

# OE ENERGY MARKET SNAPSHOT

## Western States Version – June 2008 Data

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- **Market Fundamentals**
- **Prices and Market Analysis**

Office of Enforcement  
Federal Energy Regulatory Commission  
July 2008



## Increasing Costs in Electric Markets

- Item No.: A-3
- June 19, 2008

<http://www.ferc.gov/legal/staff-reports/06-19-08-cost-electric.pdf>

## Electric Power Markets in the West and Southeast



**JULY 1, 2008**

PRESENTATION BY THE  
**OFFICE OF ENFORCEMENT**

**CHARLES WHITMORE**  
DIVISION OF ENERGY MARKET OVERSIGHT

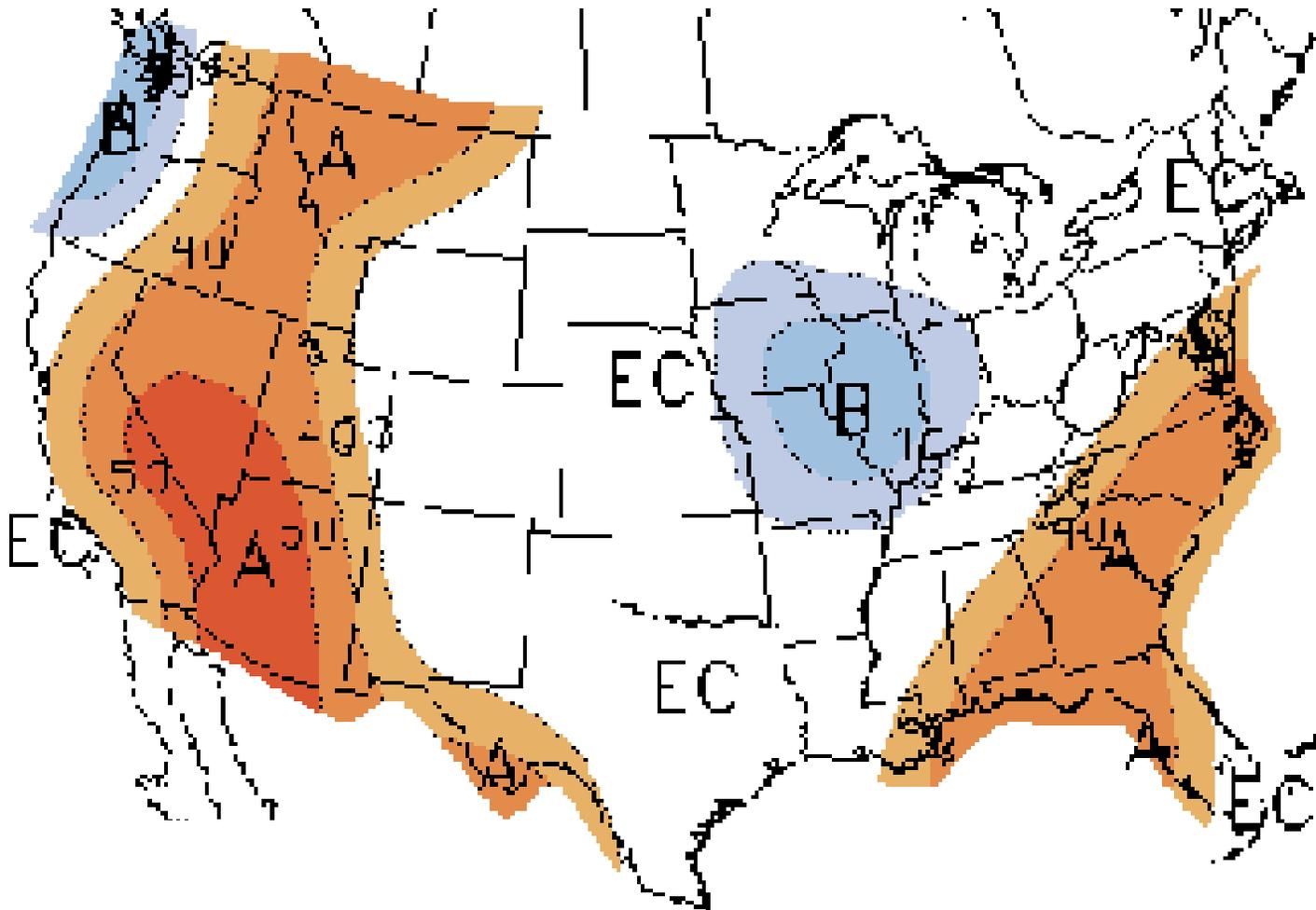
<http://www.ferc.gov/EventCalendar/Files/20080701154408-FERC.pdf>



# Market Fundamentals



## NOAA's Monthly Temperature Forecast Made June 30, Valid for July 2008



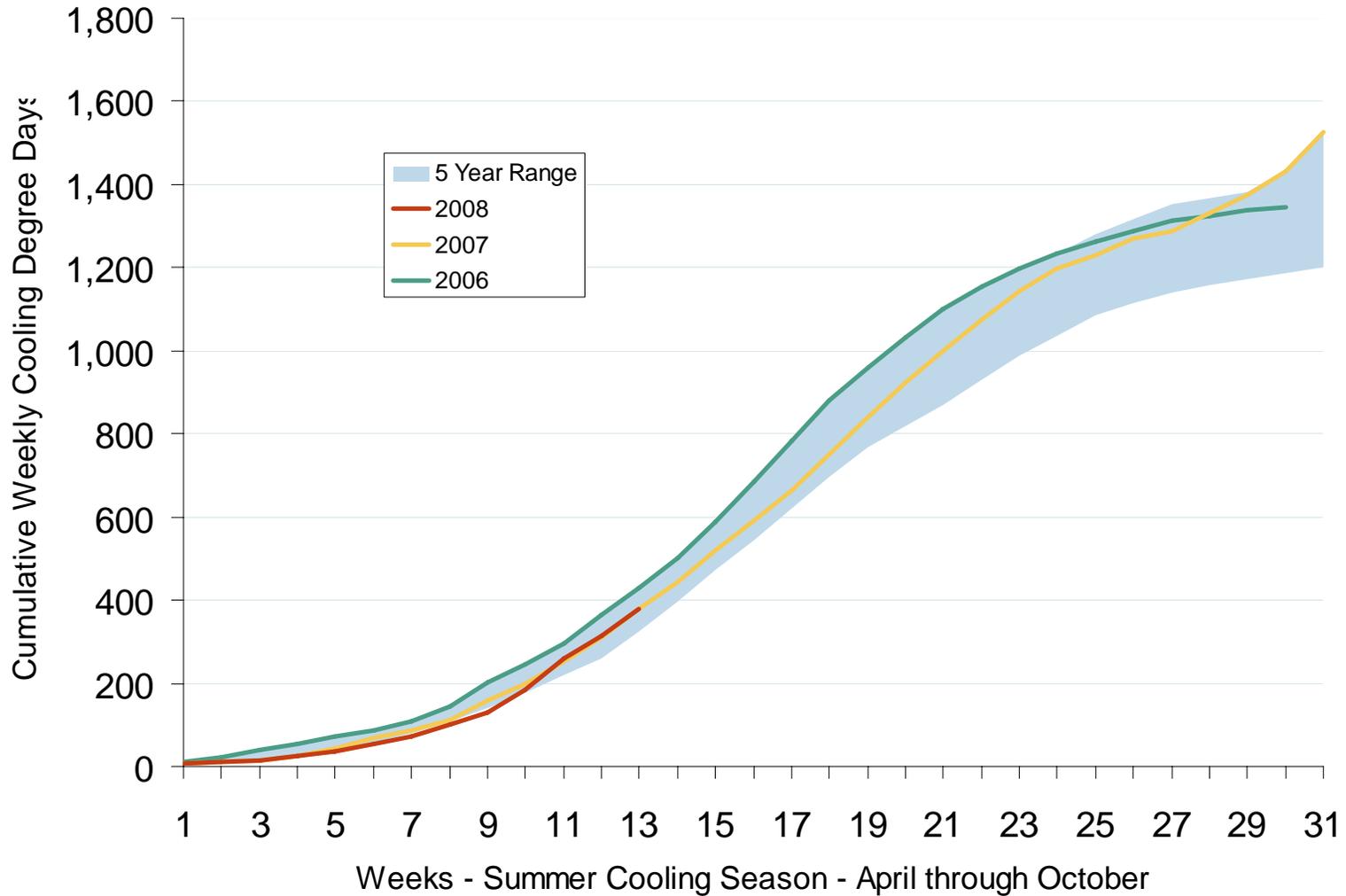
Note: "A" areas are above normal, "B" areas are below normal and "EC" means equal chance. Normal based on the last 30 years of data.

