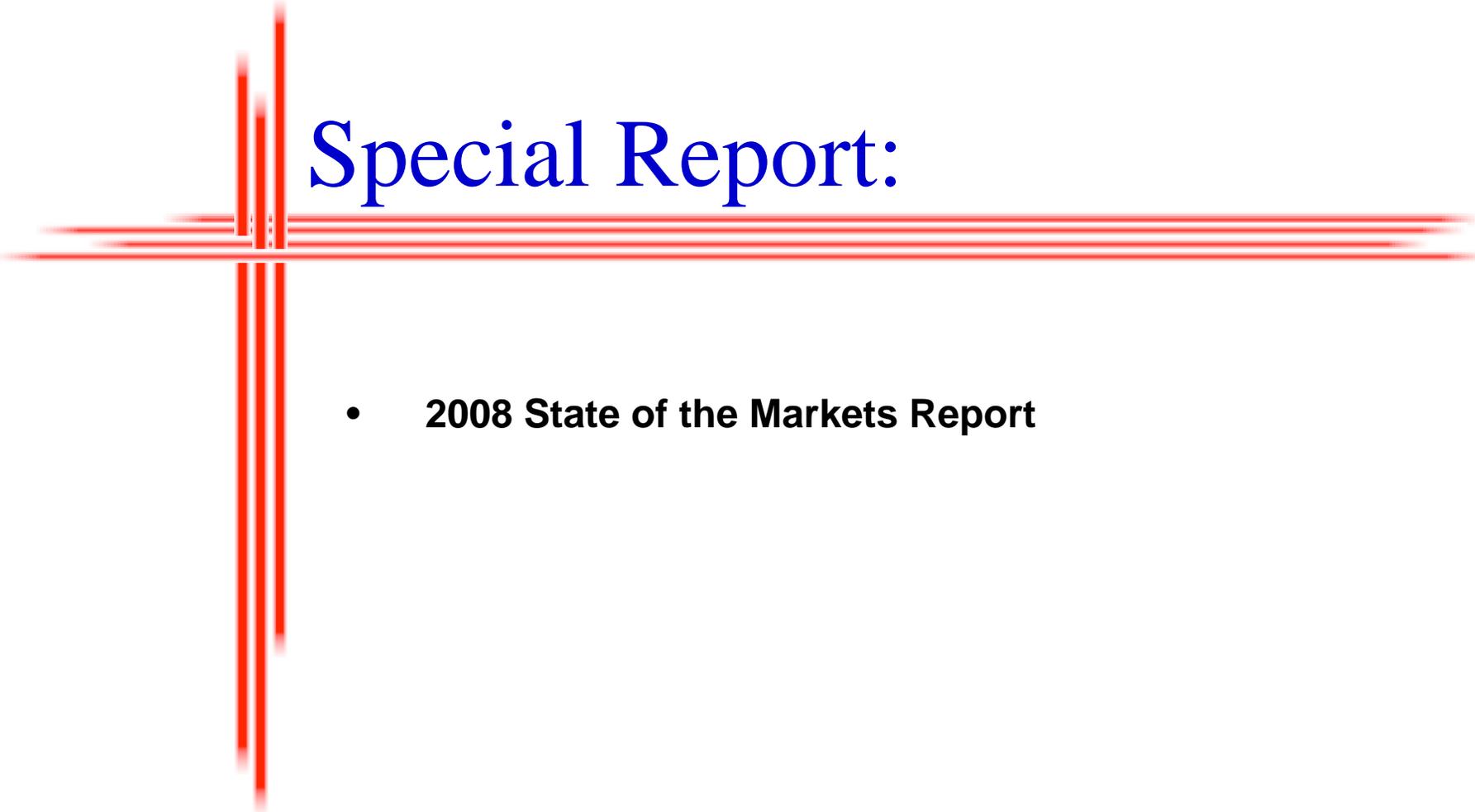


OE ENERGY MARKET SNAPSHOT

Midwest States Version – April 2009 Data

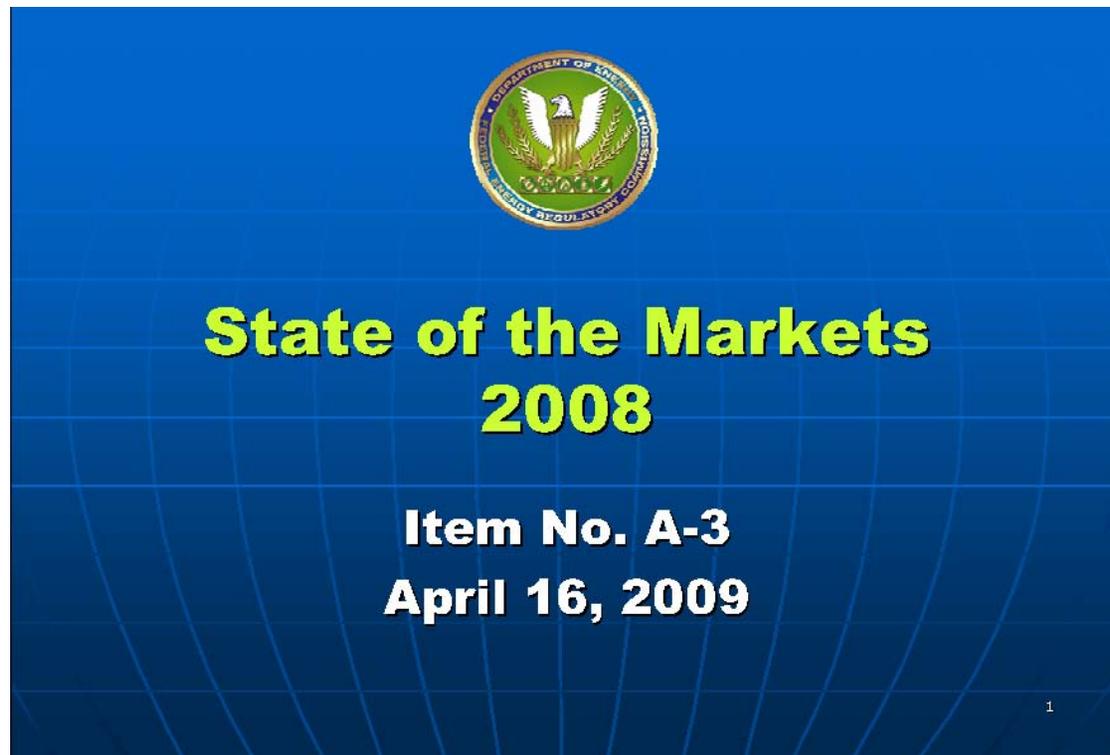
- **Special Report**
- **Natural Gas and Fuel Markets**
- **Electricity Markets**

Office of Enforcement
Federal Energy Regulatory Commission
May 2009



Special Report:

- **2008 State of the Markets Report**

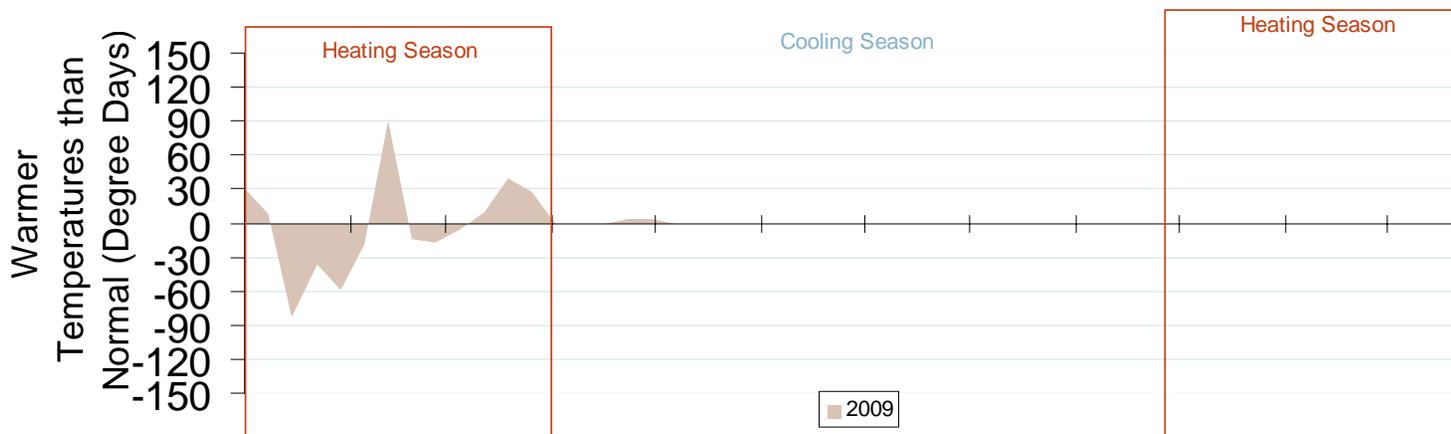
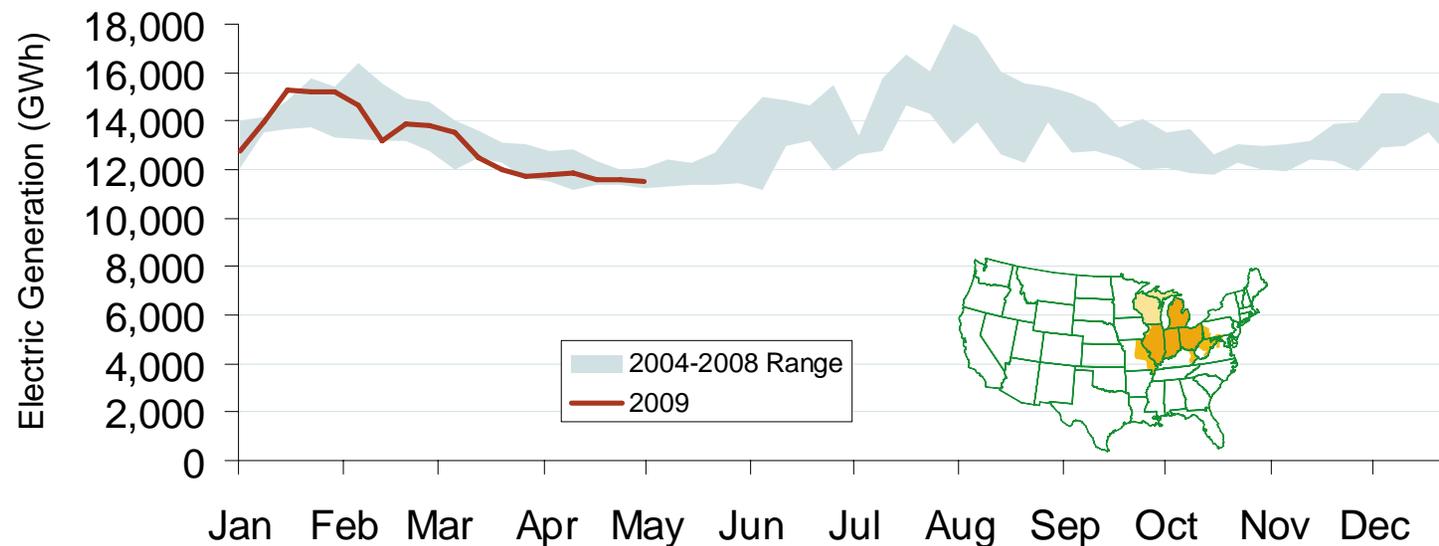


