

OE ENERGY MARKET SNAPSHOT

Western States Version – November 2010 Data

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

Office of Enforcement
Federal Energy Regulatory Commission
December 2010



Special Report:

- **2010 Report on Enforcement**



2010 REPORT ON ENFORCEMENT

Docket No. AD07-13-003

Released November 18, 2010

Report: <http://www.ferc.gov/legal/staff-reports/11-18-10-enforcement.pdf>

Presentation: <http://capitolconnection.net/capcon/ferc/111810/ferc111810.htm>

Office of Enforcement Priorities

Enforcement will continue to focus on matters involving:

- **Fraud and market manipulation;**
- **Serious violations of the reliability standards;**
- **Anticompetitive conduct; and**
- **Conduct that threatens the transparency of regulated markets.**

FERC Acts to Promote Transparency and Fairness

- **Penalty Guidelines**

- The Commission's issuance of the Penalty Guidelines provides for more uniform penalties, bringing more certainty and promoting fairness by ensuring similar penalties for similar violations.

- **Disclosure of Exculpatory Materials**

- The Commission's issuance of the Policy Statement on Disclosure of Exculpatory Materials in December 2009 formalizes Enforcement staff's practice relating to exculpatory materials and adopting the requirements of *Brady v. Maryland*.

- **Notices of Violation**

- The Commission's December 17, 2009 Order provides that a notice will be issued after Enforcement staff preliminarily concludes that a violation has occurred and after the subject of the investigation has had the opportunity to respond to the allegation. Commission has not yet ruled on petitions for rehearing.

Division of Investigations

Self-Reports, Investigations and Settlements

- **During fiscal year 2010, Investigations staff received 93 self-reports of violations, of which 54 were closed.**
- **Investigations staff opened 15 investigations and closed 16 investigations.**
- **The Commission approved six settlement agreements for a total of \$31 million in civil penalties and an additional \$280,000, plus interest, in disgorgement of unjust profits.**
- **Investigations staff assisted in a proceeding that resulted in a \$25,000,000 disbursement from a disgorgement fund resulting from the settlement of a manipulation claim against Energy Transfer Partners in fiscal year 2009.**

Reliability

- **Notices of Penalty**

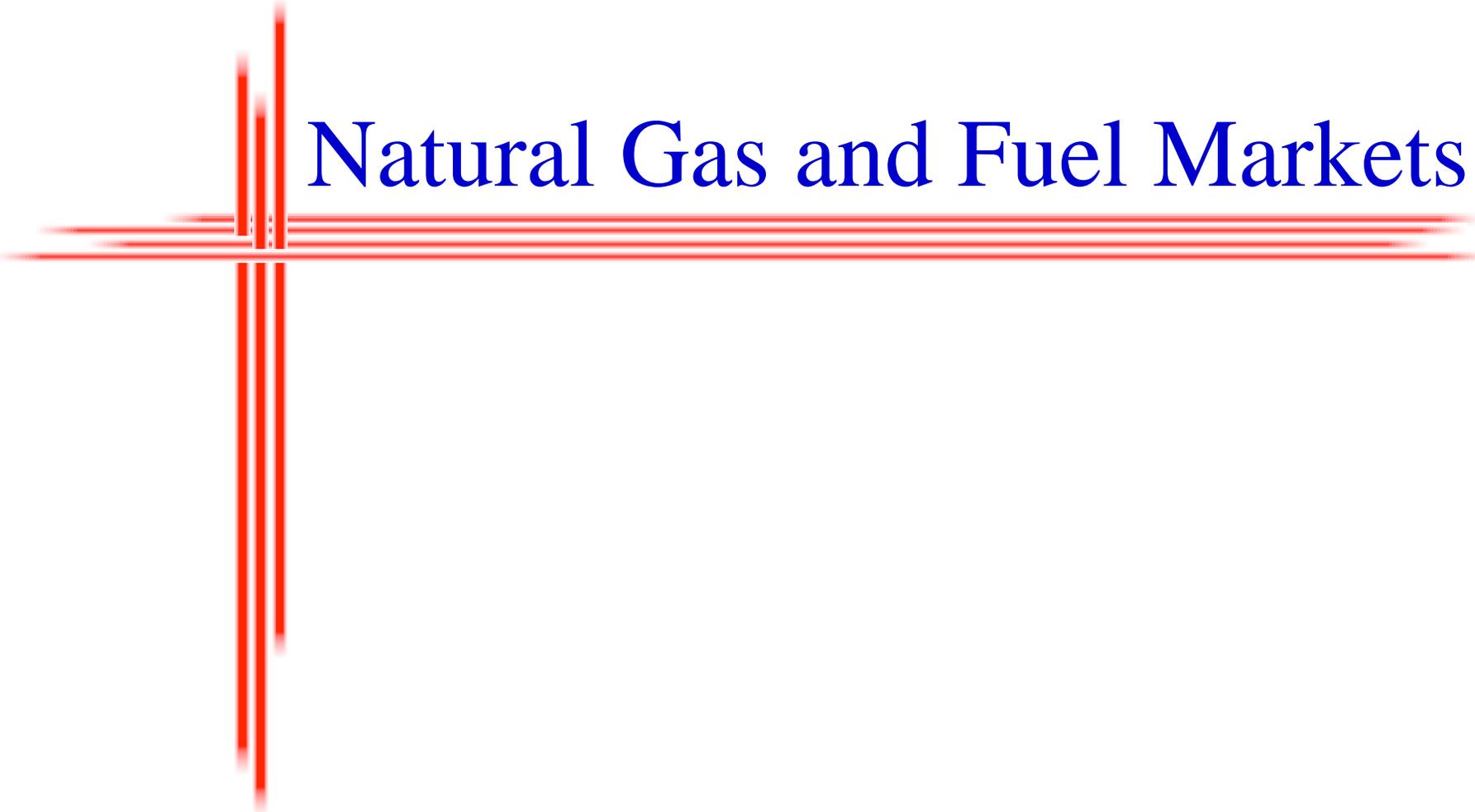
- Investigations staff reviewed approximately 1,300 violations in 190 Notices of Penalty filed by NERC pursuant to the Electric Reliability Organization's Compliance Monitoring and Enforcement Program.
- Two "Omnibus" filings with a total of 626 violations.

Division of Audits

- **Audits staff completed 52 audits of public utilities and natural gas pipeline and storage companies last year.**
- **These audits generated 210 recommendations for corrective action and included \$4.1 million in monetary recoveries.**
- **Audits staff addressed several significant accounting issues including the International Financial Reporting Standards and the Capitalization of Interest During Construction.**

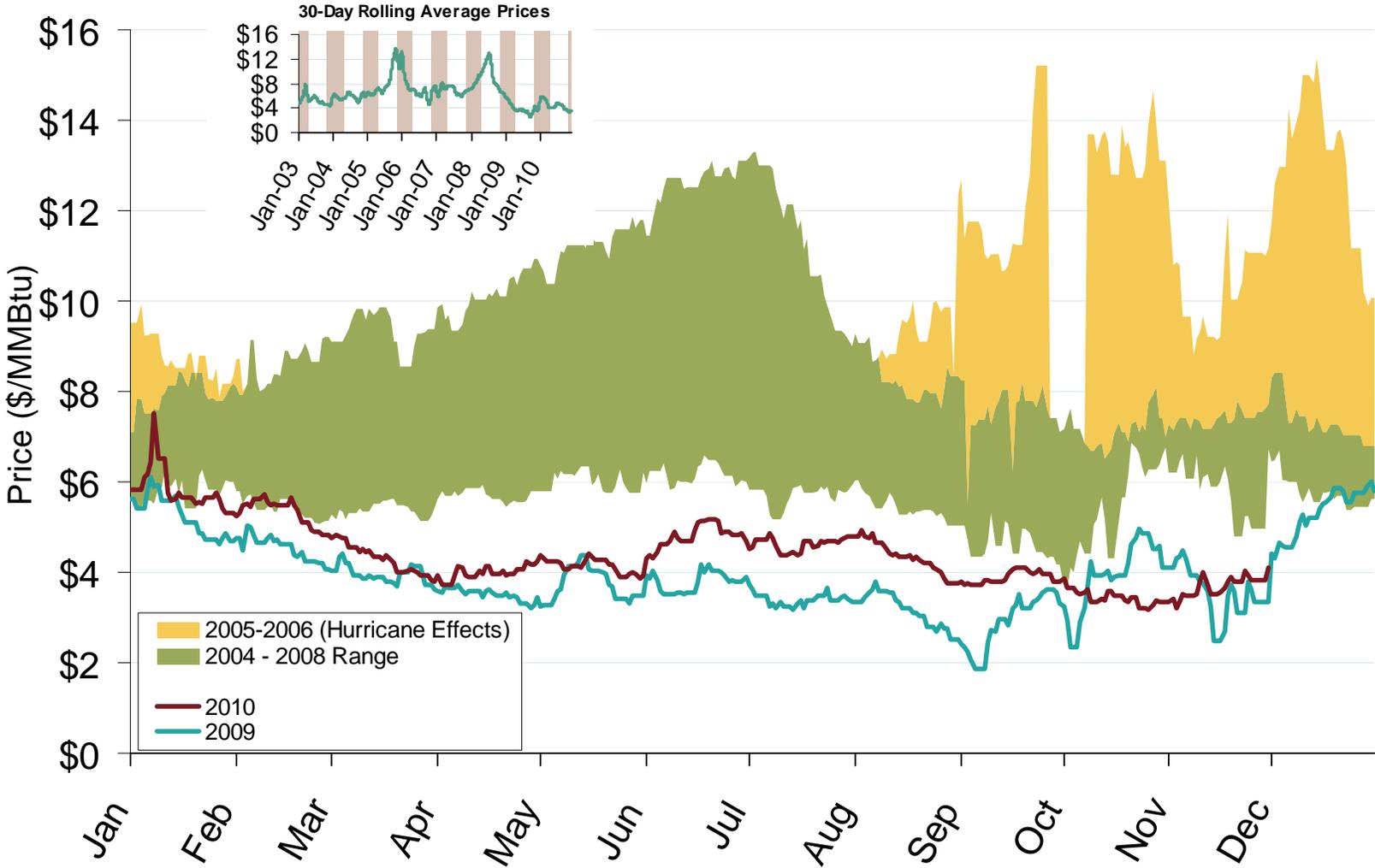
Market Oversight

- **Market Monitoring**
 - Annual and Seasonal Reports
 - Capacity Reassignment Report
 - Pipeline Capacity Release Review – Upcoming
- **Technical Analysis**
- **Outreach**
- **Forms Compliance**
 - Review of over 3,000 respondents submissions on 15 different forms
- **Transparency Orders**
 - Order No. 704-C Clarification Regarding Form No. 552
 - Order No. 720 Clarifications on Non-Interstate Pipeline Posting Requirements
 - Electric Transparency Notice of Inquiry



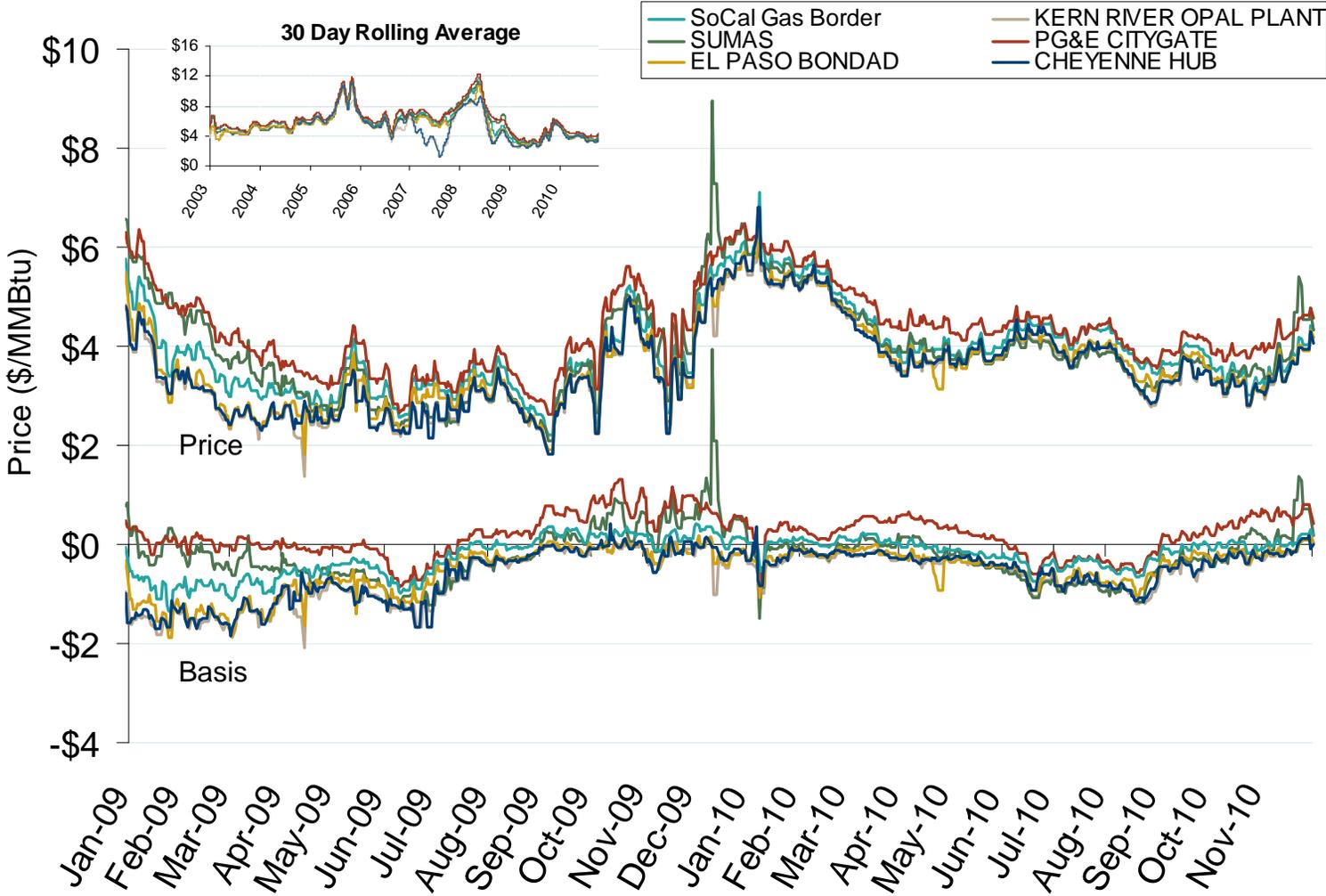
Natural Gas and Fuel Markets

Henry Hub Natural Gas Daily Spot Prices



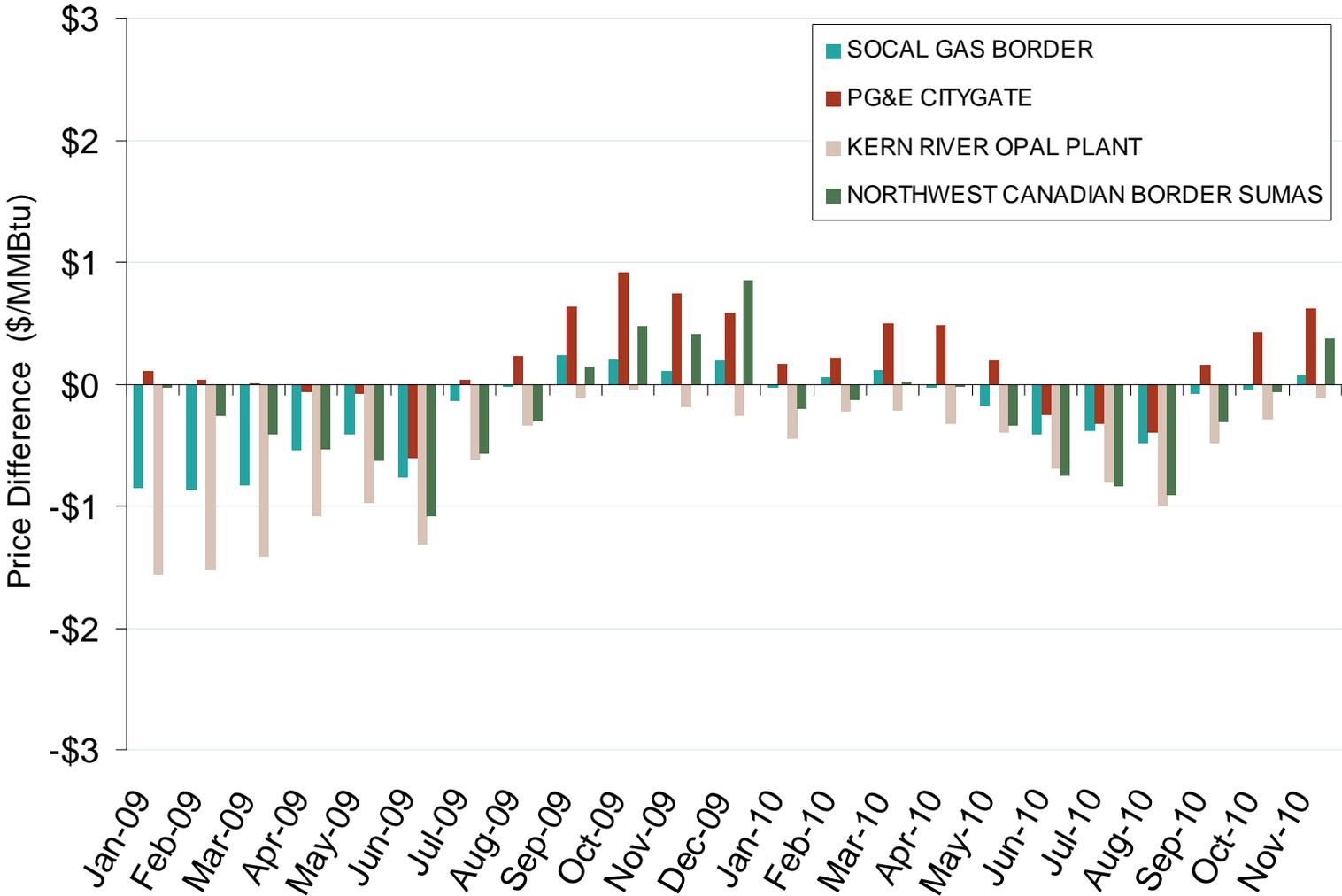
Source: Derived from *Platts* data.
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Western Day-Ahead Hub Spot Prices and Basis