Source: NOAA

Updated July 9, 2008

3012

## U. S. Summer Cumulative Cooling Degree Days

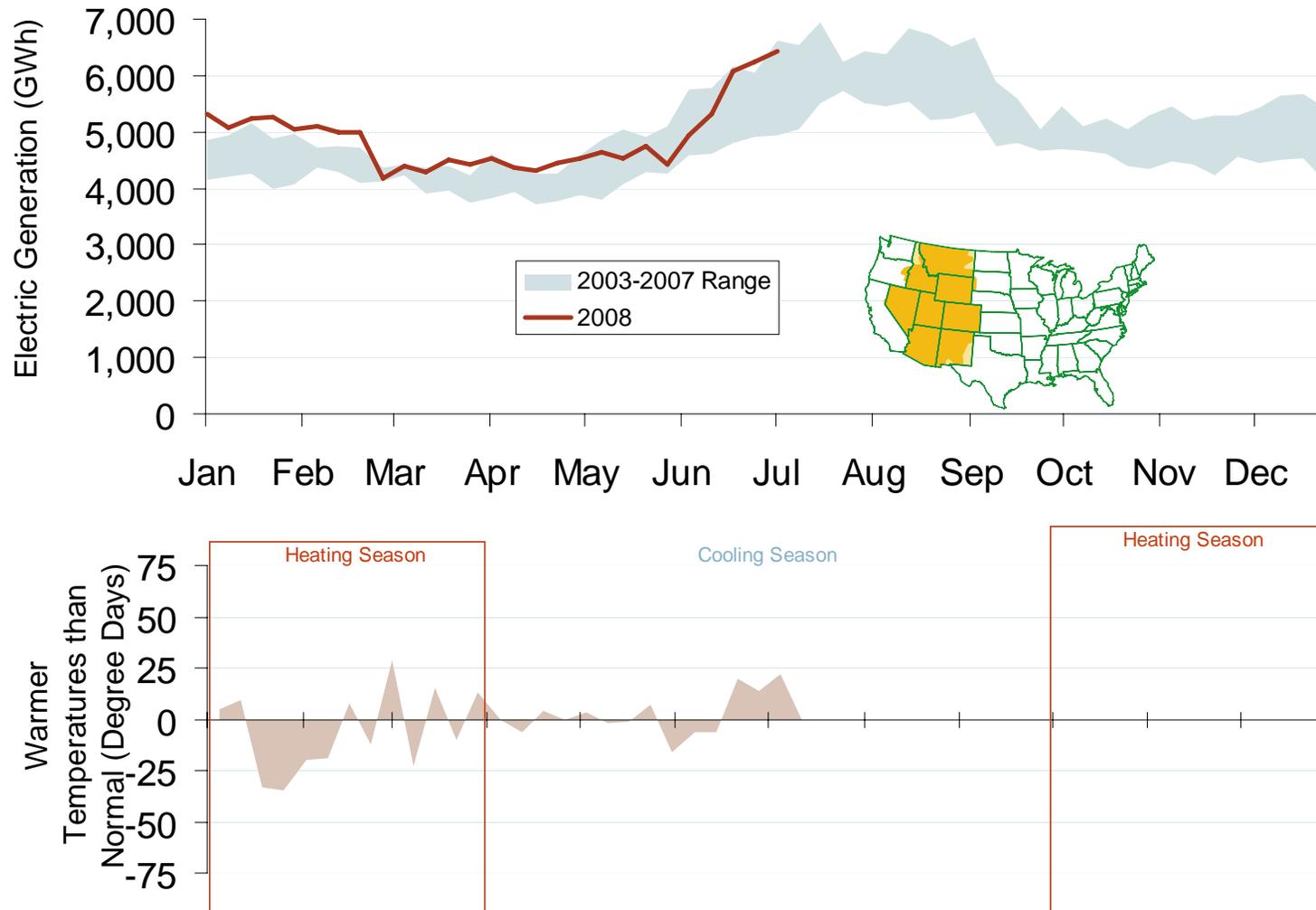


Source: Derived from NOAA data.

Updated July 9, 2008

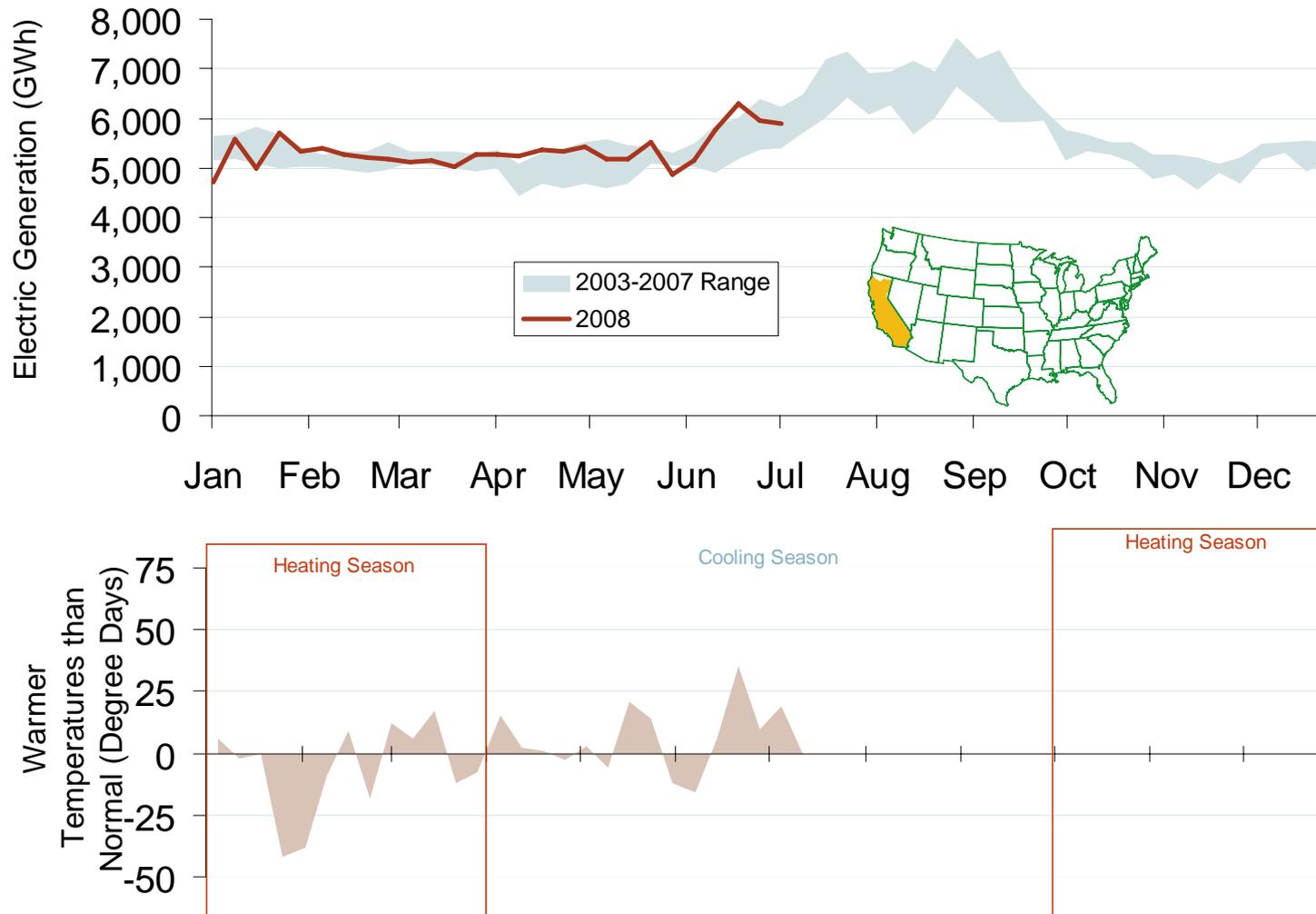
3023

# Weekly Electric Generation Output and Temperatures Rocky Mountains Region



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

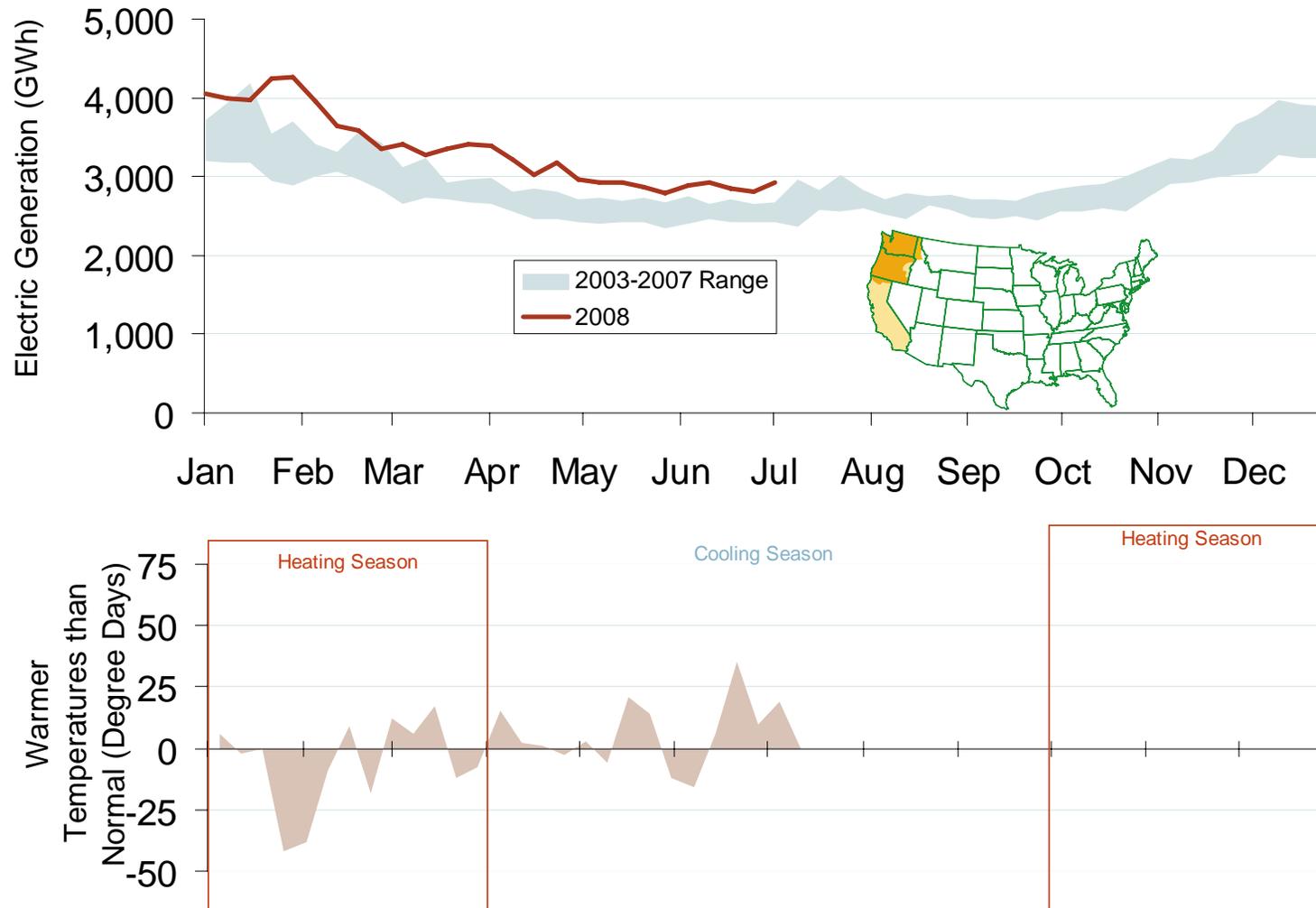
# Weekly Electric Generation Output and Temperatures California



Source: Derived from EEI and NOAA data.

