OE ENERGY MARKET SNAPSHOT

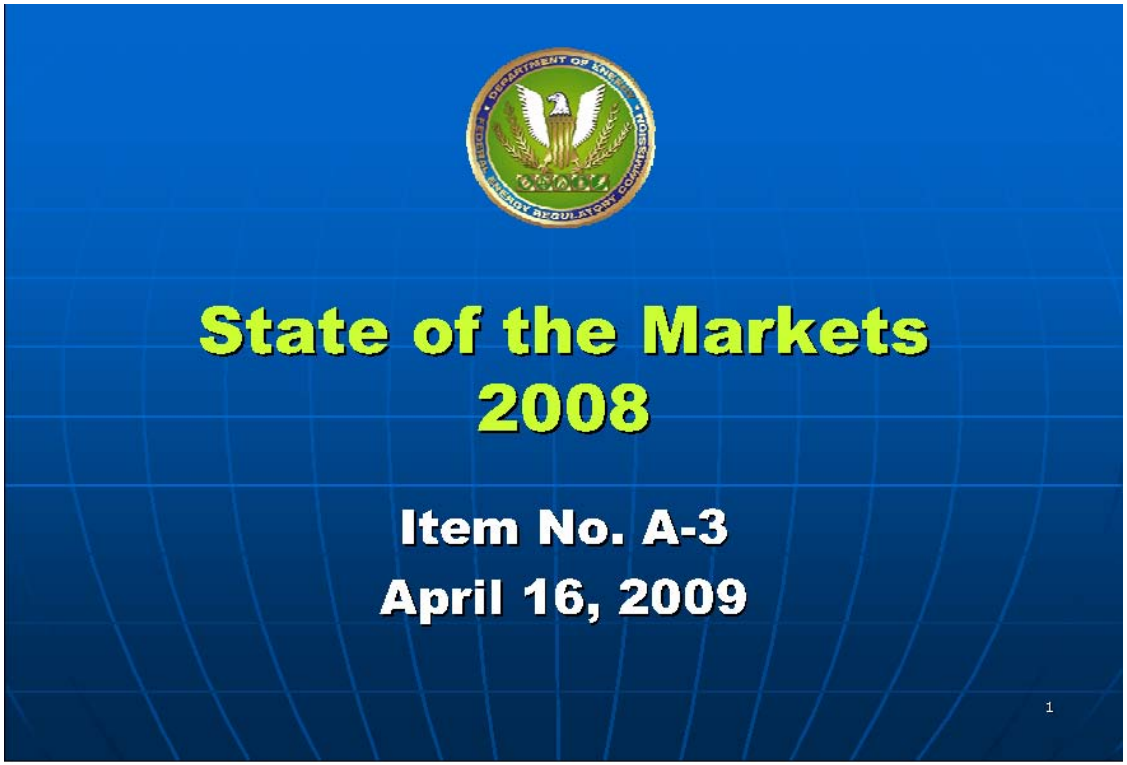
Mid-Atlantic States Version – April 2009 Data

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

Office of Enforcement
Federal Energy Regulatory Commission
May 2009

Special Report:

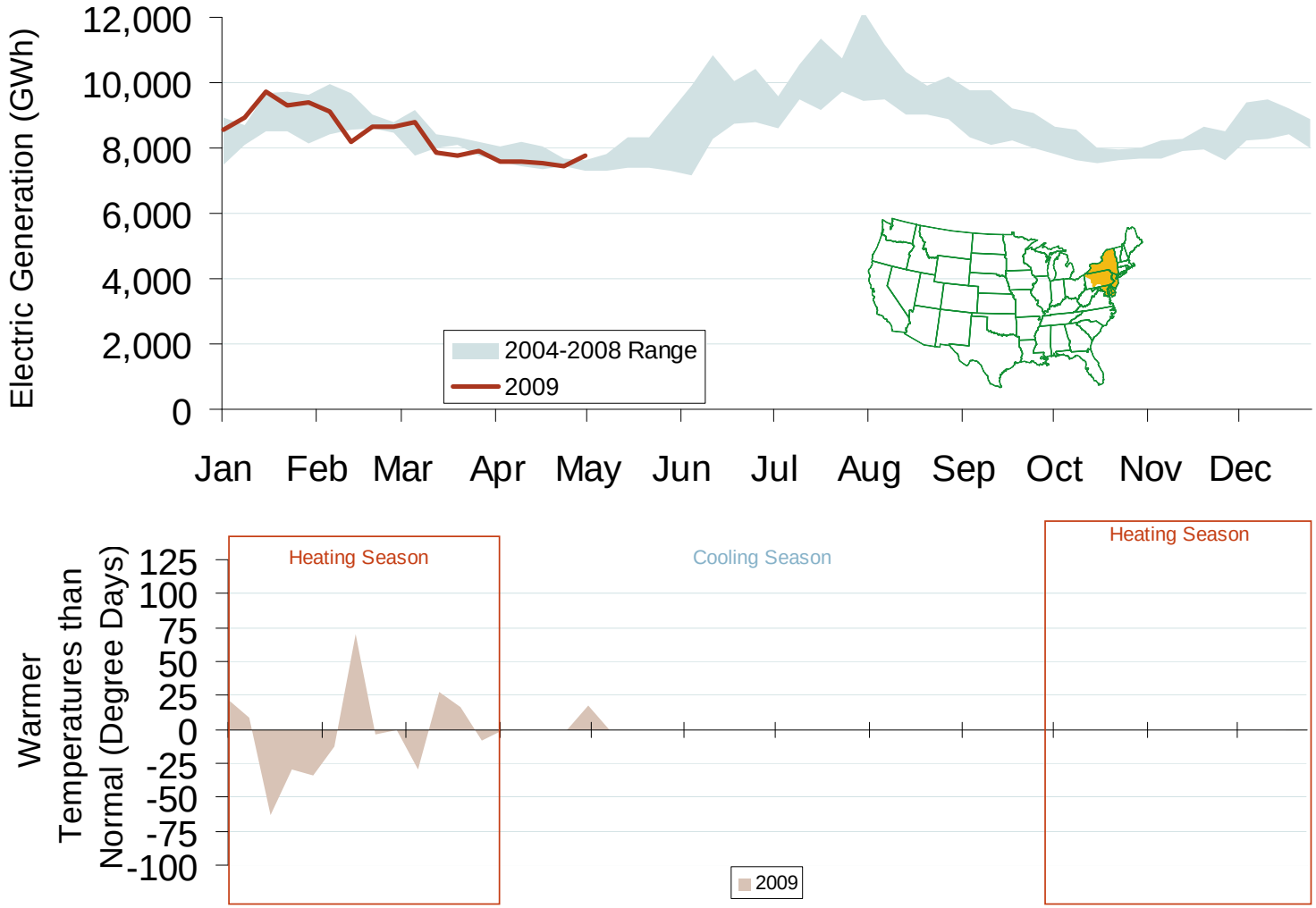
- **2008 State of the Markets Report**



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

Electricity Markets

Weekly Electric Generation Output and Temperatures Mid Atlantic Region

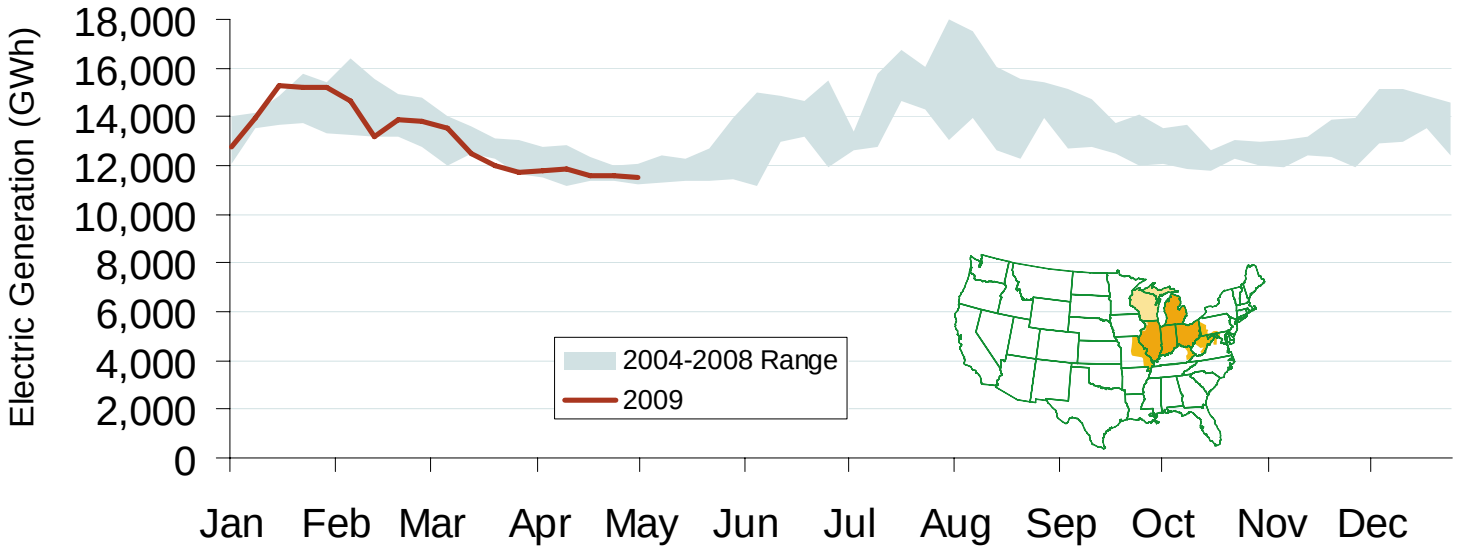


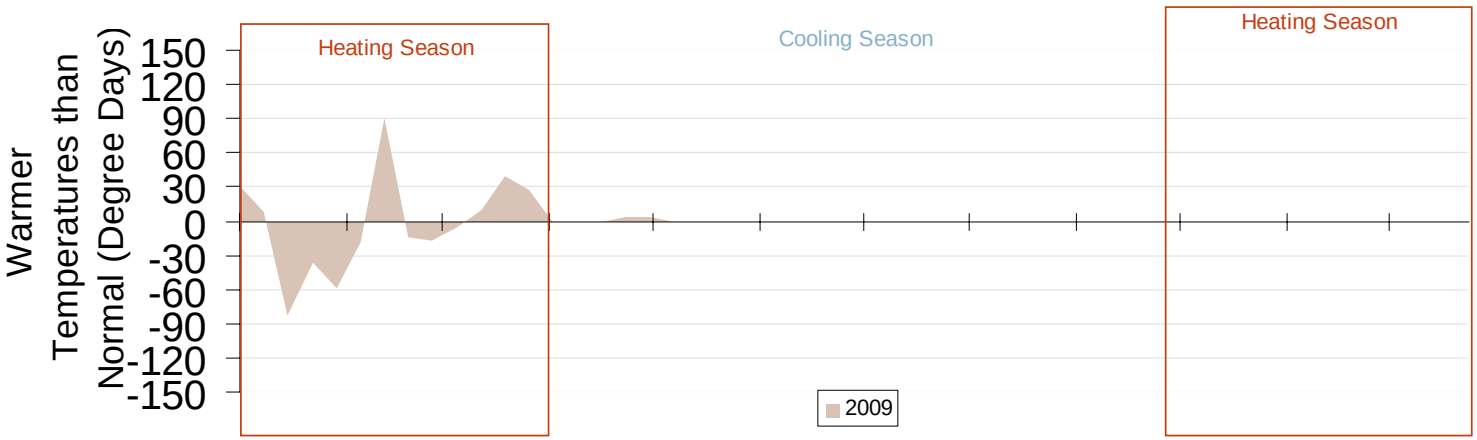
Source: Derived from *EEI* and *NOAA* data.