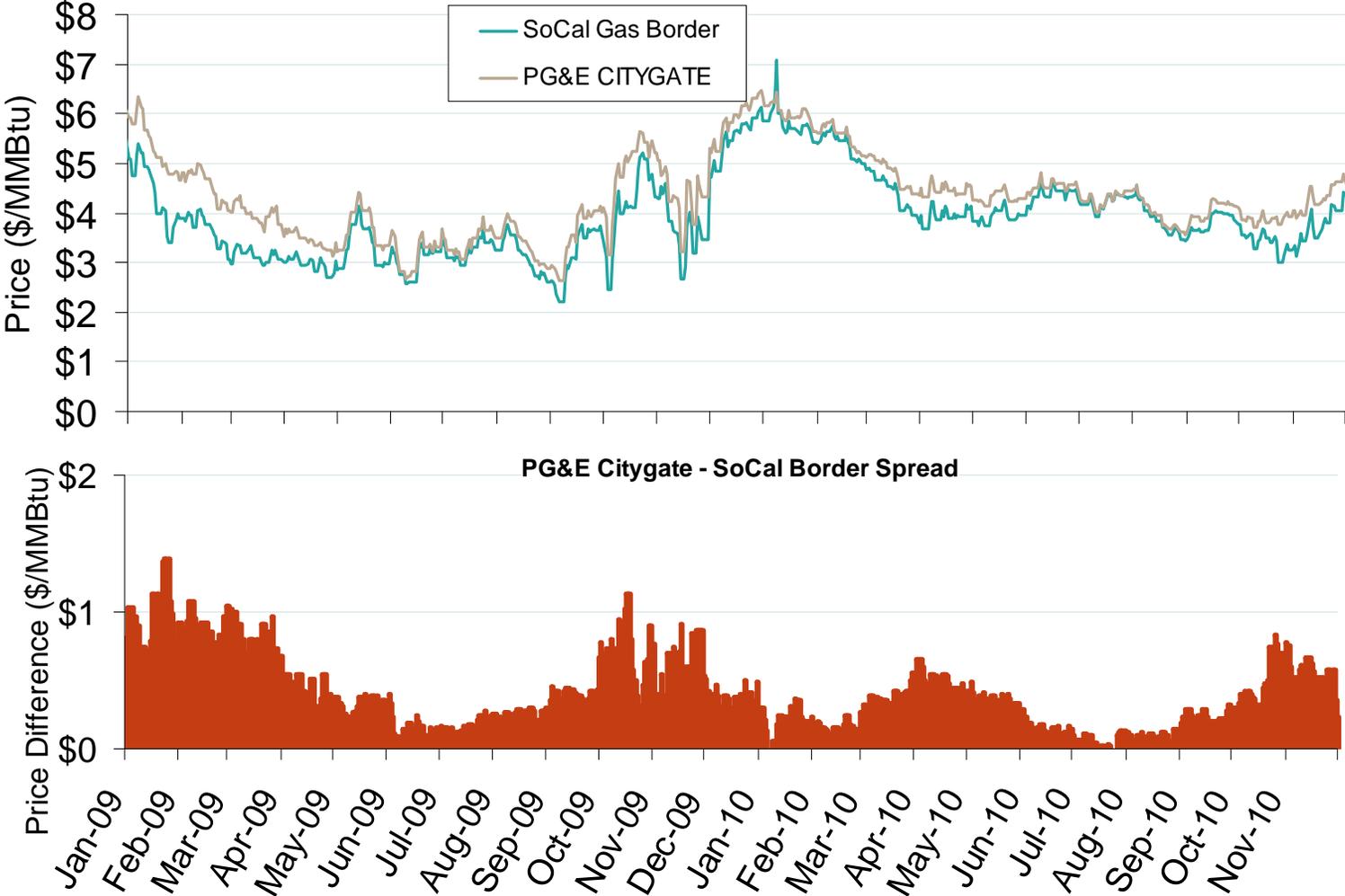
Source: Derived from *Platts* data.
December 2010 Western Snapshot Report

Western Monthly Average Basis Value to Henry Hub



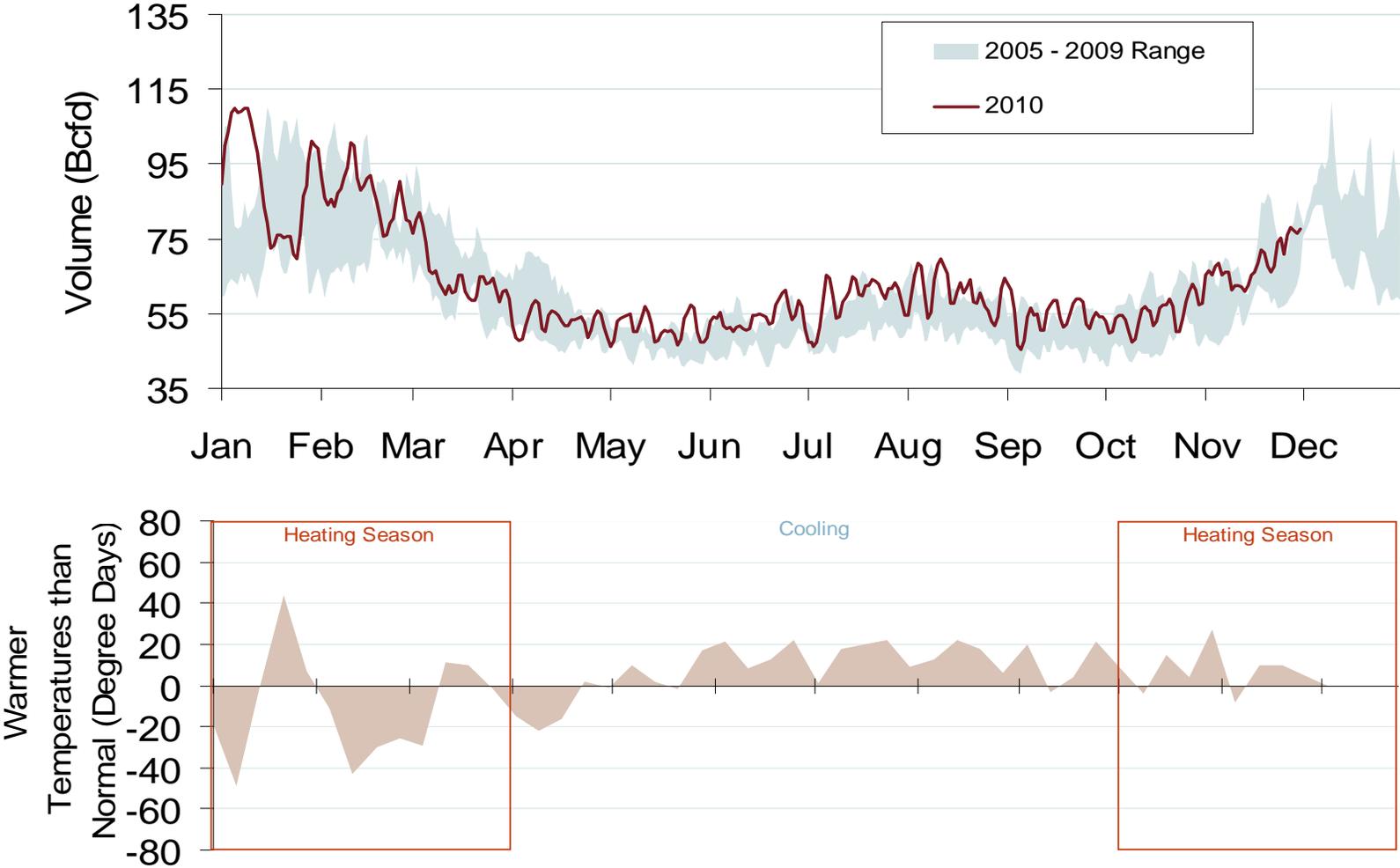
Source: Derived from *Platts* data.
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Difference in Northern and Southern California Daily Spot Prices



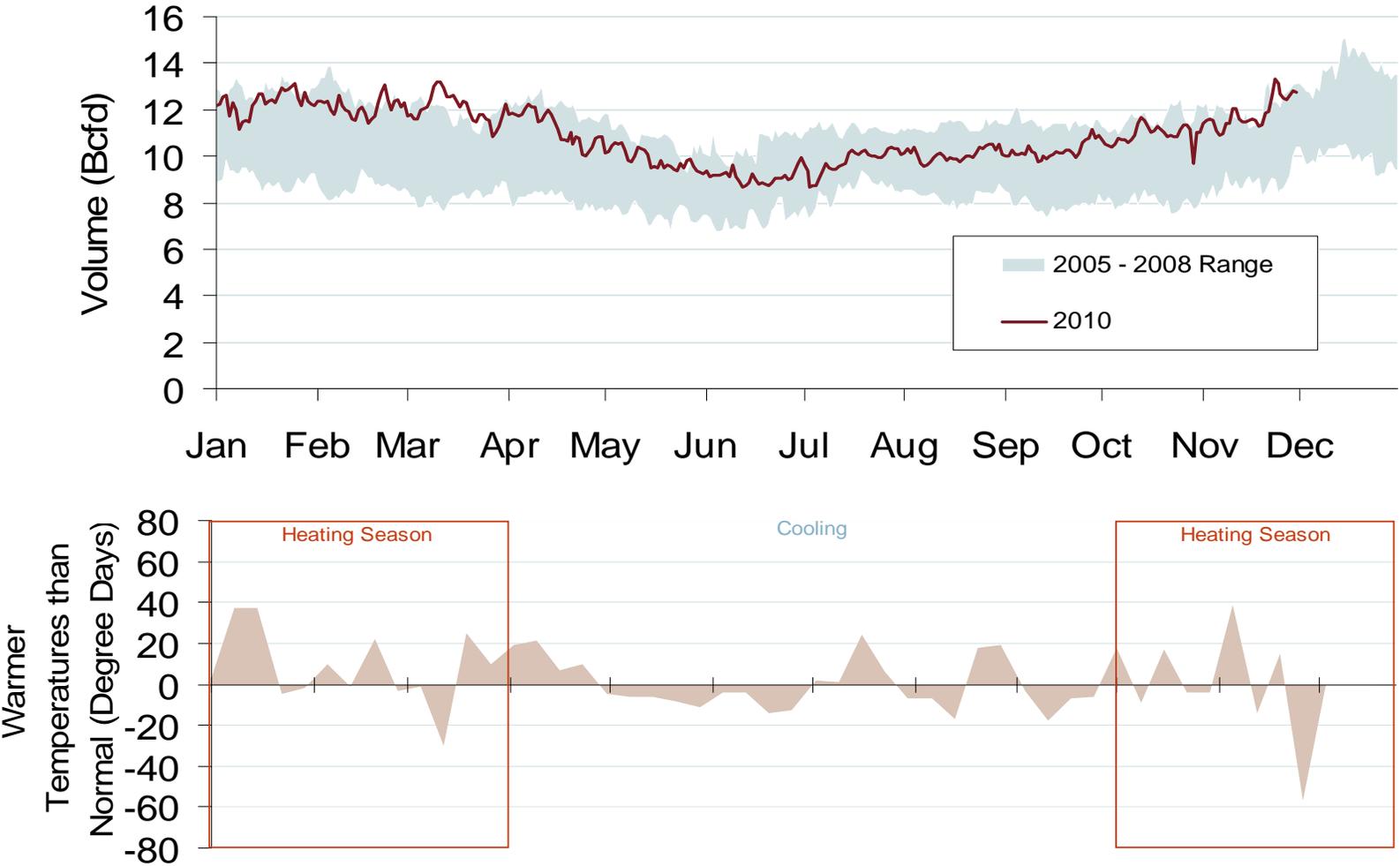
Source: Derived from *Platts* data.

Total U.S. Natural Gas Demand (All Sectors) and Temperatures



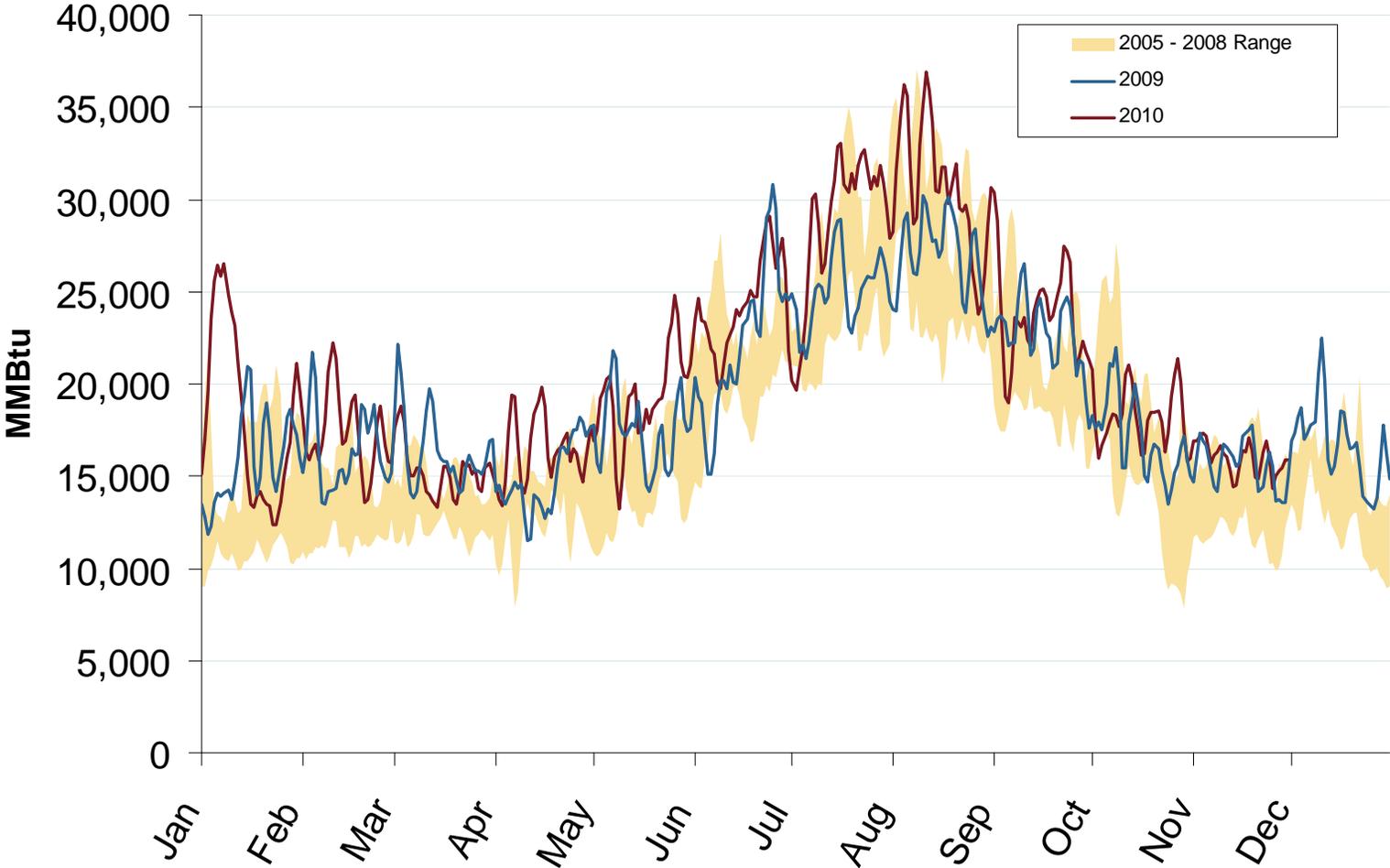
Source: Derived from Bentek Energy and Weekly NOAA data.
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Daily Western Natural Gas Demand All Sectors