Updated July 9, 2008

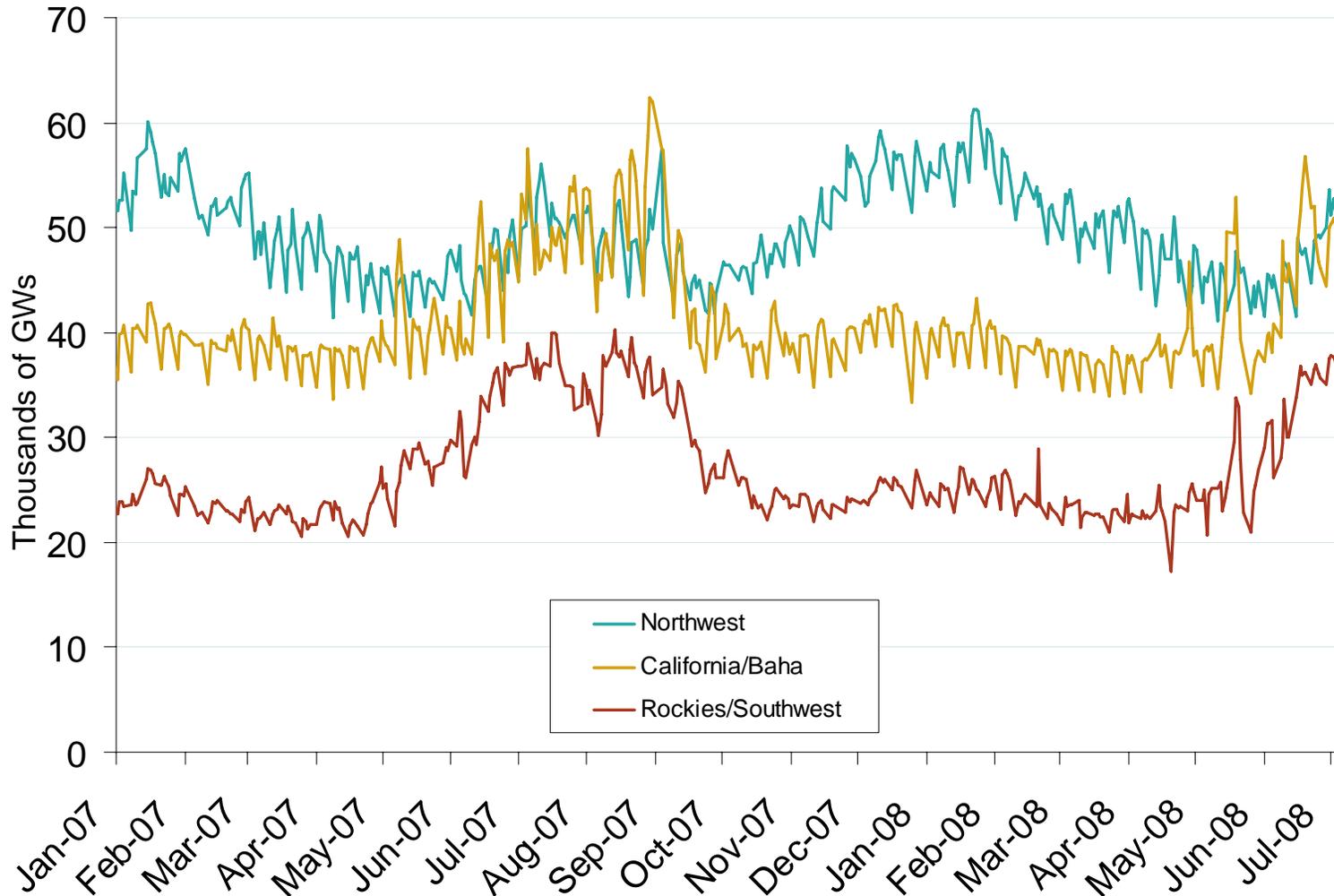
# Weekly Electric Generation Output and Temperatures Pacific Northwest Region



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

Updated July 9, 2008

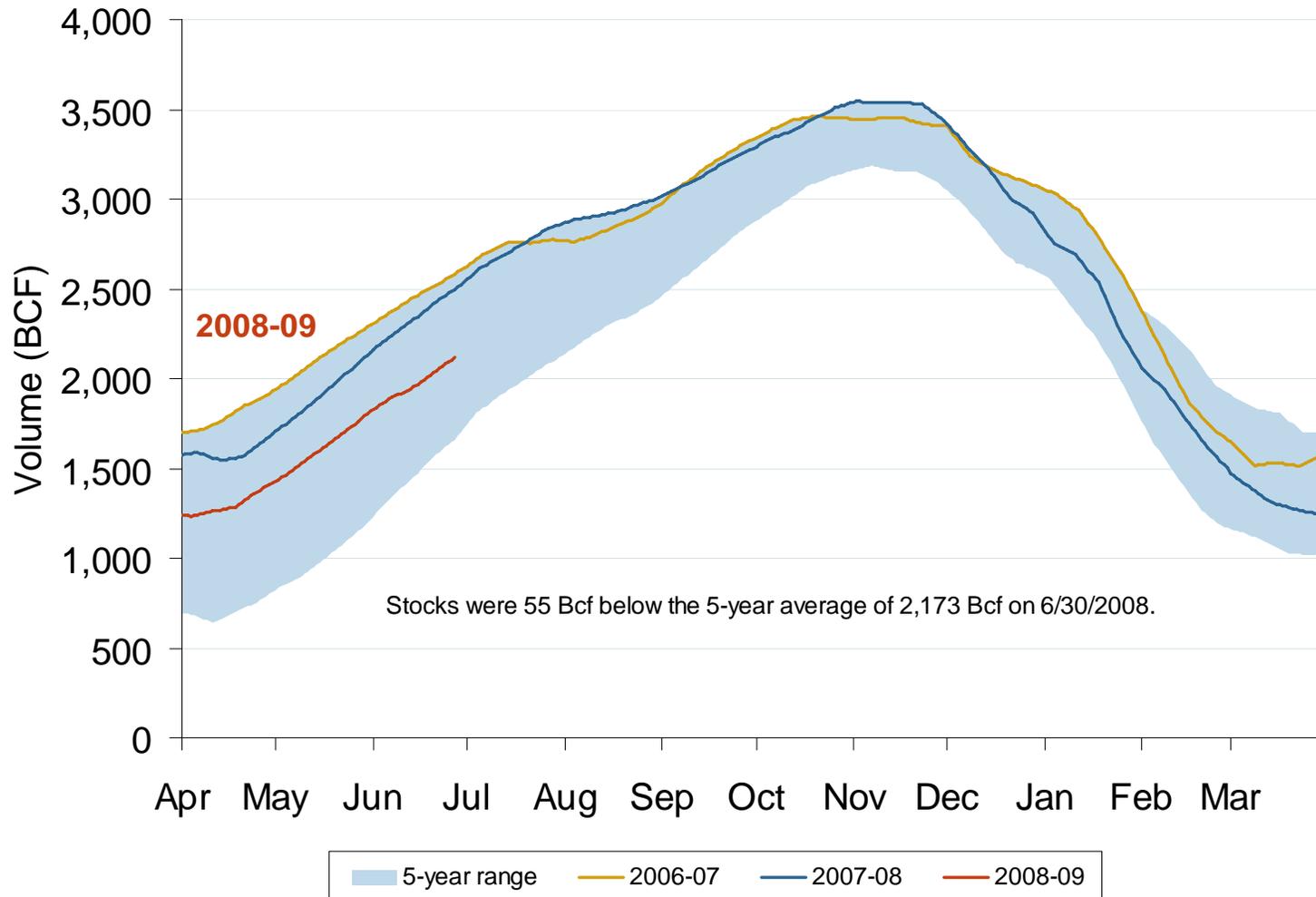
## Western Daily Actual Peak Demand



Source: Derived from WECC Daily Report data available at <http://wecc.biz>. Data shown is generally Sunday through Thursday due to limitations of daily reports.

Updated July 9, 2008

## Total U.S. Working Gas in Storage

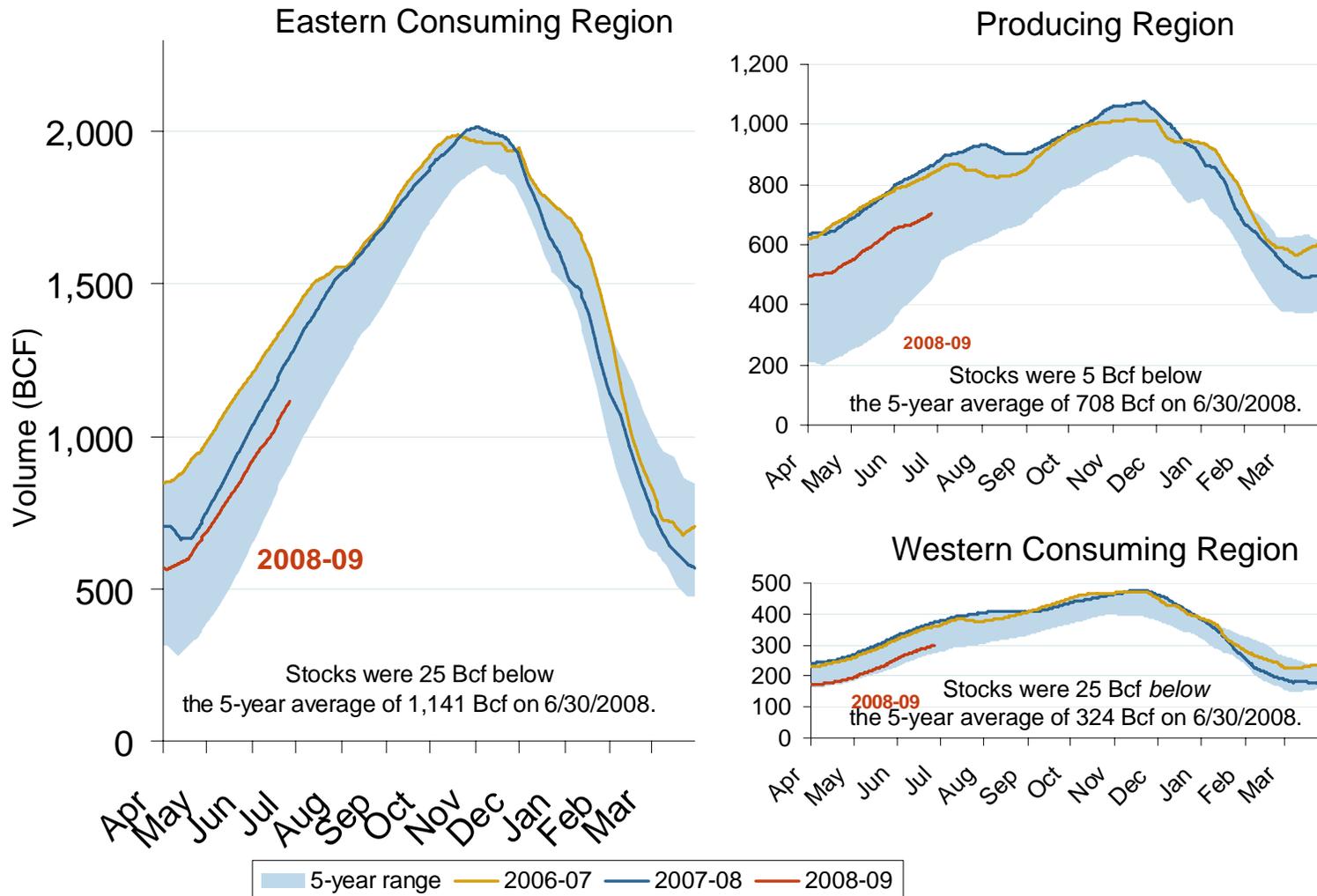


Source: Derived from EIA data.