www.ferc.gov/market-oversight/st-mkt-ovr/som-rpt-2008.pdf

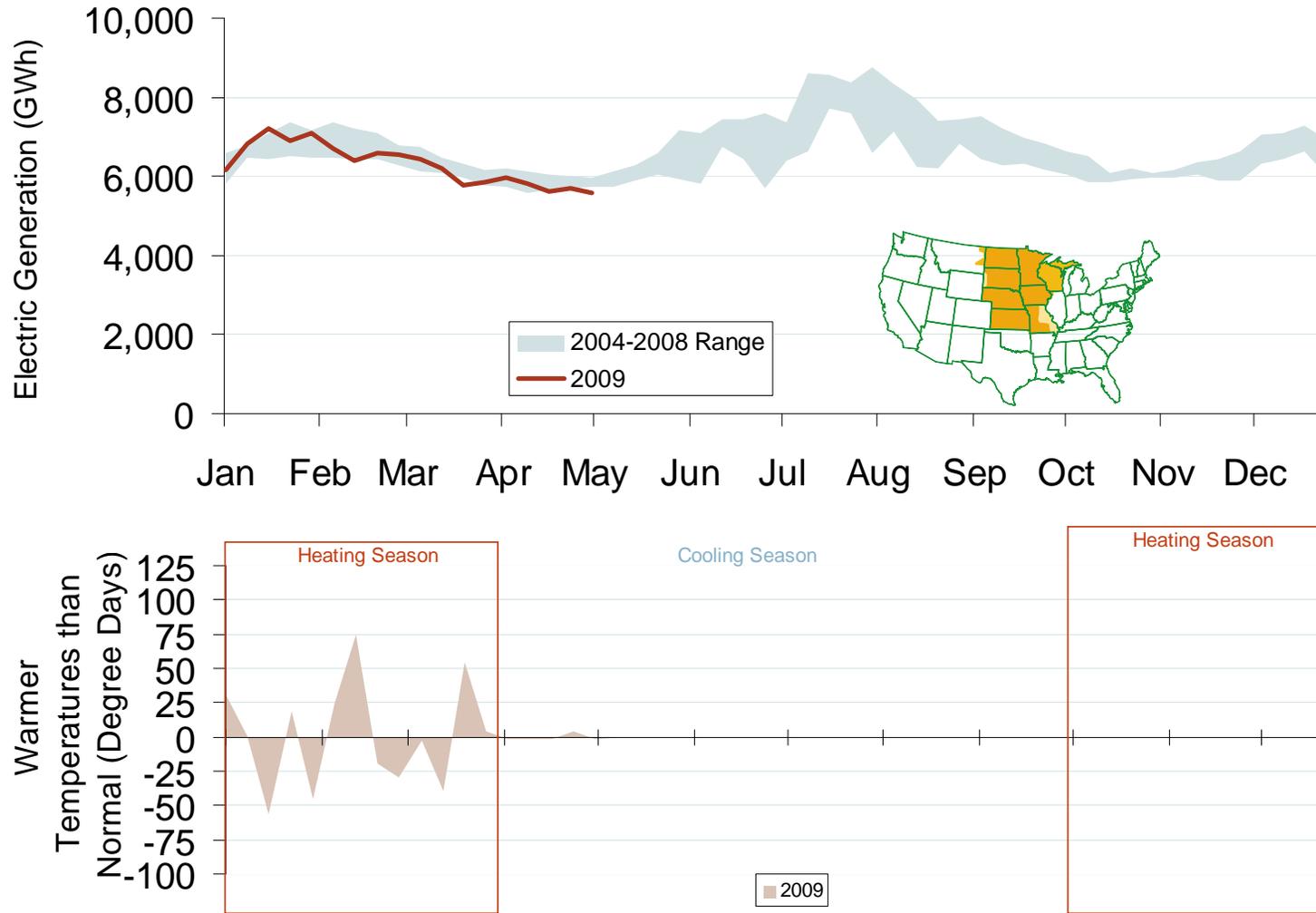


Electricity Markets

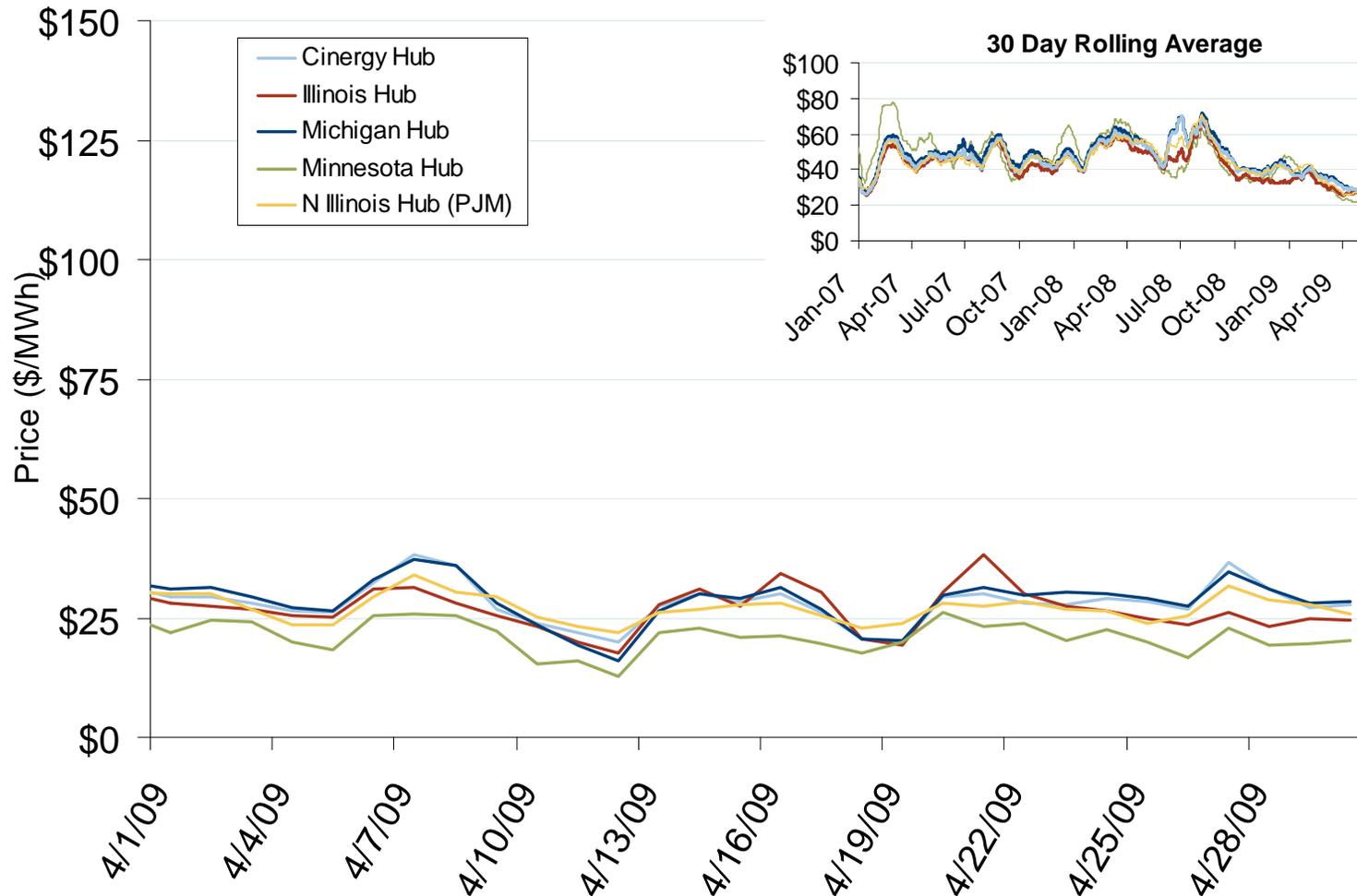
Weekly Electric Generation Output and Temperatures Central Industrial Region



Weekly Electric Generation Output and Temperatures West Central Region



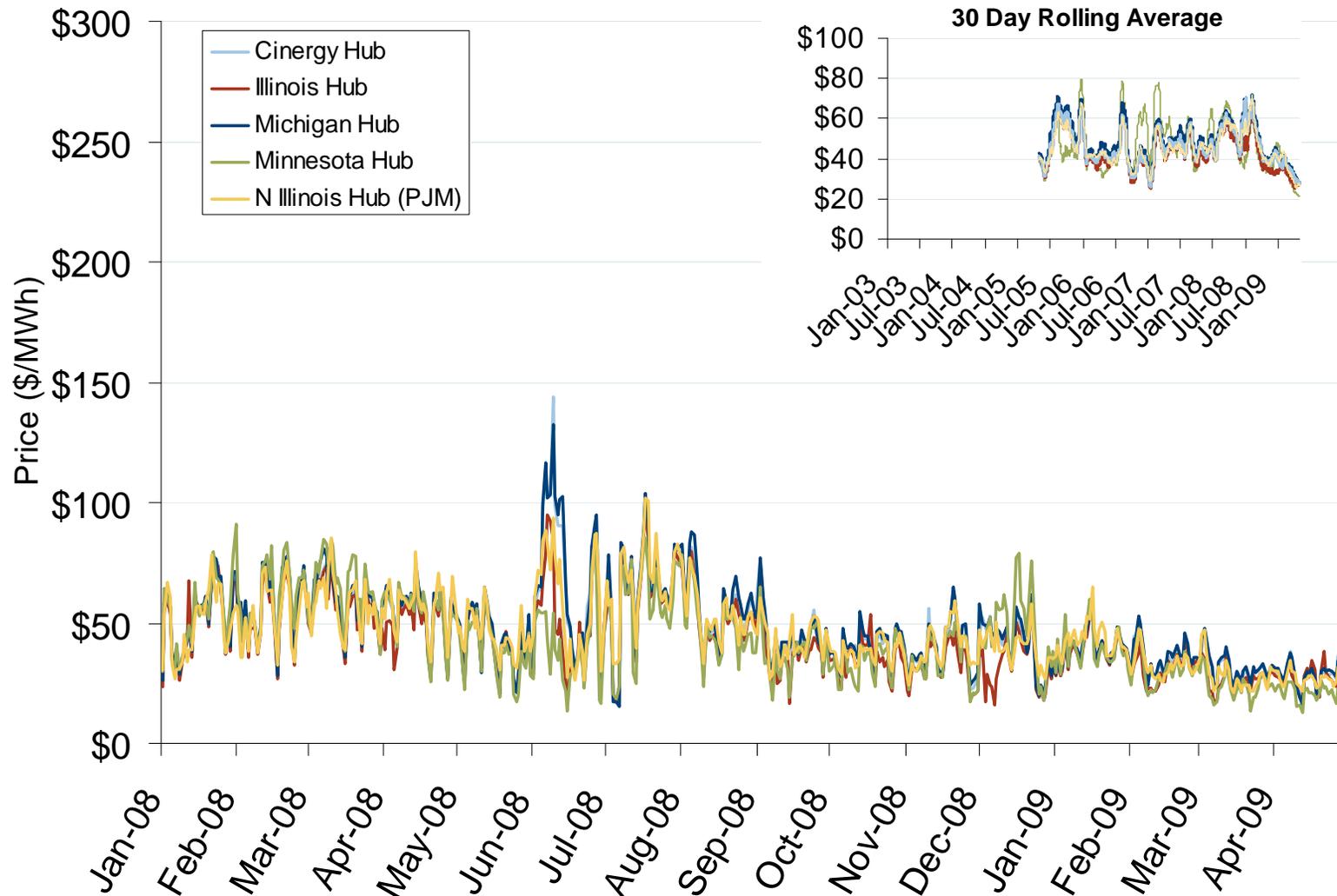
Daily Average of MISO Day-Ahead Prices - All Hours



Source: Derived by Bloomberg from MISO and PJM data as reported by Bloomberg.
 May 2009 Midwest Snapshot Report

Updated May 7, 2009

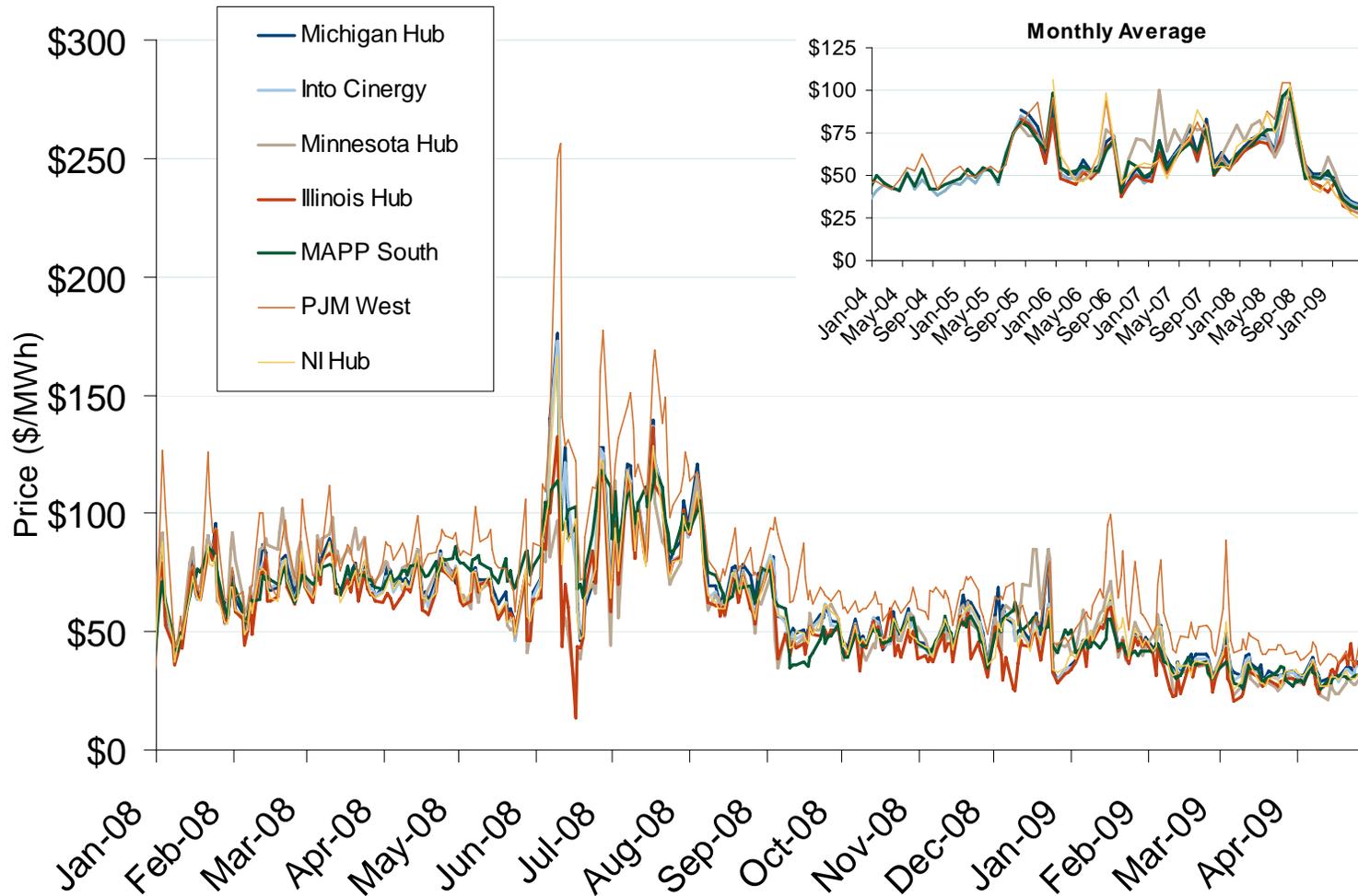
Daily Average of MISO Day-Ahead Prices - All Hours



Source: Derived by Bloomberg from MISO and PJM data as reported by Bloomberg.
 May 2009 Midwest Snapshot Report

Updated May 7, 2009

MISO/PJM Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.
 May 2009 Midwest Snapshot Report