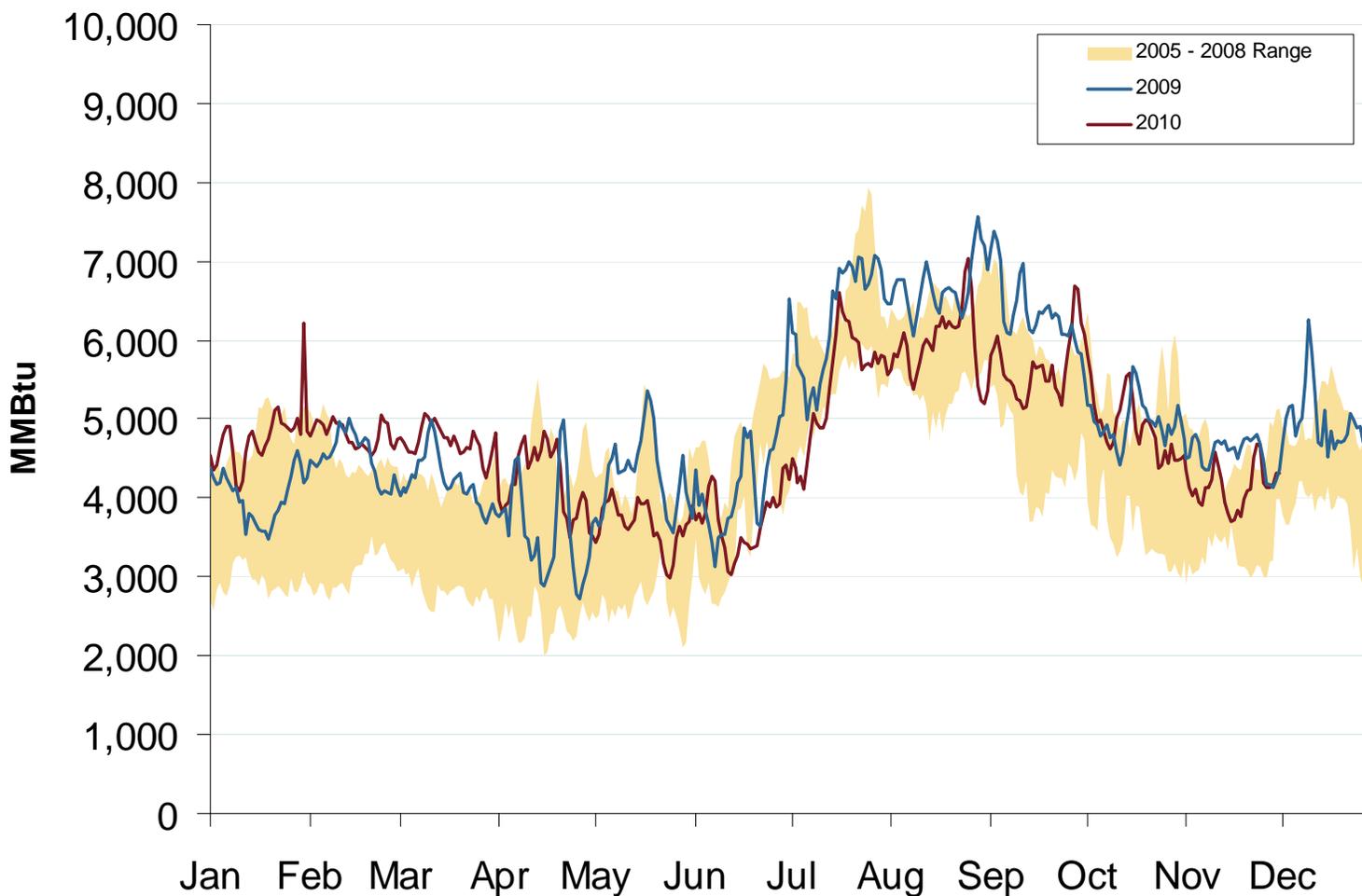
Source: Derived from Bentek Energy and Weekly NOAA data.
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U.S. Natural Gas Consumption for Power Generation

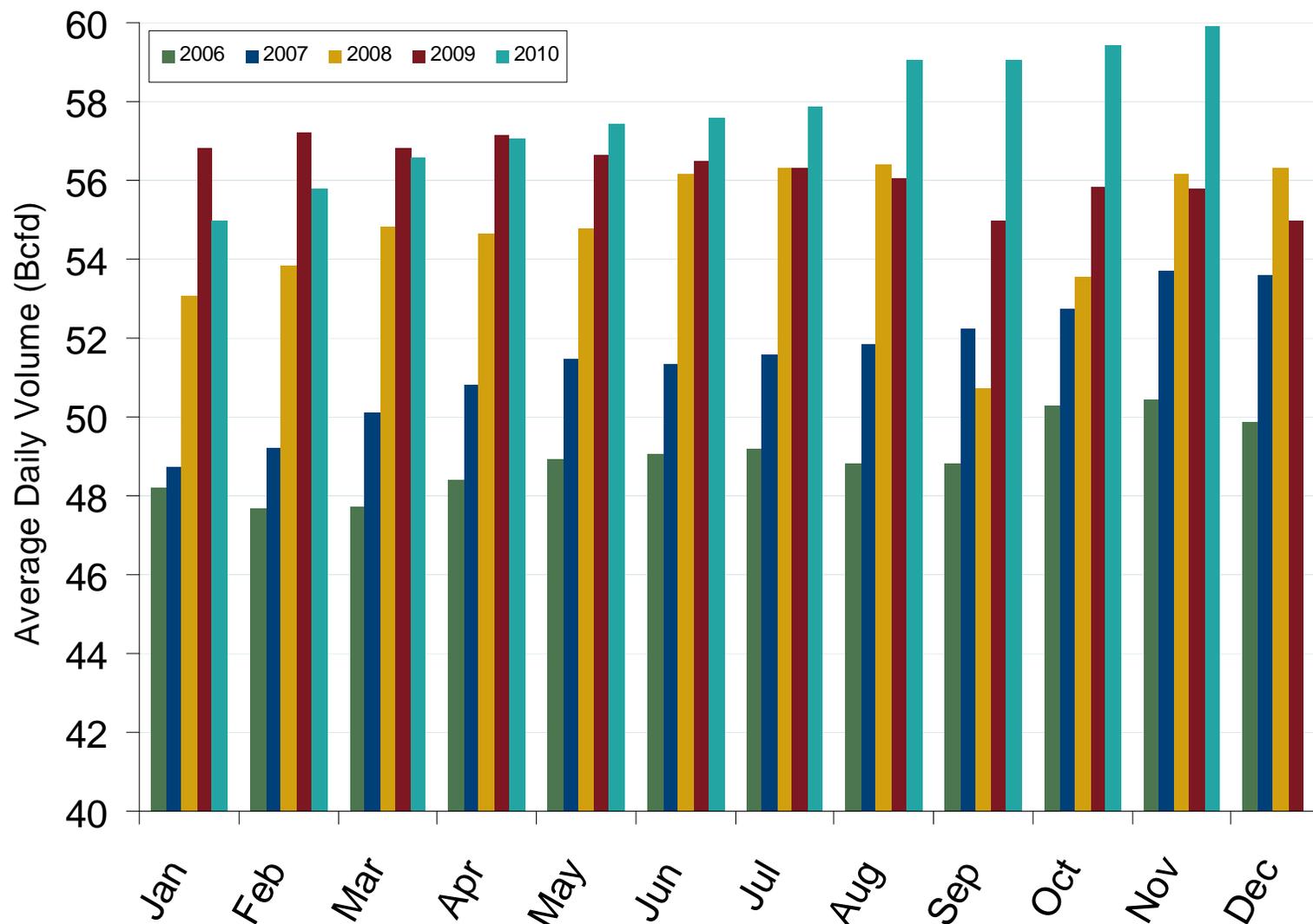


Source: Derived from Bentek Data
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Western Natural Gas Consumption for Power Generation



Monthly U.S. Dry Gas Production – Lower 48 States

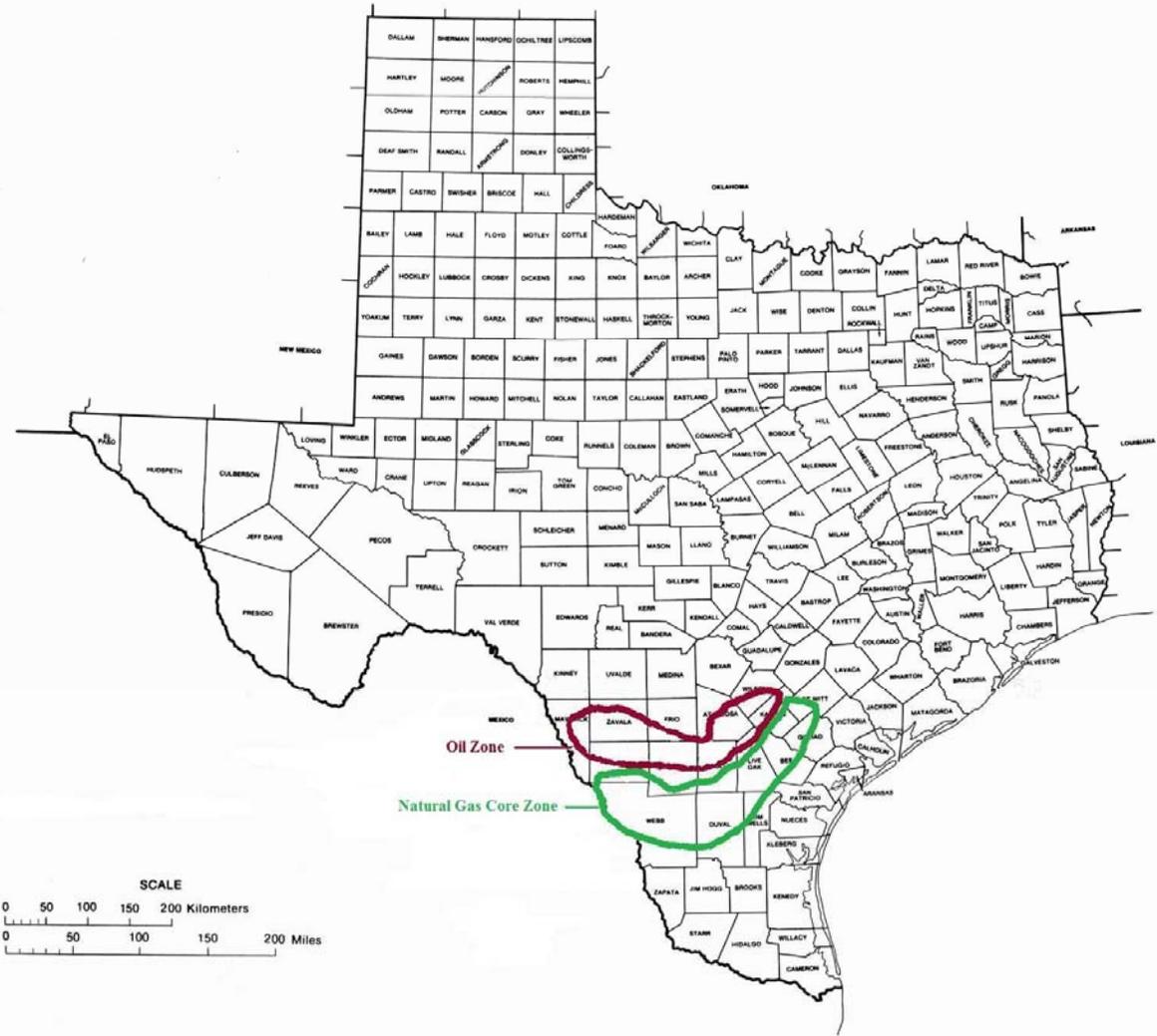


Source: Derived from *Bentek* data.

Note: Prior to July 2010, chart was derived from a combination of EIA and Bentek data
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Eagle Ford Shale, Texas



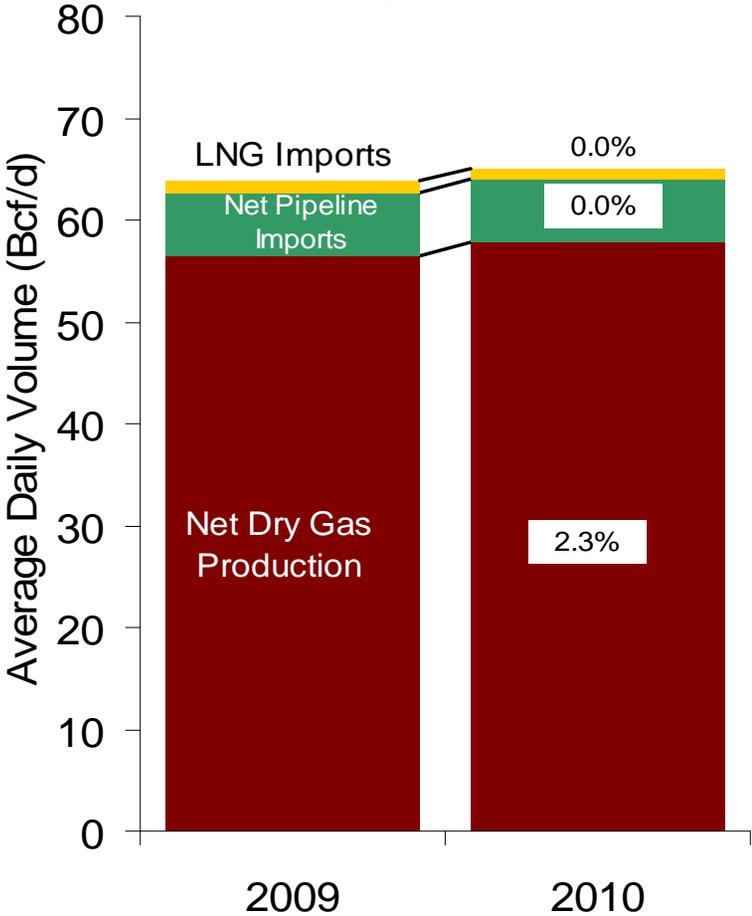
Eagle Ford Shale Boosts South Texas Production

- **South Texas production exceeds 5 Bcfd, up 250 MMcfd from July.**
- **Rig count as of November 26 stand at 231, up 83 since recent low in May 2009.**
- **Eagle Ford well starts reached 150 during October, compared to less than 80 in January.**
- **The top 4 operators are EOG Resources, ConocoPhillips, Anadarko, and Chesapeake.**
- **The 6th largest operator, Petrohawk, is rumored to be pulling out of the Haynesville Shale to concentrate its efforts in the Eagle Ford.**
- **Increased interest in Eagle Ford due in part to the higher content of valuable natural gas liquids in the production stream.**