Updated July 9, 2008

2003

## Regional Totals of Working Gas in Storage

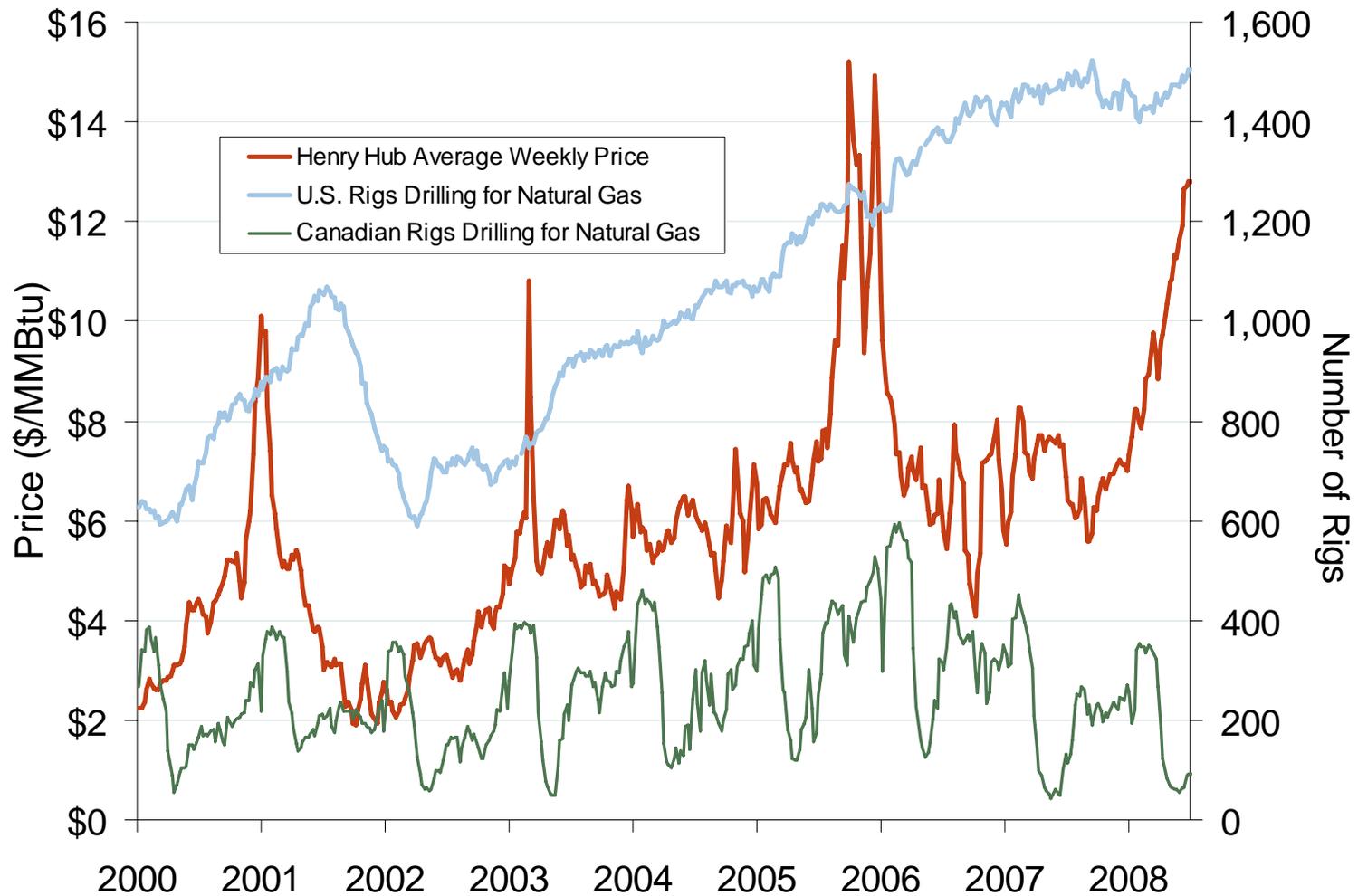


Source: Derived from EIA data.

Updated July 9, 2008

2004

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

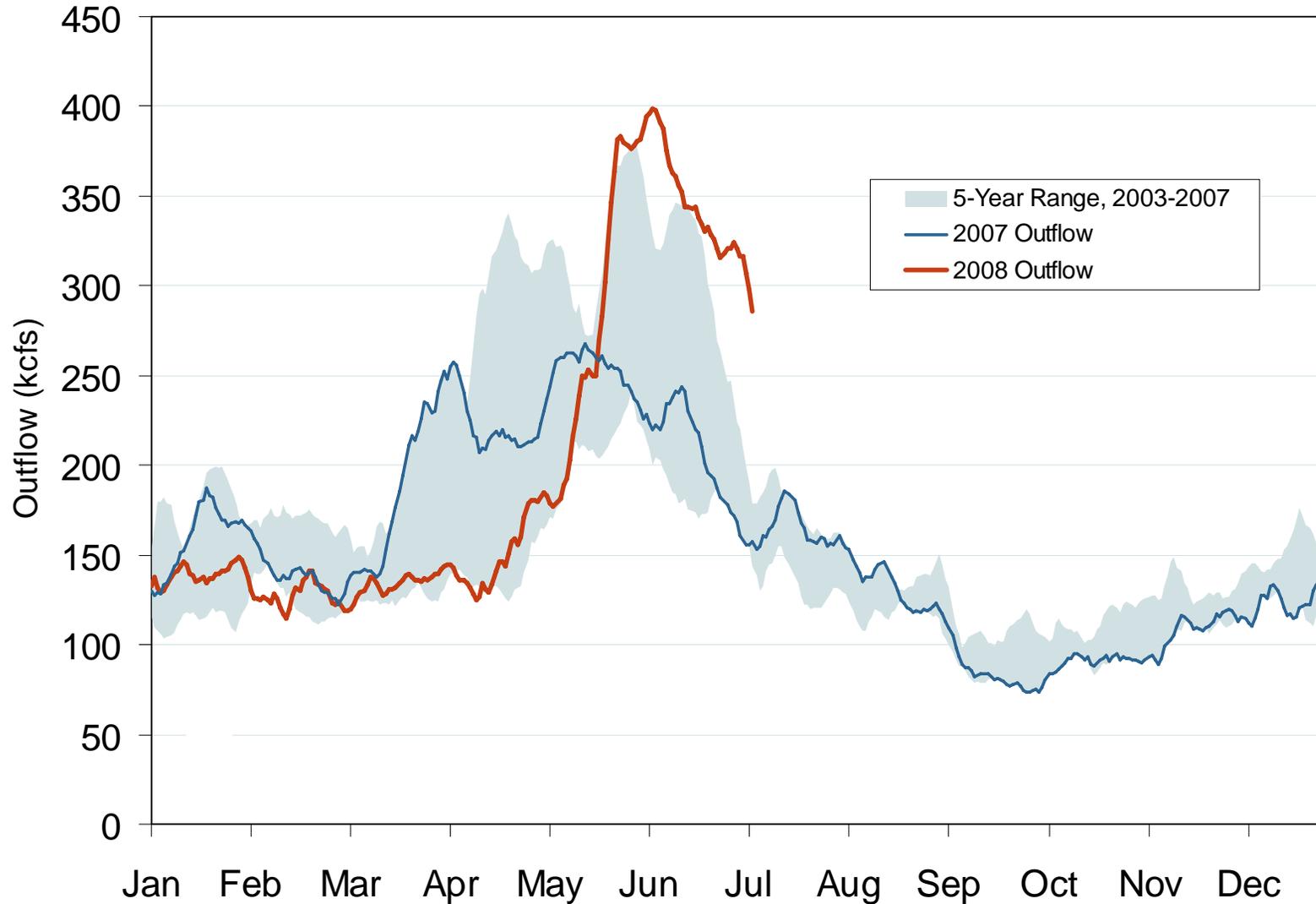


Source: Derived from *Platts* and *Baker Hughes* data.

