California ISO, Department of Market Monitoring, Quarterly Report on Market Issues and Performance (October 30, 2009).