U.S. Natural Gas Supply and Demand 2009 vs. 2010: January - October

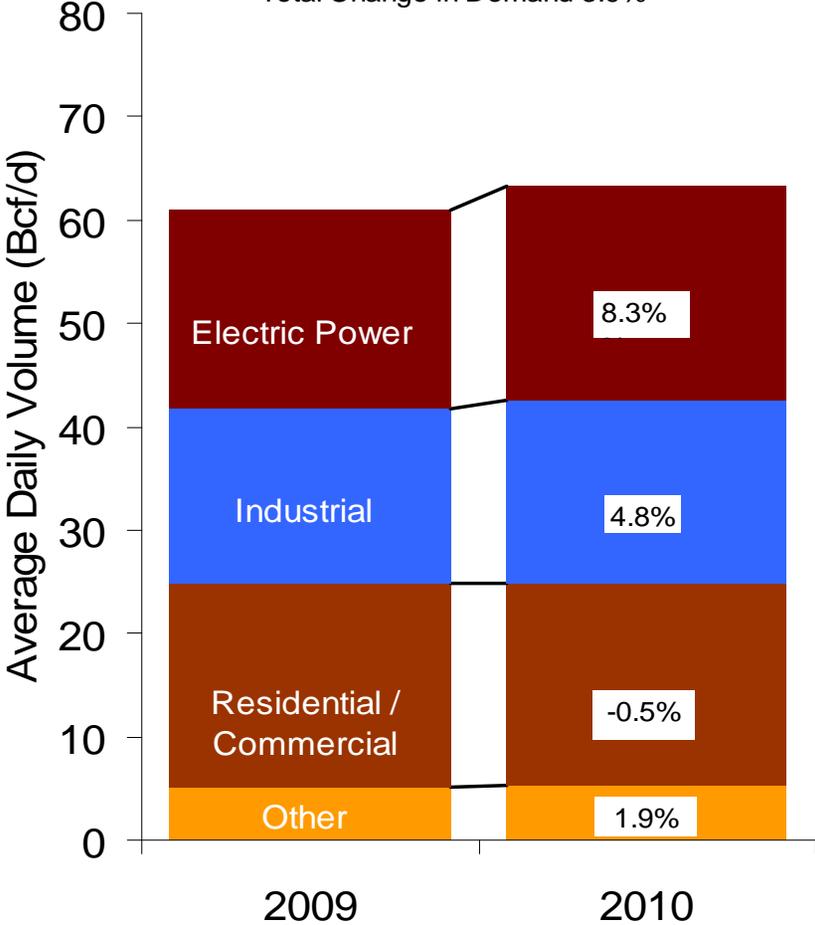
US Natural Gas Supply

Total Change in Supply 1.9%



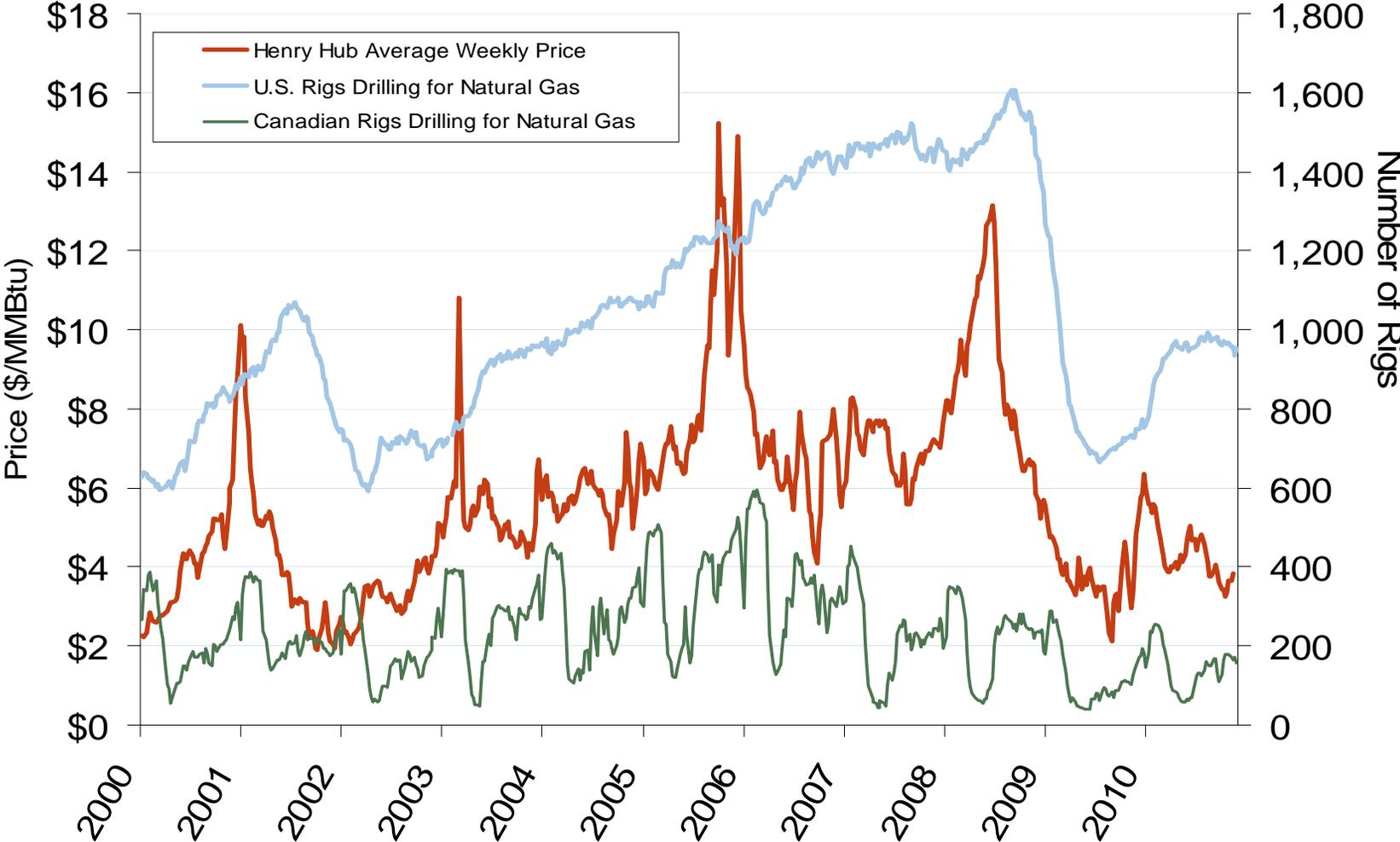
US Natural Gas Demand

Total Change in Demand 3.9%



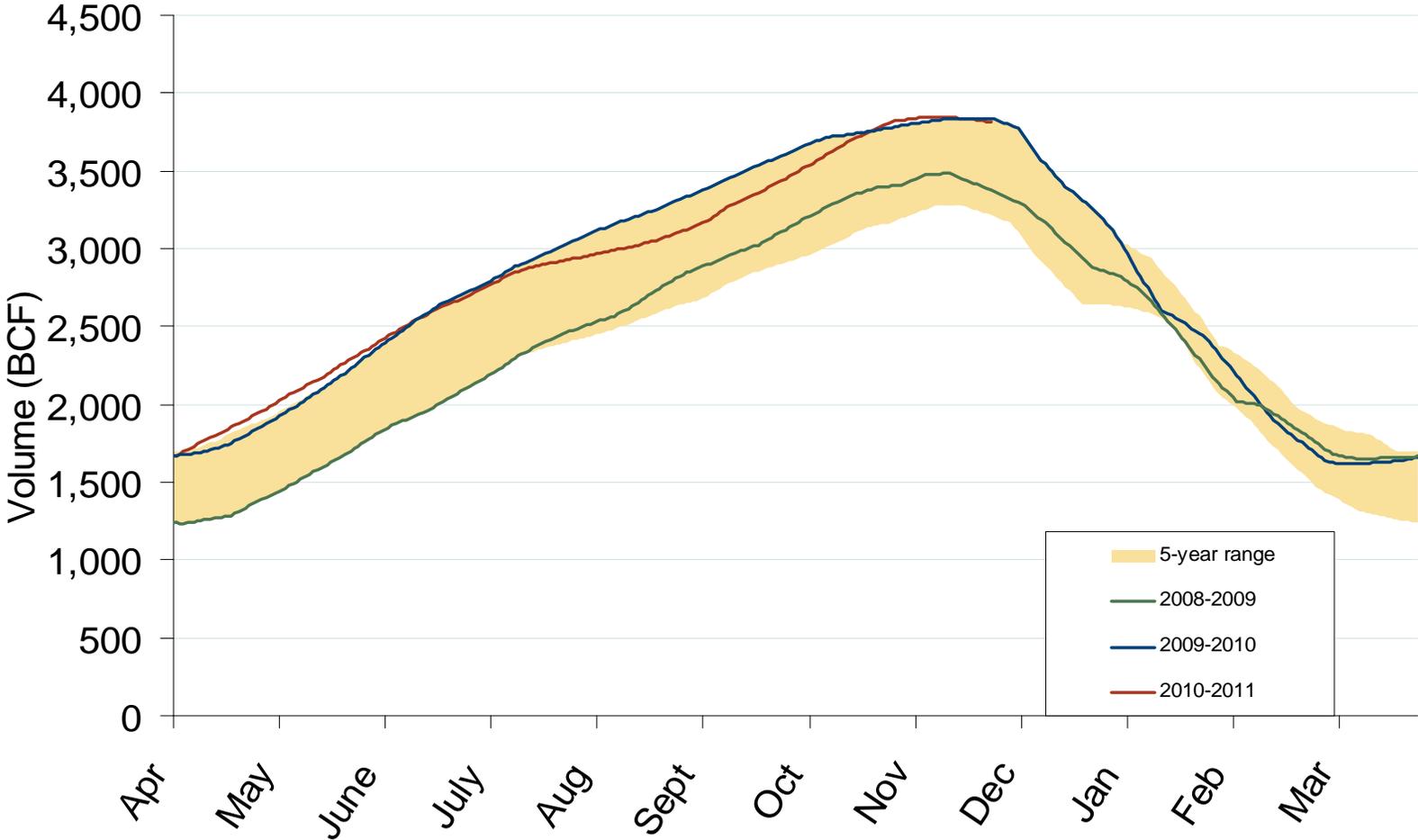
Source: Derived from Bentek data.
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U.S. and Canadian Natural Gas Drilling Rig Count and Daily Spot Prices



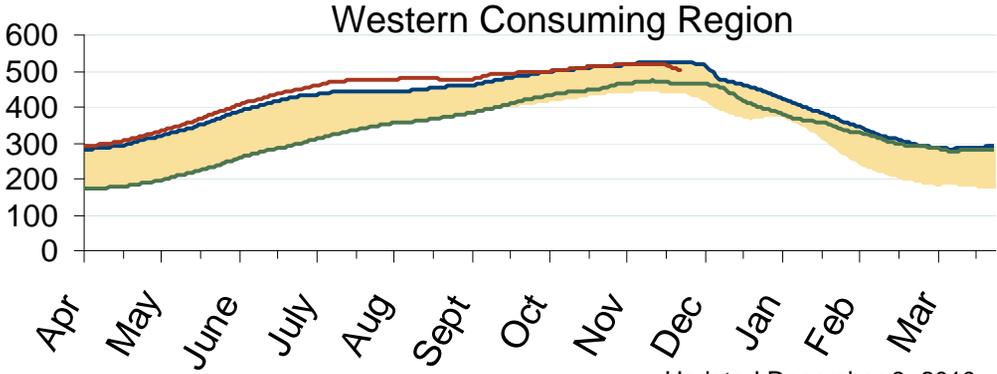
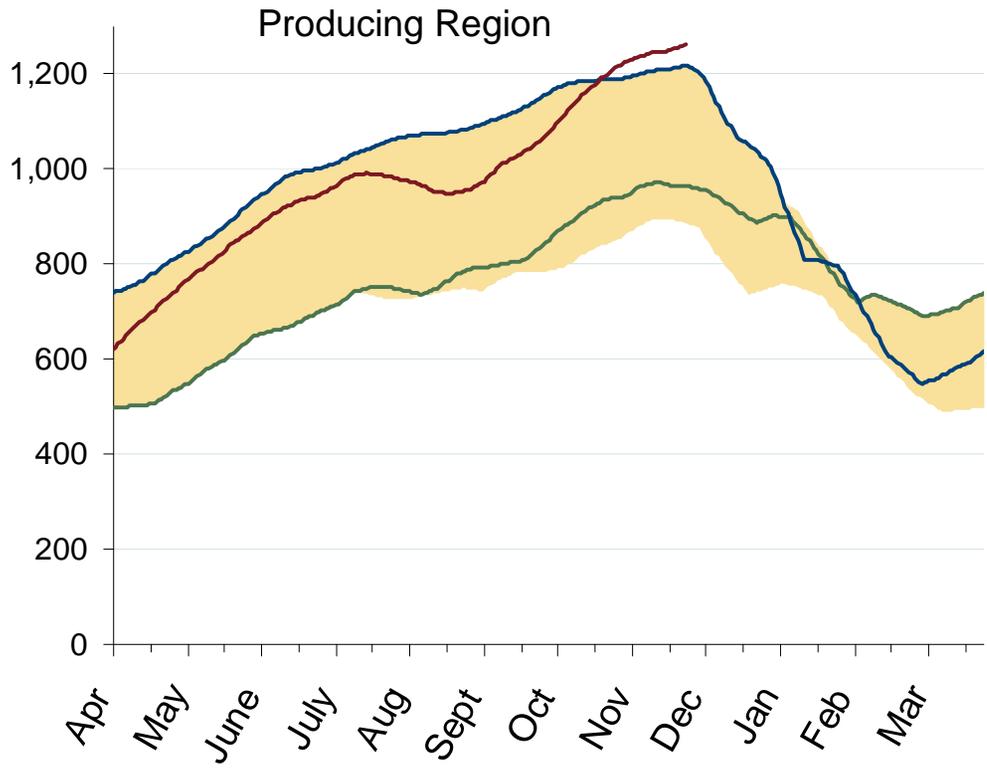
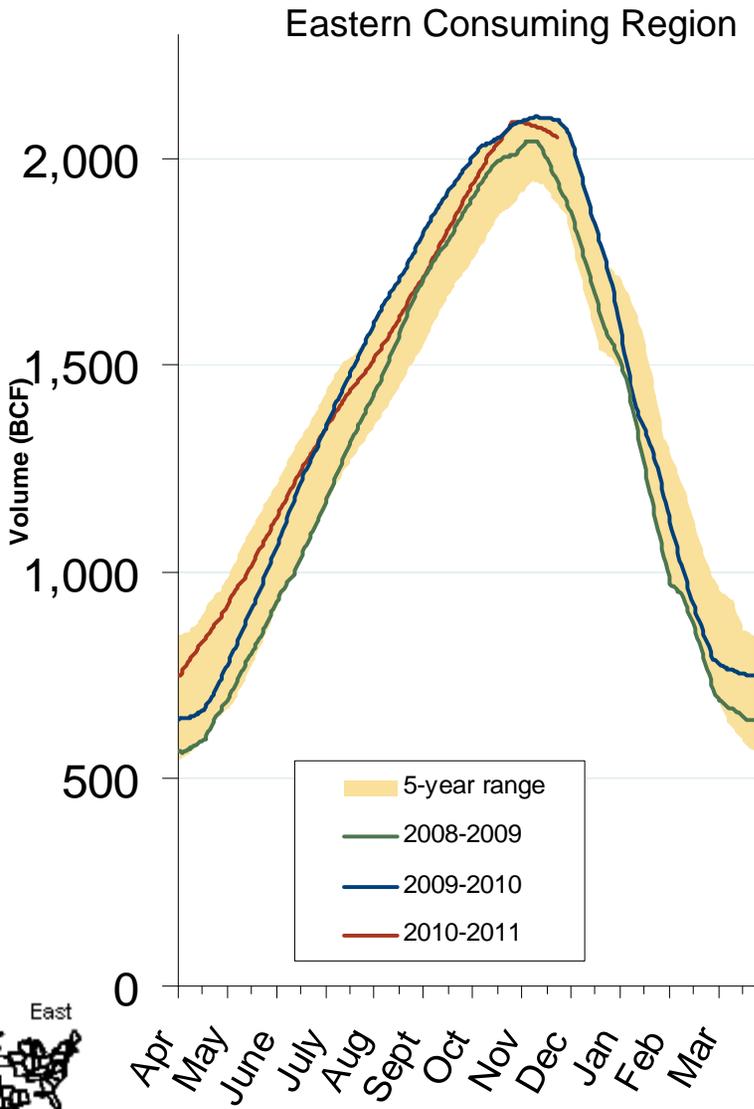
Source: Derived from *Platts* and *Baker Hughes* data.
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Total U.S. Working Gas in Storage



Source: Derived from EIA data.
December 2010 Western Snapshot Report

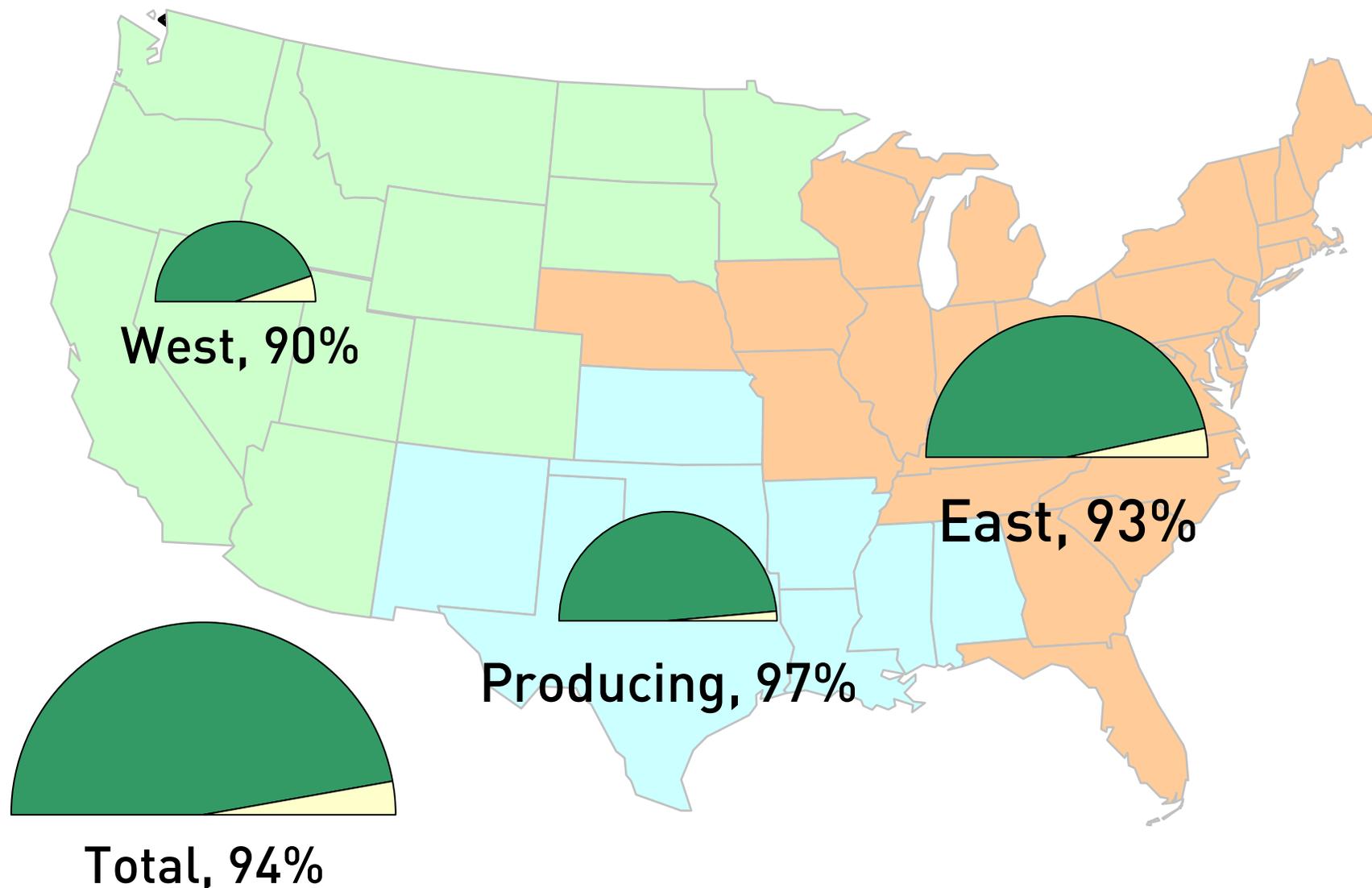
Regional Totals of Working Gas in Storage