Updated July 9, 2008

2007

## Stream Flow at The Dalles Dam

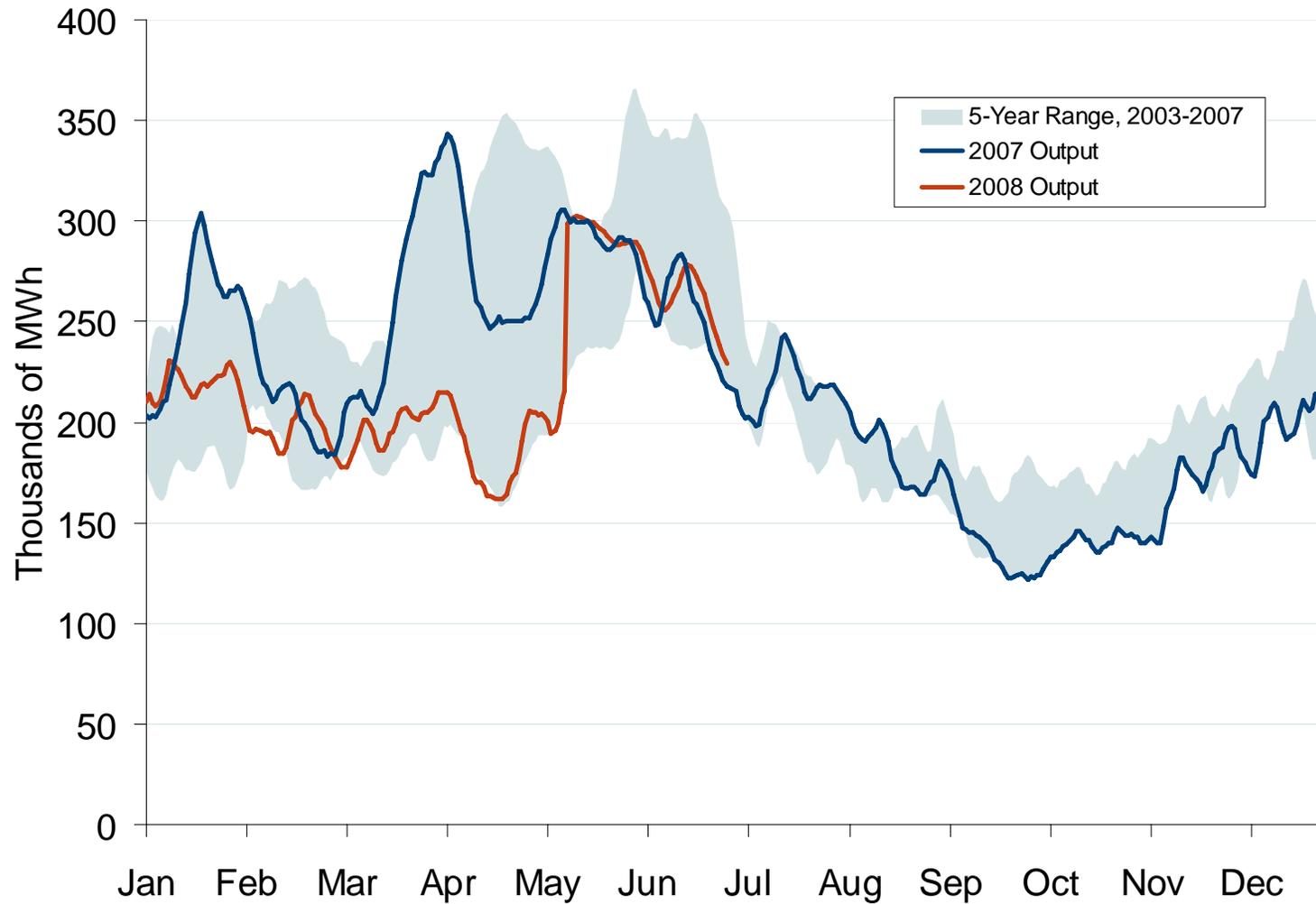


Source: Derived from USACE data.  
Trend lines are 7-day moving averages.

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1103

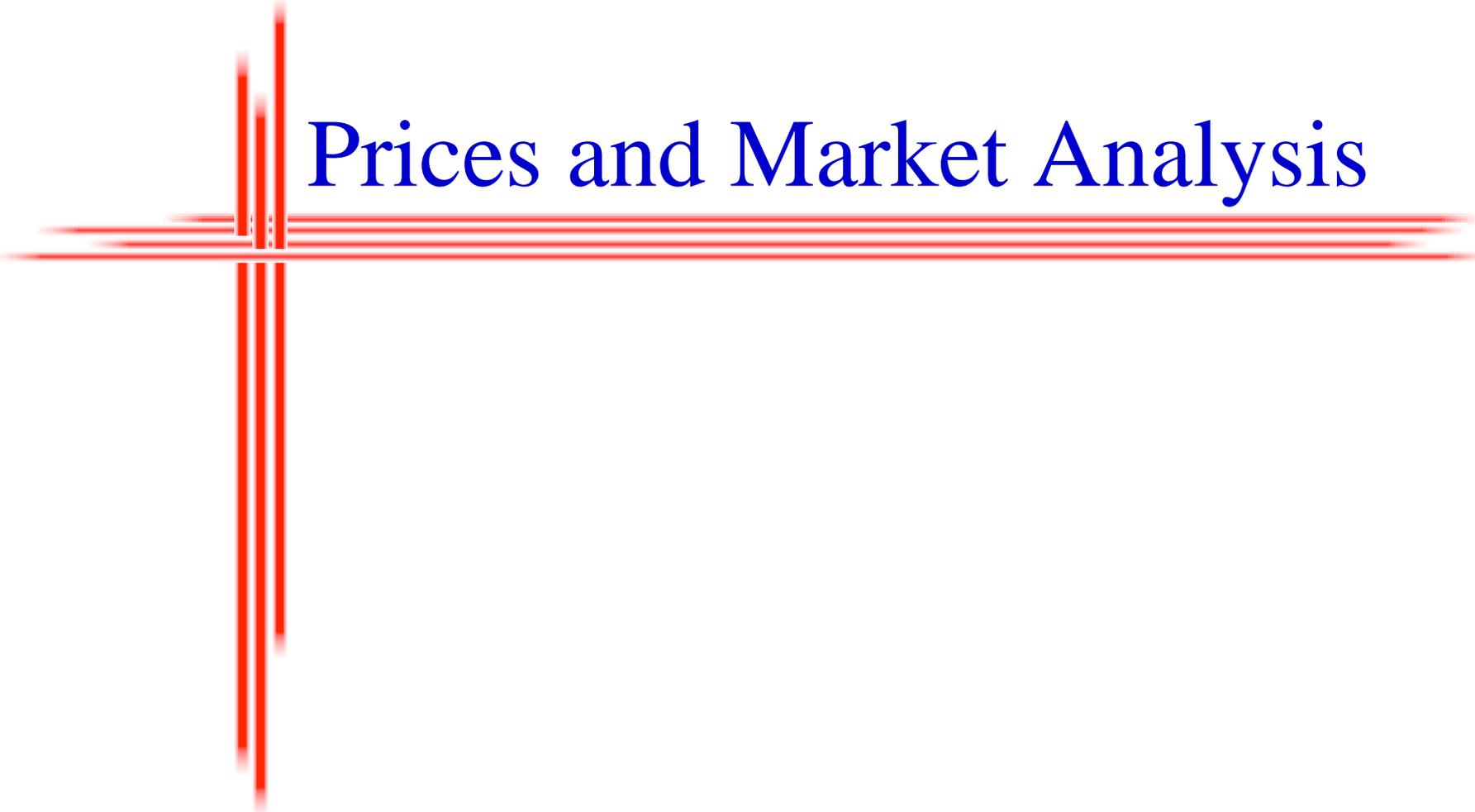
## Pacific Northwest Hydroelectric Production



Source: Derived from USACE data reflecting the output of the 24 largest facilities.  
Trend lines are 7-day moving averages.