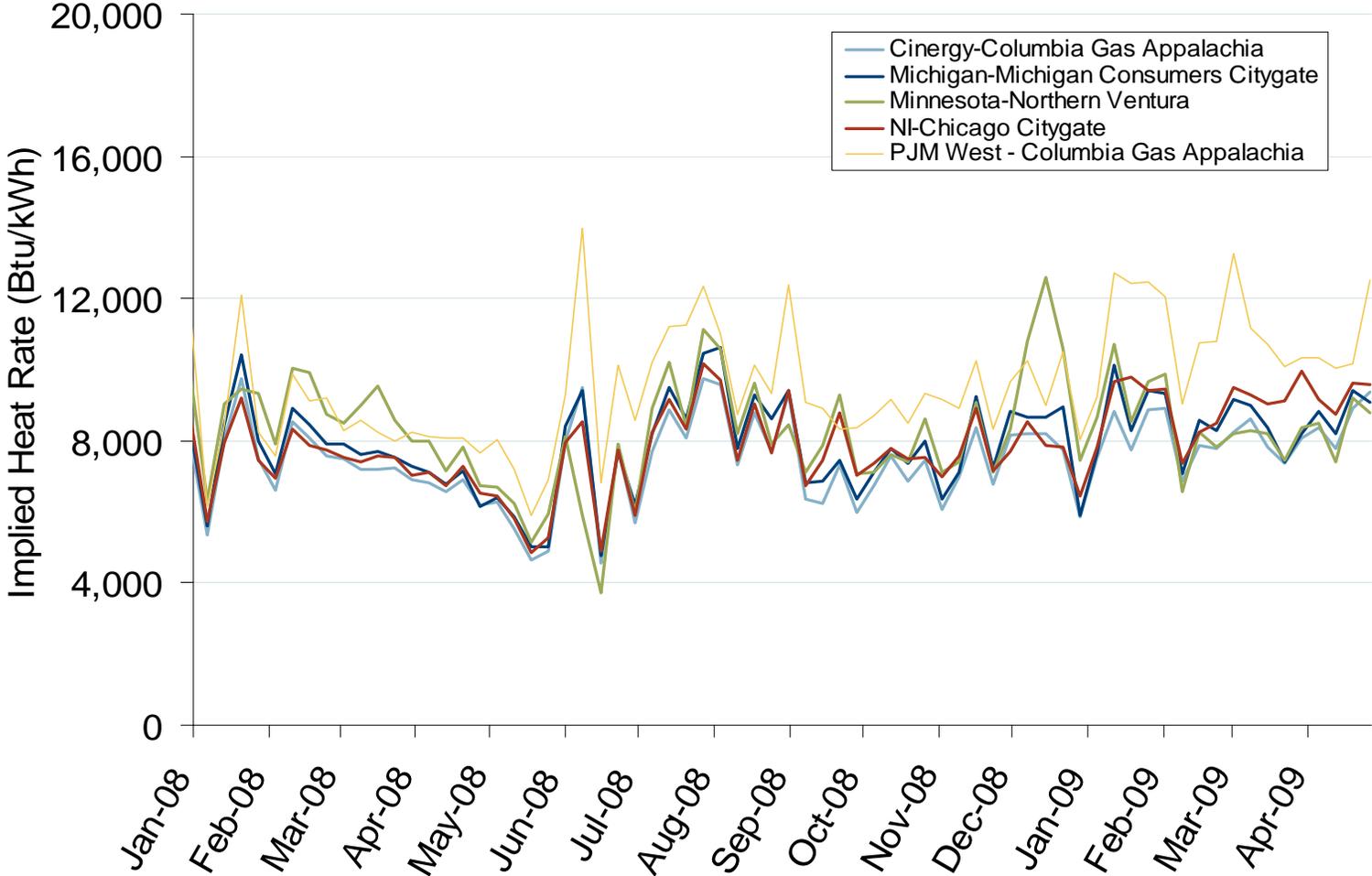
Updated May 7, 2009

Electric Pricing Points



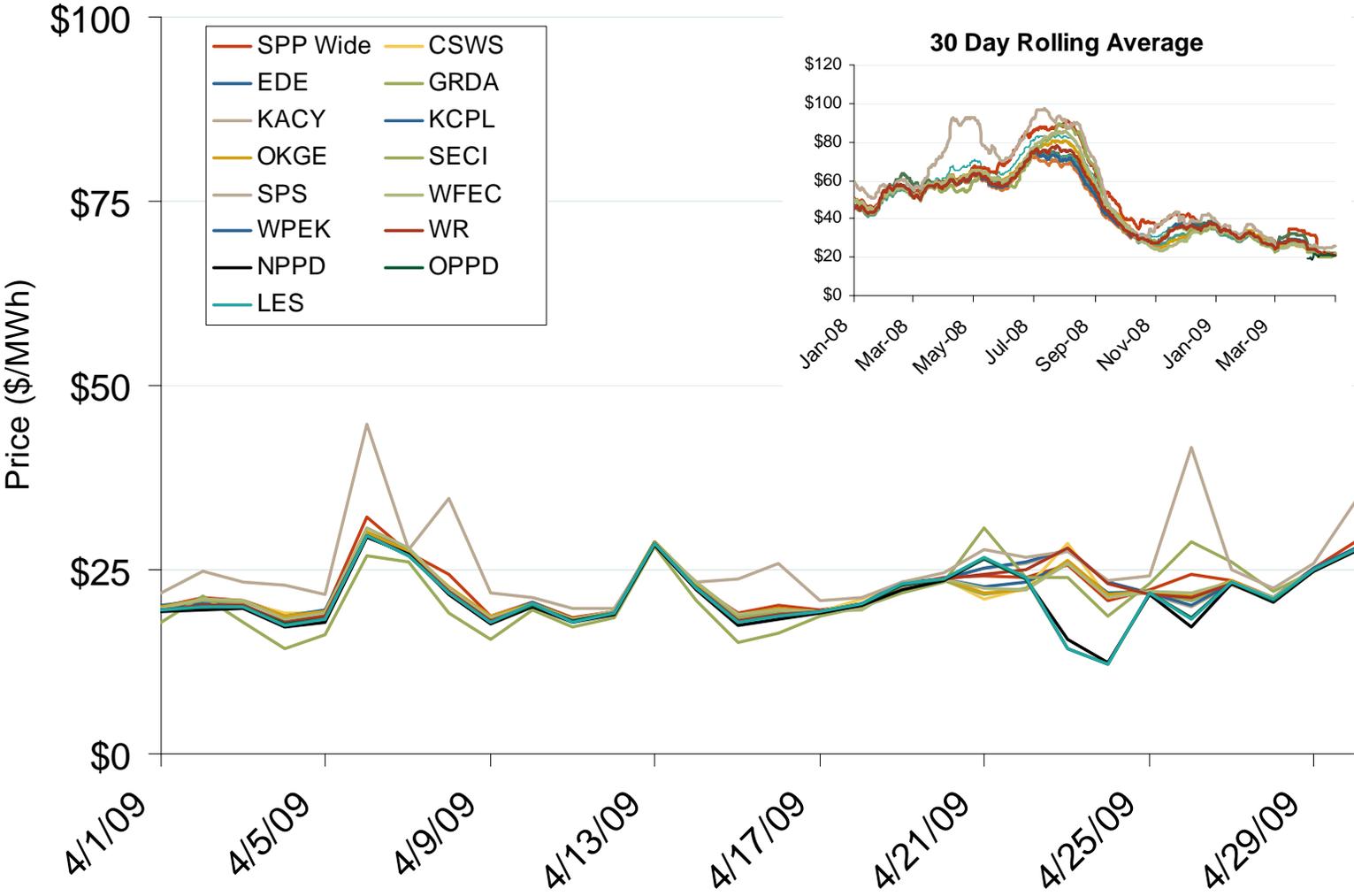
Note: Pricing points reflect general locations. Actual trading regions may not be point specific.
May 2009 Midwest Snapshot Report

Implied Heat Rates at MISO and PJM Hubs Weekly Averages



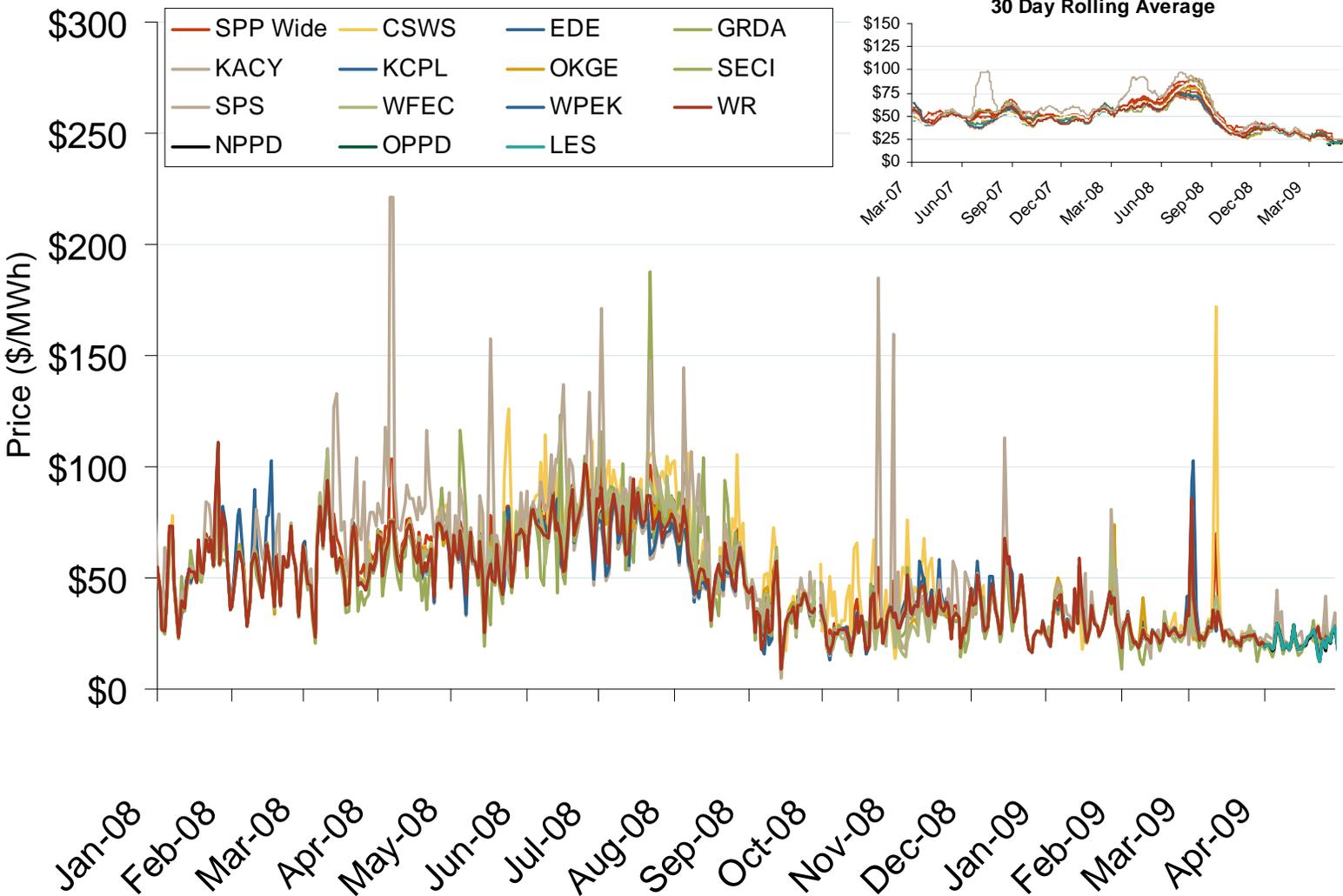
Source: Derived from *Platts* data
May 2009 Midwest Snapshot Report

Daily Average of SPP Real Time Prices - All Hours



Source: Derived from SPP data.
May 2009 Midwest Snapshot Report

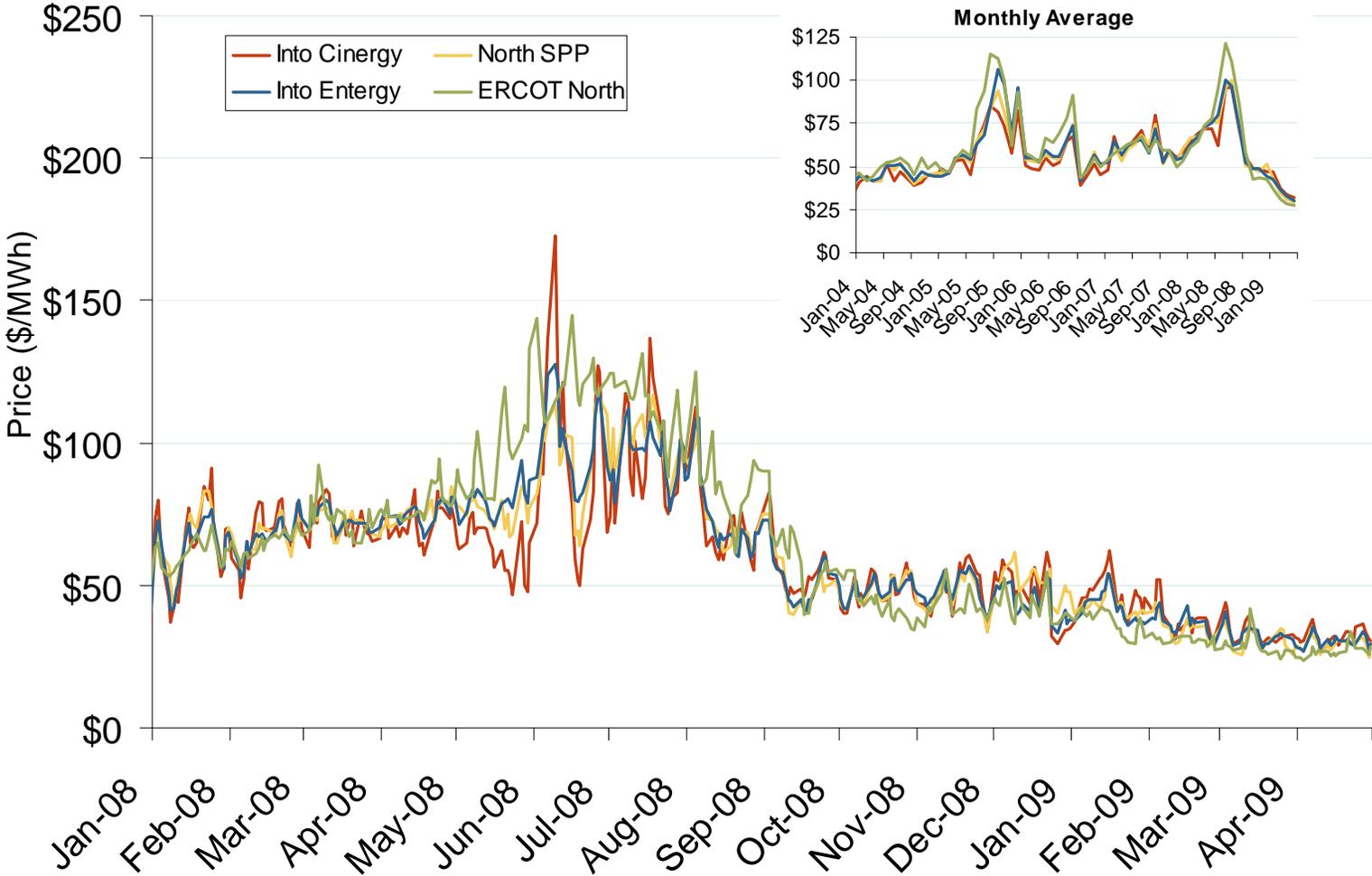
Daily Average of SPP Real Time Prices - All Hours