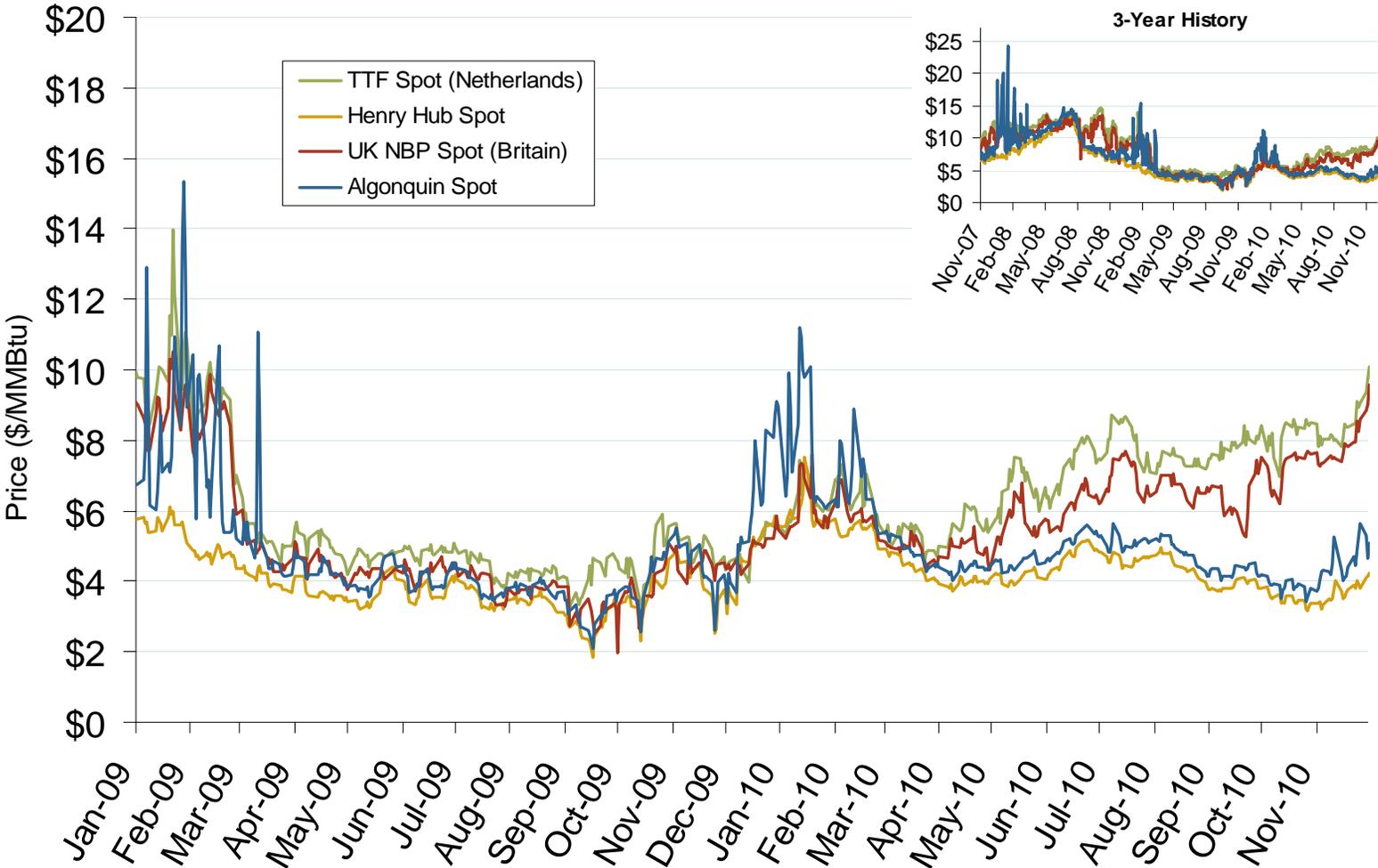
Source: Derived from EIA data.
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Natural Gas Storage Inventories – % full as of November 26, 2010



Atlantic Basin European and US Spot Natural Gas Prices

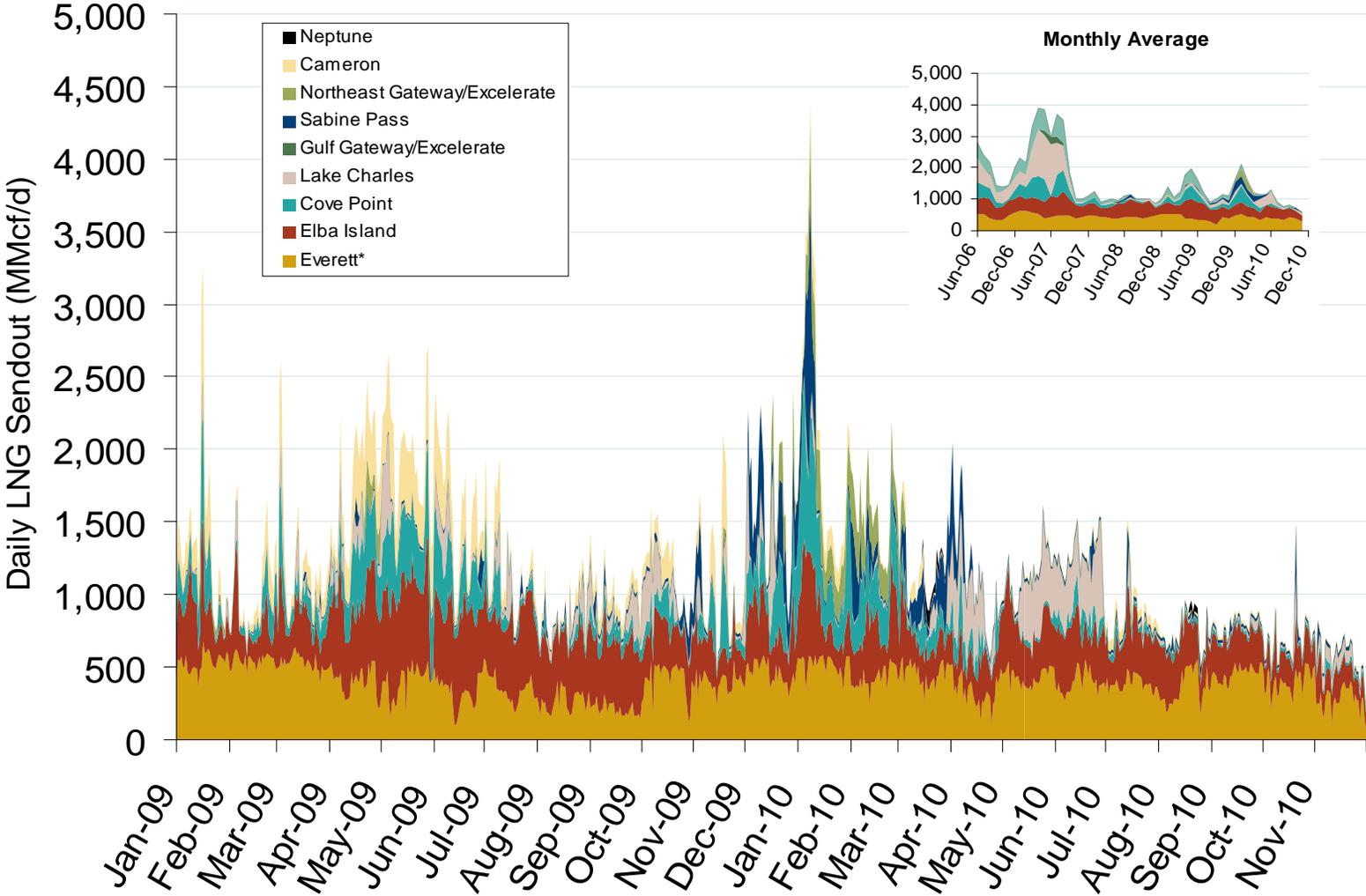


Source: Derived from *Bloomberg* and *ICE* data.
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World LNG Estimated December 2010 Landed Prices



Daily Gas Sendout from Existing U.S. LNG Facilities

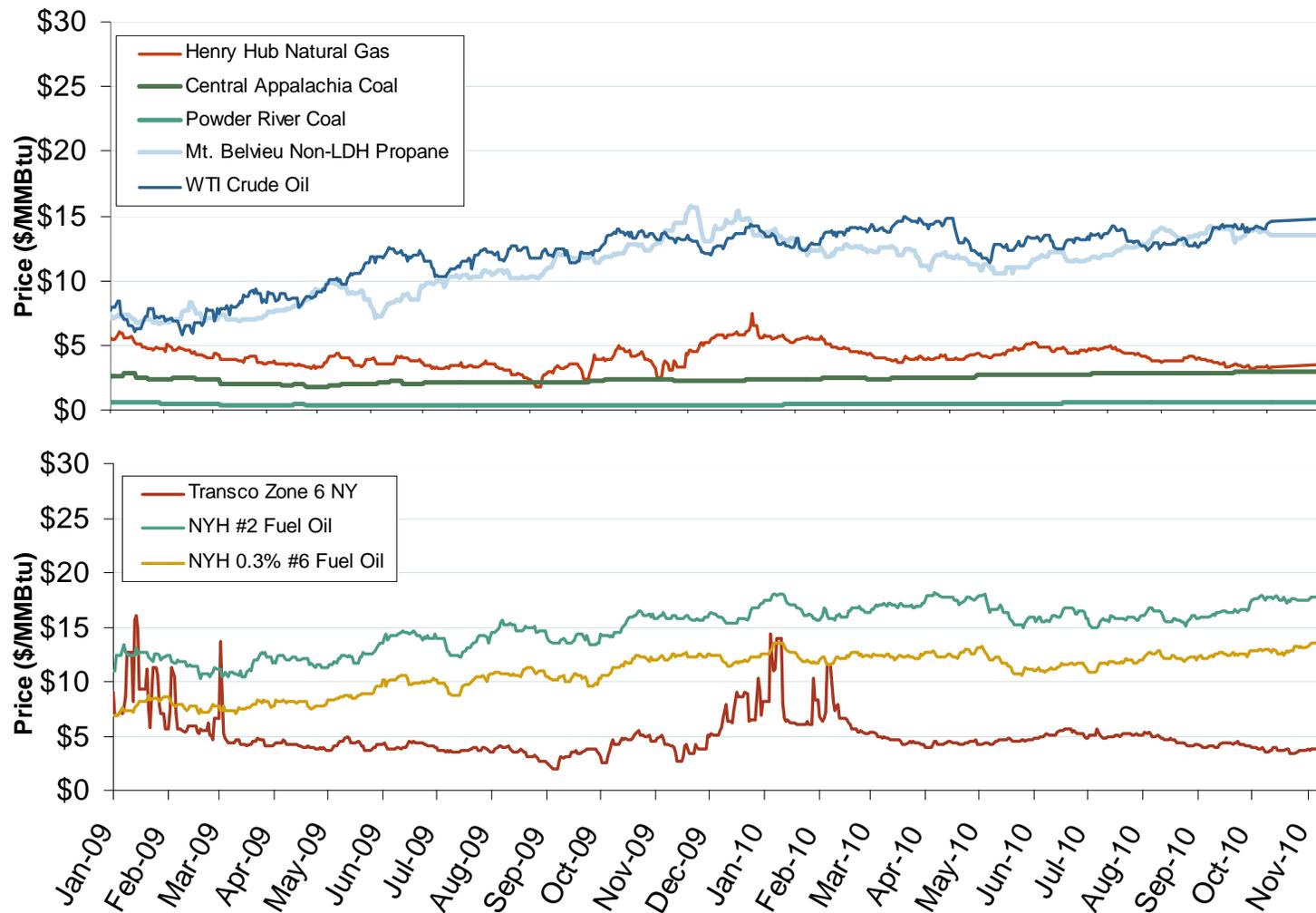


Source: Derived from Bentek data.

* 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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Oil, Coal, Natural Gas and Propane Daily Spot Prices

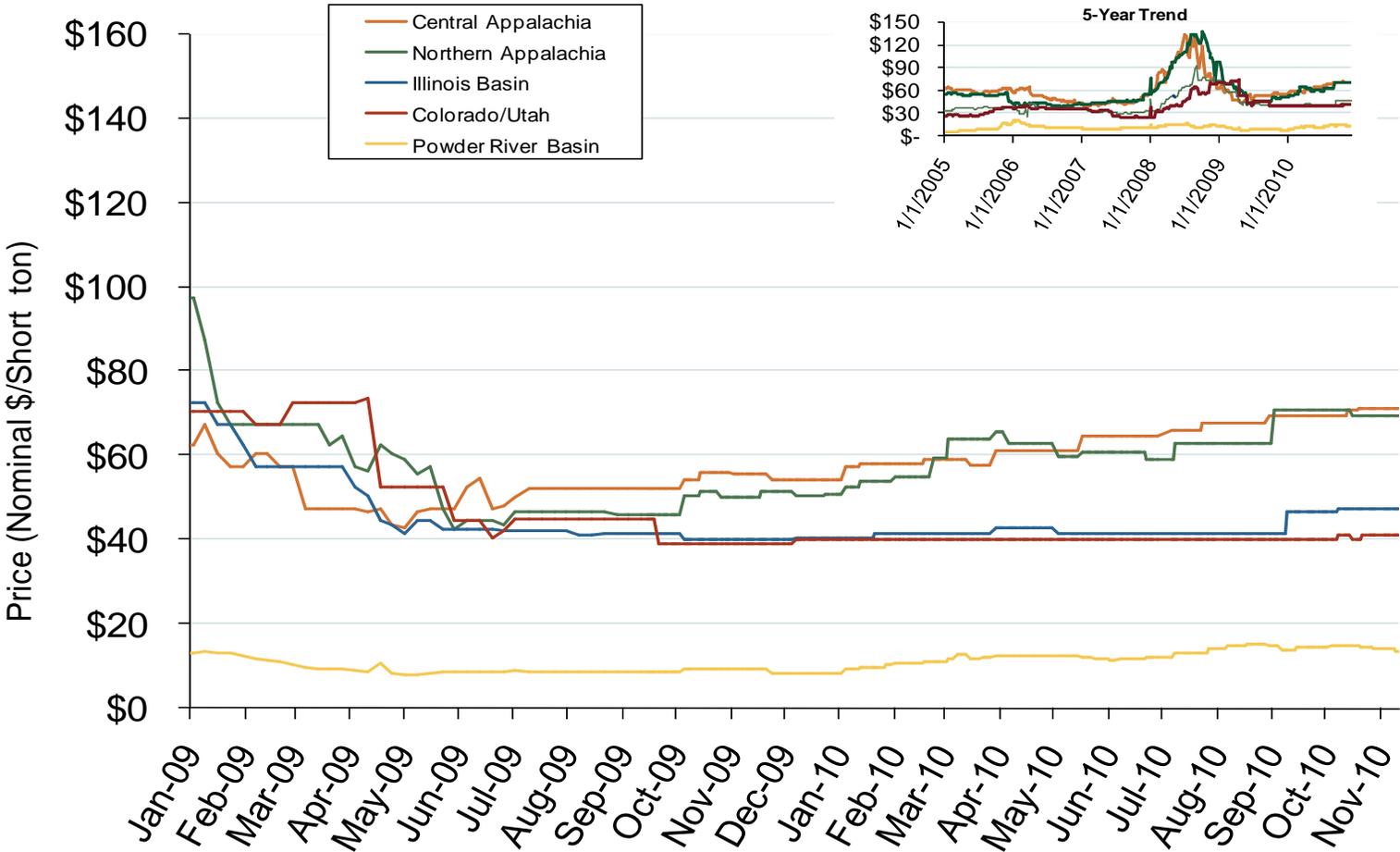


Source: Derived from ICE and Bloomberg data.

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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Regional Coal Spot Prices