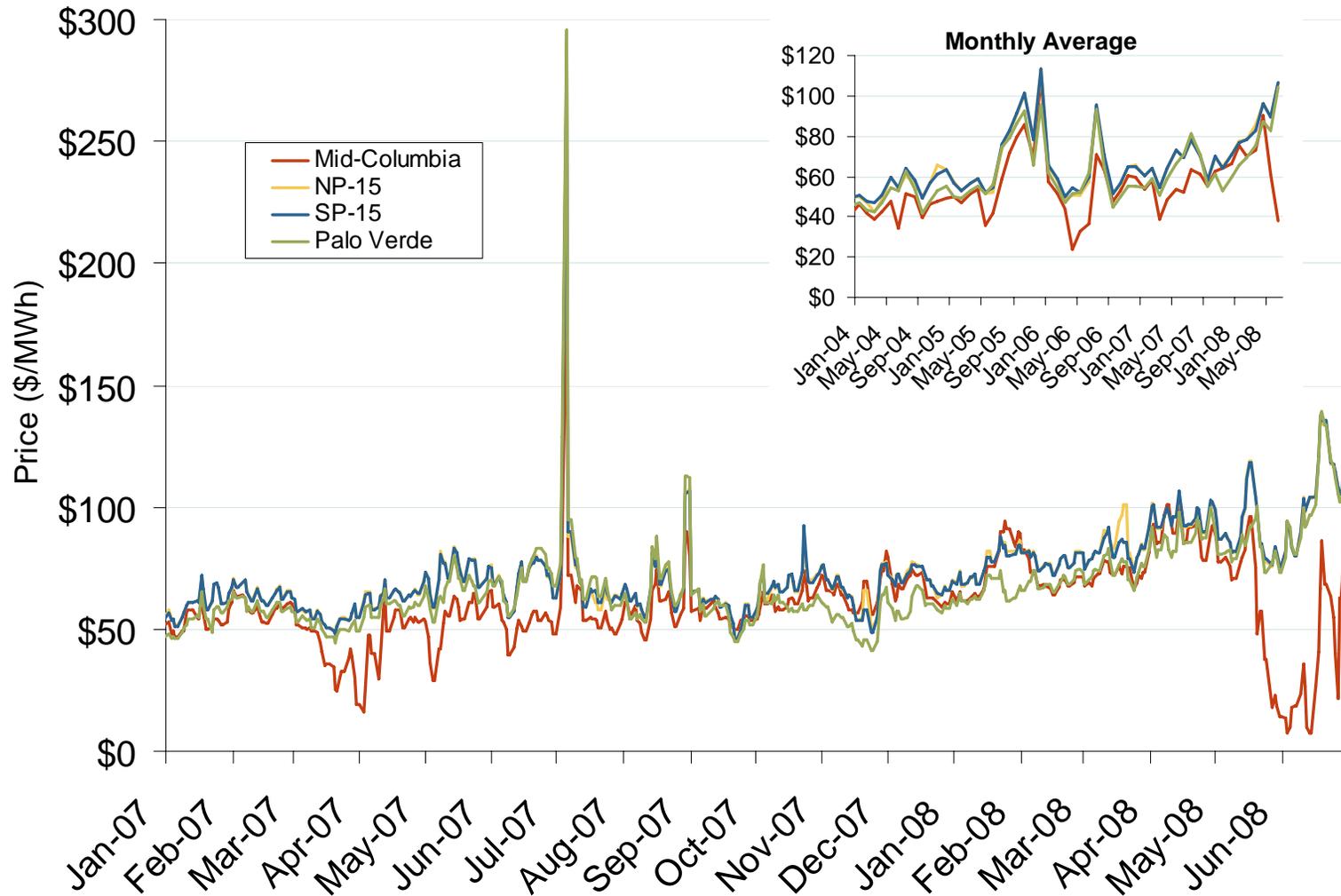
Updated July 9, 2008

1106



# Prices and Market Analysis

## Western Daily Bilateral Day-Ahead On-Peak Prices

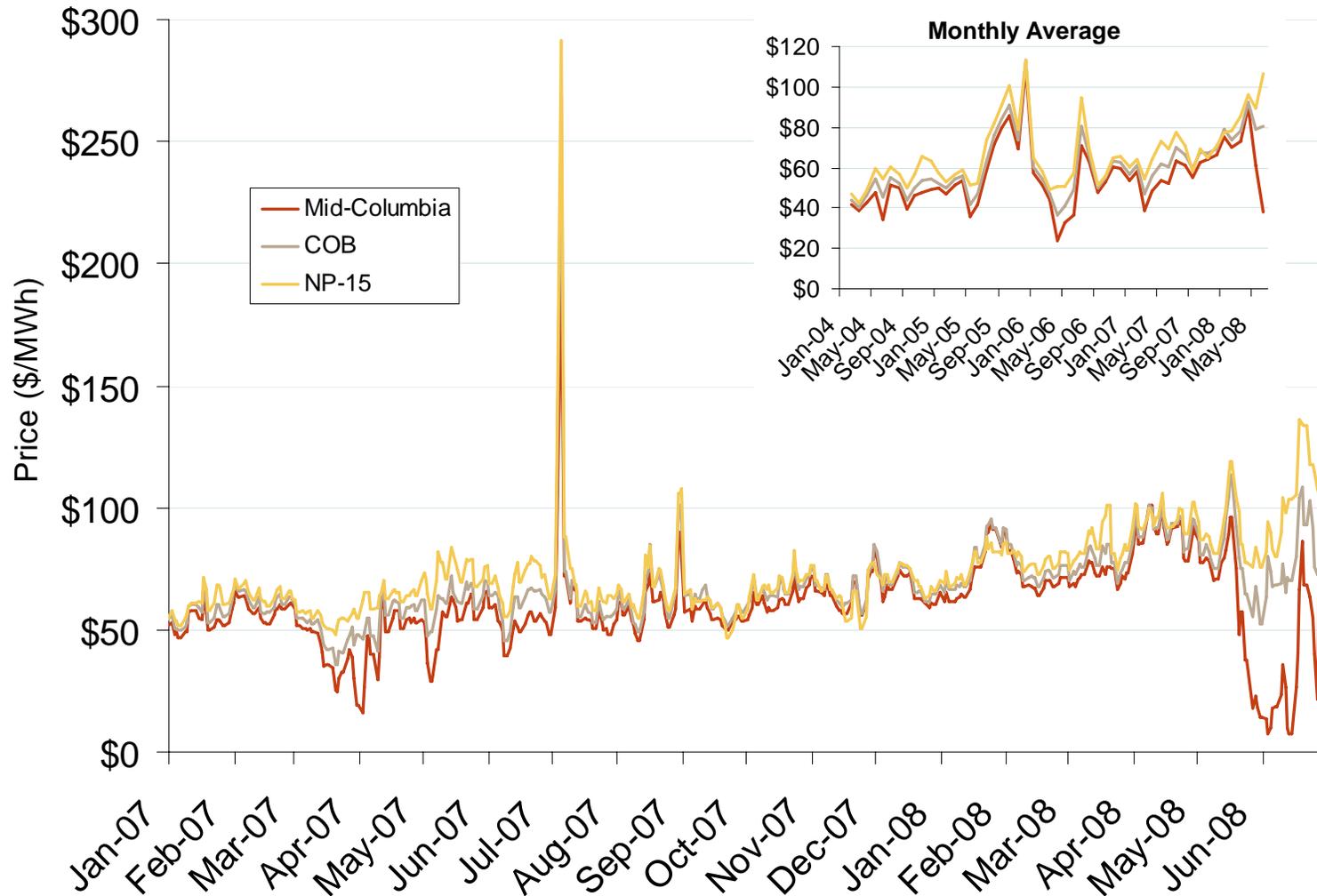


Source: Derived from *Platts* data.

Updated July 9, 2008

1006

# Northwestern Daily Bilateral Day-Ahead On-Peak Prices

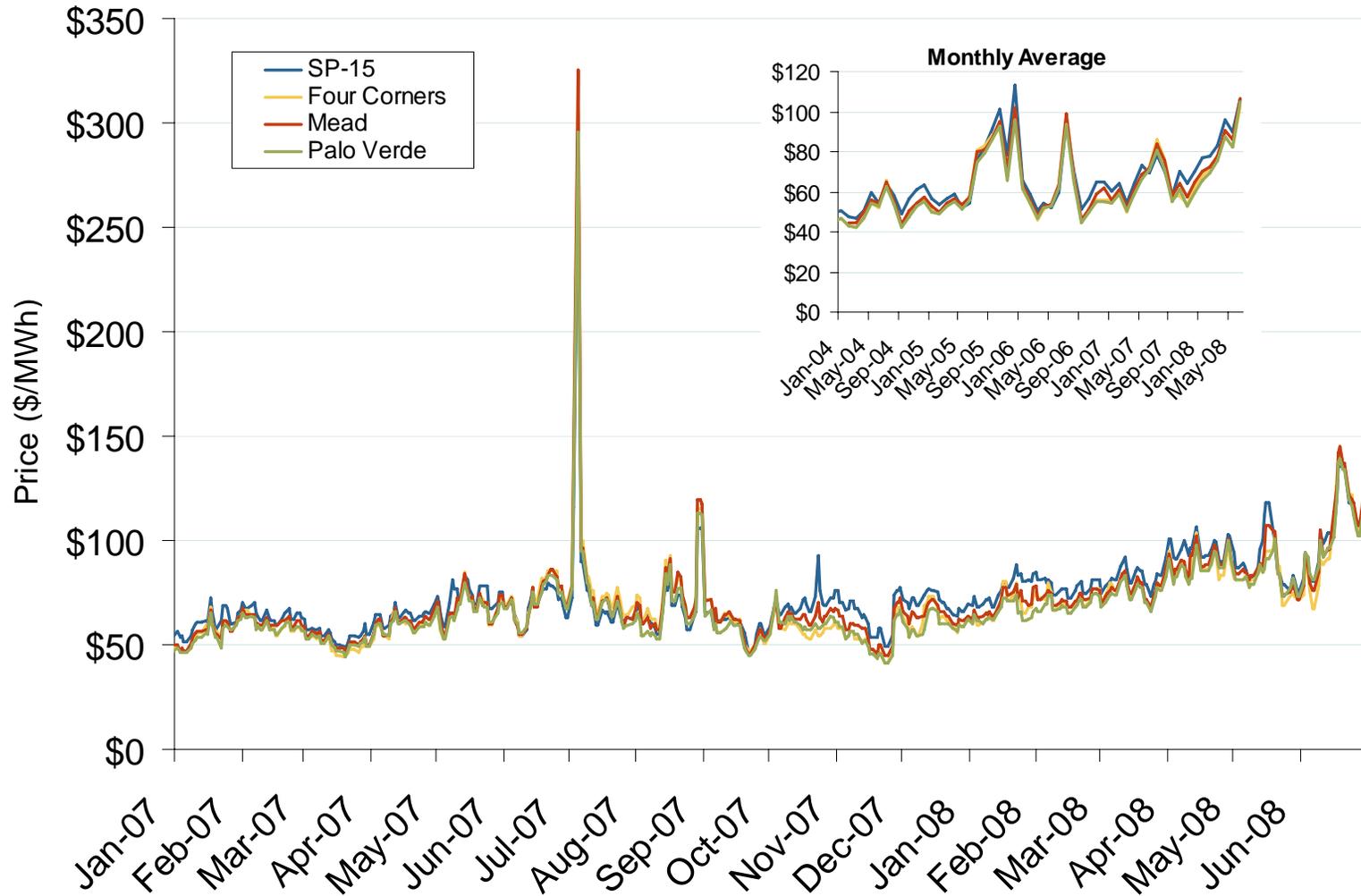


Source: Derived from *Platts* data.

Updated July 9, 2008

1041

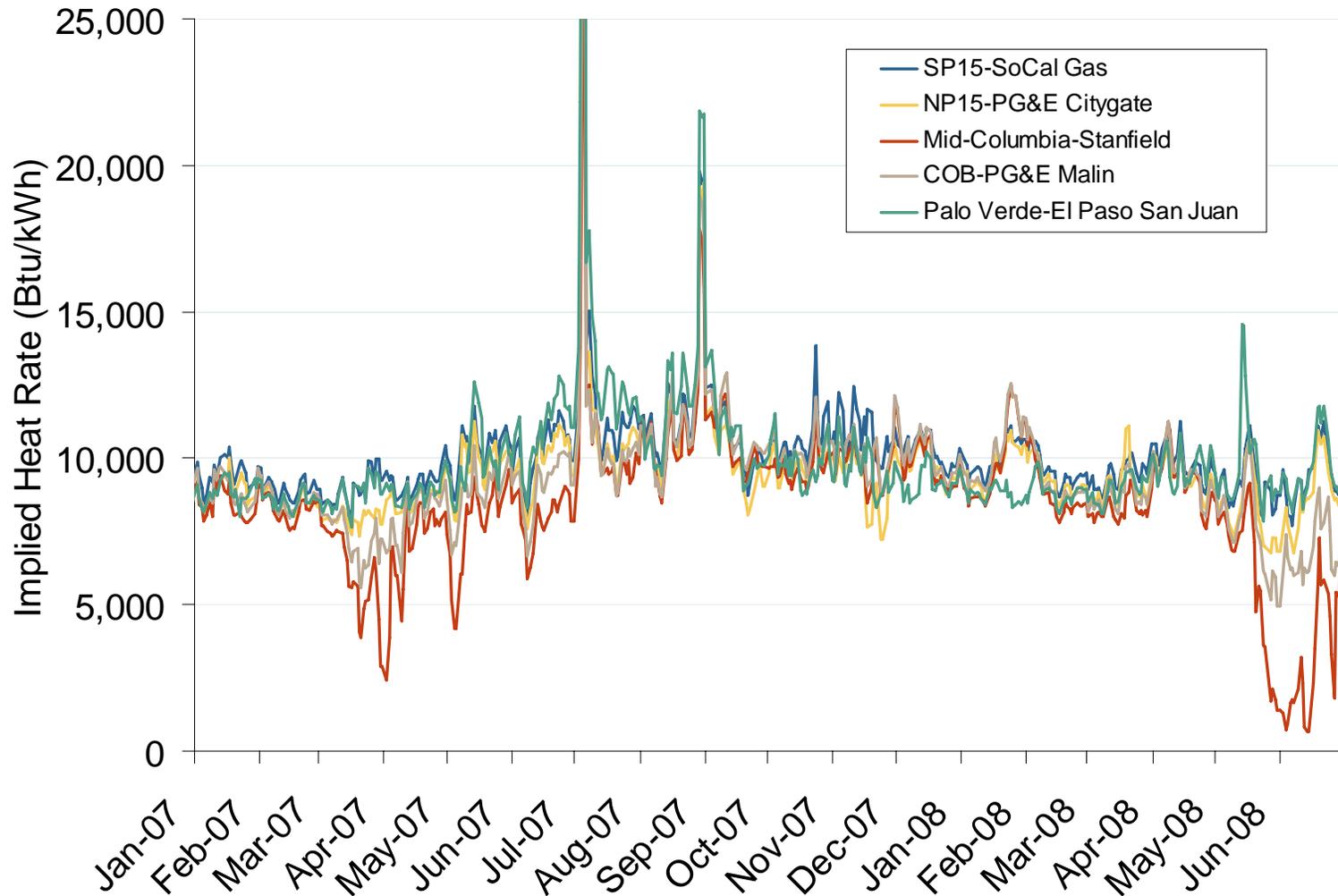
# Southwestern Daily Bilateral Day-Ahead On-Peak Prices



Source: Derived from *Platts* data.