Source: Derived from SPP data.
May 2009 Midwest Snapshot Report

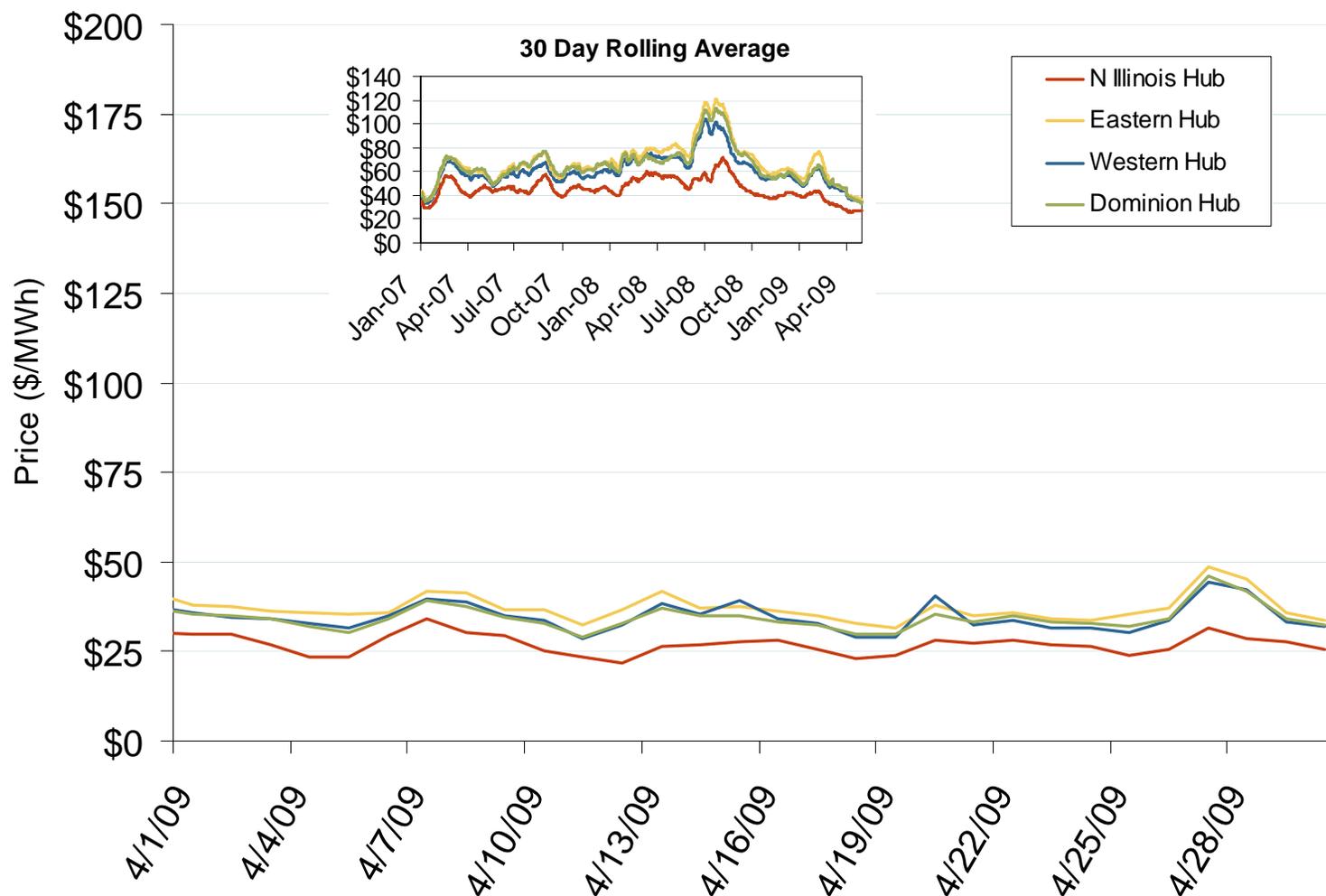
Updated May 7, 2009

Central Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.
May 2009 Midwest Snapshot Report

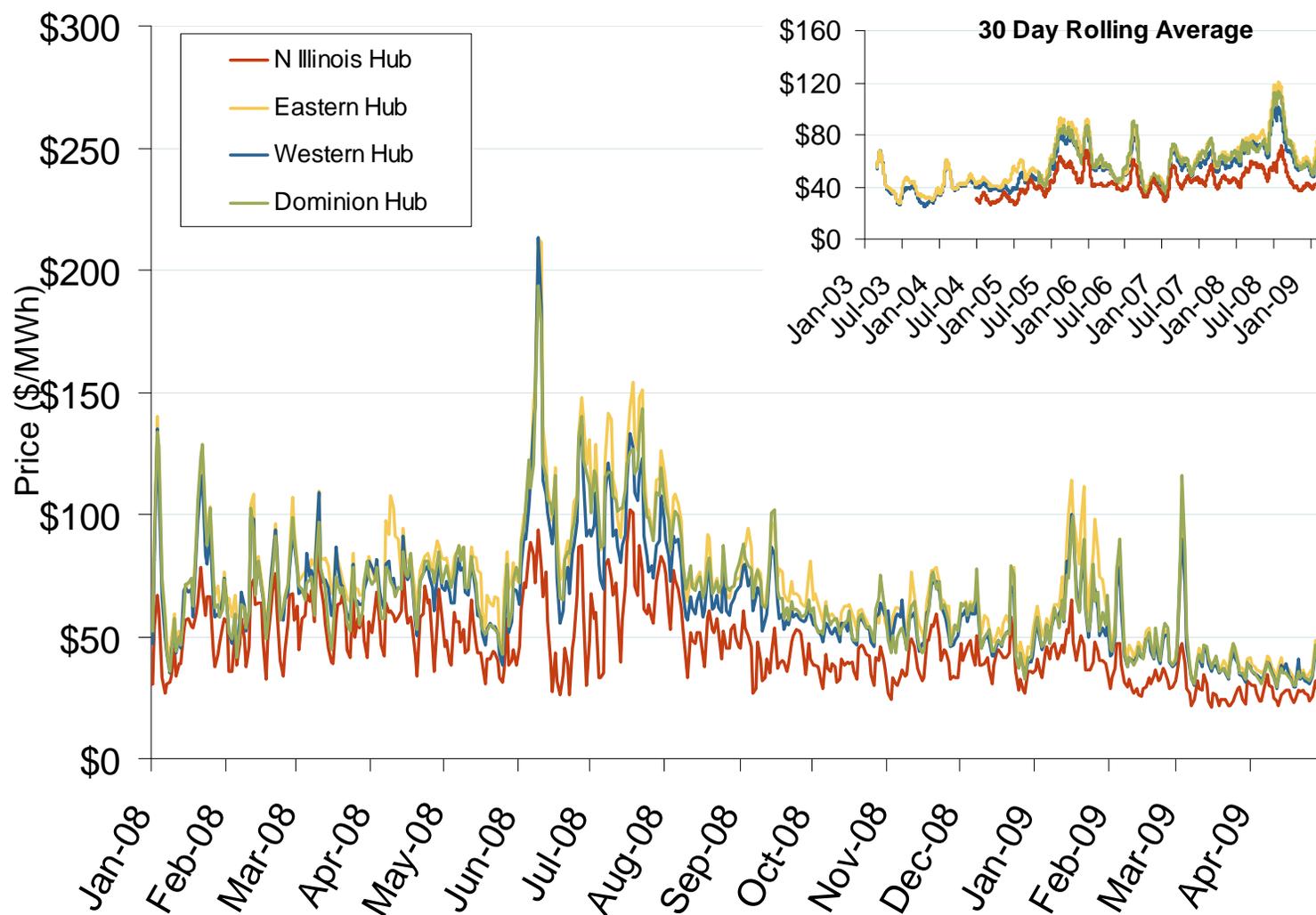
Daily Average of PJM Day-Ahead Prices - All Hours



Source: Derived by Bloomberg from PJM data as reported by Bloomberg.
 May 2009 Midwest Snapshot Report

Updated May 7, 2009

Daily Average of PJM Day-Ahead Prices - All Hours



Collaborative Greenhouse Gas (GHG) Programs

Collaborative Regional GHG Programs:

- Three North American groups with goals to lower regional GHG emissions were initiated by state Governors.
- 32 U.S. states, D.C., eight Canadian provinces, and six Mexican states are Participants or Observers.
- Observer jurisdictions do not commit to group GHG reduction goals, but participate in proceedings should they opt to join later. RGGI Observers are not on its Board.

Western Climate Initiative (WCI):

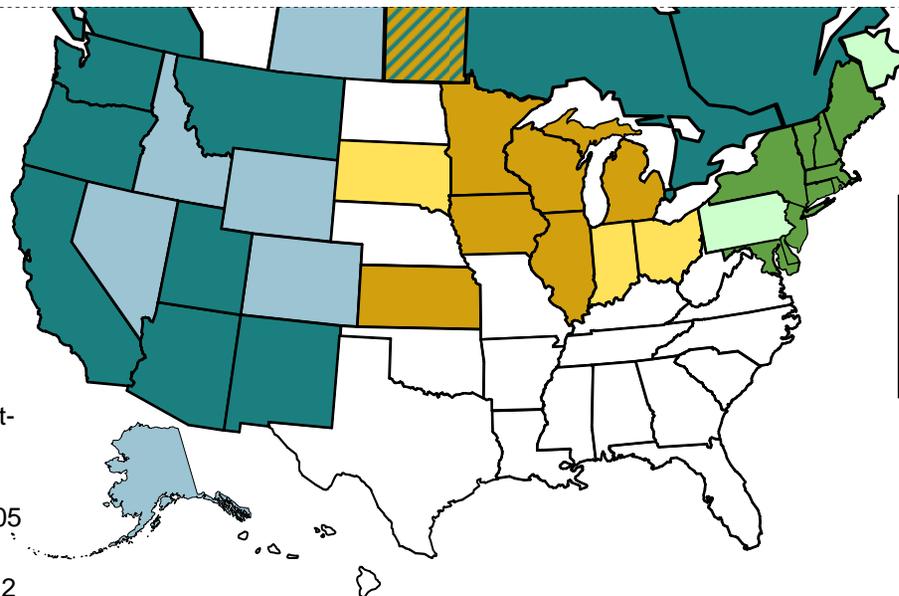
- Created February 2007
- Partners: 7 states, 4 provinces; Observers: 5 states, 1 province
- Announced its design for a market-based, *multi-sector* cap-and-trade program, Sept 2008:
 - 15% CO₂ reduction below 2005 levels by 2020
 - Phase I to take effect Jan 2012

Midwest Greenhouse Gas Reduction Accord:

- Established November 2007
- Participants: 6 states, 1 province; Observers: 3 states, 1 province
- Preliminary design recommendations issued Dec 2008: 15 - 25% reductions by 2020, 60 - 80% by 2050

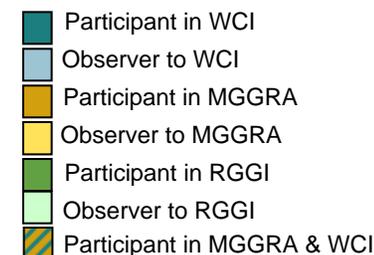
Regional Greenhouse Gas Initiative (RGGI):

- Compliance period began Jan 1, 2009
- Participants: 10 states; Observers: 1 state, D.C., 3 provinces
- Market-based cap-and-trade effort to reduce *power-sector* CO₂ emissions.
- 10% CO₂ reduction by 2018 covers over 200 plants
- One allowance is the right to emit 1 ton of CO₂
- Annual RGGI cap is 188 million tons



RGGI Auction Data

Auction Date	Allocation Year	Allowances Sold (000s)	Clearing Price
9/25/08	2009	12,565	\$3.07
12/17/08	2009	31,506	\$3.38
3/18/09	2009	31,514	\$3.51
3/18/09	2012	2,176	\$3.05



Updates at: <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-ghg.pdf>

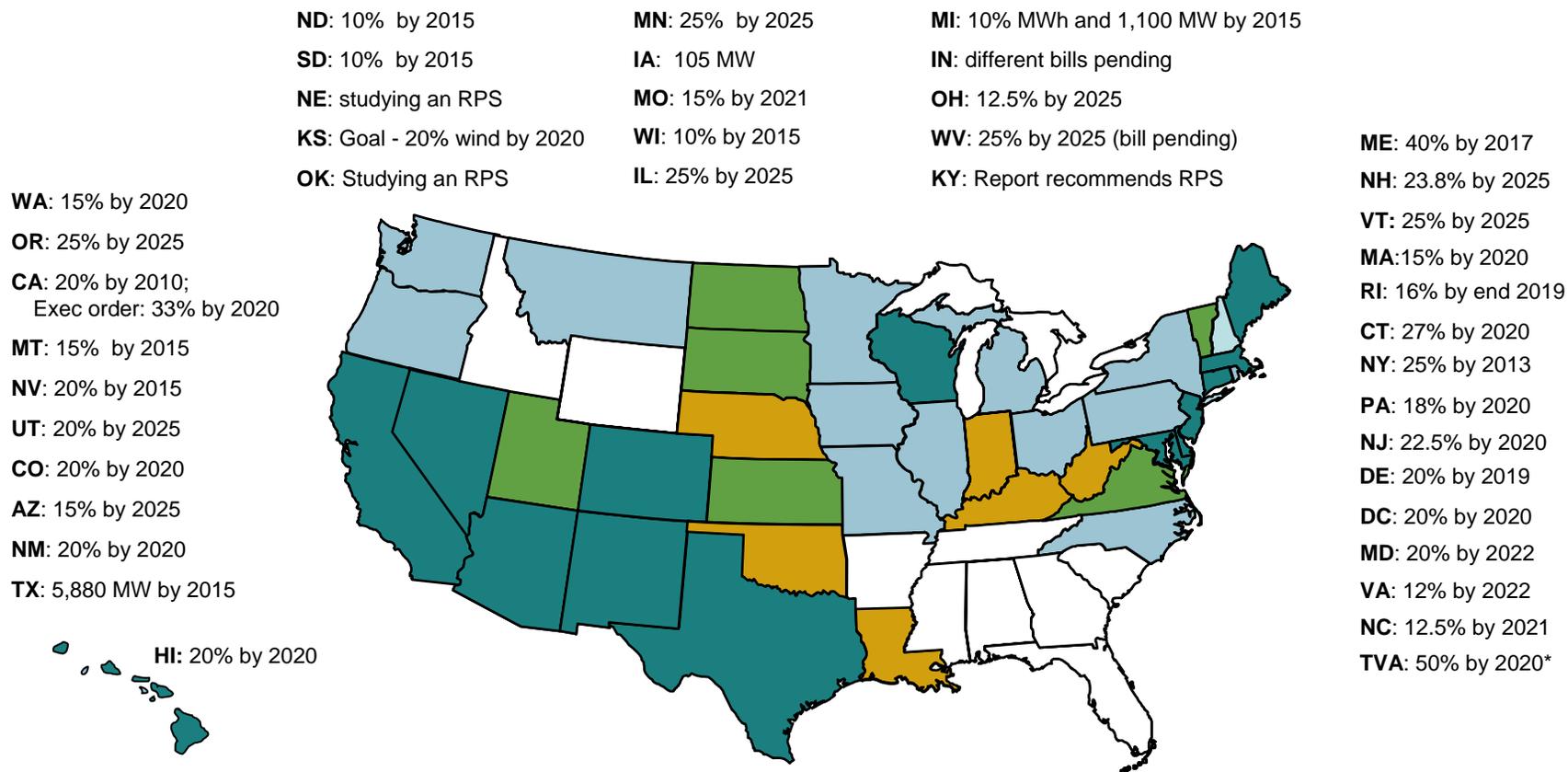
Notes: Kansas is a MGGRA participant and WCI observer. Ontario and Quebec are Partners to WCI and Observers to RGGI; Ontario is also an observer to RGGI.