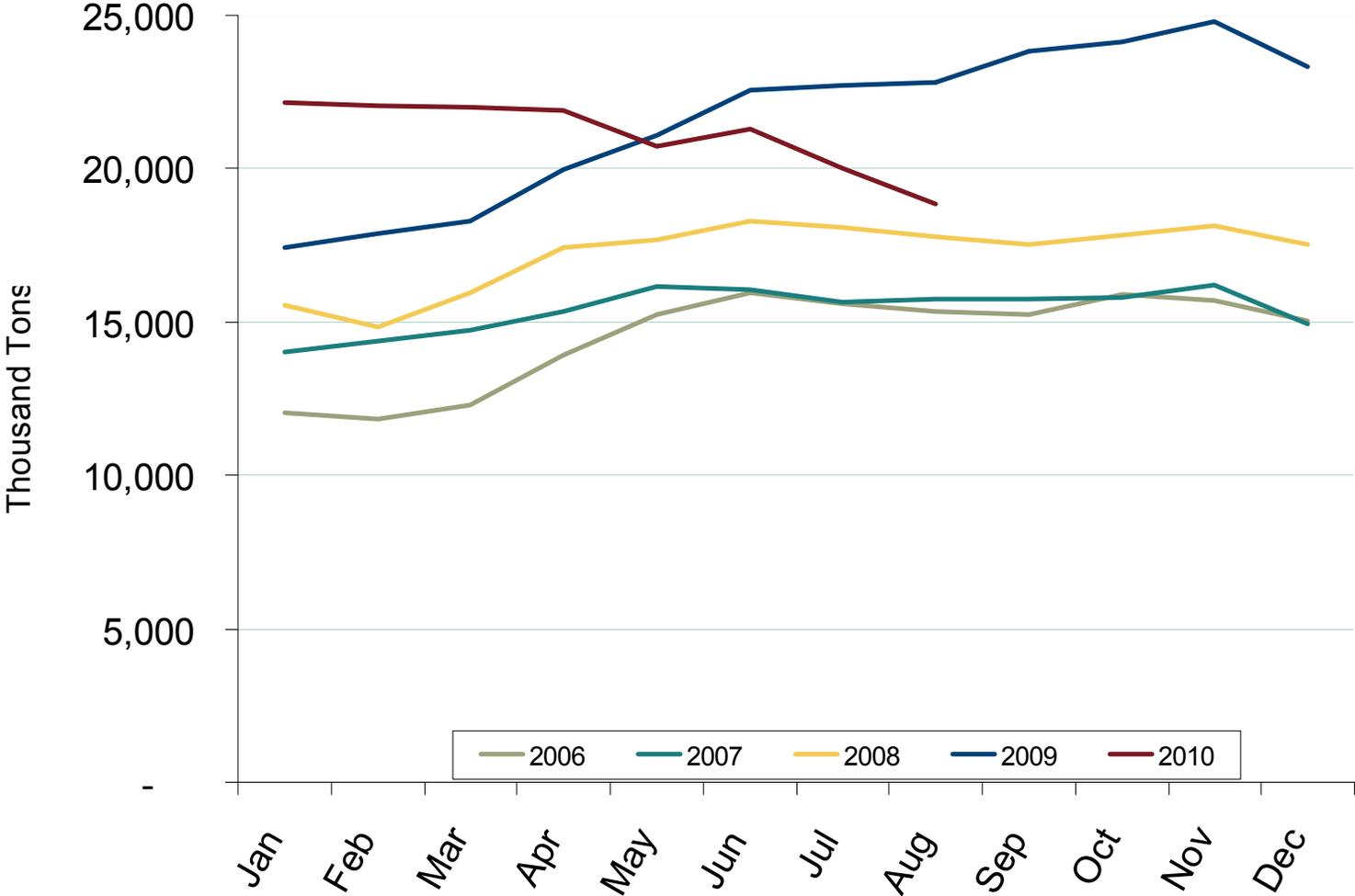


Note: the Central Appalachian (CAPP) coal is priced at Big Sandy. All others are mine mouth prices. Prices do not include transportation costs to a plant, as those can vary widely by contract specifications. Prices exclude incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.
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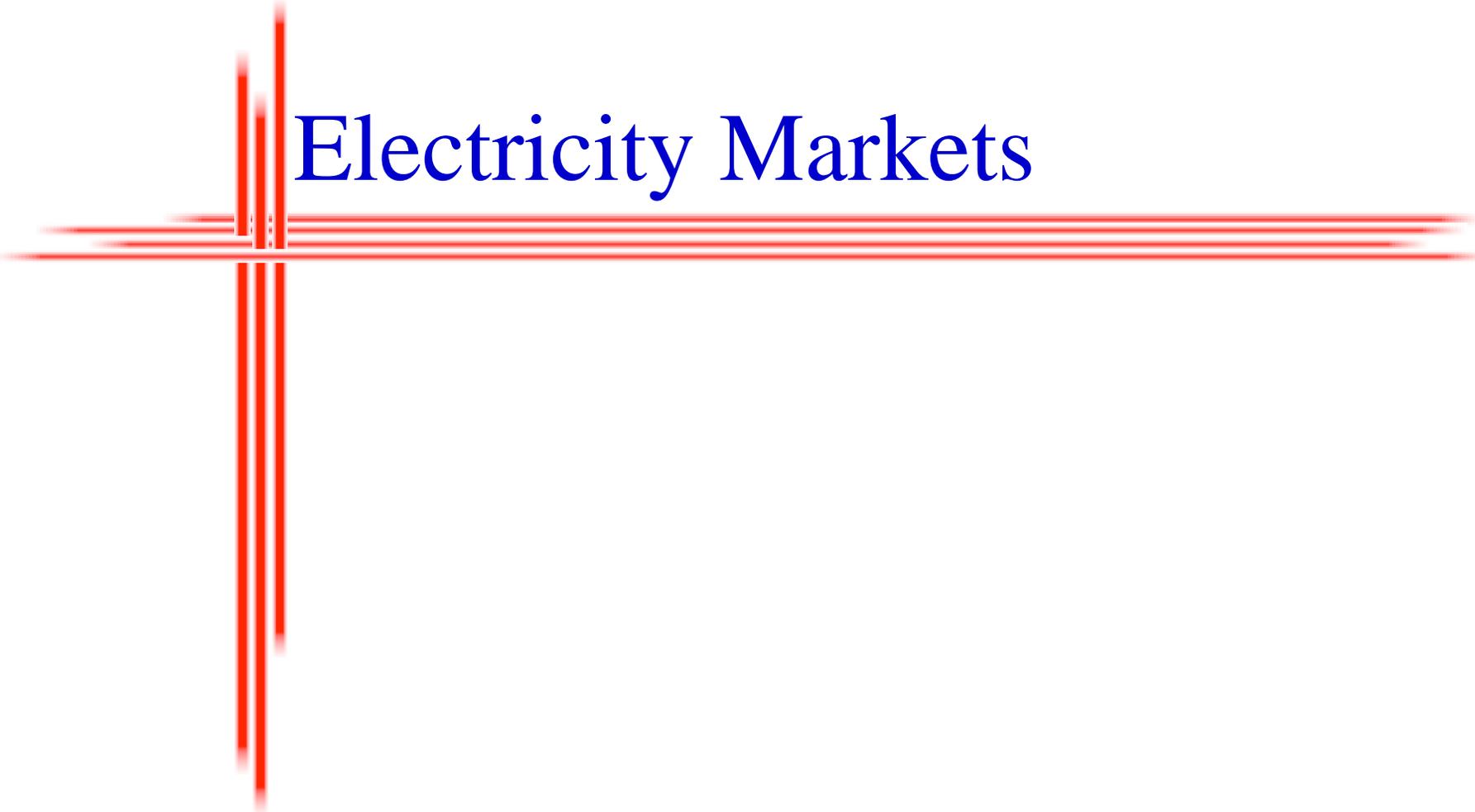
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Western Coal Stockpiles at Electric Power Generating Facilities



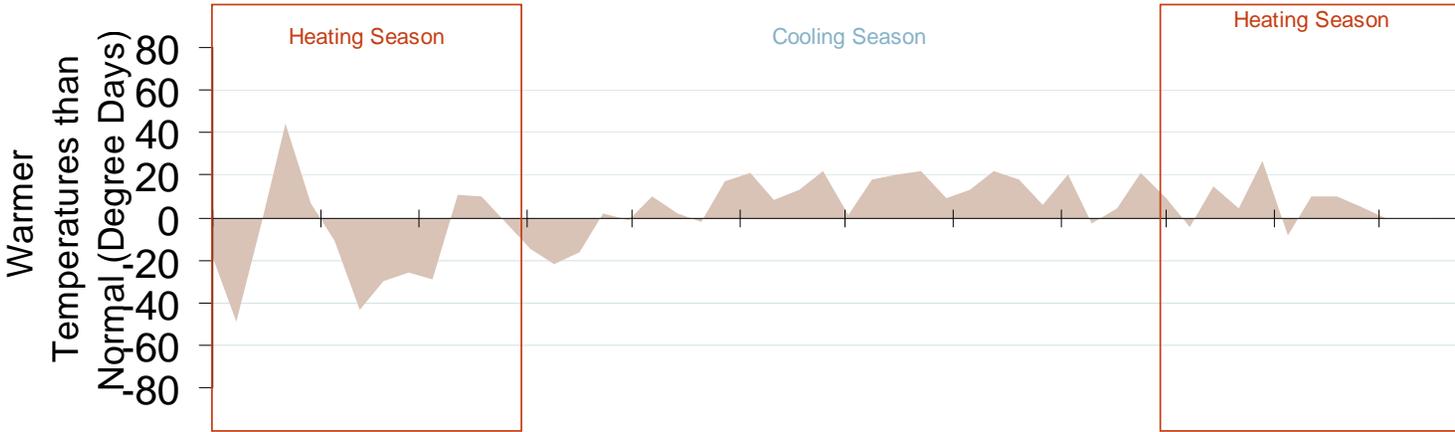
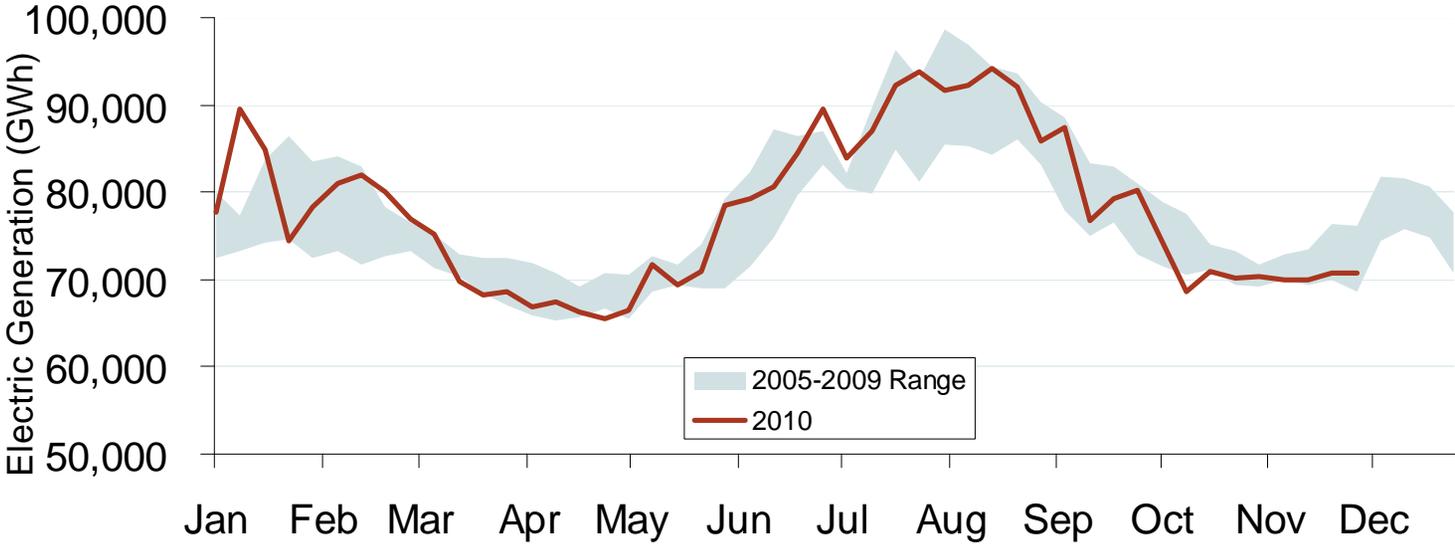
Source: Energy Information Administration. Excludes Industrial and Commercial Plants.
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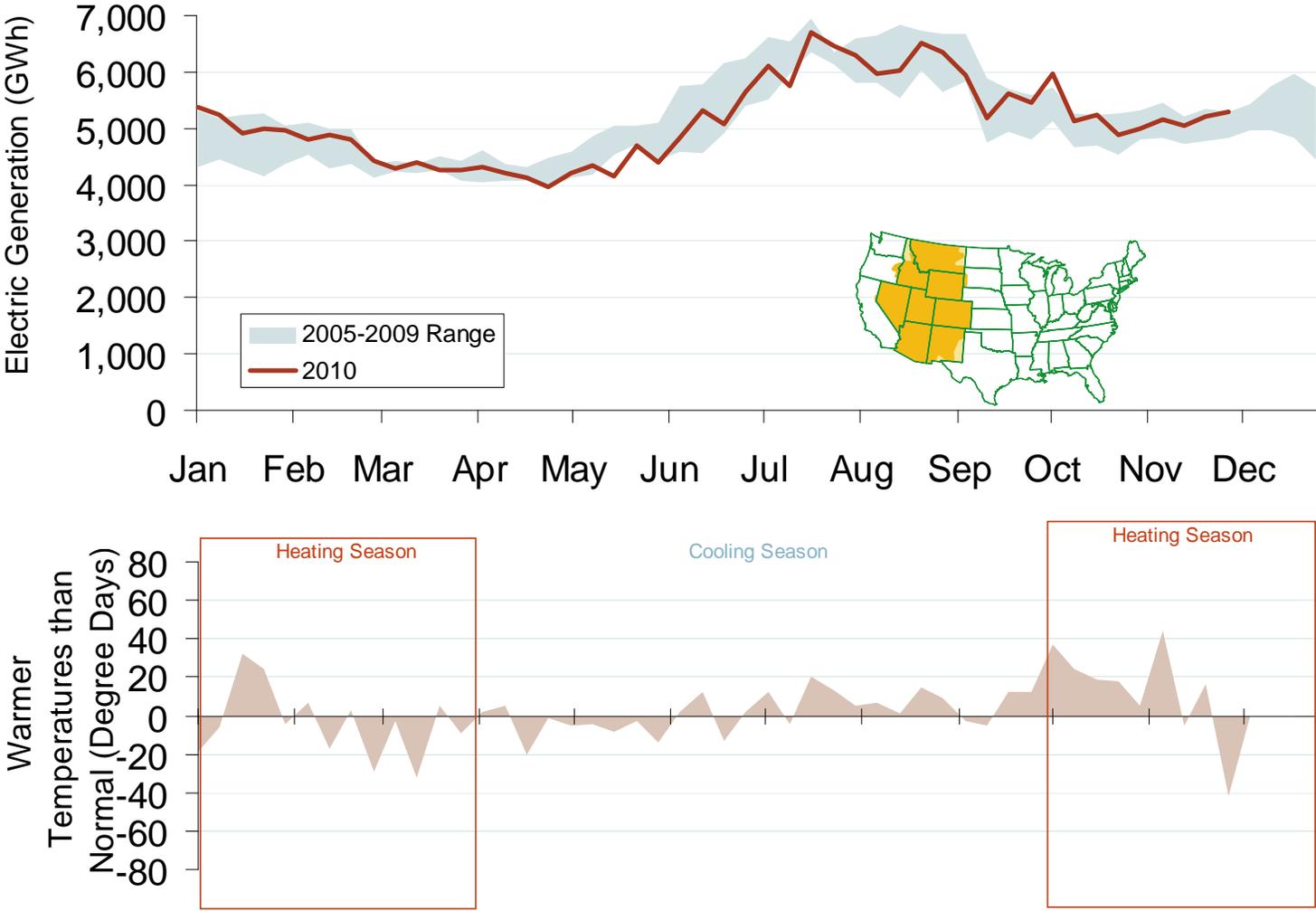
Electricity Markets

Weekly U.S. Electric Generation Output and Temperatures



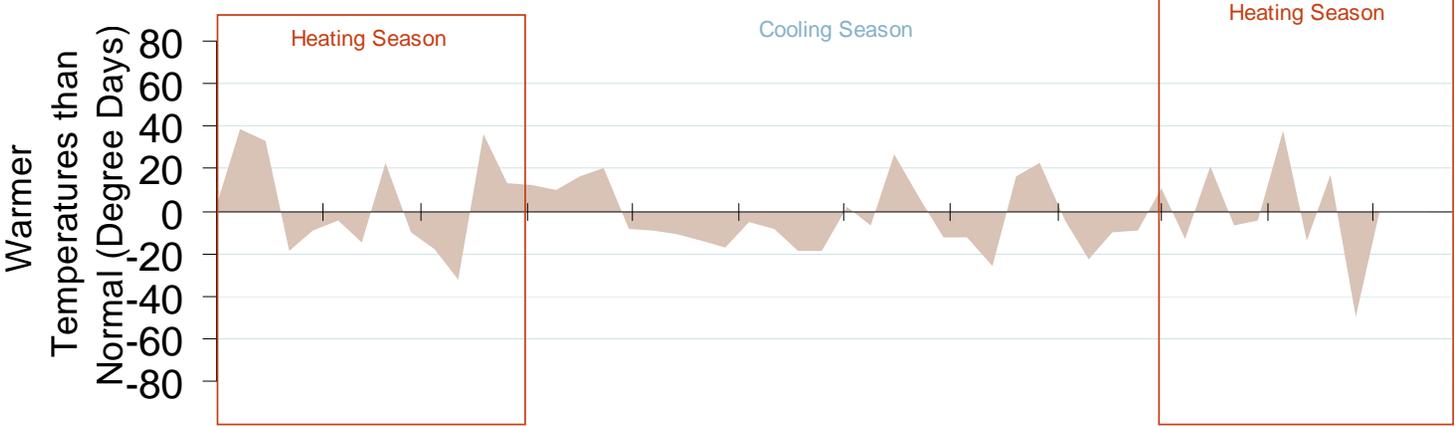
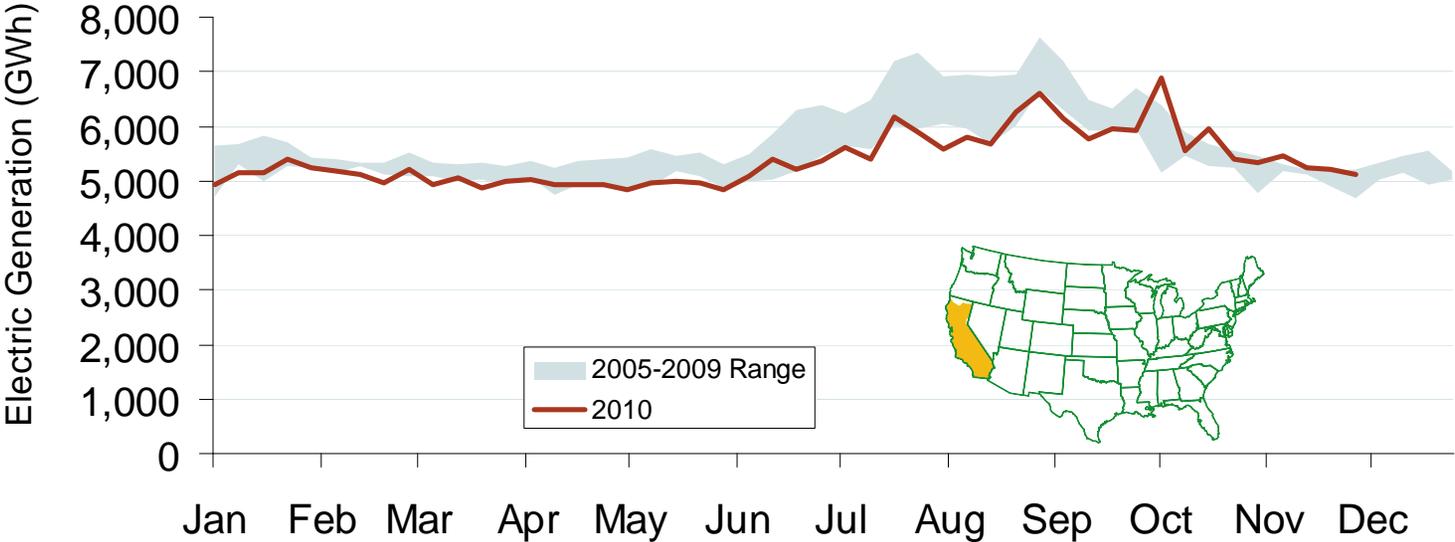
Source: Derived from *EI* and *NOAA* data.
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Weekly Electric Generation Output and Temperatures Rocky Mountains Region