May 2009 Mid-Atlantic Snapshot Report

Updated May 7, 2009

Weekly Electric Generation Output and Temperatures Central Industrial Region





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

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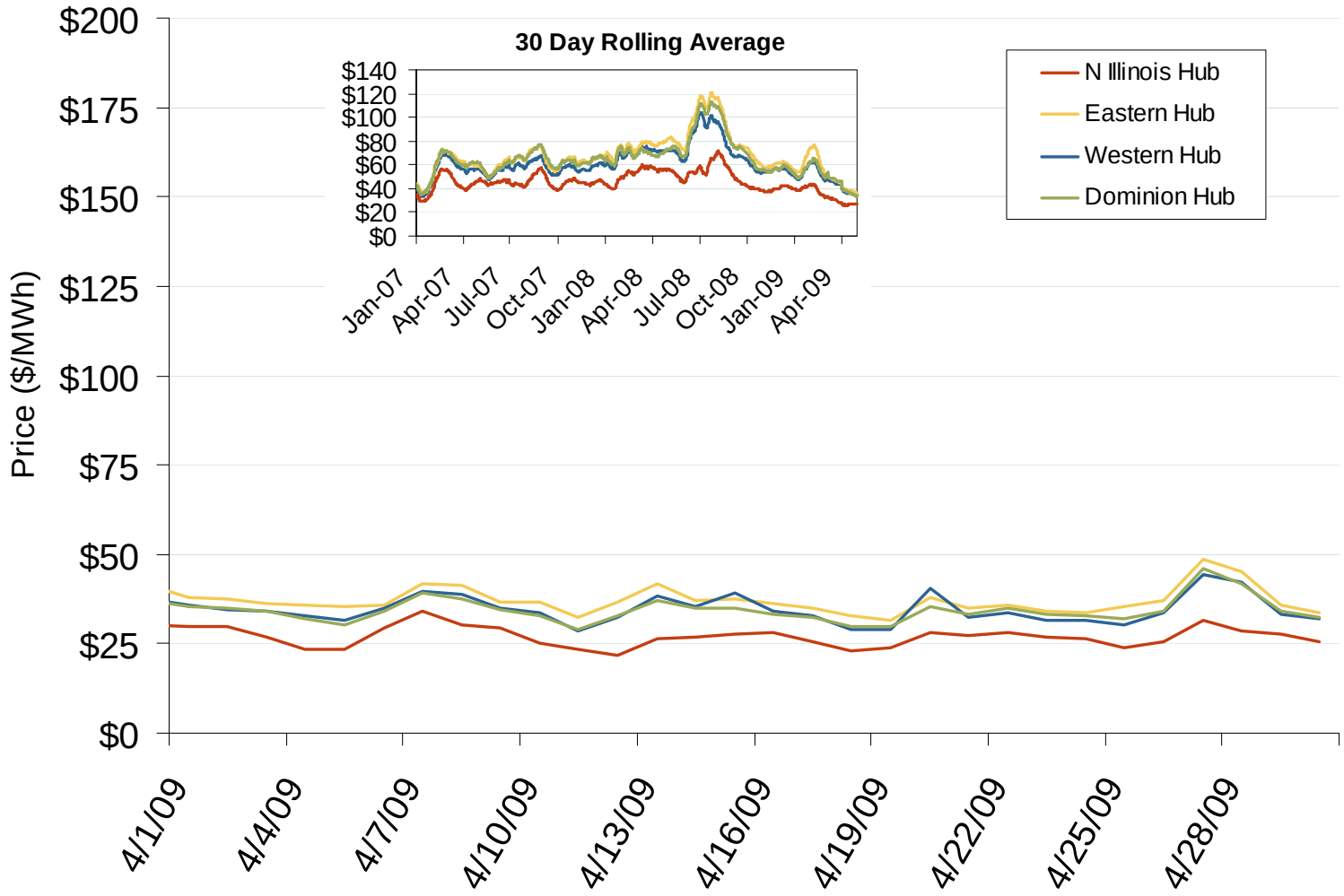
Daily Average of PJM Day-Ahead Prices - All Hours



Source: Derived by *Bloomberg* from *PJM* data as reported by *Bloomberg*.

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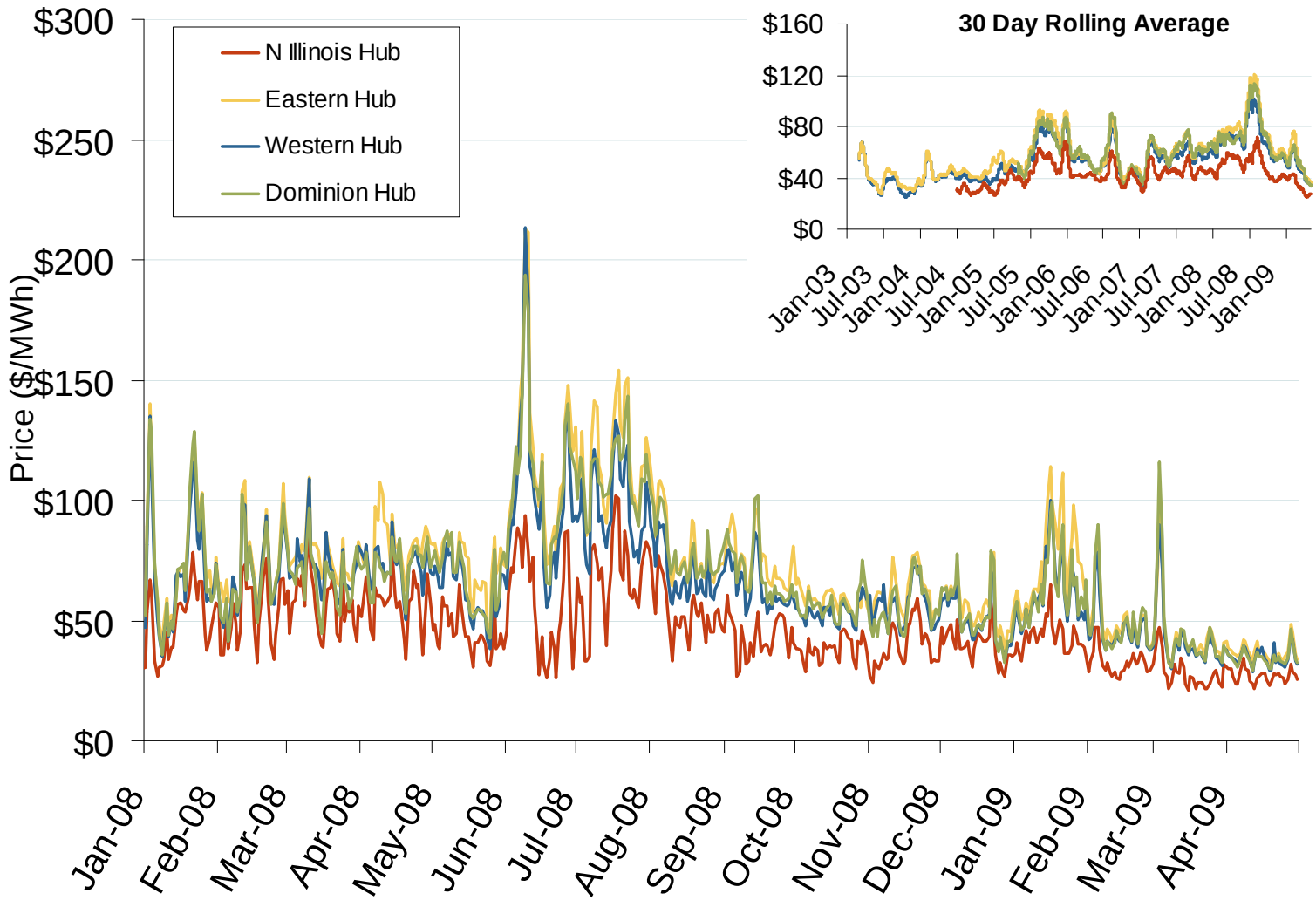
Daily Average of PJM Day-Ahead Prices - All Hours



Source: Derived by *Bloomberg* from *PJM* data as reported by *Bloomberg*.

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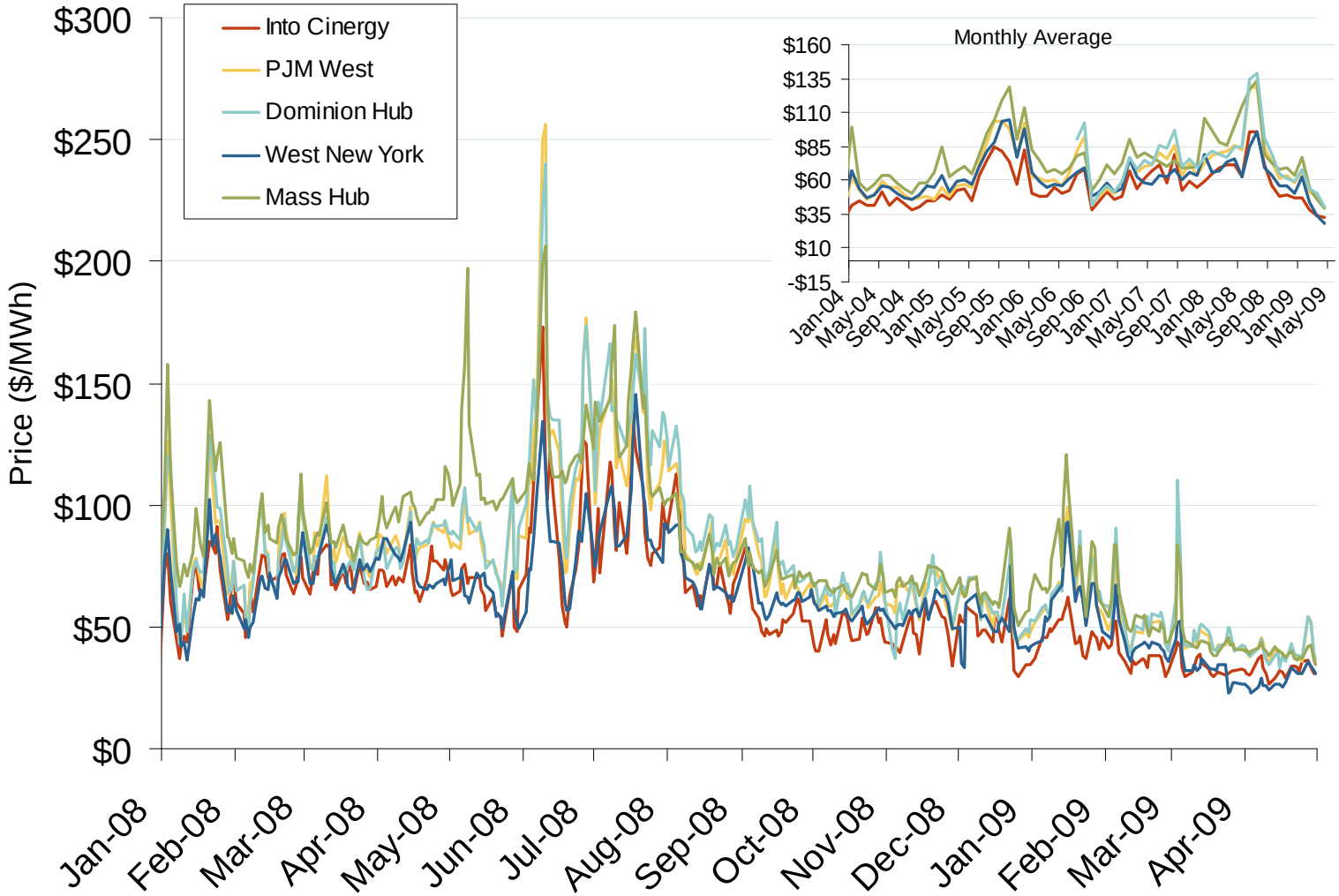
Eastern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

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Electric Pricing Points

Note: Pricing points reflect general locations. Actual trading regions may not be point specific.