Sources: regional initiatives - www.rggi.org, www.midwesternaccord.org, www.westernclimateinitiative.org, Point Carbon, analyst reports, trade press

Electric Market Overview: Renewable Portfolio Standards

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

29 States including D.C. have Renewable Energy Portfolio Standards (RPS)



Updates at: <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf>

- RPS
- Accelerated or strengthened RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS

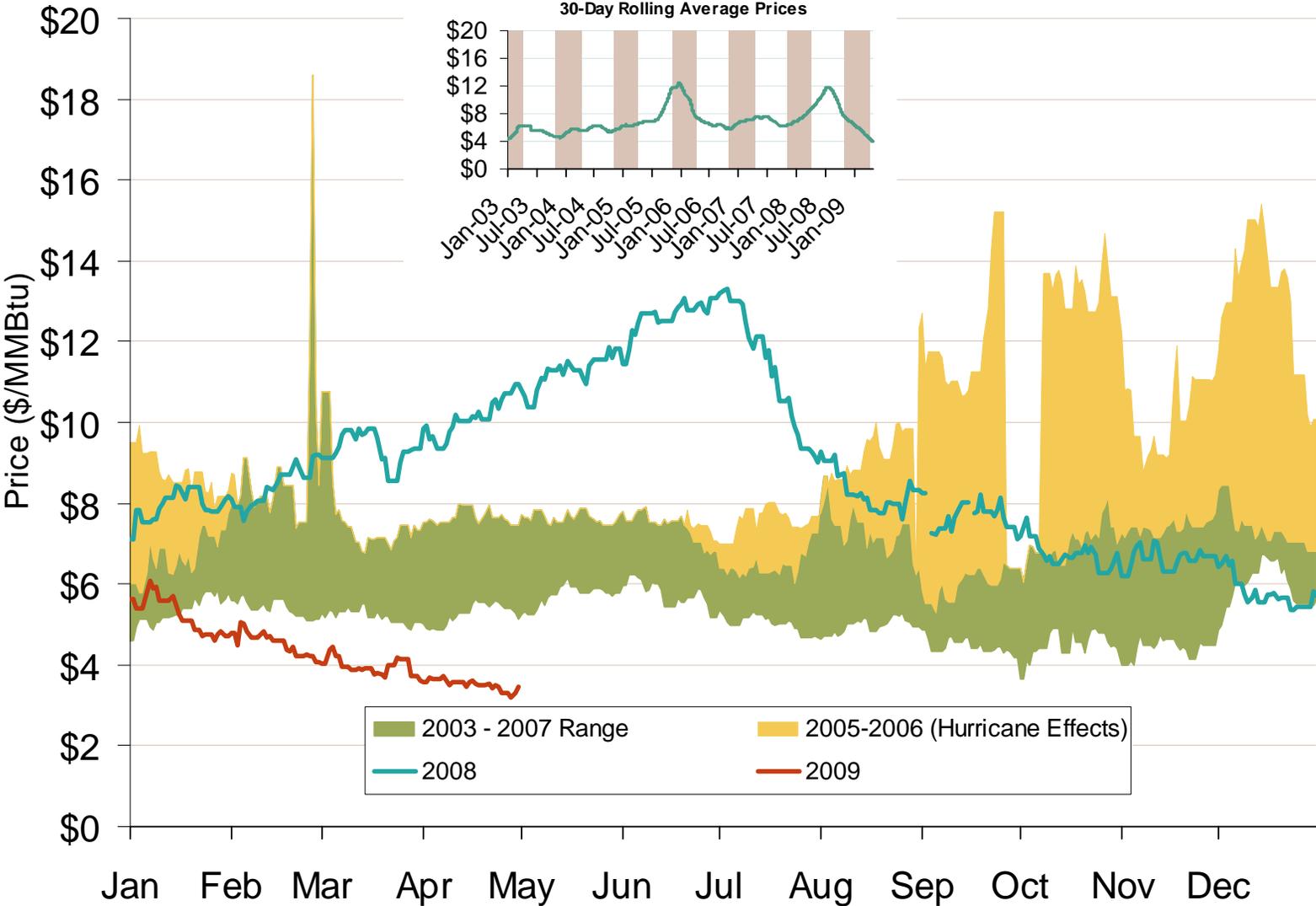
Notes: An RPS requires a percent of an electric provider's energy sales (MWh) or installed capacity (MW) to come from renewable resources. Most specify sales (MWh). Map percents are final years' targets. Alaska has no RPS; TVA's goal is not state policy; it called for 50% zero- or low-carbon generation by 2020.

Sources: Derived from data in: LBNL, PUCs, State legislative tracking services, Pew Center, and the Union of Concerned Scientists. Details, including timelines, are in the Database of State Incentives for Renewables and Energy Efficiency: <http://www.dsireusa.org>



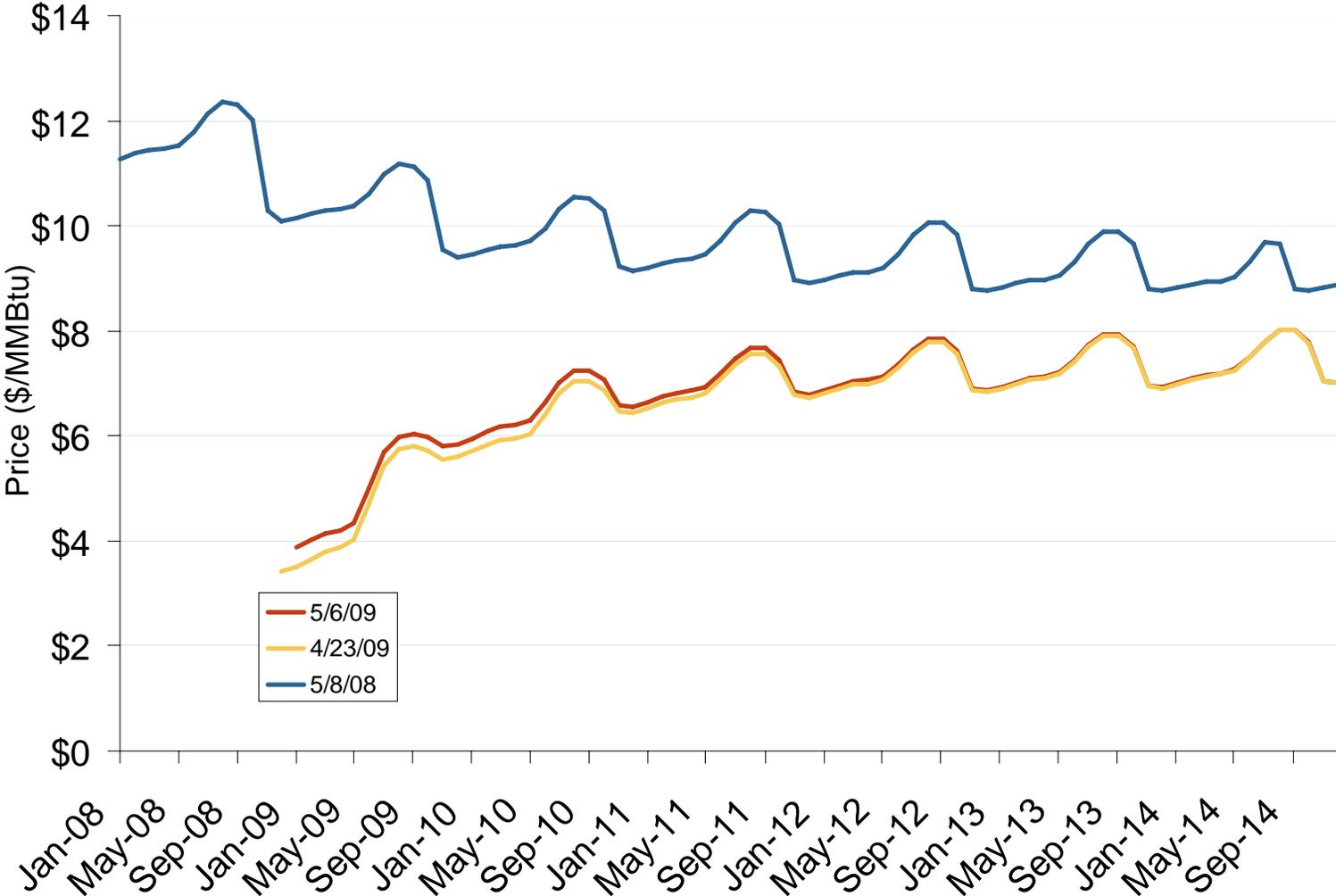
Natural Gas and Fuel Markets

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



Source: Derived from Platts data.

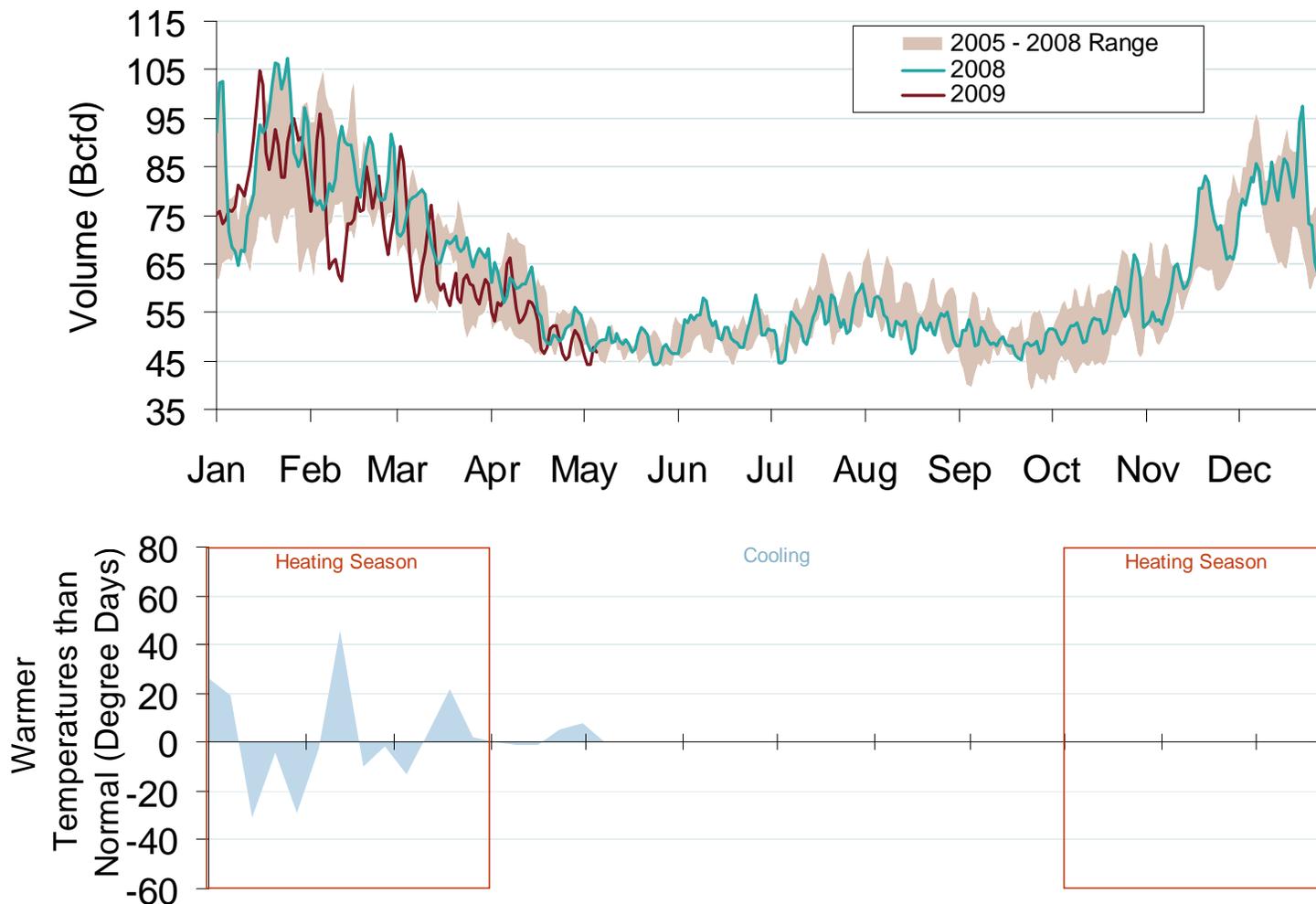
NYMEX Natural Gas Forward Price Curve



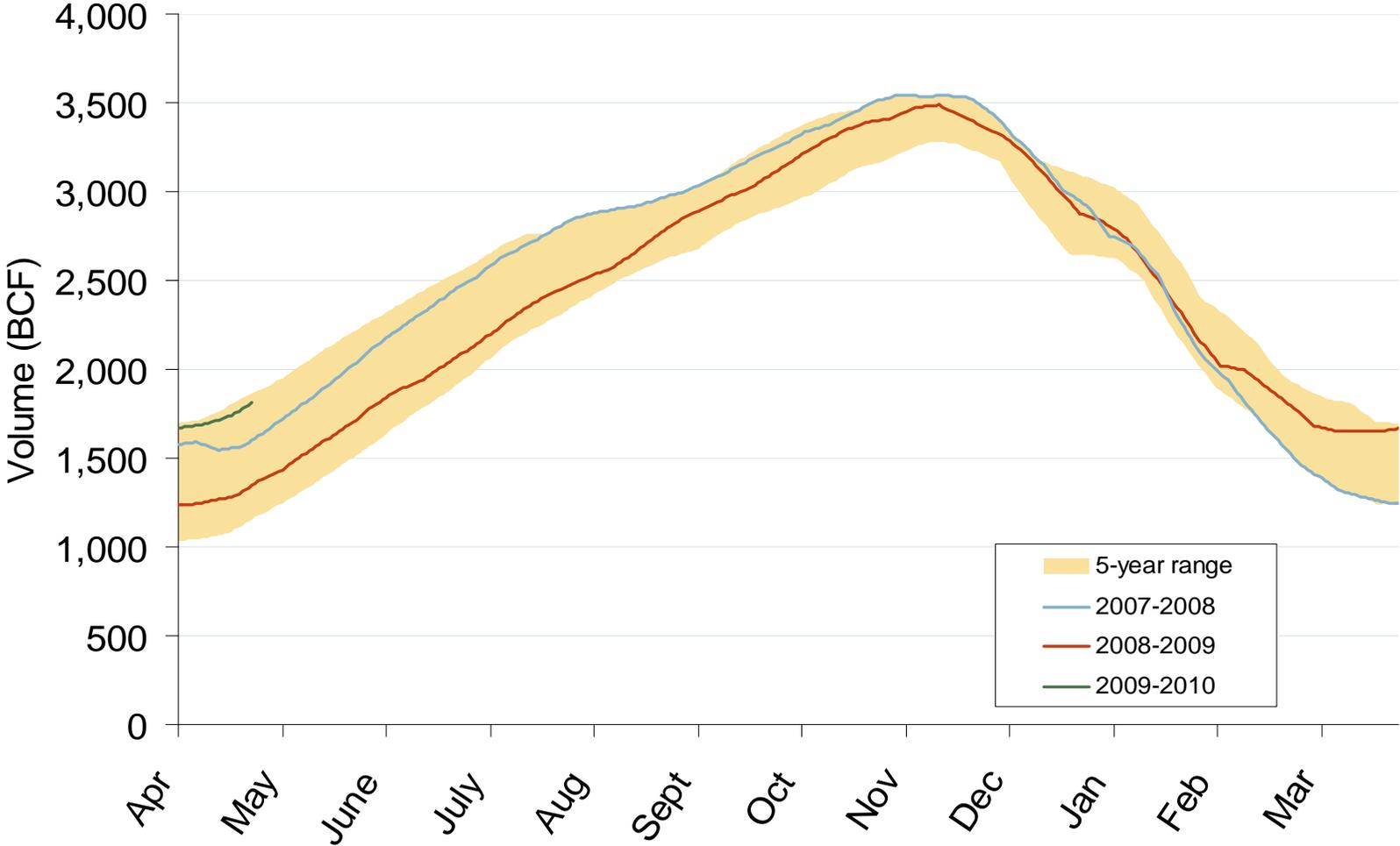
Source: Derived from NYMEX data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