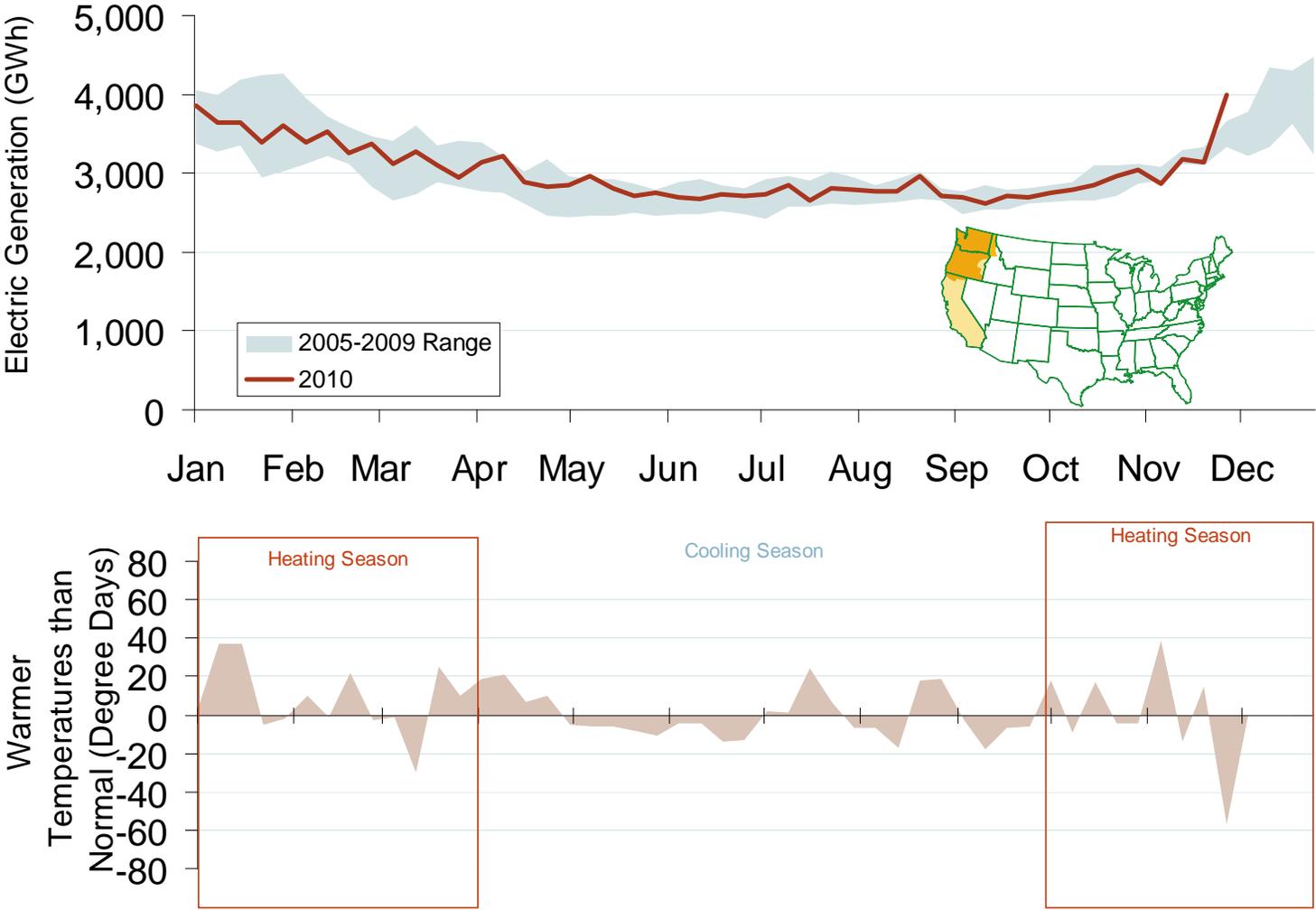
Source: Derived from *EEl* and *NOAA* data.
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Weekly Electric Generation Output and Temperatures California



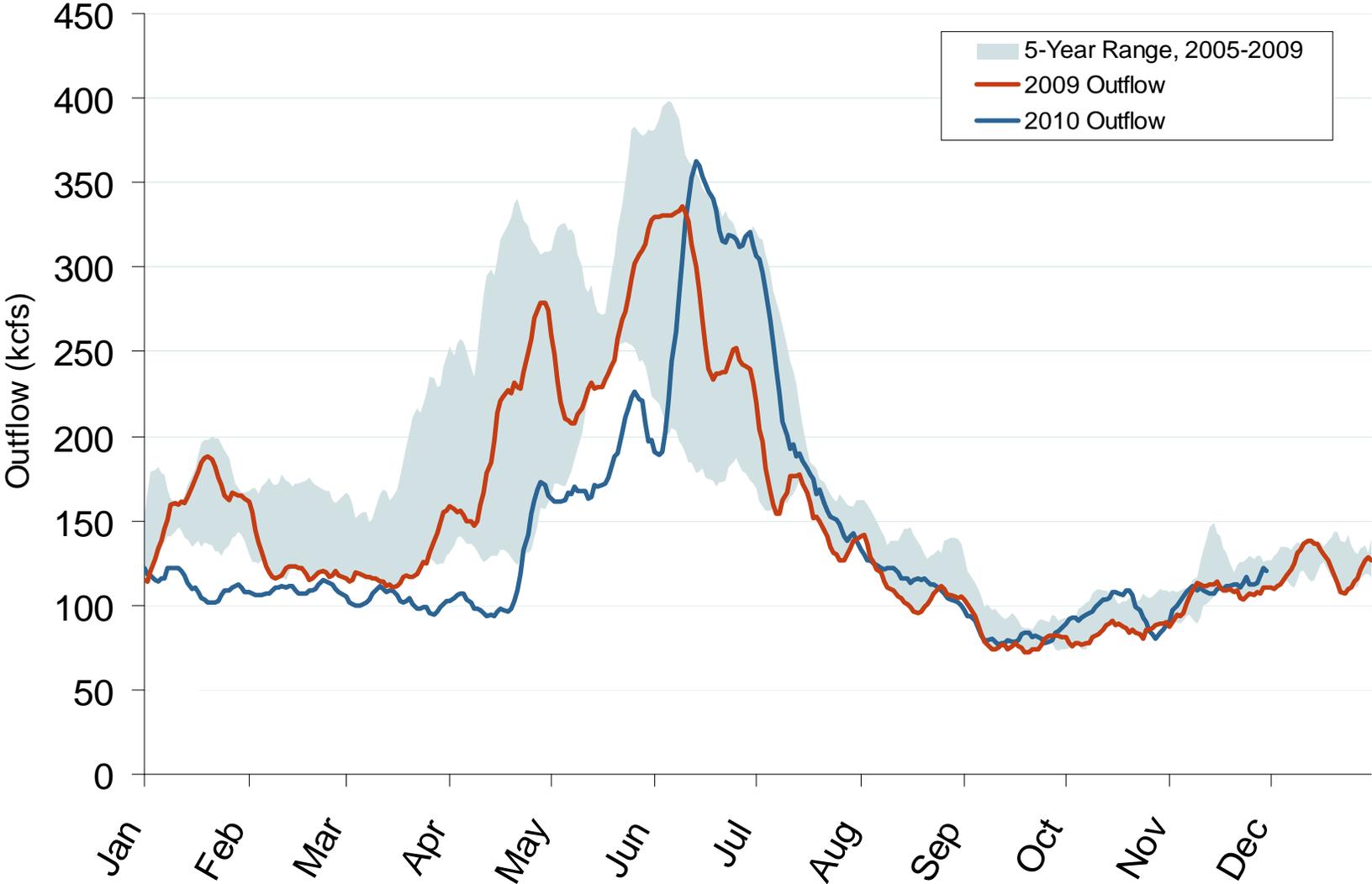
Source: Derived from *EEl* and *NOAA* data.
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Weekly Electric Generation Output and Temperatures Pacific Northwest Region



Source: Derived from *EEl* and *NOAA* data.
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Stream Flow at The Dalles Dam



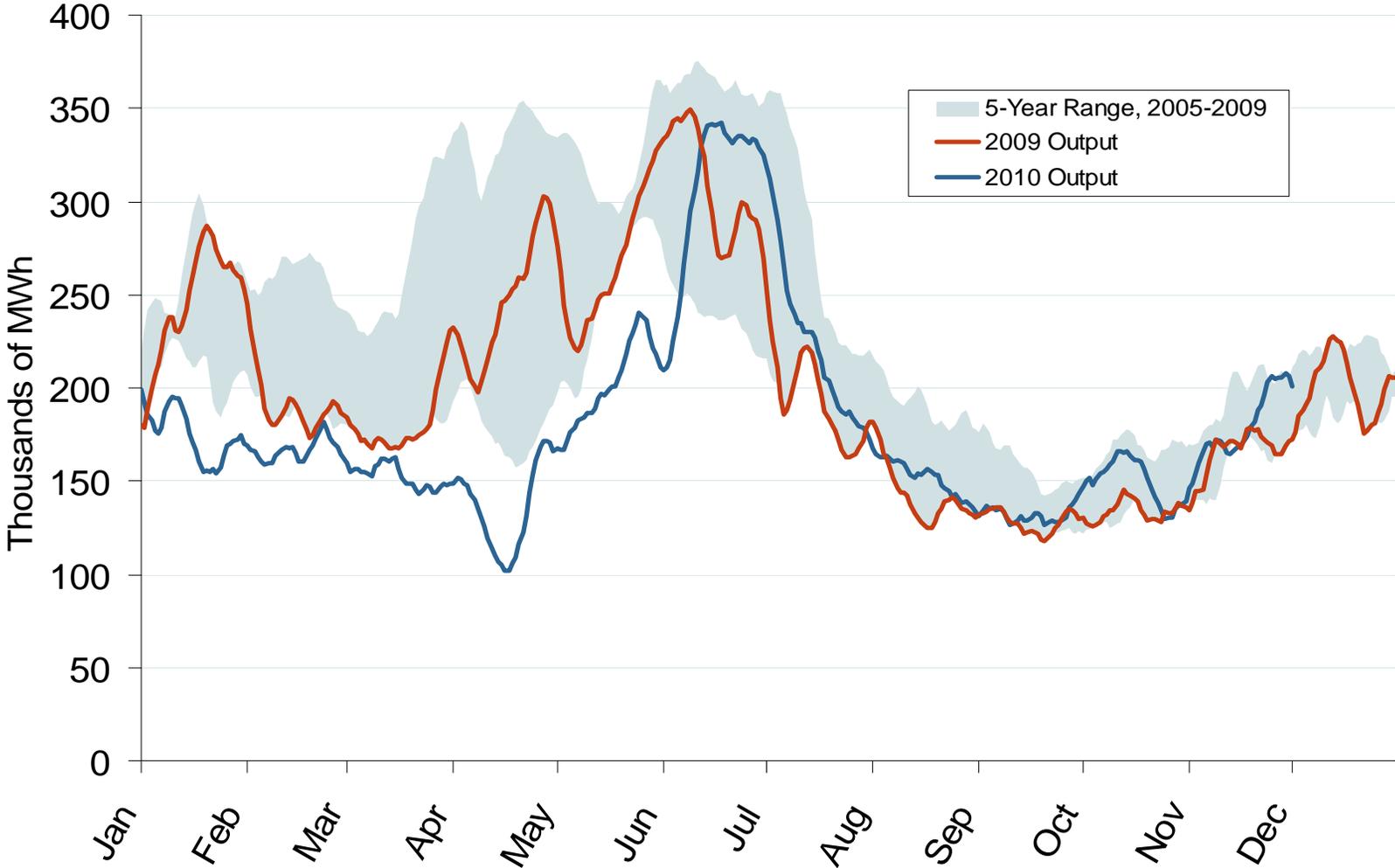
Source: Derived from USACE data.

Trend lines are 7-day moving averages.

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Pacific Northwest Hydroelectric Production



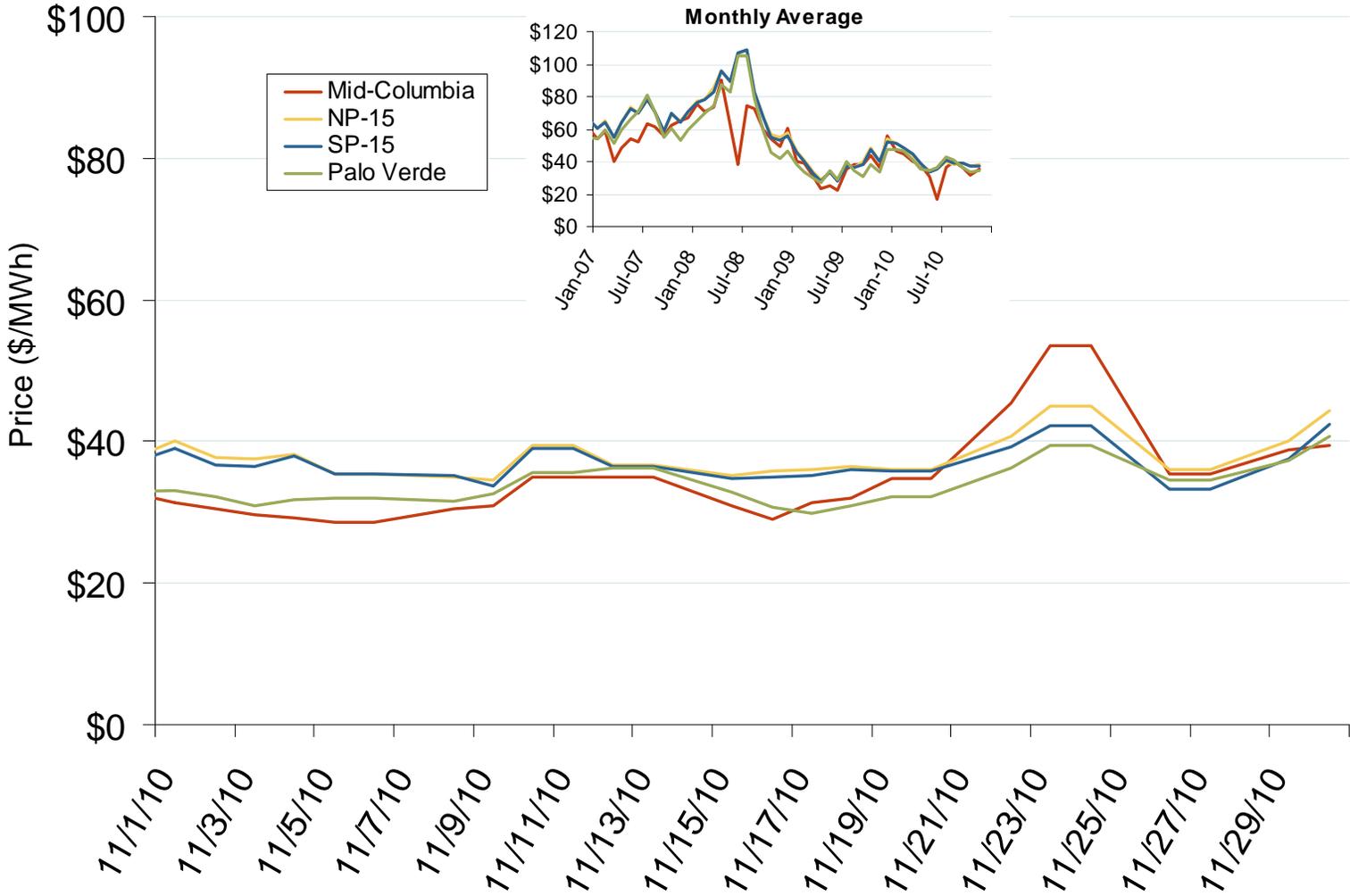
Source: Derived from USACE data reflecting the output of the 24 largest facilities.

Trend lines are 7-day moving averages.