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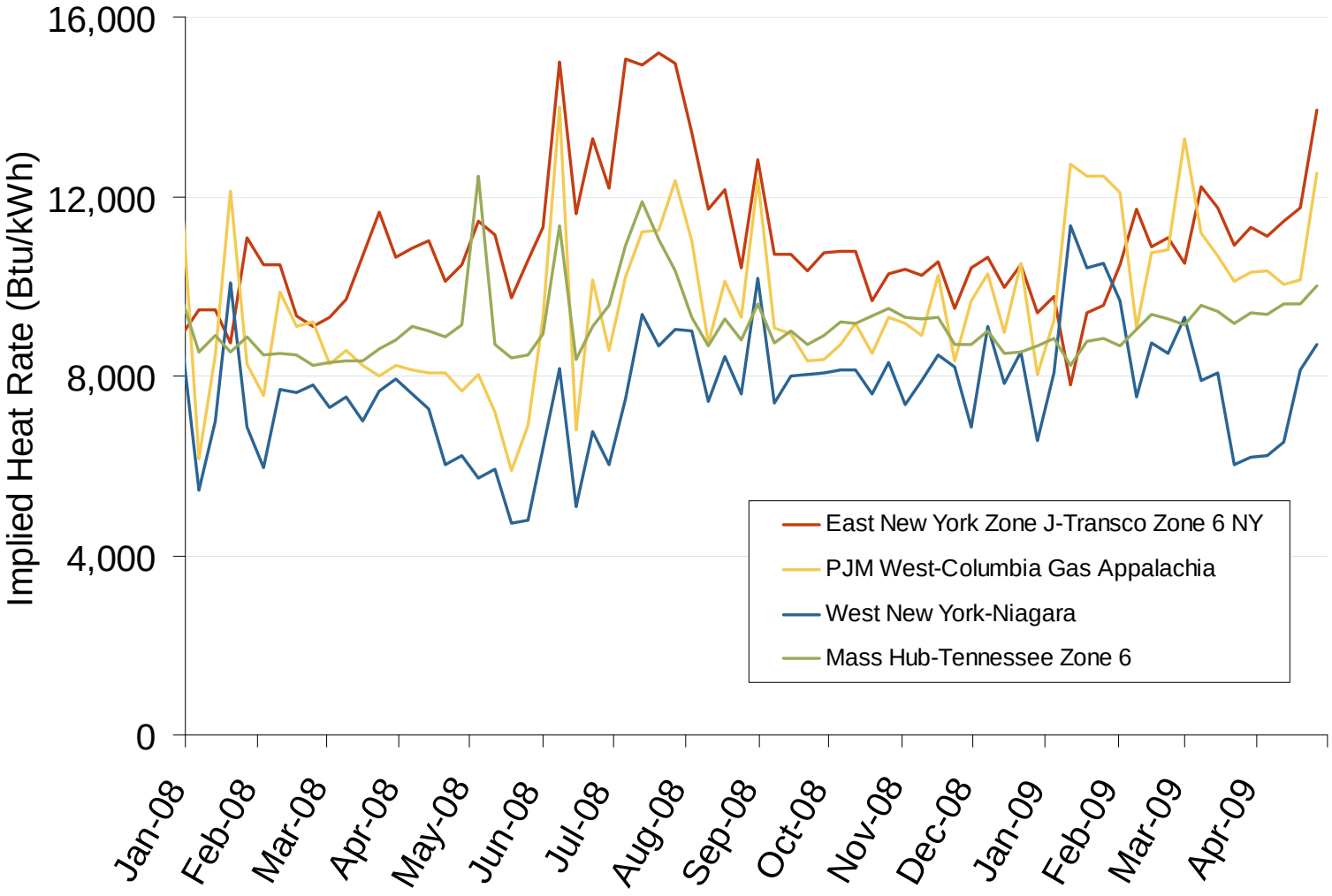
Implied Heat Rates at Eastern Trading Points
Weekly Averages



Source: Derived from *Platts* data

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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):

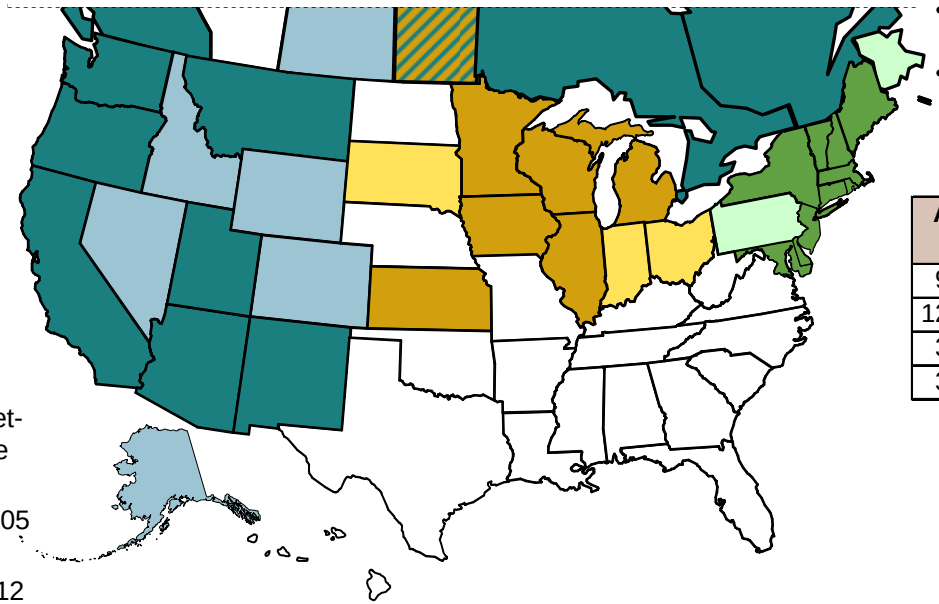
- Created February 2007
- Partners: 7 states, 4 provinces; Observers: 5 states, 1 province
- Announced its design for a market-based, *multi-sector* cap-and-trade program, Sept 2008:
  - 15% CO_2 reduction below 2005 levels by 2020
  - Phase I to take effect Jan 2012

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* CO_2 emissions.
- 10% CO_2 reduction by 2018 covers over 200 plants
- One allowance is the right to emit 1 ton of CO_2
- 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

- Participant in WCI
- Observer to WCI
- Participant in MGGRA
- Observer to MGGRA
- Participant in RGGI
- Observer to RGGI
- Participant in MGGRA & WCI

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

Updated April 27, 2009

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

ND: 10% by 2015
SD: 10% by 2015
NE: studying an RPS
KS: Goal - 20% wind by 2020
OK: Studying an RPS

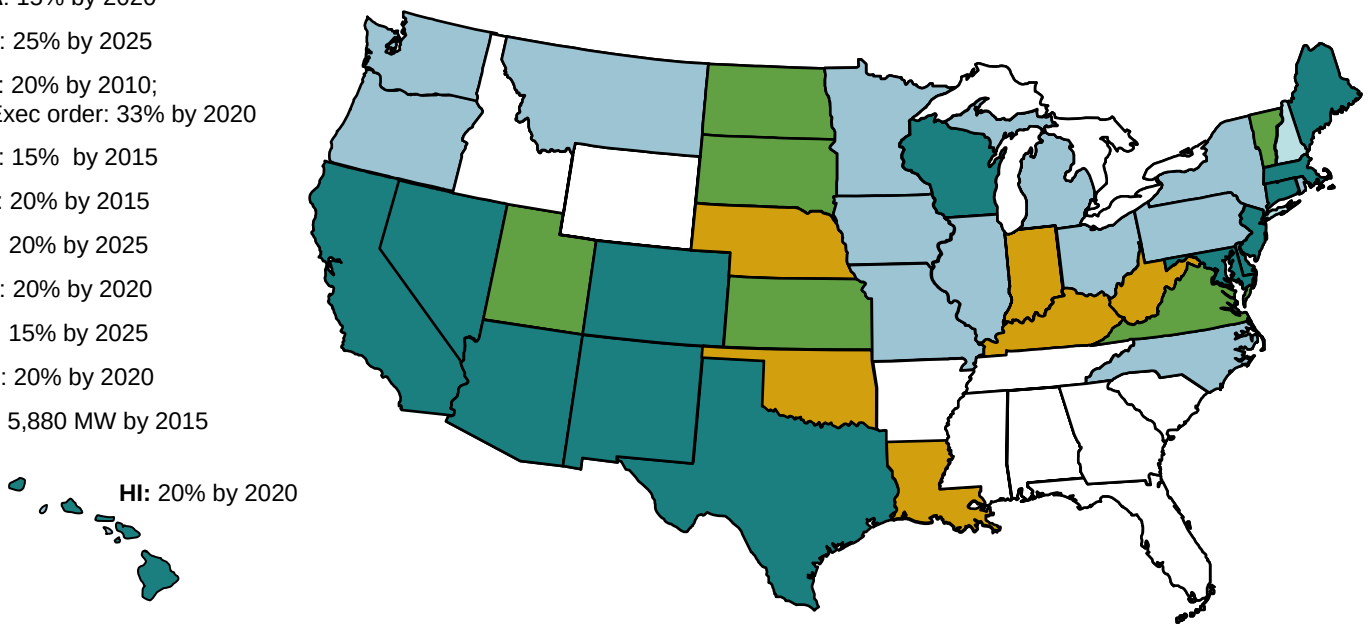
MN: 25% by 2025
IA: 105 MW
MO: 15% by 2021
WI: 10% by 2015
IL: 25% by 2025

MI: 10% MWh and 1,100 MW by 2015
IN: different bills pending
OH: 12.5% by 2025
WV: 25% by 2025 (bill pending)
KY: Report recommends RPS

ME: 40% by 2017
NH: 23.8% by 2025
VT: 25% by 2025
MA:15% by 2020
RI: 16% by end 2019
CT: 27% by 2020
NY: 25% by 2013
PA: 18% by 2020
NJ: 22.5% by 2020
DE: 20% by 2019
DC: 20% by 2020
MD: 20% by 2022
VA: 12% by 2022
NC: 12.5% by 2021
TVA: 50% by 2020*

WA: 15% by 2020
OR: 25% by 2025
CA: 20% by 2010;
Exec order: 33% by 2020
MT: 15% by 2015
NV: 20% by 2015
UT: 20% by 2025
CO: 20% by 2020
AZ: 15% by 2025
NM: 20% by 2020
TX: 5,880 MW by 2015