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



Total U.S. Working Gas in Storage

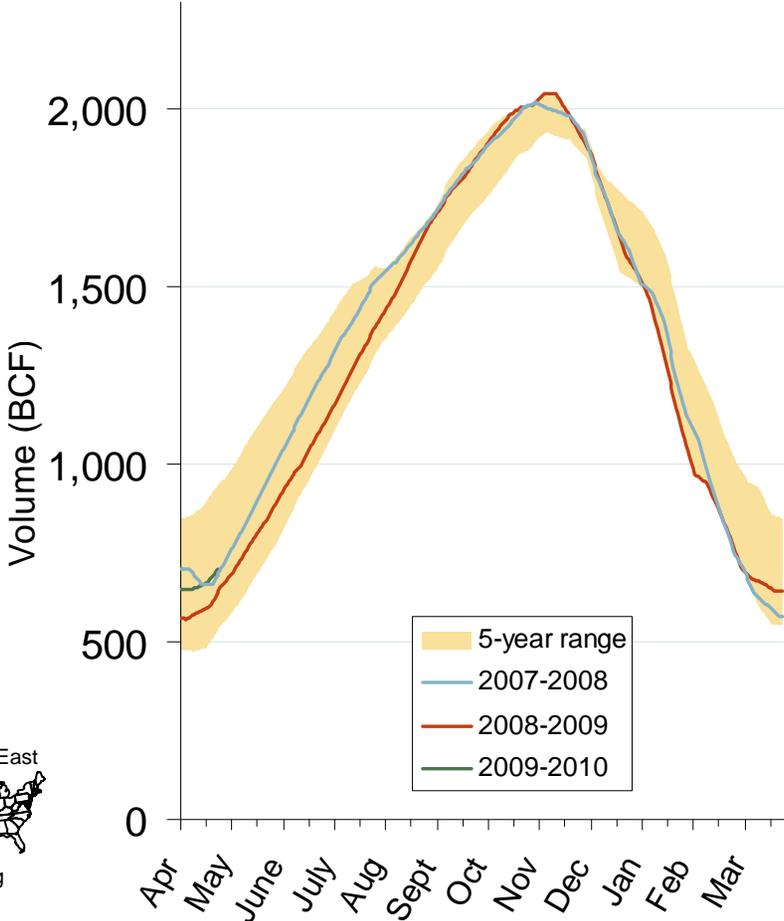


Source: Derived from EIA data.
May 2009 Midwest Snapshot Report

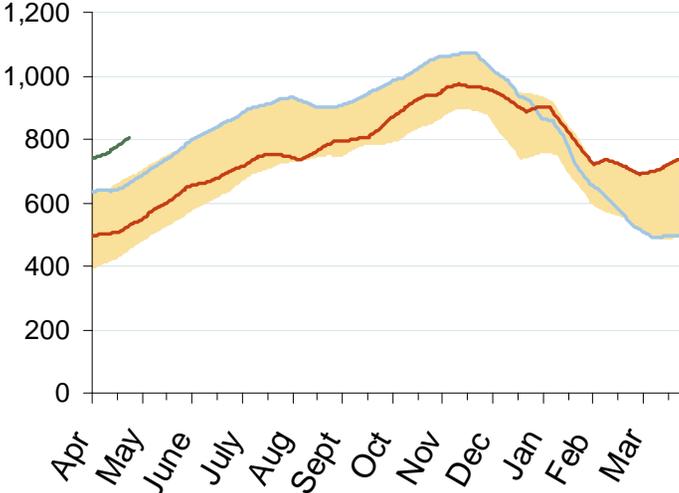
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Regional Totals of Working Gas in Storage

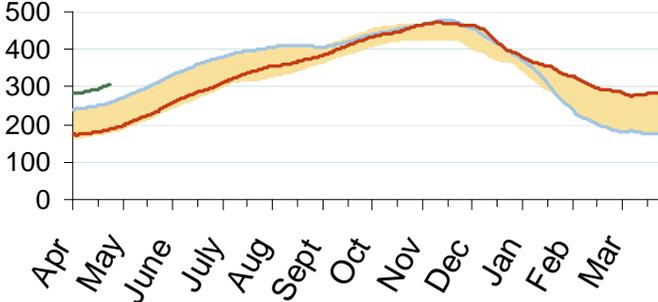
Eastern Consuming Region



Producing Region

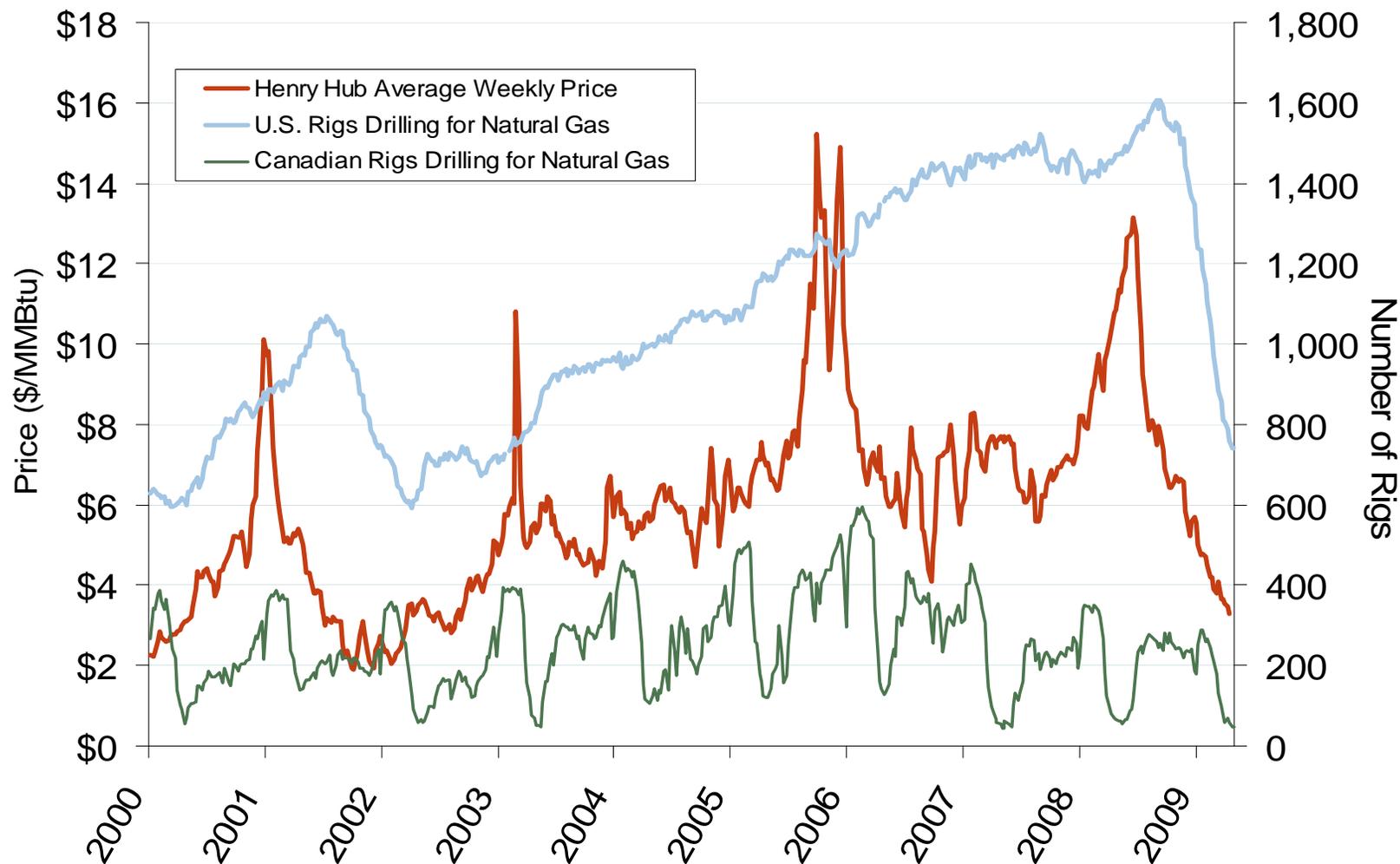


Western Consuming Region



Source: Derived from EIA data.

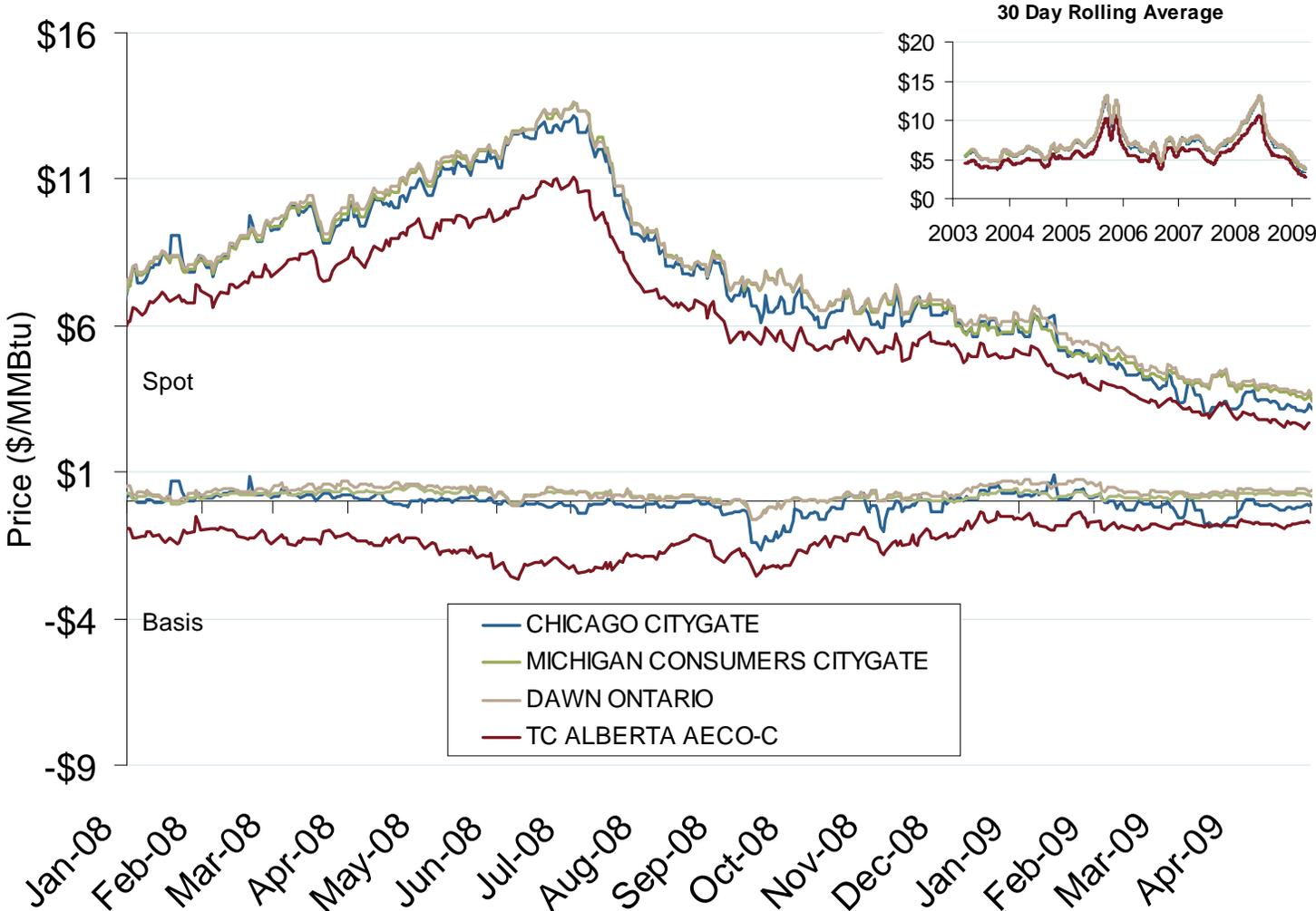
U.S. and Canadian Natural Gas Drilling Rig Count and Daily Spot Prices



Source: Derived from *Platts* and *Baker Hughes* data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

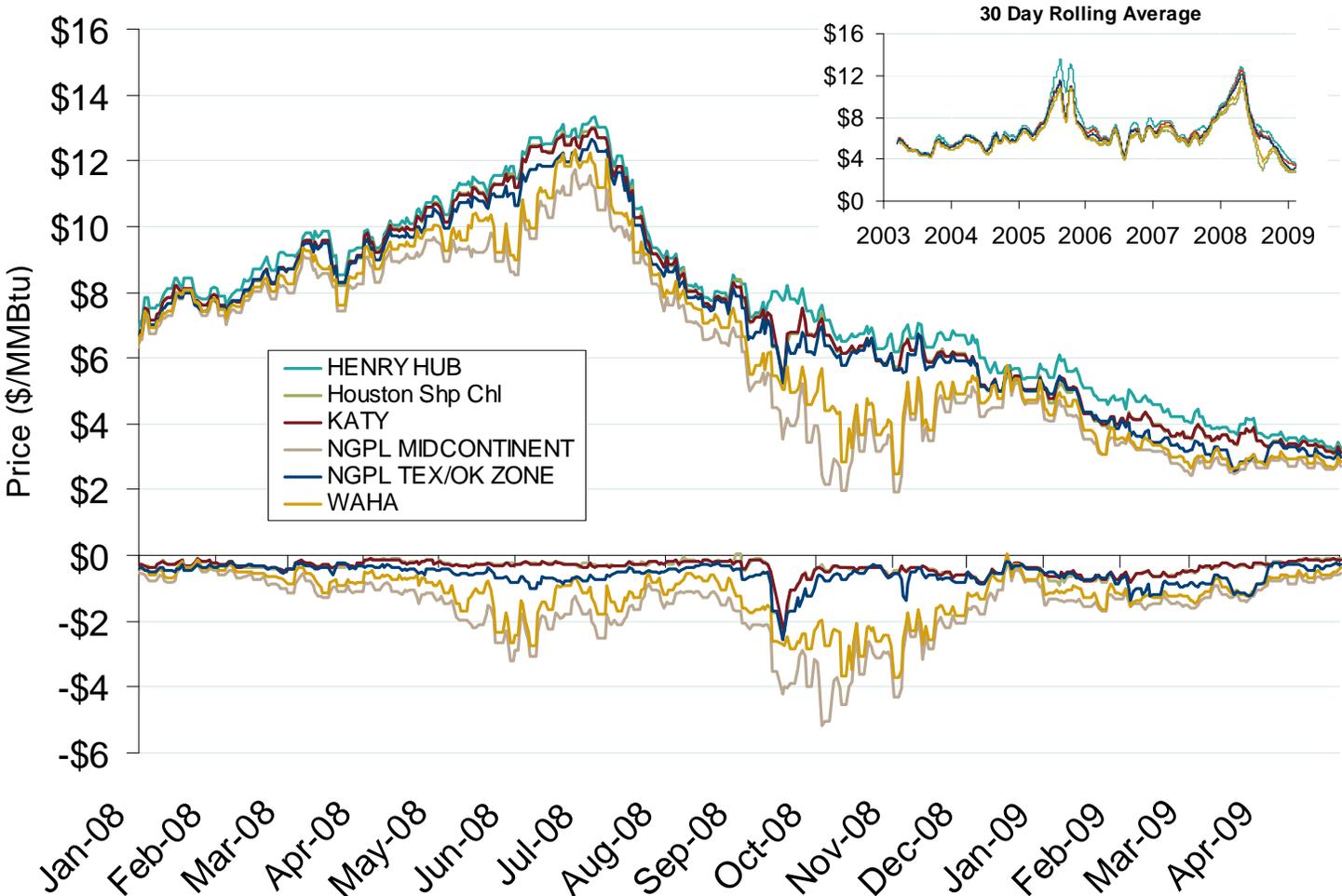
Midwestern Day-Ahead Hub Spot Prices and Basis