Updated July 9, 2008 1066

## Implied Heat Rates at Western Trading Points



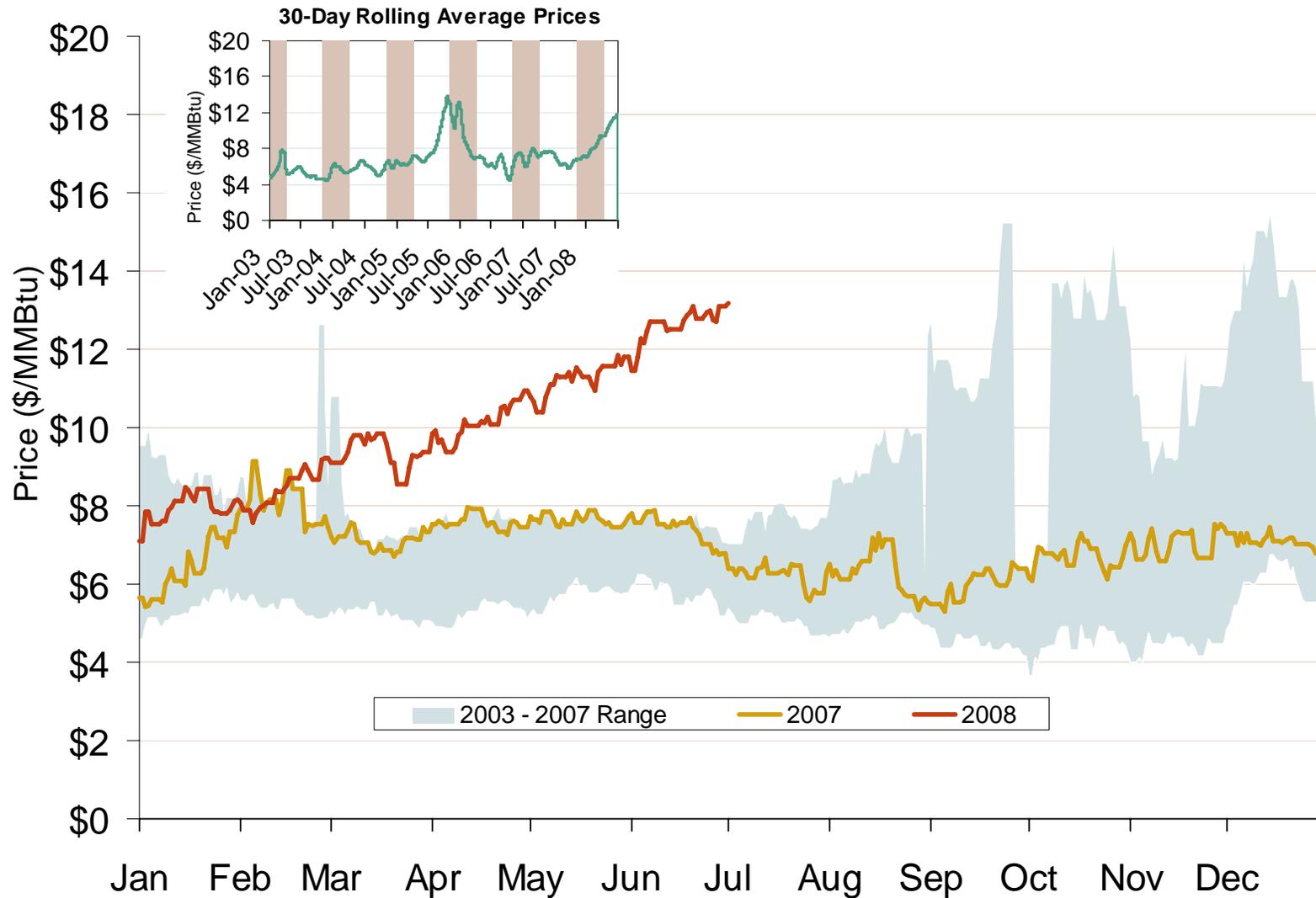
Source: Derived from *Platts* data

Updated July 9, 2008

1143

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

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

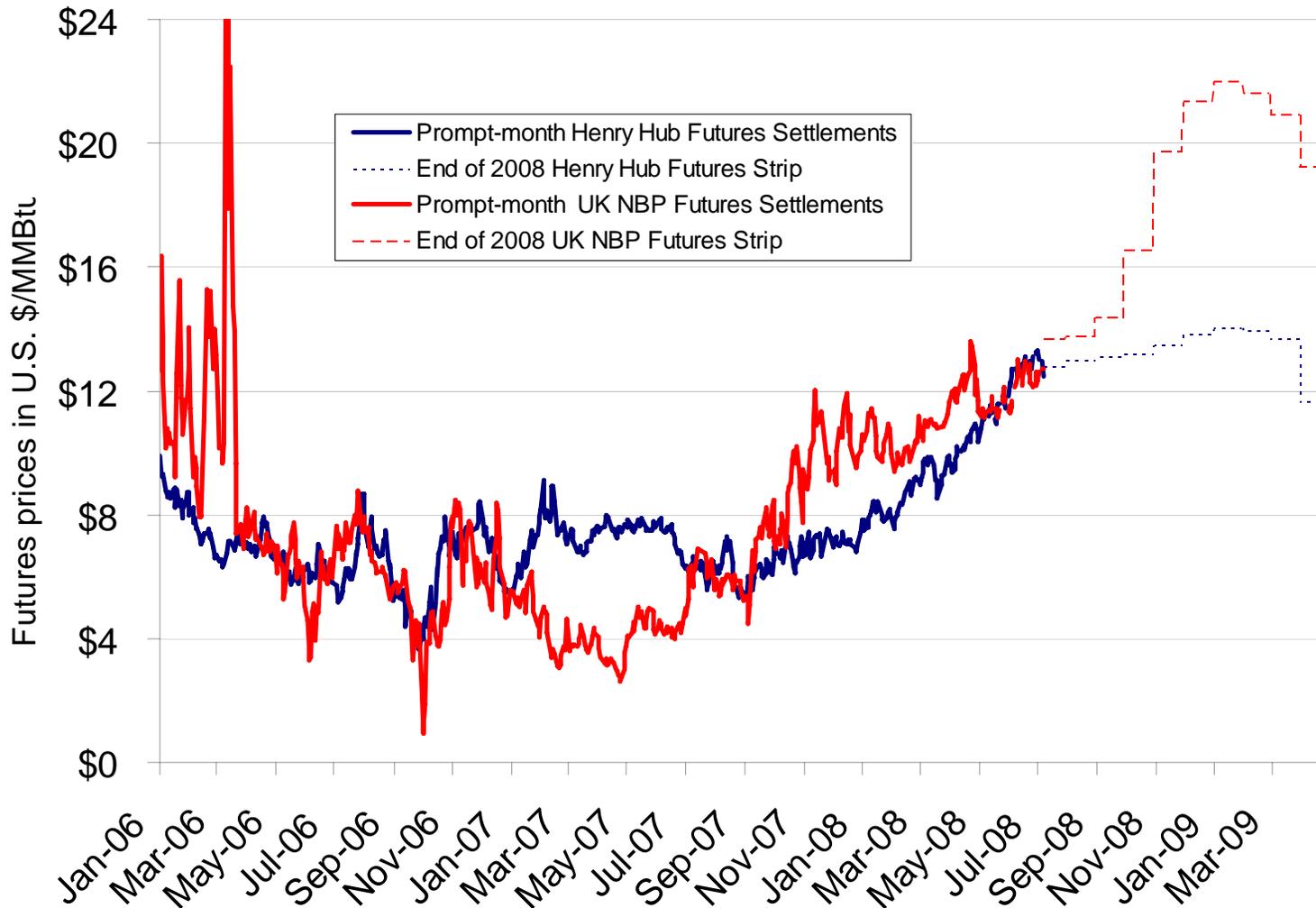


Source: Derived from *Platts* data.