HI: 20% by 2020



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

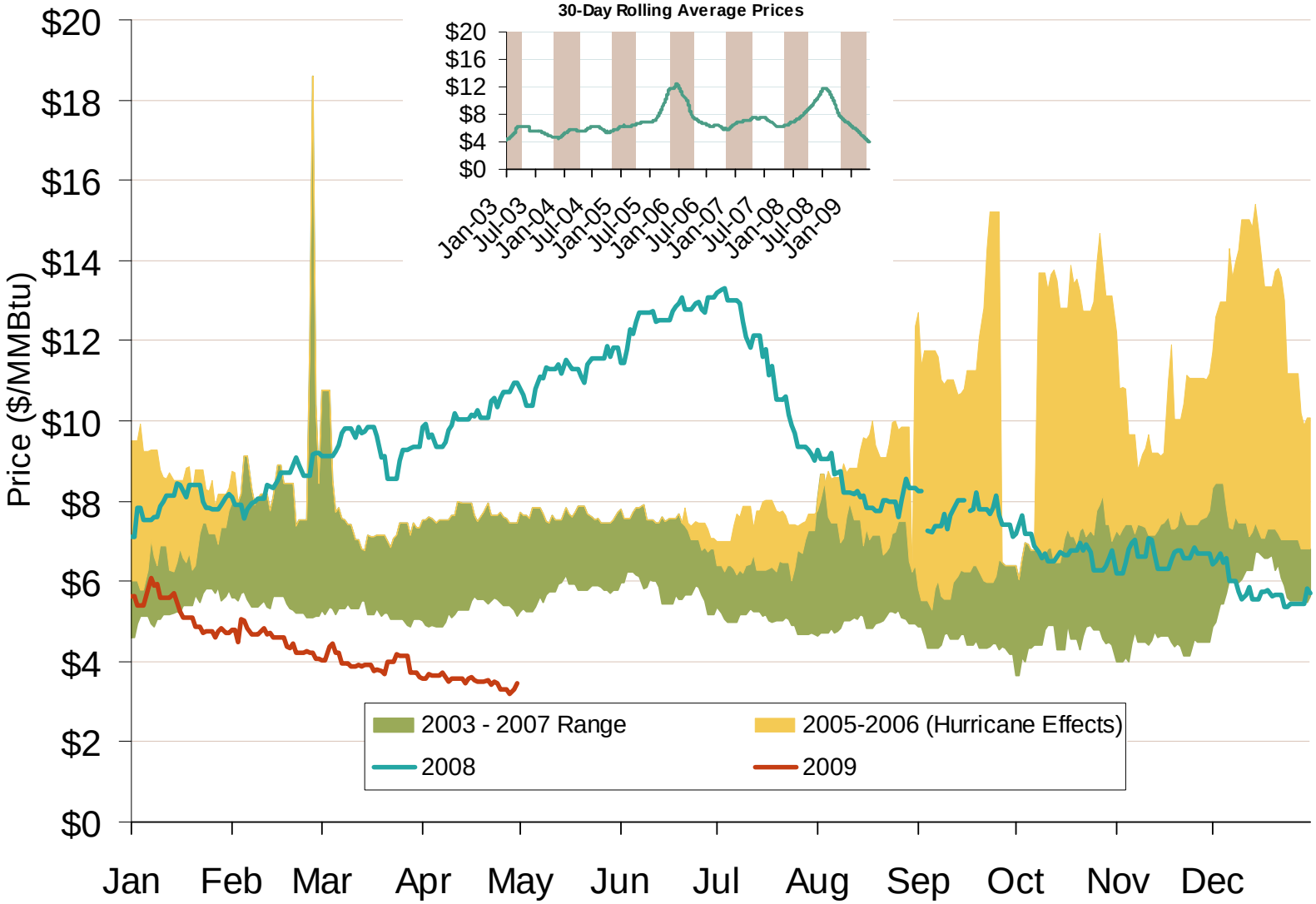
RPS
Accelerated or strengthened RPS
Voluntary standards or goals
Proposed RPS or studying RPS

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

Updated May 6, 2009

Natural Gas and Fuel Markets

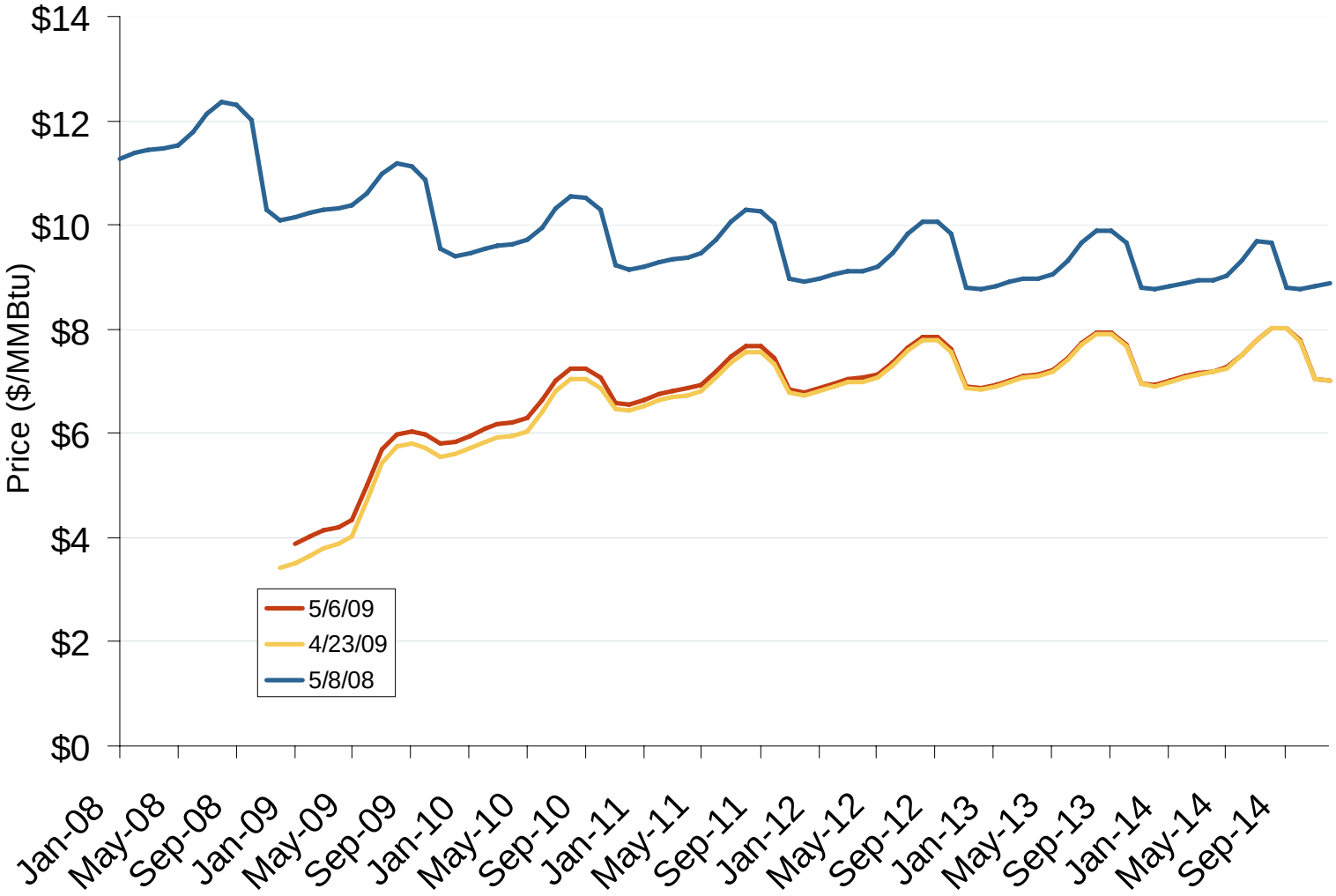
Henry Hub Natural Gas Daily Spot Prices 2008, 2009 and 2003-2007 Year Range



Source: Derived from *Platts* data.

Updated May 7, 2009

NYMEX Natural Gas Forward Price Curve



Source: Derived from *NYMEX* data.

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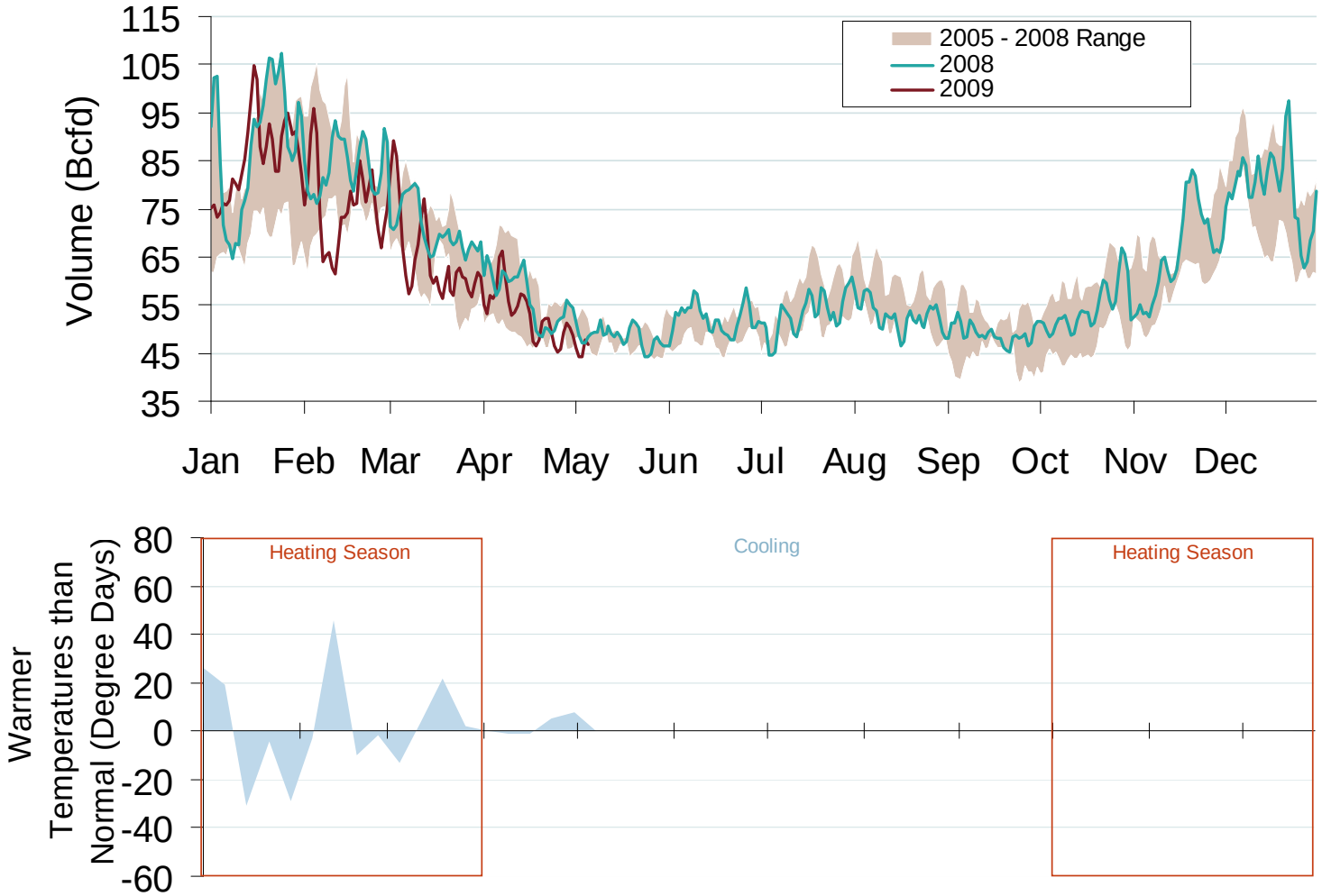
Total U.S. Natural Gas Demand (All Sectors) and Temperatures



Source: Derived from *Bentek Energy* data.