Source: Derived from Platts data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

South Central Day-Ahead Hub Spot Prices and Basis



Source: Derived from *Platts* data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

Gas Pricing Points



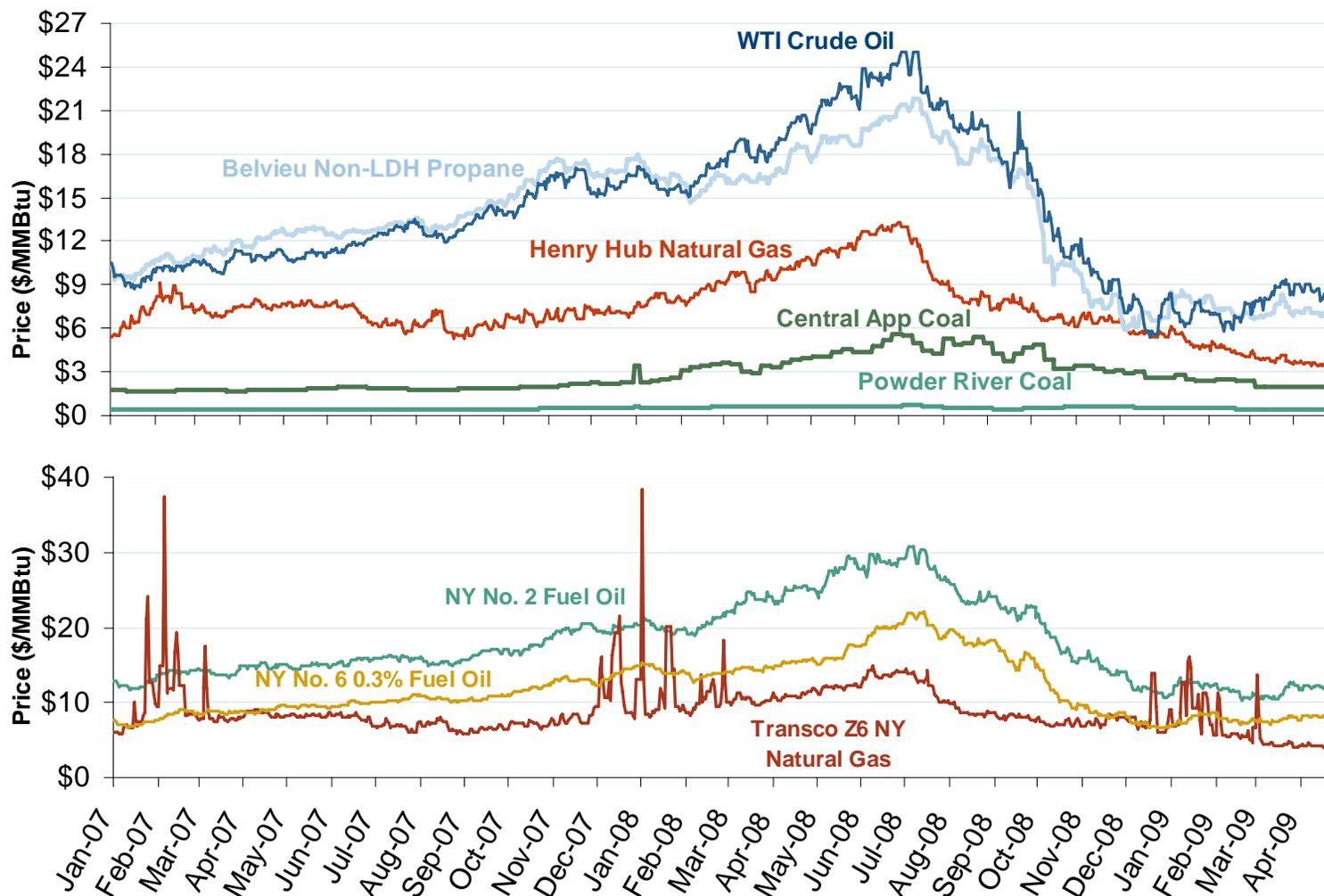
Note: Price Points reflect general locations.
May 2009 Midwest Snapshot Report

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



Source: Derived from Platts and Nymex data.
May 2009 Midwest Snapshot Report

Oil, Coal, Natural Gas and Propane Daily Spot Prices

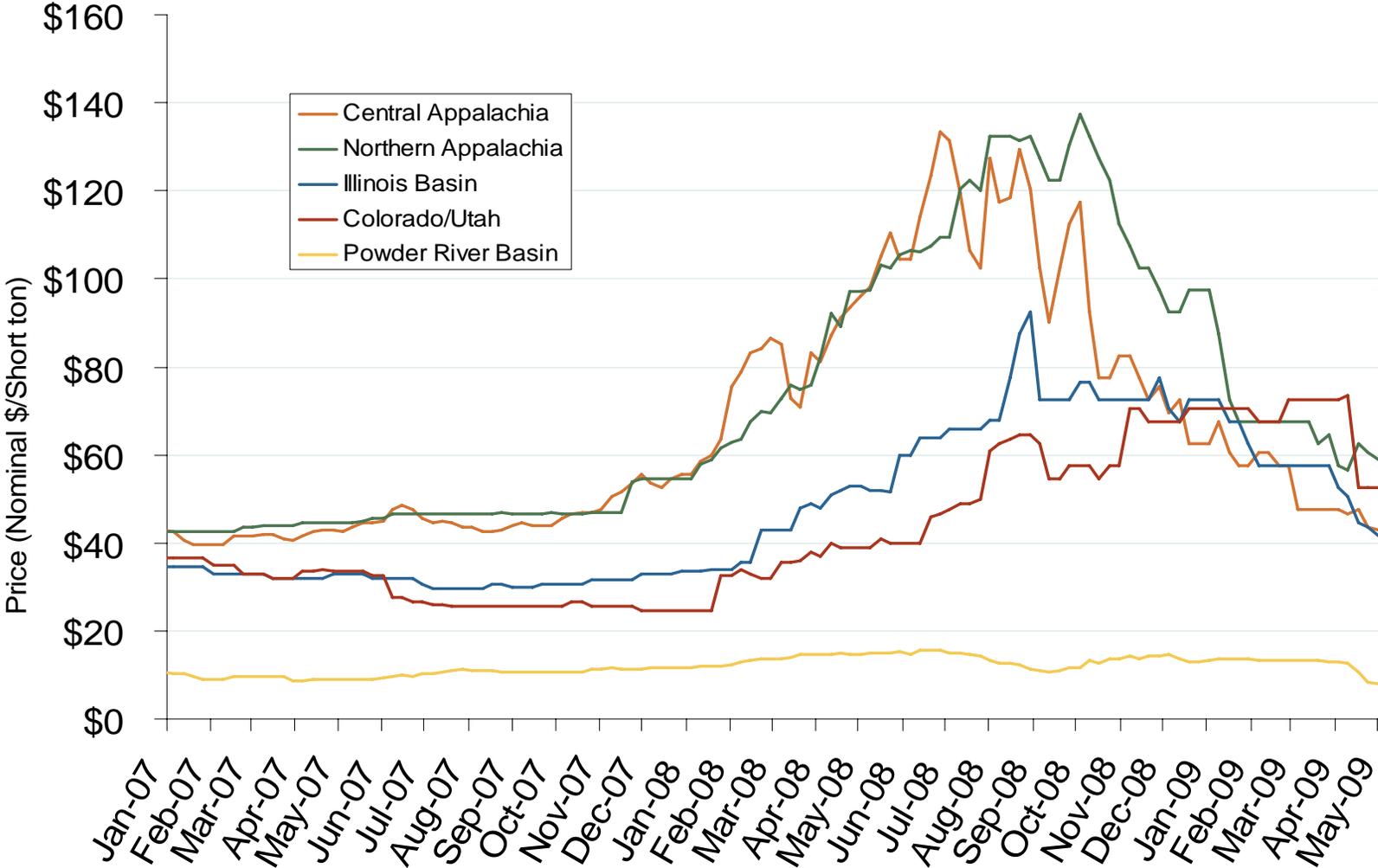


Source: Derived from *ICE* and *Bloomberg* data.

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

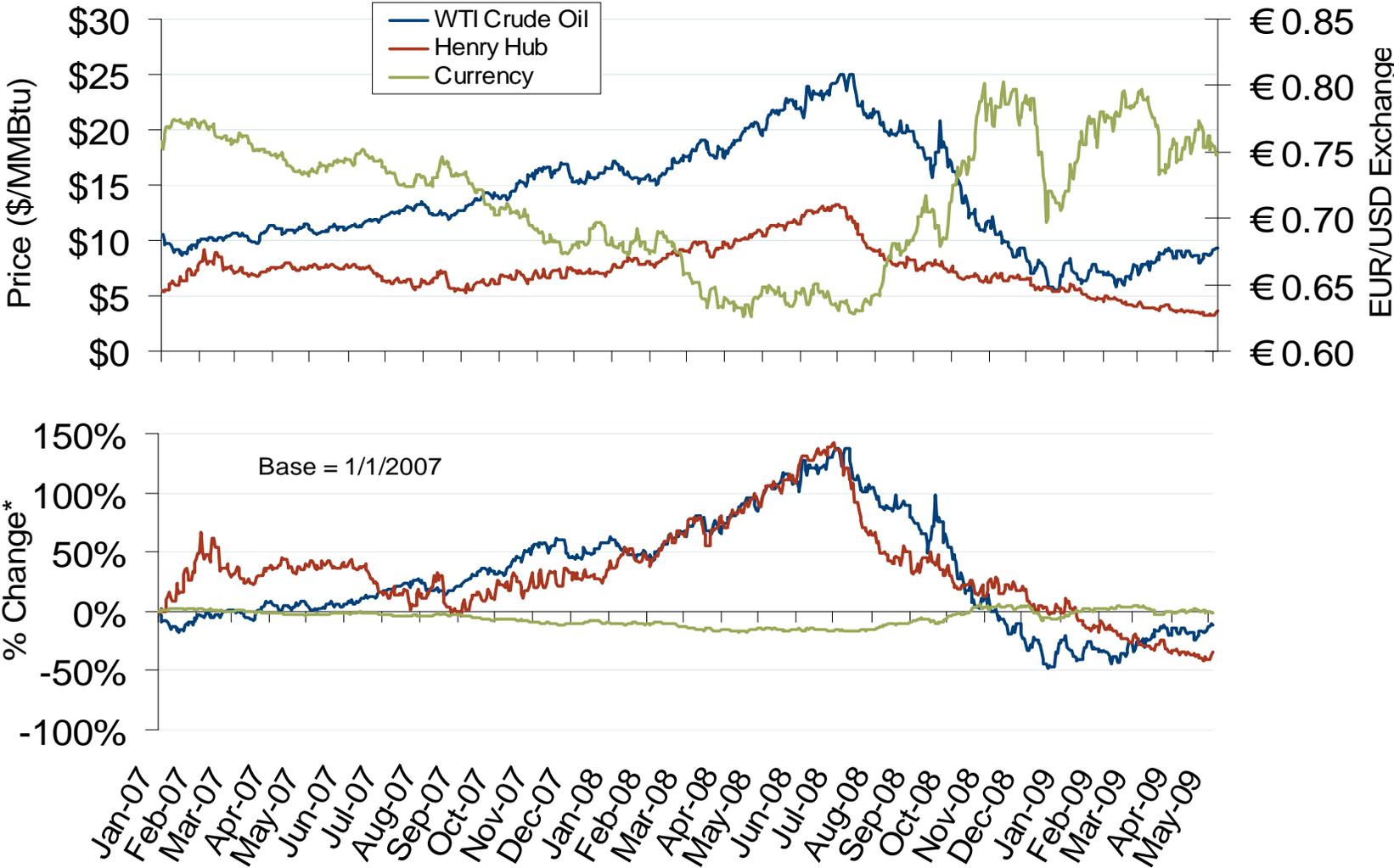


Note: Does not reflect the delivered price of coal; excludes incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.
May 2009 Midwest Snapshot Report