Systemic Price Divergence in CAISO

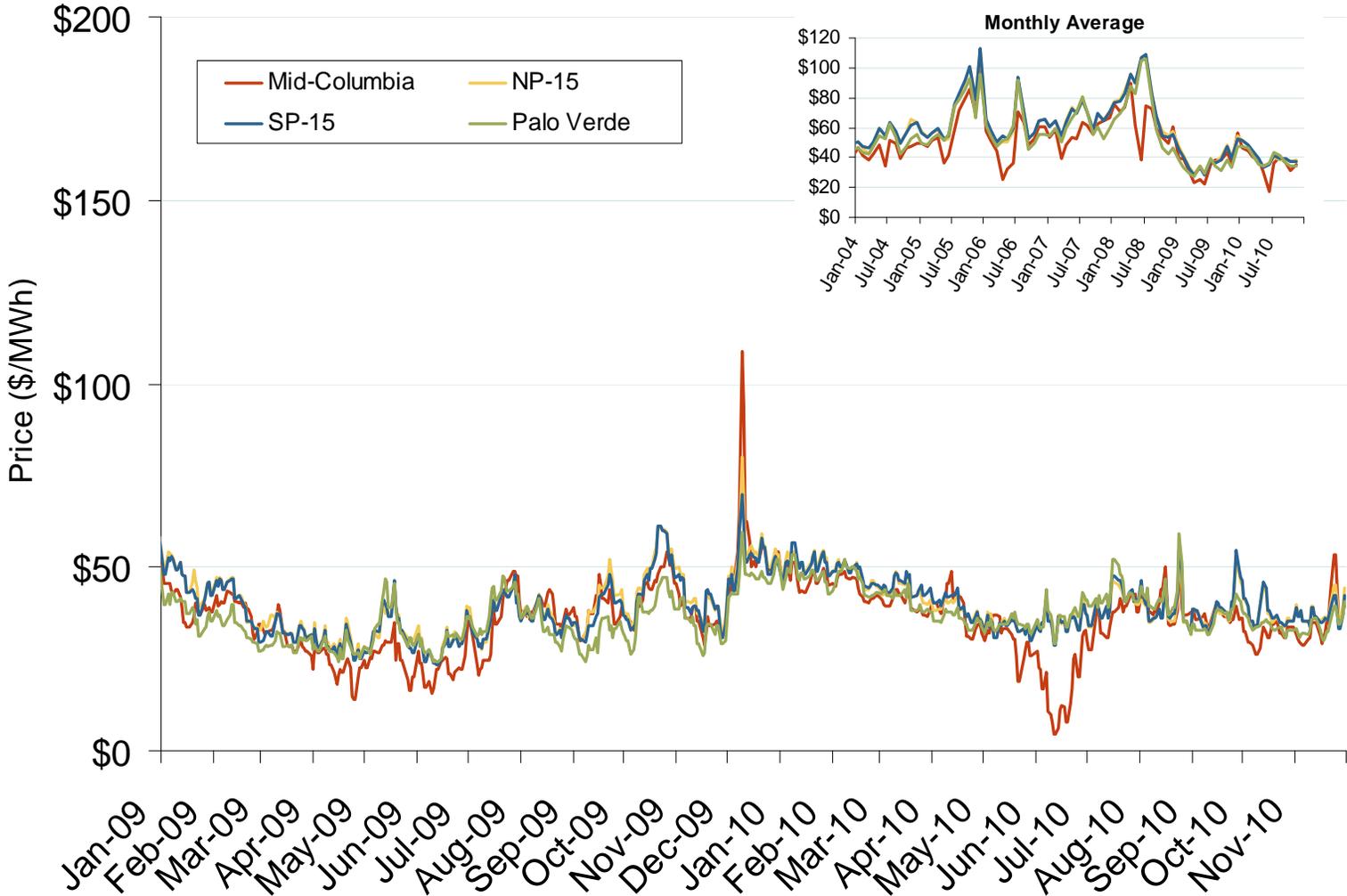
- **The CAISO is experiencing price divergence between the hour-ahead scheduling process (HASP) and real-time market (RTM), in part, due to slightly different load forecasts between these two markets.**
 - This difference can lead to price spikes in the RTM when CAISO must, in real-time, make up for the energy exported in the HASP.
 - At times, operators in responding to the load forecast differences, need to make system adjustments to conform load between the HASP and RTM. This can also exacerbate the load forecast discrepancy.
 - In addition, inaccurate variable energy resource (i.e., wind generation) forecasts can add to the discrepancy.
- **The CAISO is working to make improvements that are intended to minimize the HASP and RTM differences. It is developing a new short-term forecasting tool that is designed to provide a more accurate and consistent forecast for the HASP and RTM.**

Western Daily Bilateral Day-Ahead On-Peak Prices



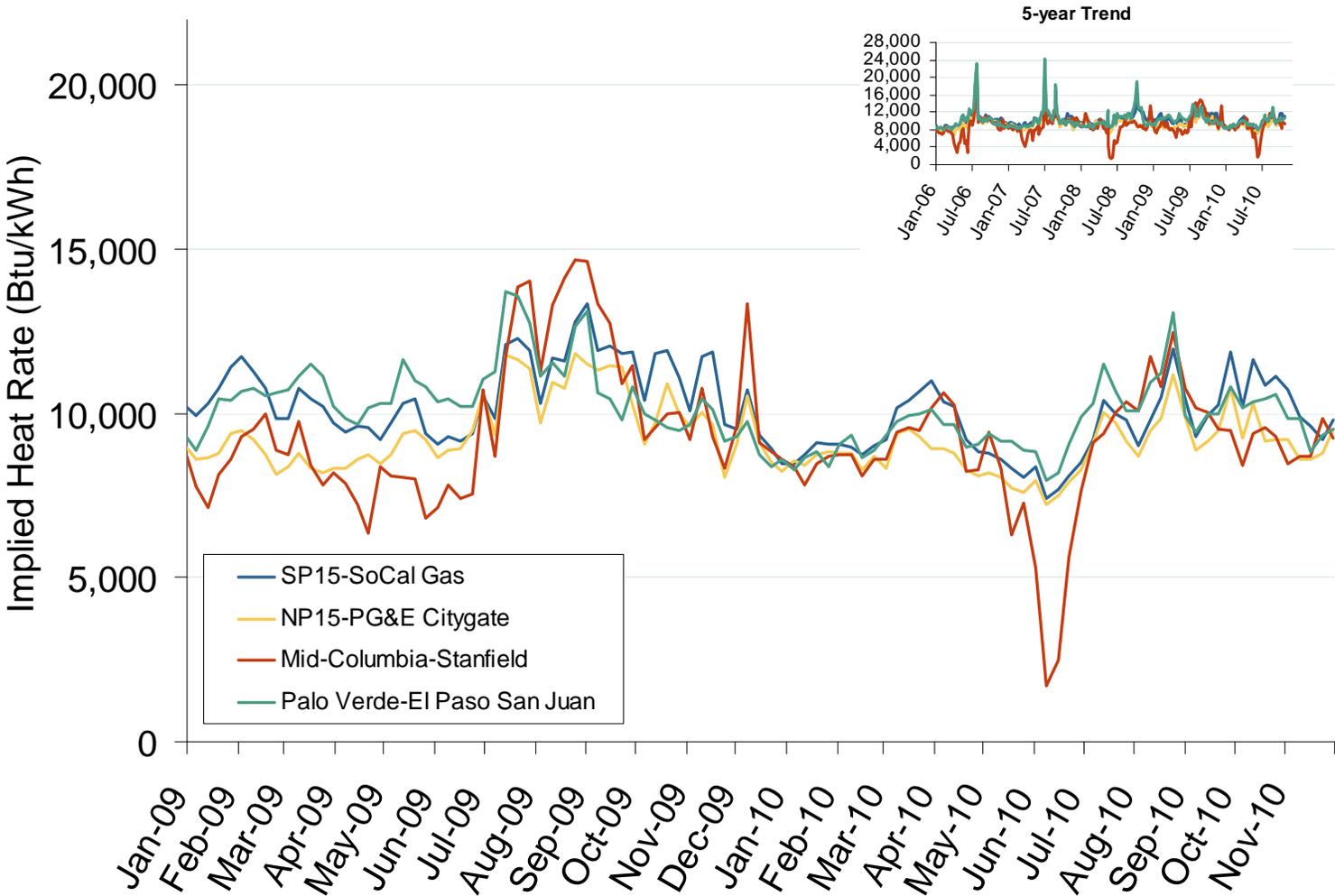
Source: Derived from *Platts* data.
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Western Daily Bilateral Day-Ahead On-Peak Prices



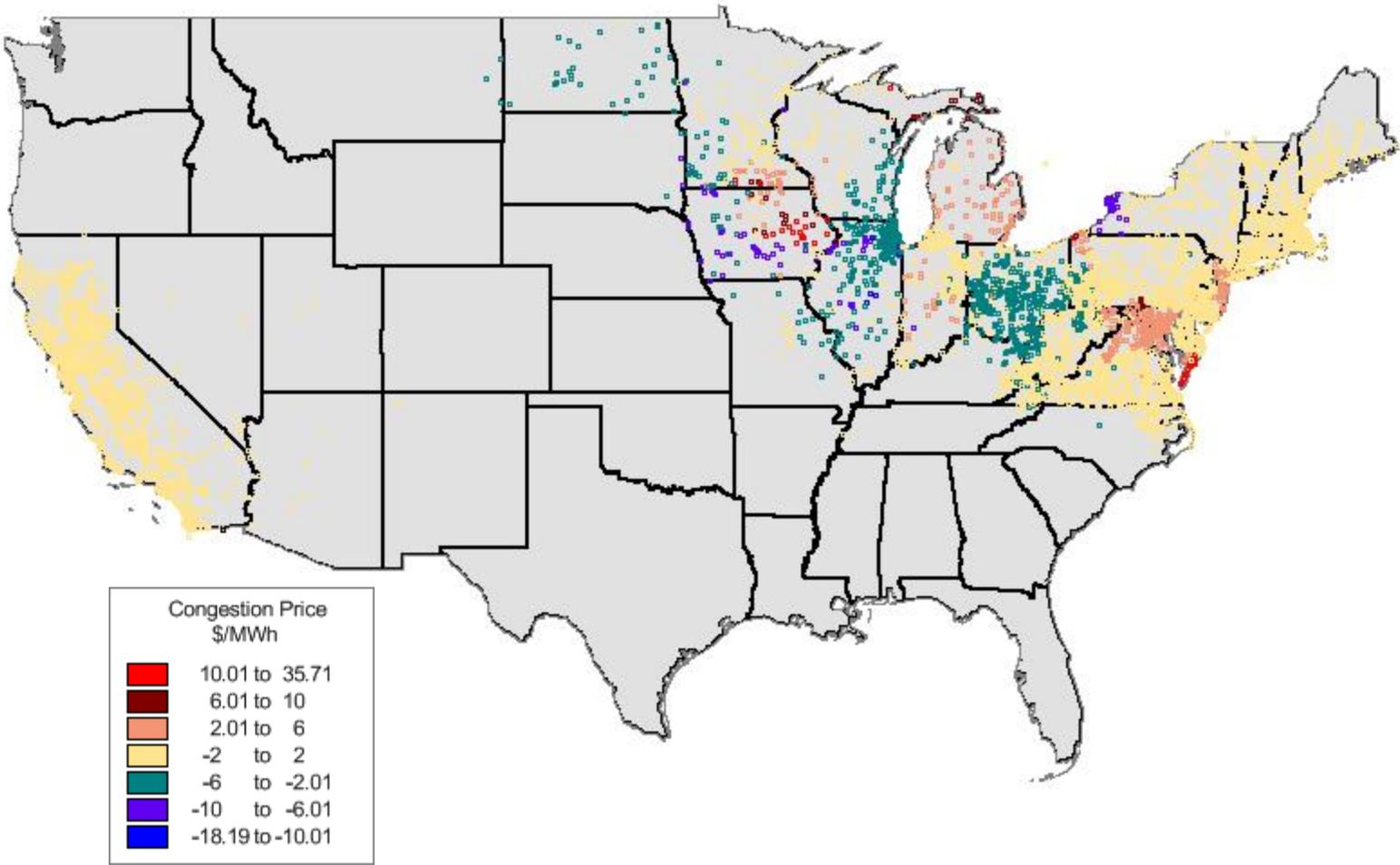
Source: Derived from *Platts* data.
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Implied Heat Rates at Western Trading Points Weekly Averages

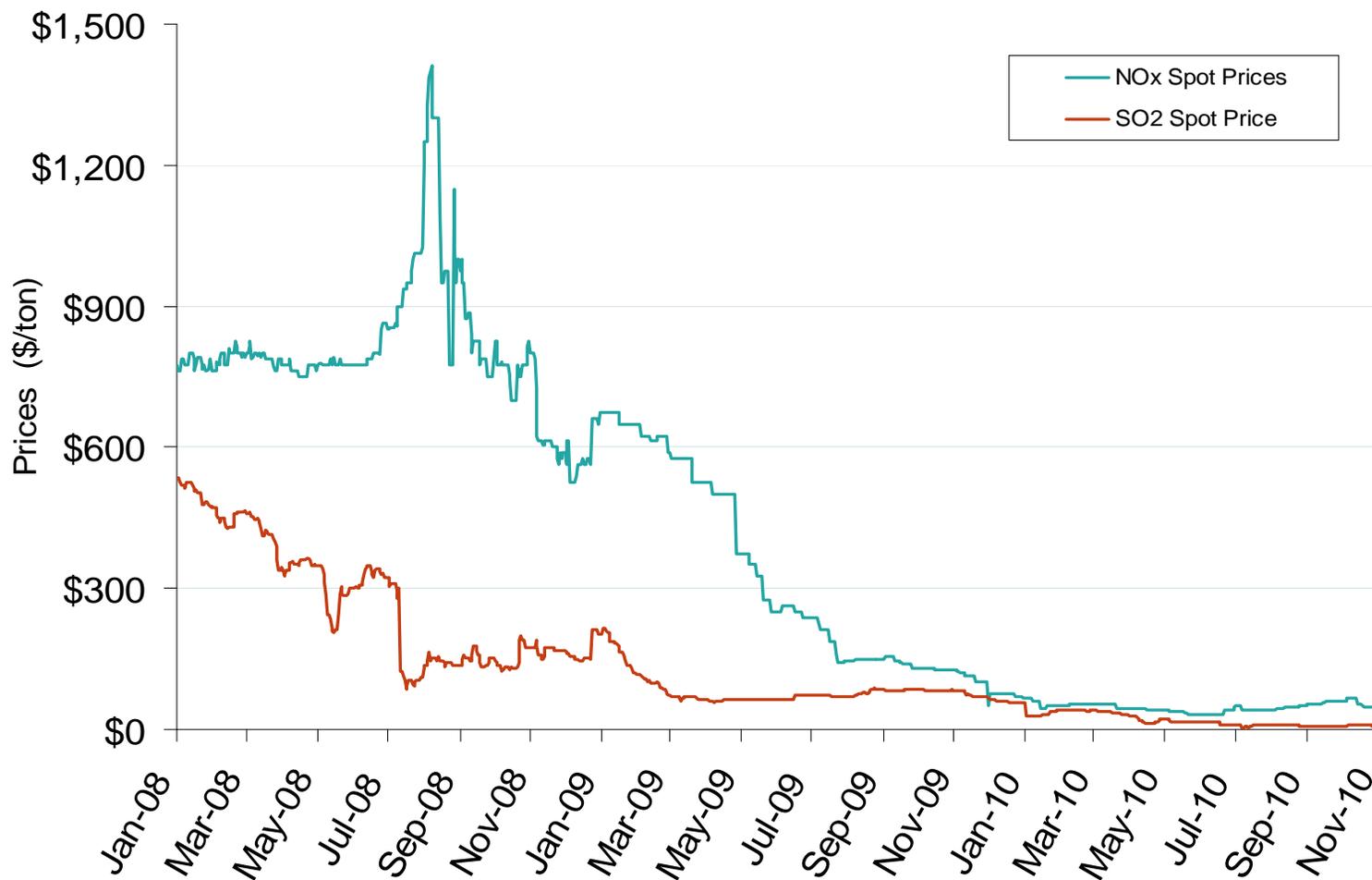


Source: Derived from *Platts* on-peak electric and natural gas price data.
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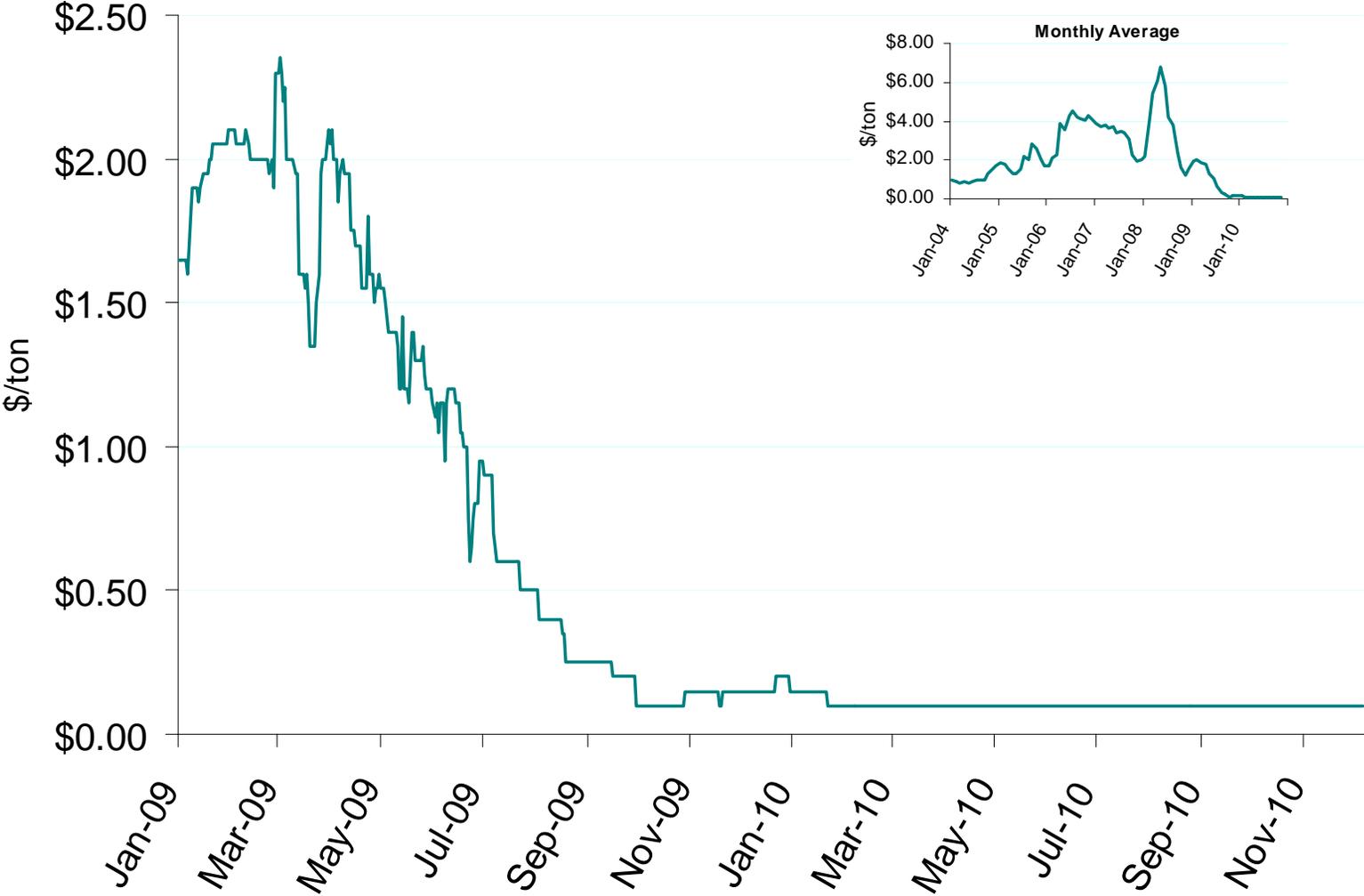
Day Ahead On-Peak Congestion Average Monthly Prices November 2010



SO₂ Allowance Spot Prices and NOx Seasonal Allowance Spot Prices



Chicago Climate Exchange CO2 Index



Source: Derived from *Bloomberg*.
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Updated December 8, 2010