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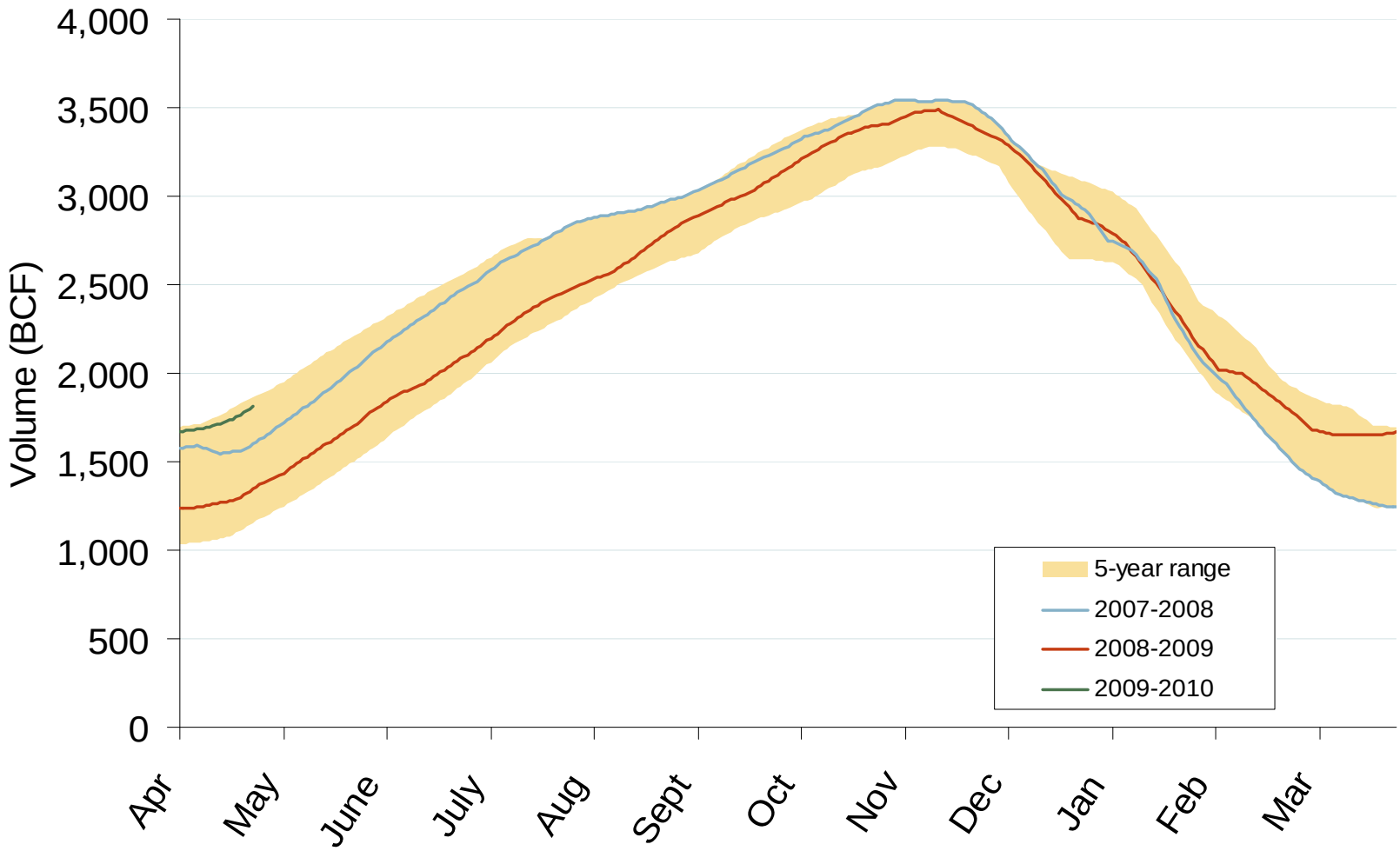
Total U.S. Working Gas in Storage



Source: Derived from *EIA* data.

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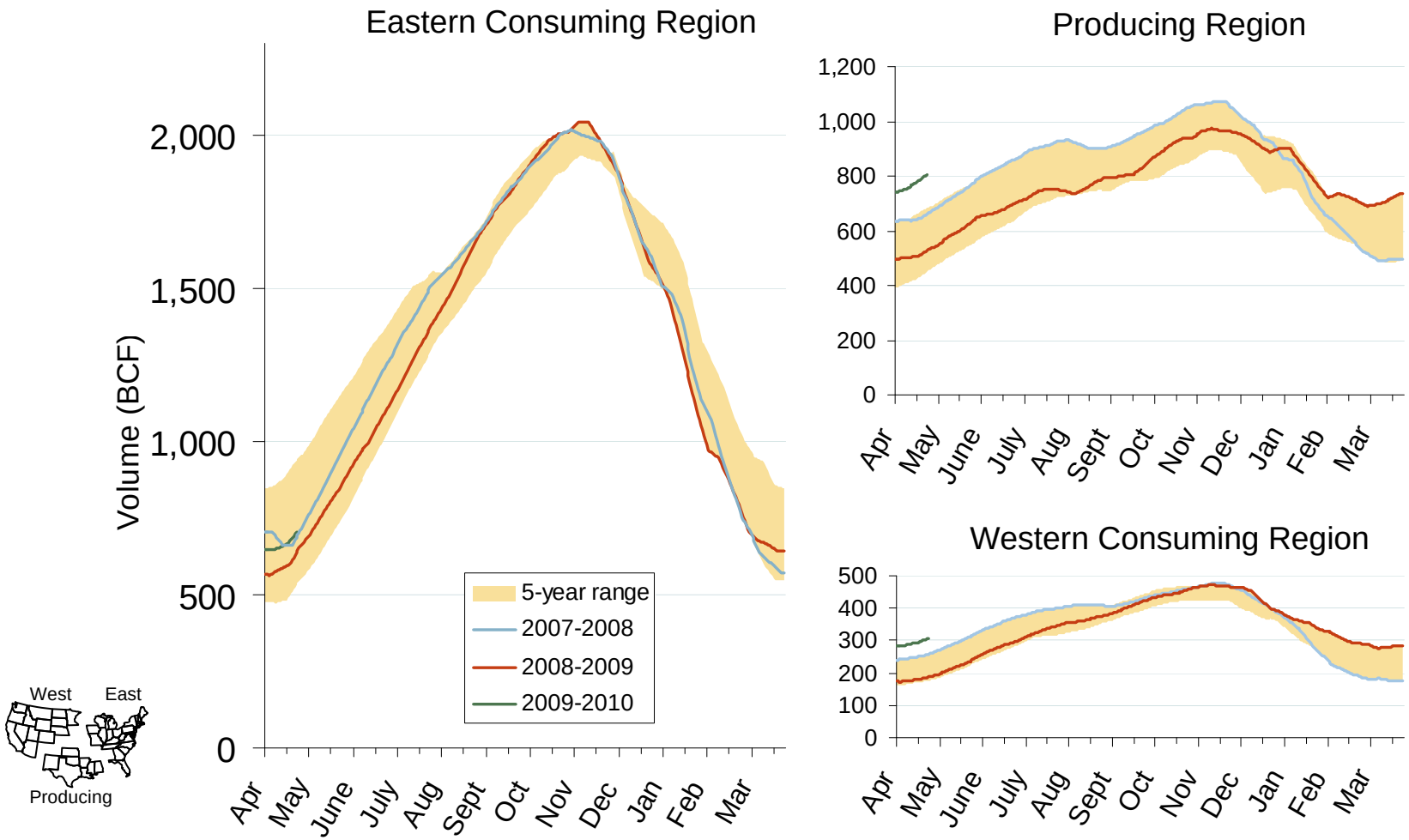
Regional Totals of Working Gas in Storage



Source: Derived from *EIA* data.

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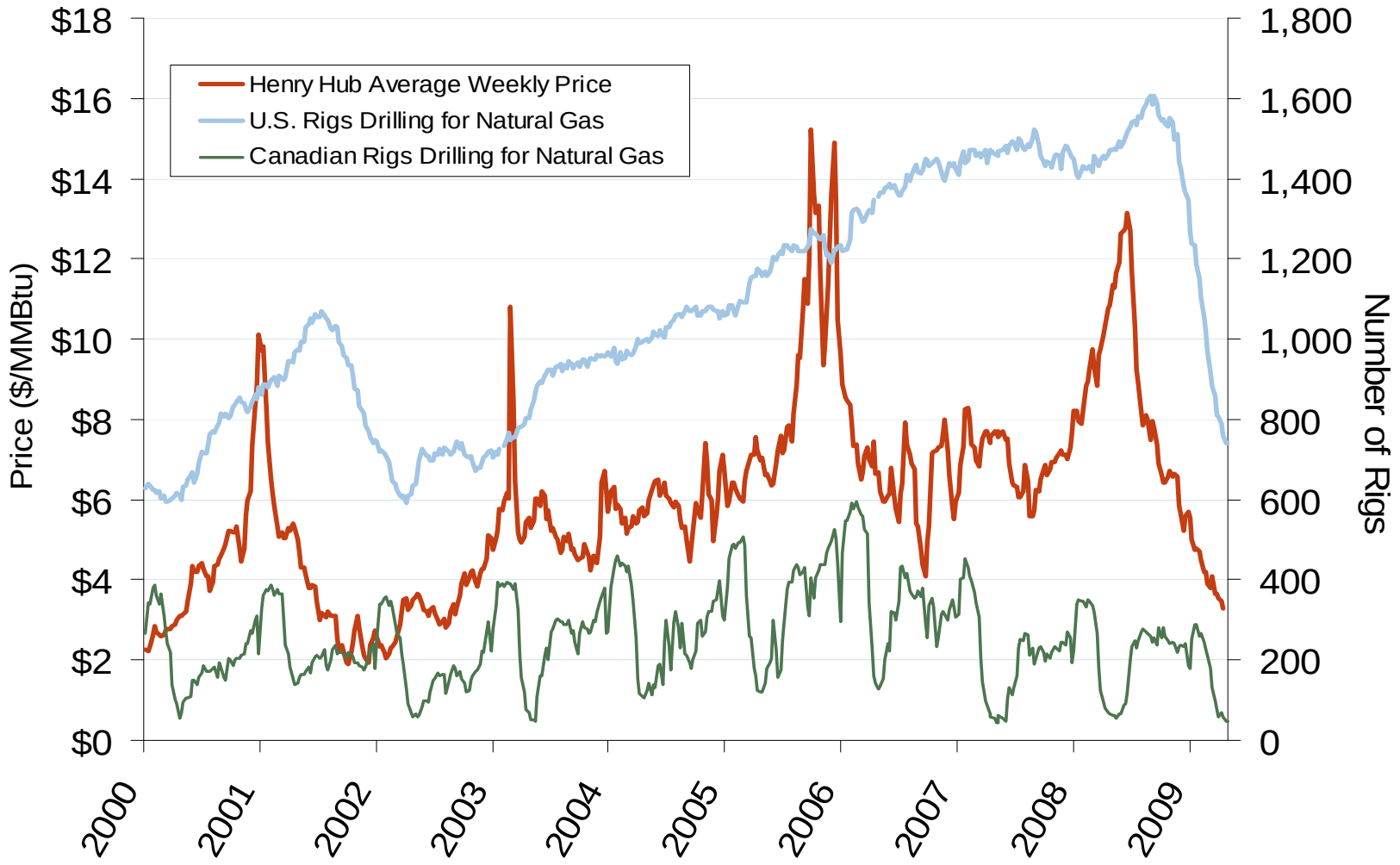
U.S. and Canadian Natural Gas Drilling Rig Count and Daily Spot Prices