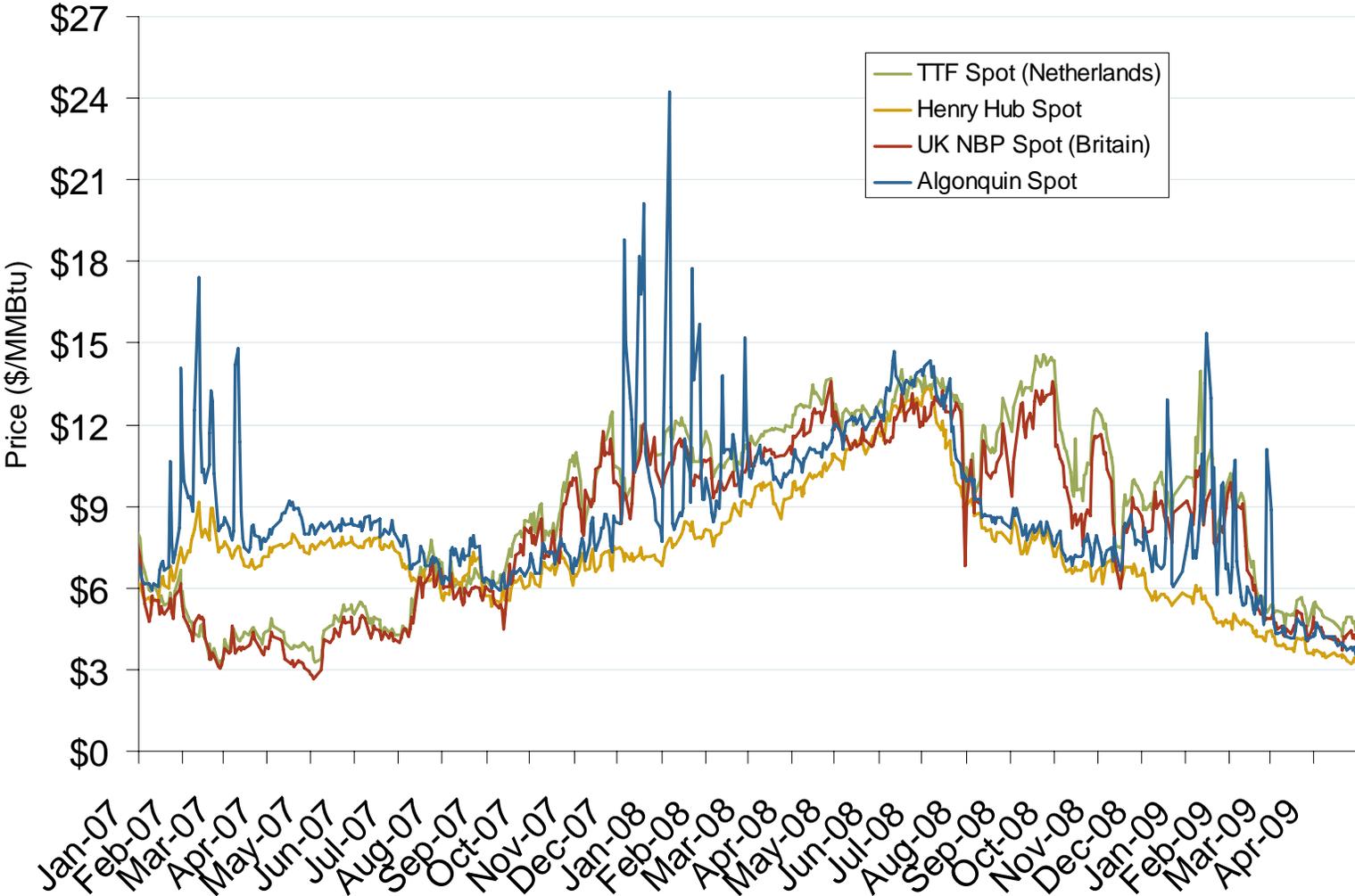
Updated May 7, 2009

Oil, Natural Gas and Currency Spot Prices



Source: Derived from Bloomberg data.

Atlantic Basin European and US Spot Natural Gas Prices



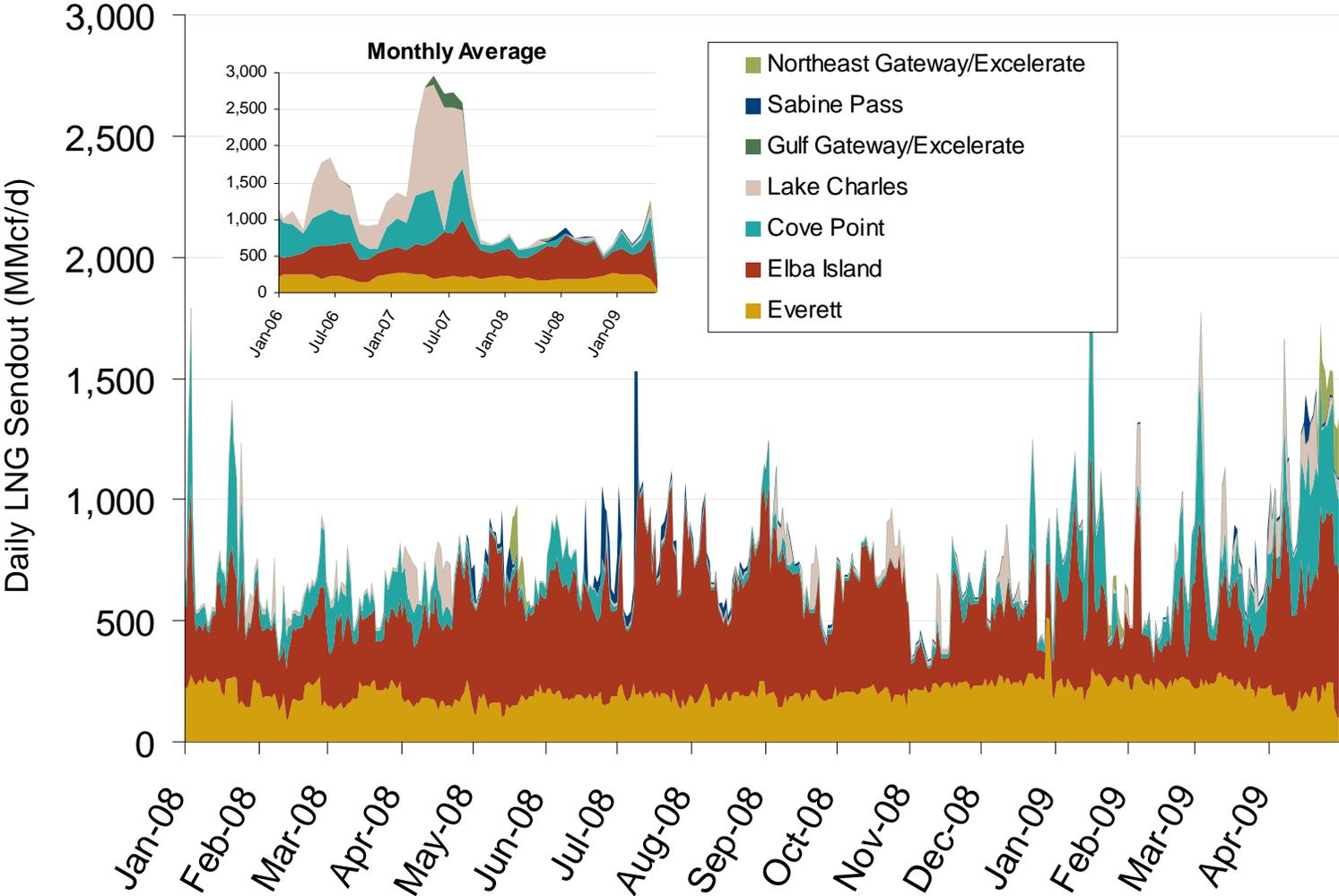
Source: Derived from *Bloomberg* and *ICE* data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

World LNG Estimated May 2009 Landed Prices

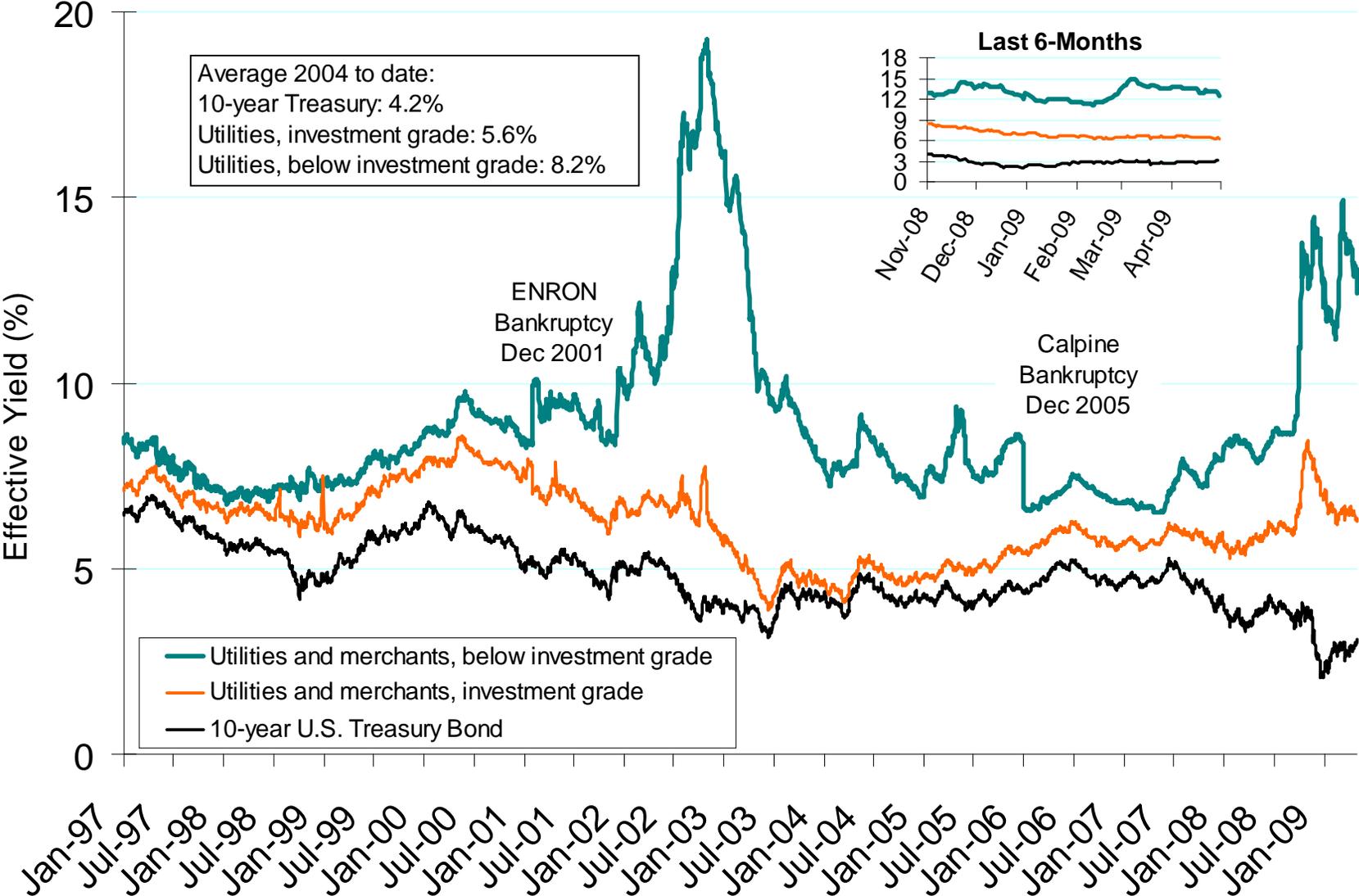


Daily Gas Sendout from Existing U.S. LNG Facilities



Source: Derived from *Bentek* data. Excludes Everett LNG delivered via truck and consumed by the Mystic plant as well as Freeport LNG which flows via intrastate pipelines.
 May 2009 Midwest Snapshot Report

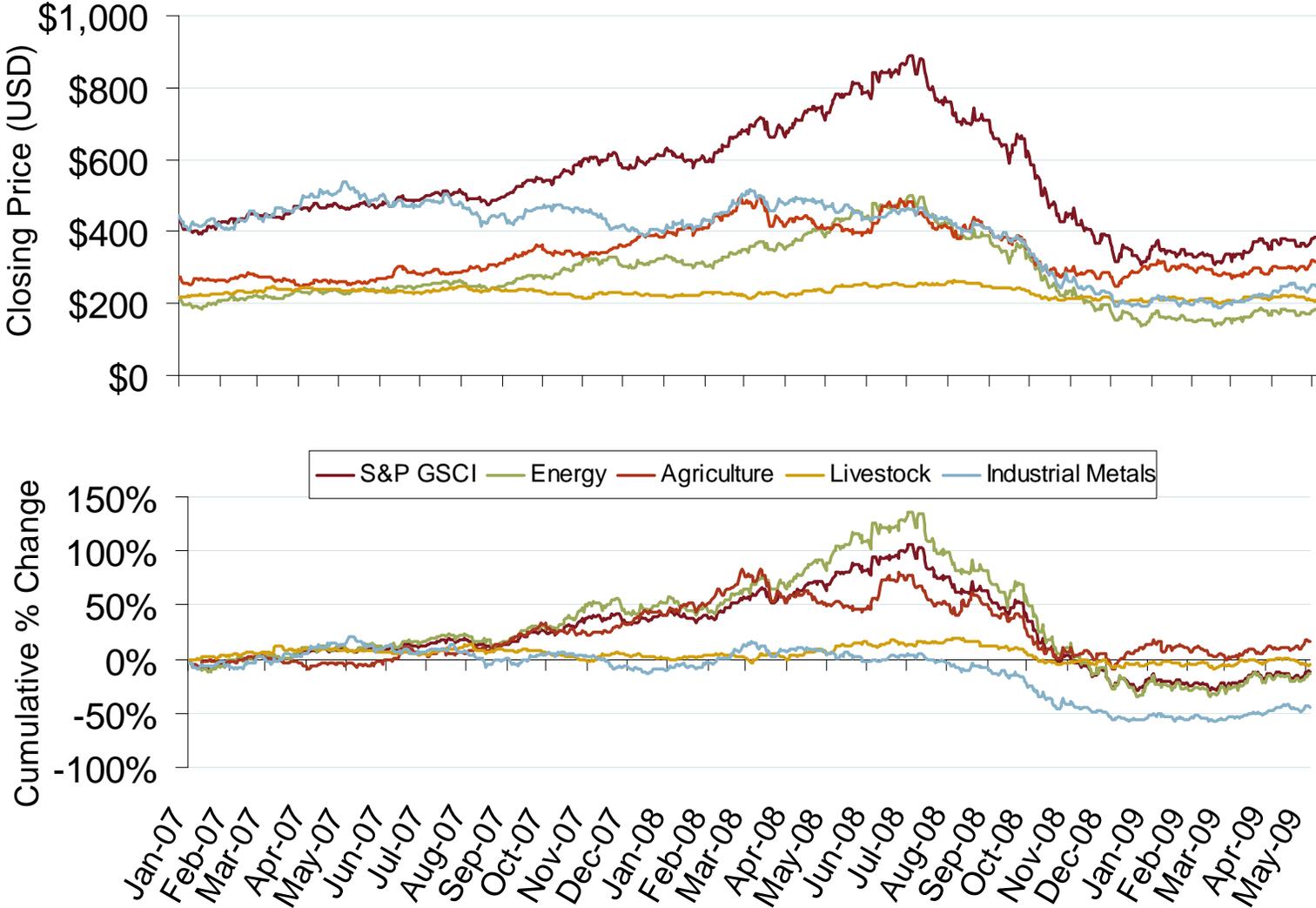
Yields of Utilities, Merchants and Ten Year Treasury Bonds



Source: Derived from Merrill Lynch Index U.S Corporates, Gas and Electric Utilities and Bloomberg data.
May 2009 Midwest Snapshot Report

Updated May 7, 2009

S&P Goldman Sachs Commodity Index Official Closing Price



Source: Bloomberg Data
May 2009 Midwest Snapshot Report

Updated May 7, 2009