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

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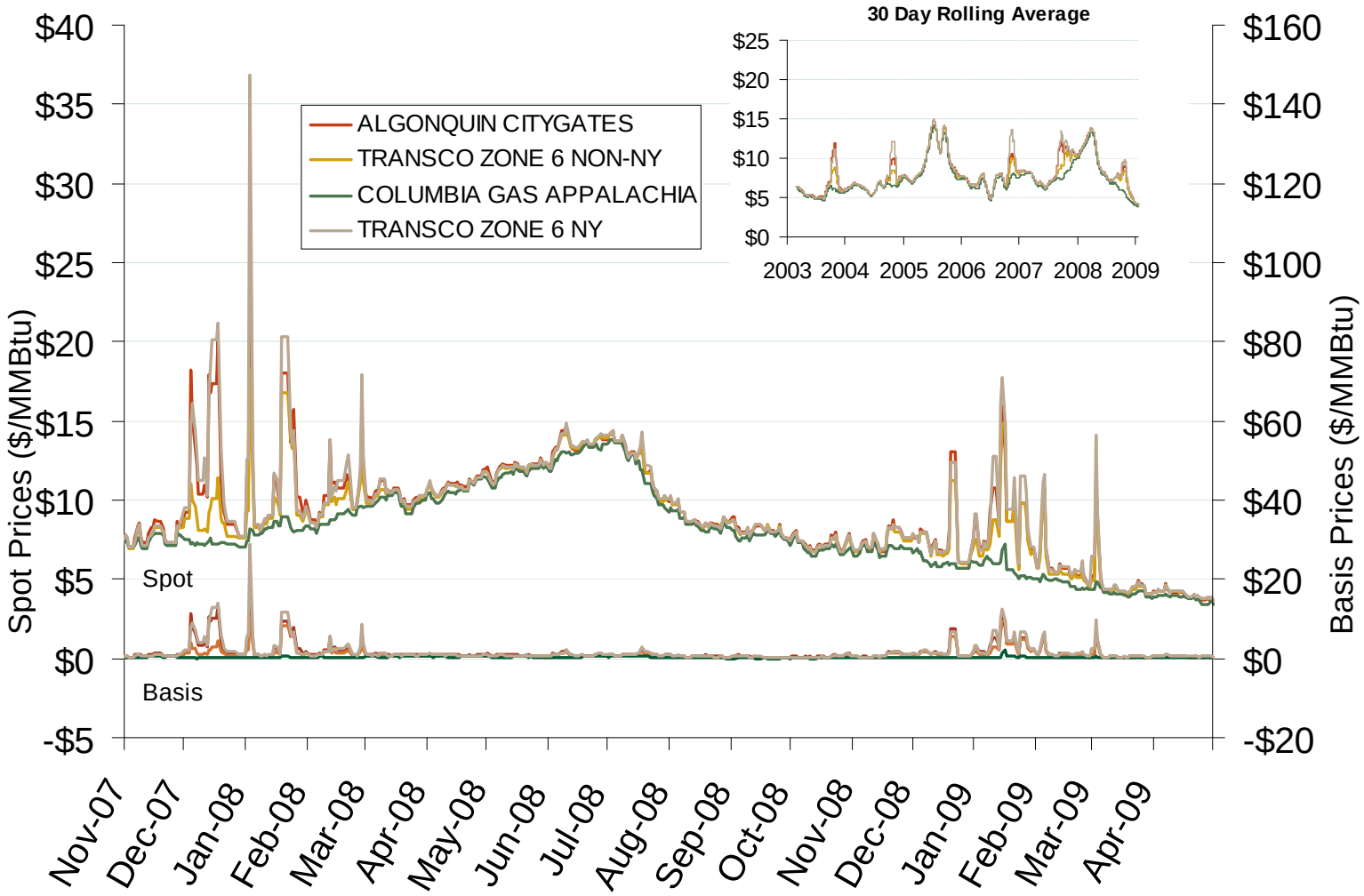
Northeastern Spot Prices and Basis



Source: Derived from *Platts* data.

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Gas Pricing Points

Note: Price Points reflect general locations.

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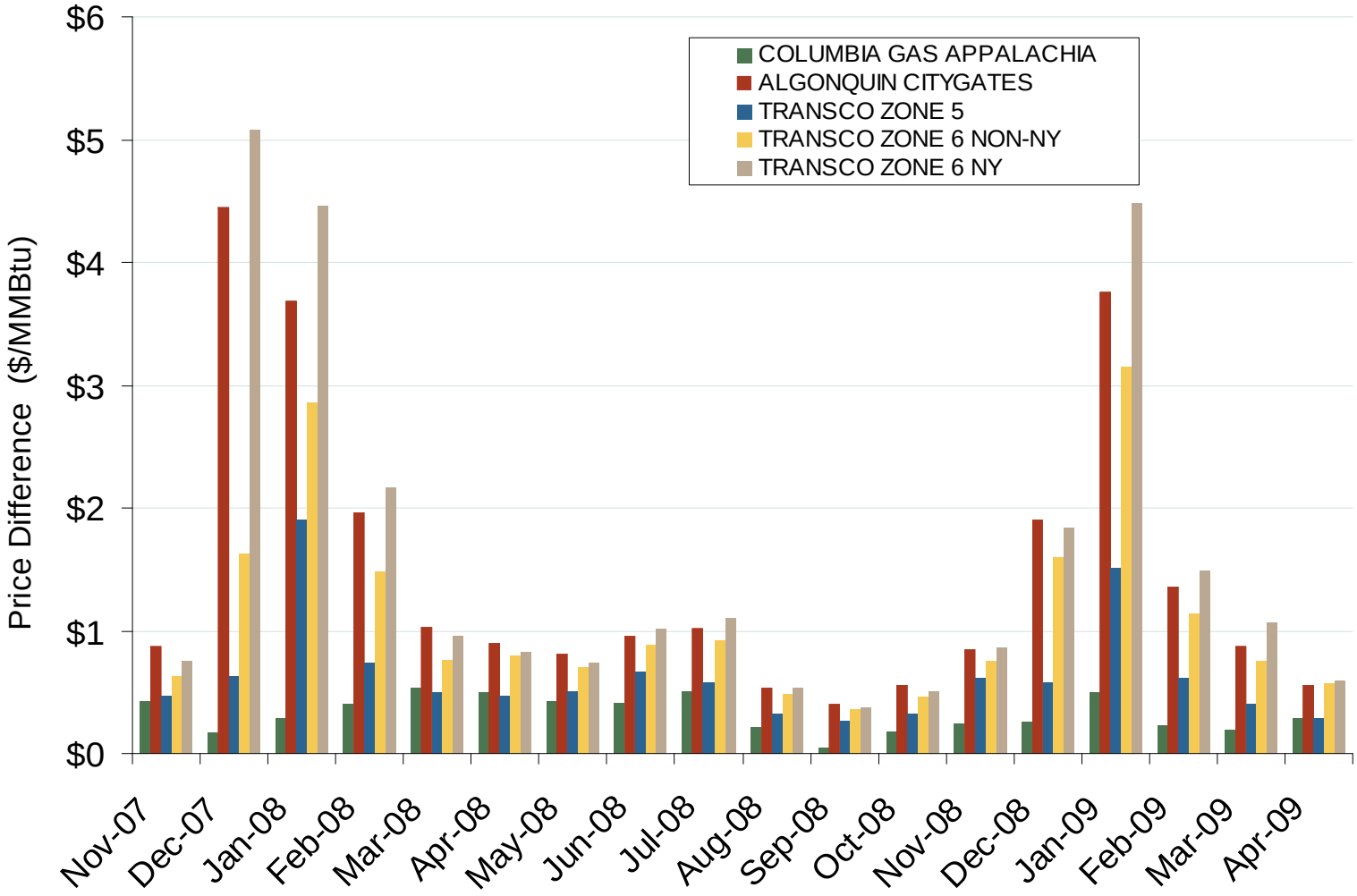
Northeastern Monthly Average Basis Value to Henry Hub



Source: Derived from *Platts* data.

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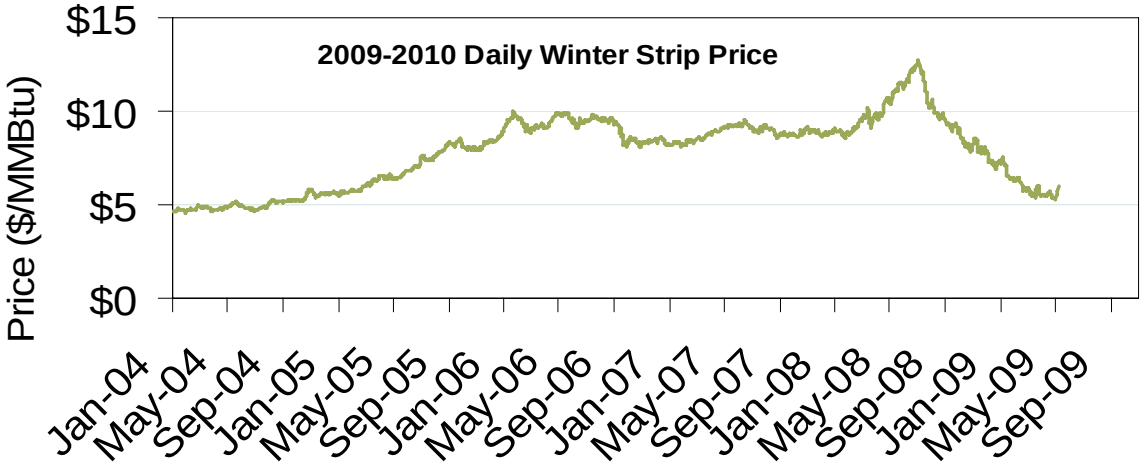
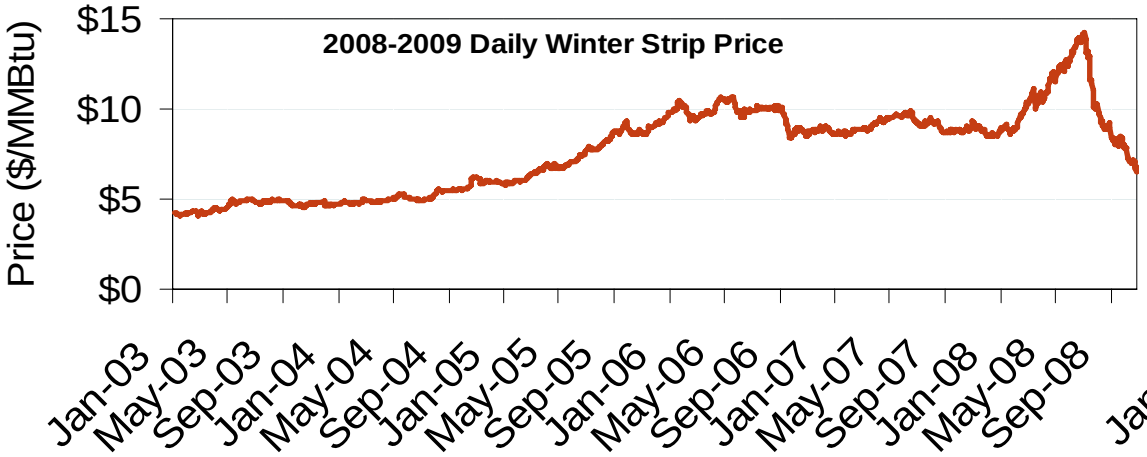
Natural Gas Winter Futures Strip and Daily Henry Hub Spot and Bidweek Prices





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

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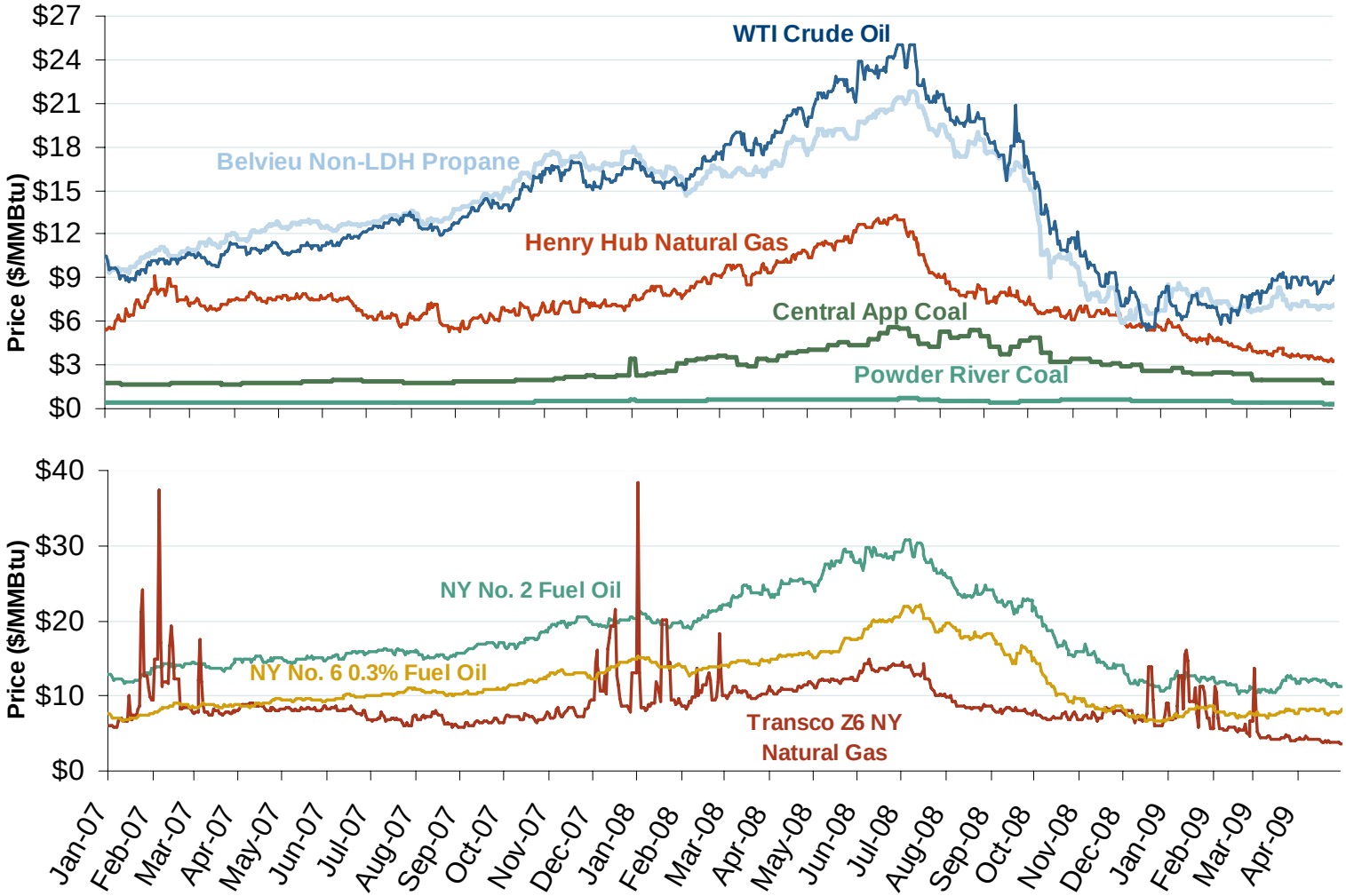
Oil, Coal, Natural Gas and Propane Daily Spot Prices



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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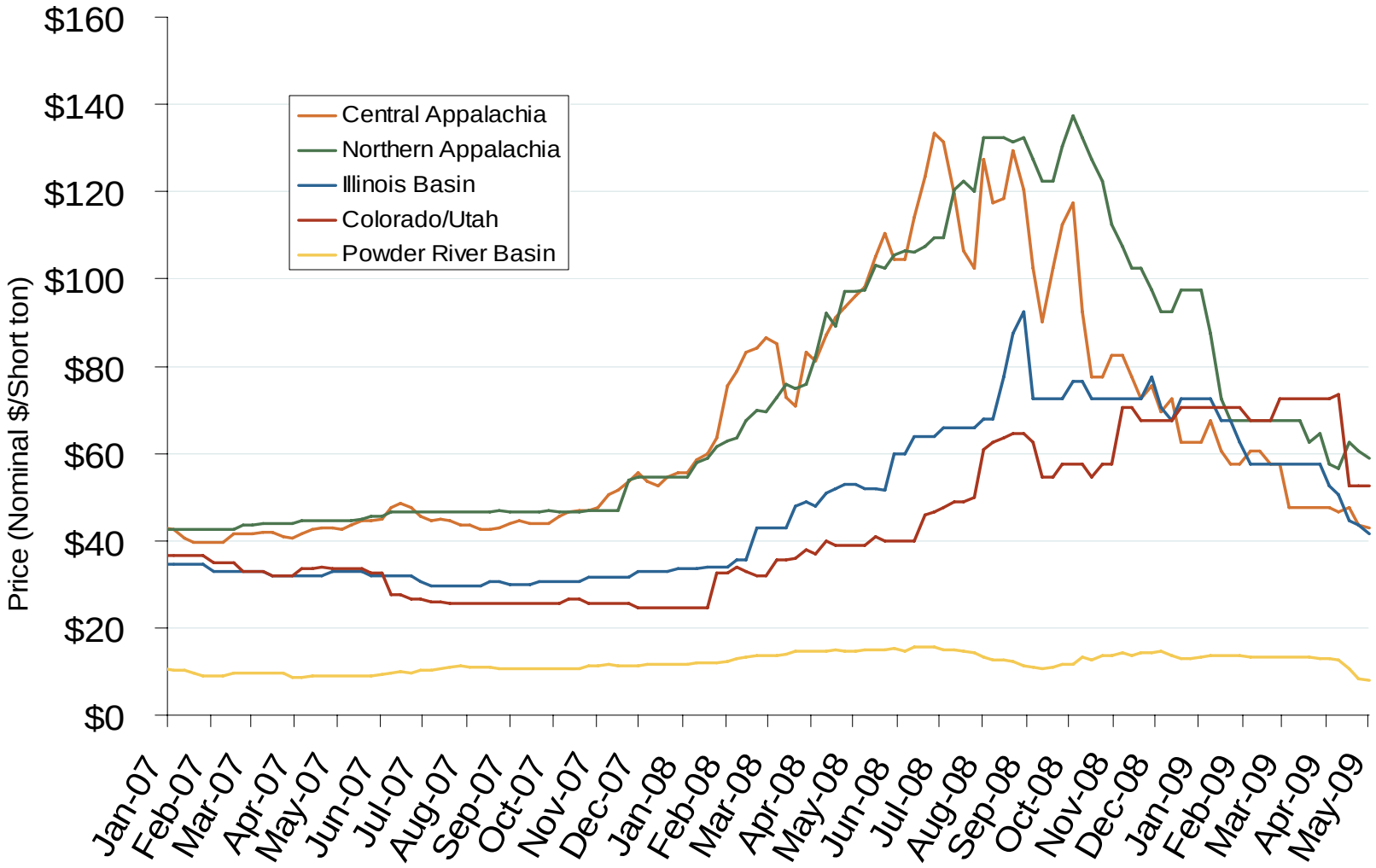
Regional Coal Spot Prices



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

Source: Derived from *Bloomberg* data.

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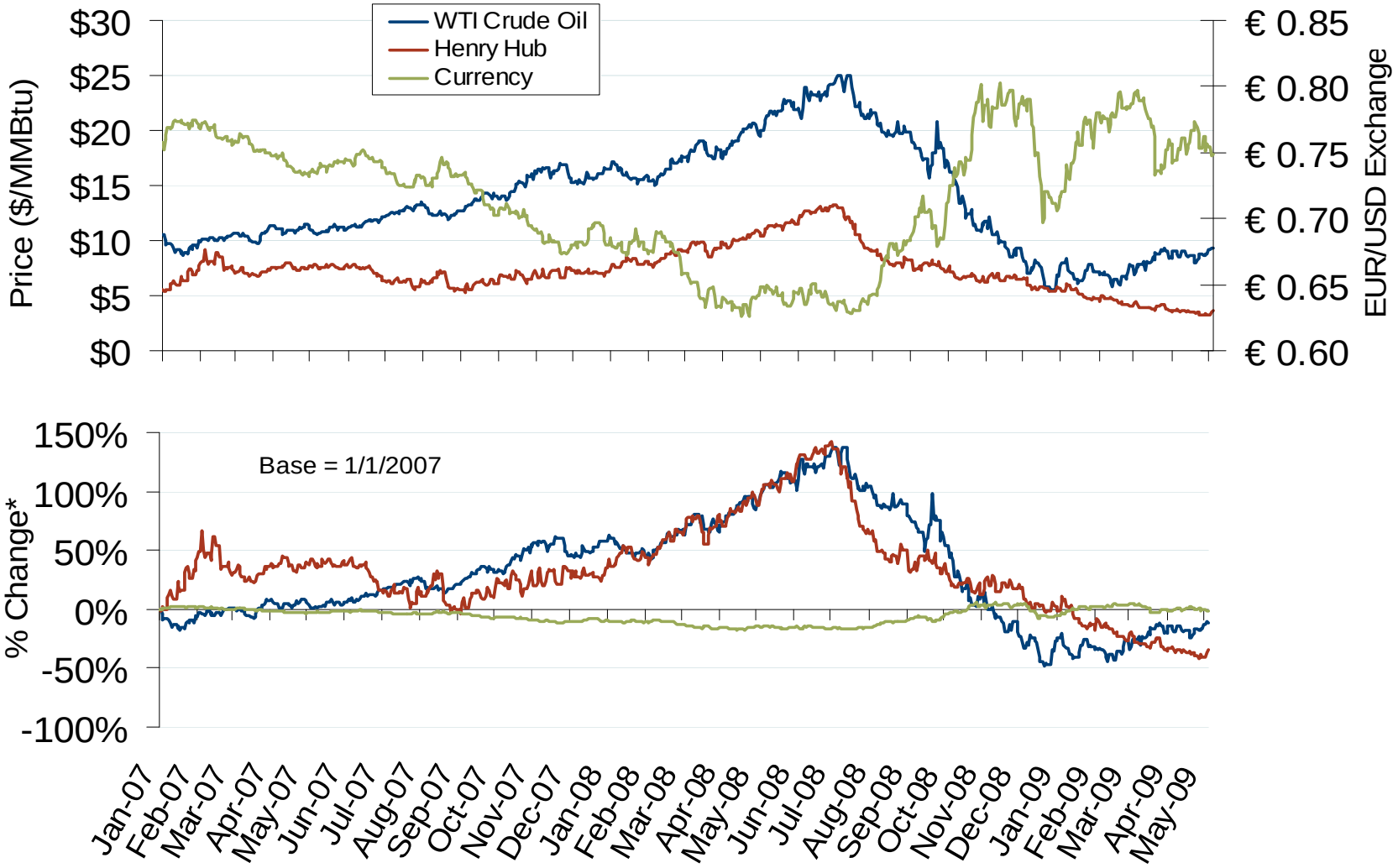
Oil, Natural Gas and Currency Spot Prices



Source: Derived from *Bloomberg* data.

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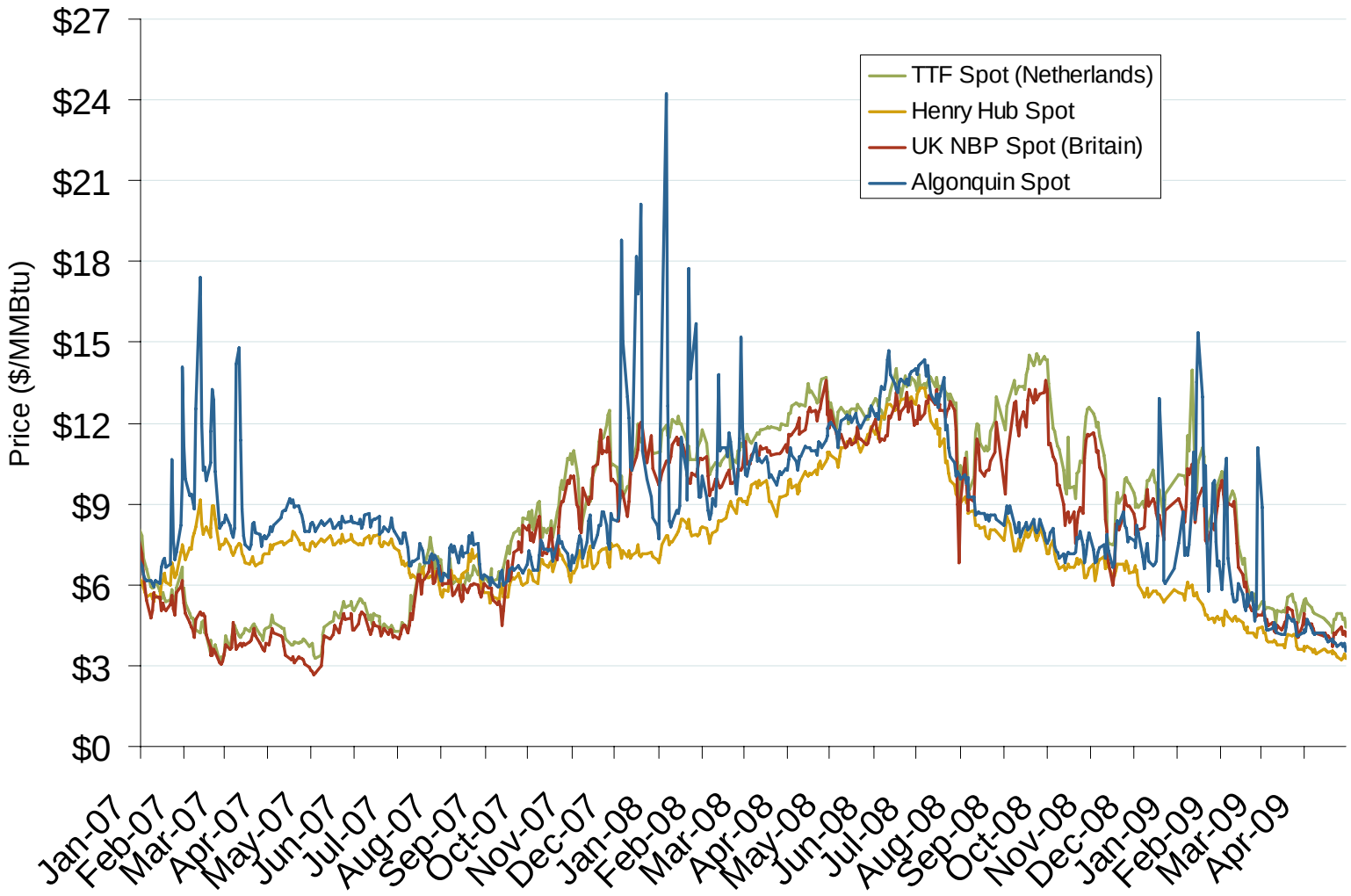
Atlantic Basin European and US Spot Natural Gas Prices



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

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World LNG Estimated May 2009 Landed Prices

Source: *Waterborne Energy, Inc.* Data in $US/MMBtu.
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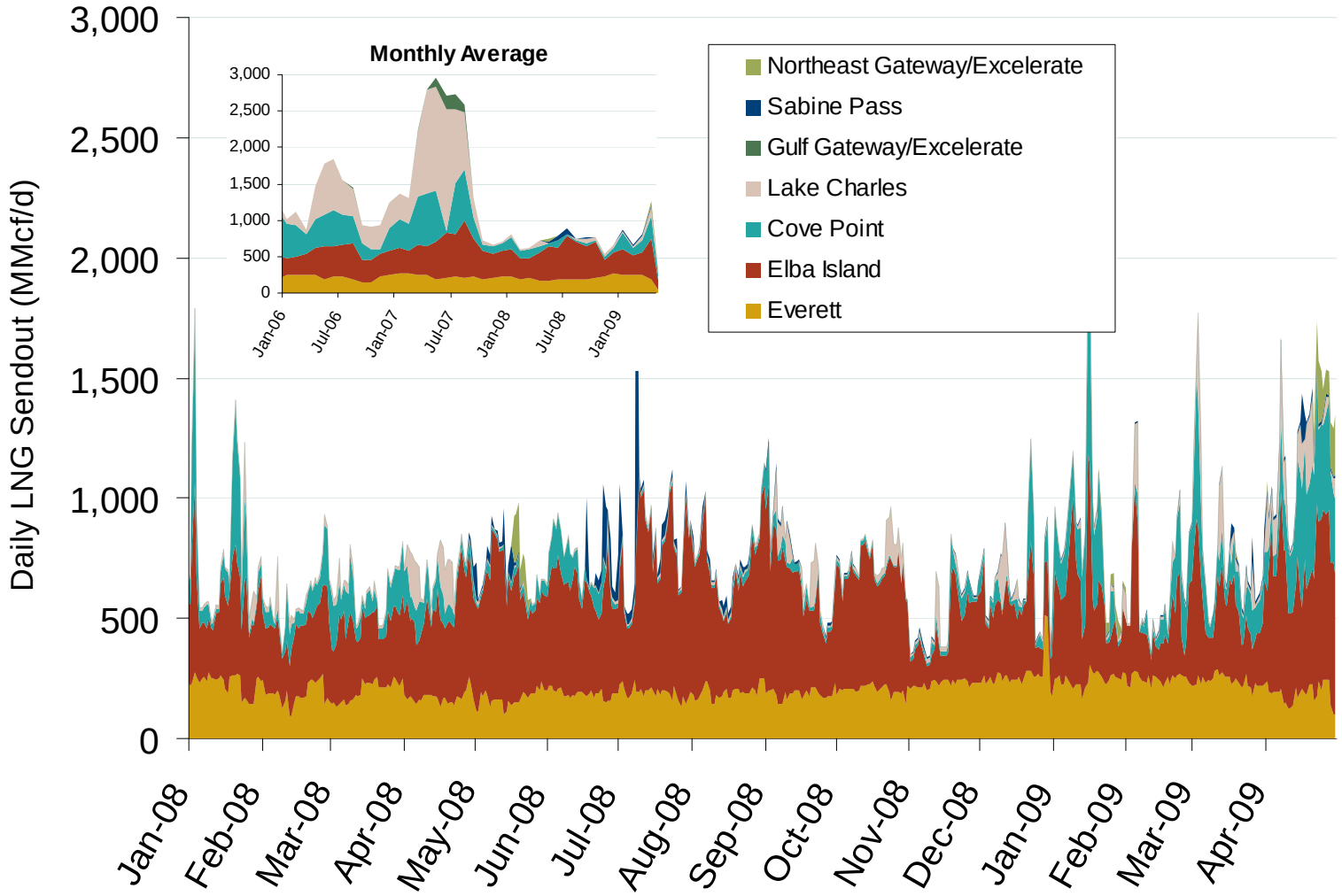
Daily Gas Sendout from Existing U.S. LNG Facilities



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.

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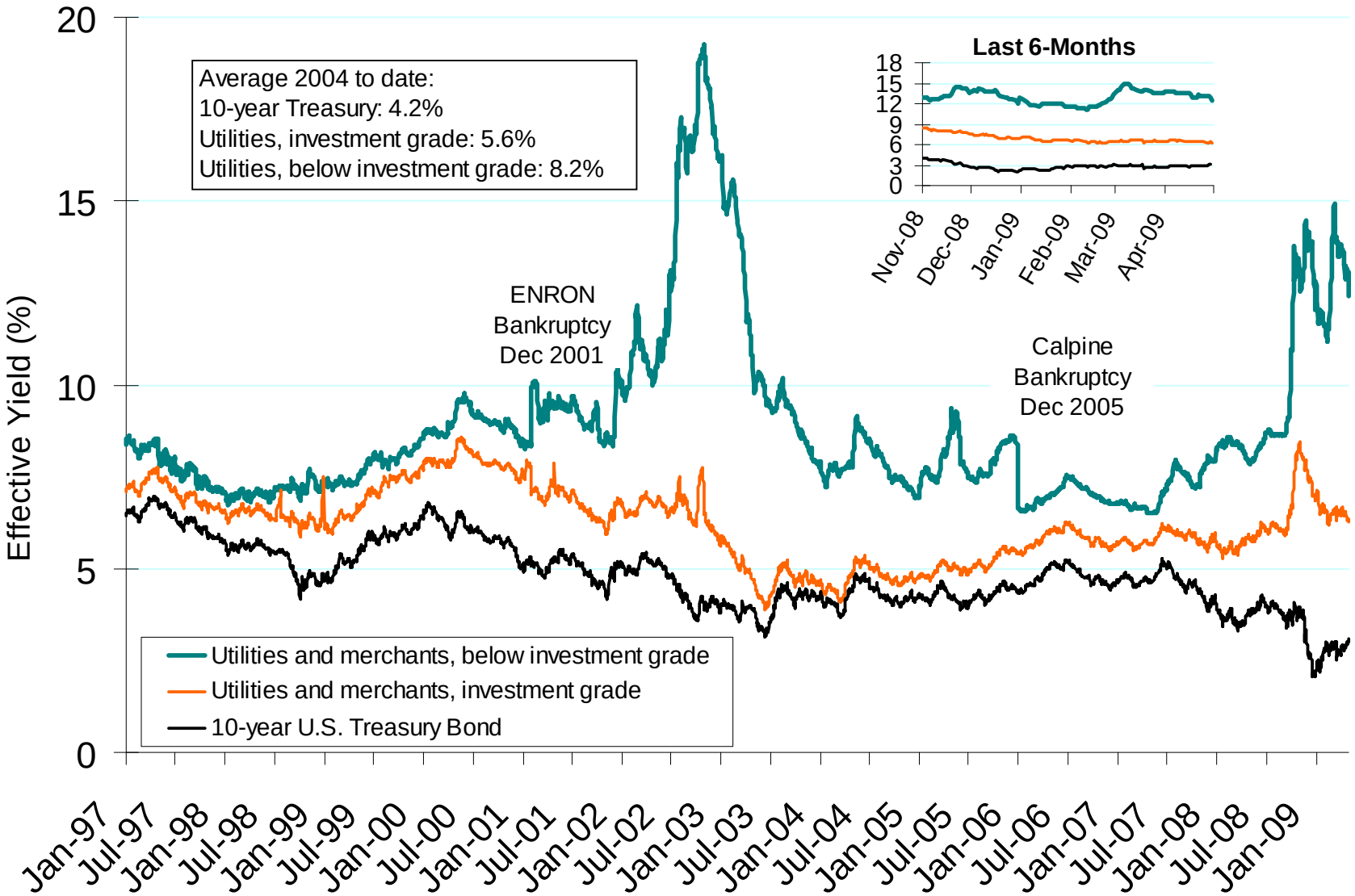
Financial Markets: Comparative Bond Yields

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

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.

Updated May 7, 2009