Updated July 9, 2008

2085

## US and UK Gas Futures Prices

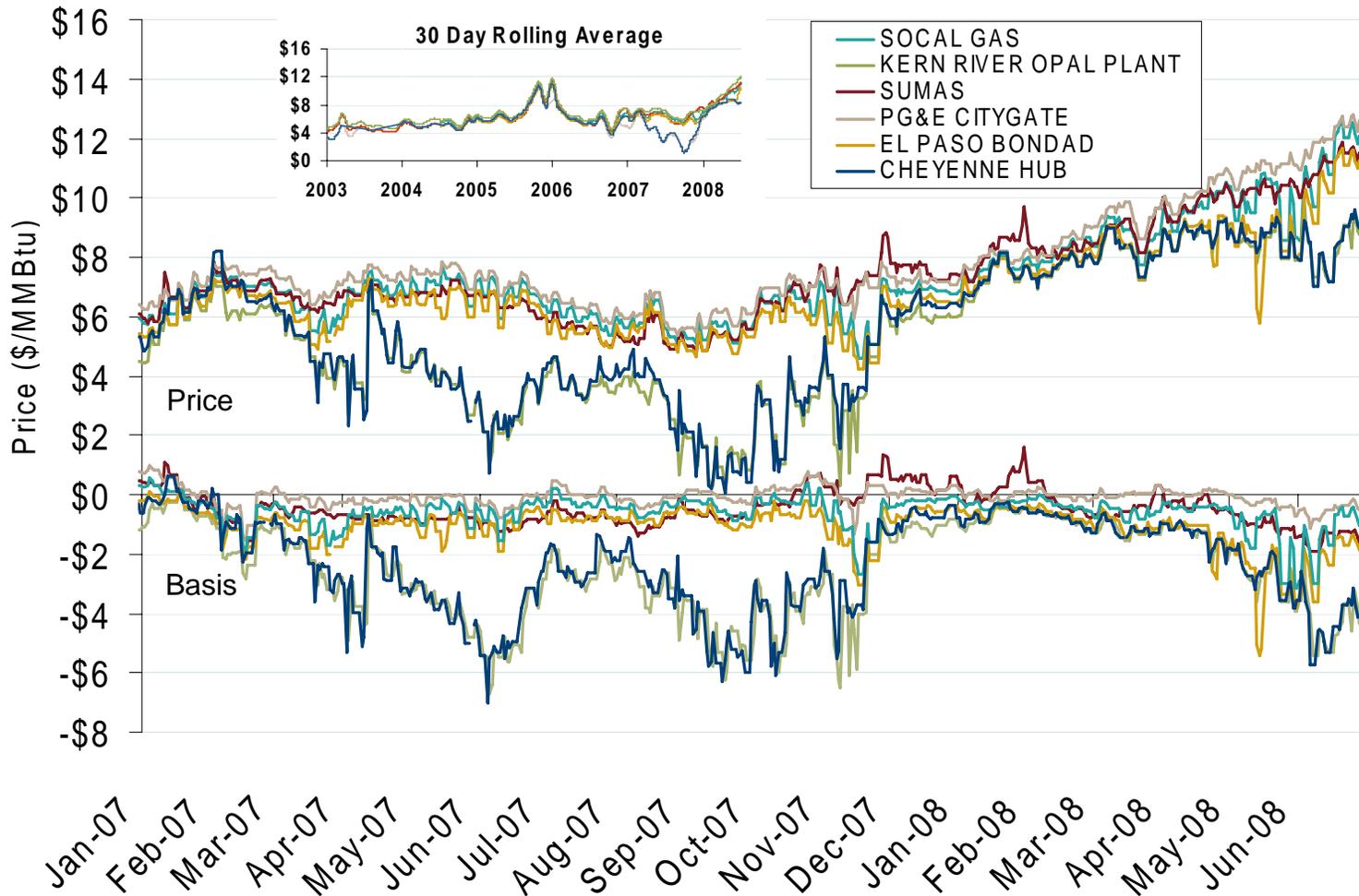


Source: Derived from NYMEX and ICE data.

Updated July 9, 2008

2177

# Western Day-Ahead Hub Spot Prices and Basis



Source: Derived from *Platts* data.

Updated July 9, 2008

2072

# Henry Hub and AECO Prompt-Month Futures Prices

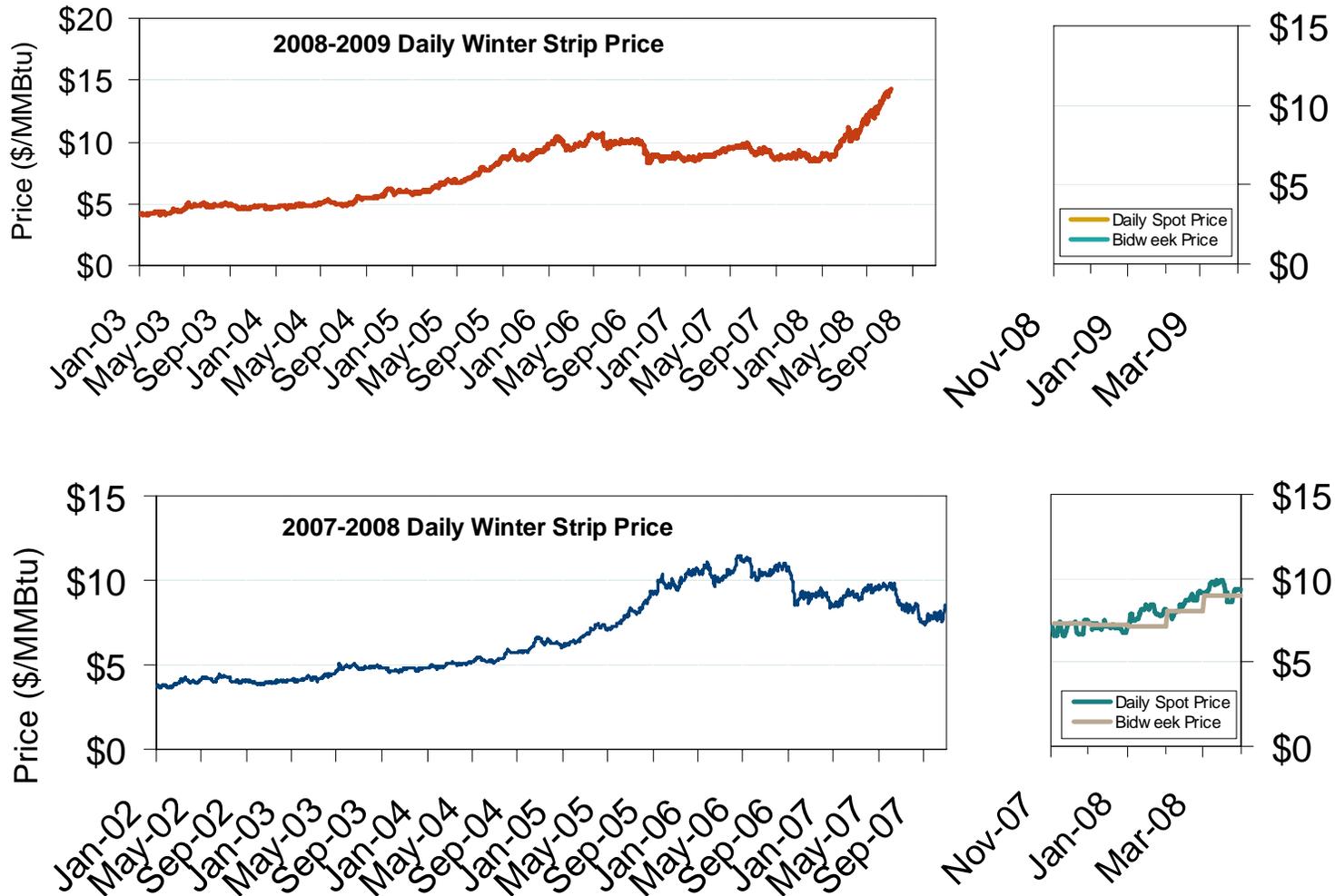


Source: Derived from ICE data.

Updated July 9, 2008

2172

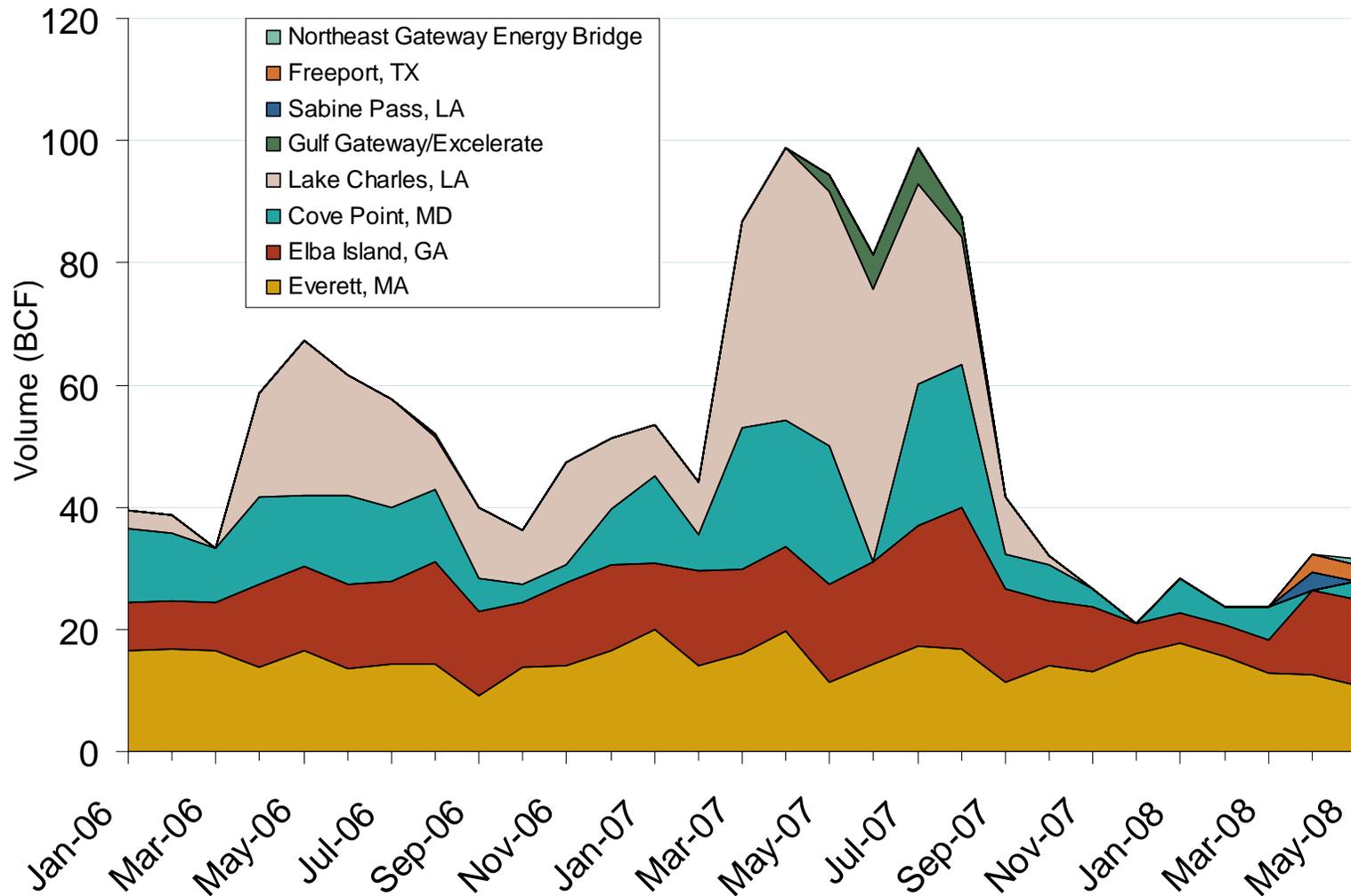
## Natural Gas Winter Futures Strip and Daily Henry Hub Spot and Bidweek Prices



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

Updated July 9, 2008

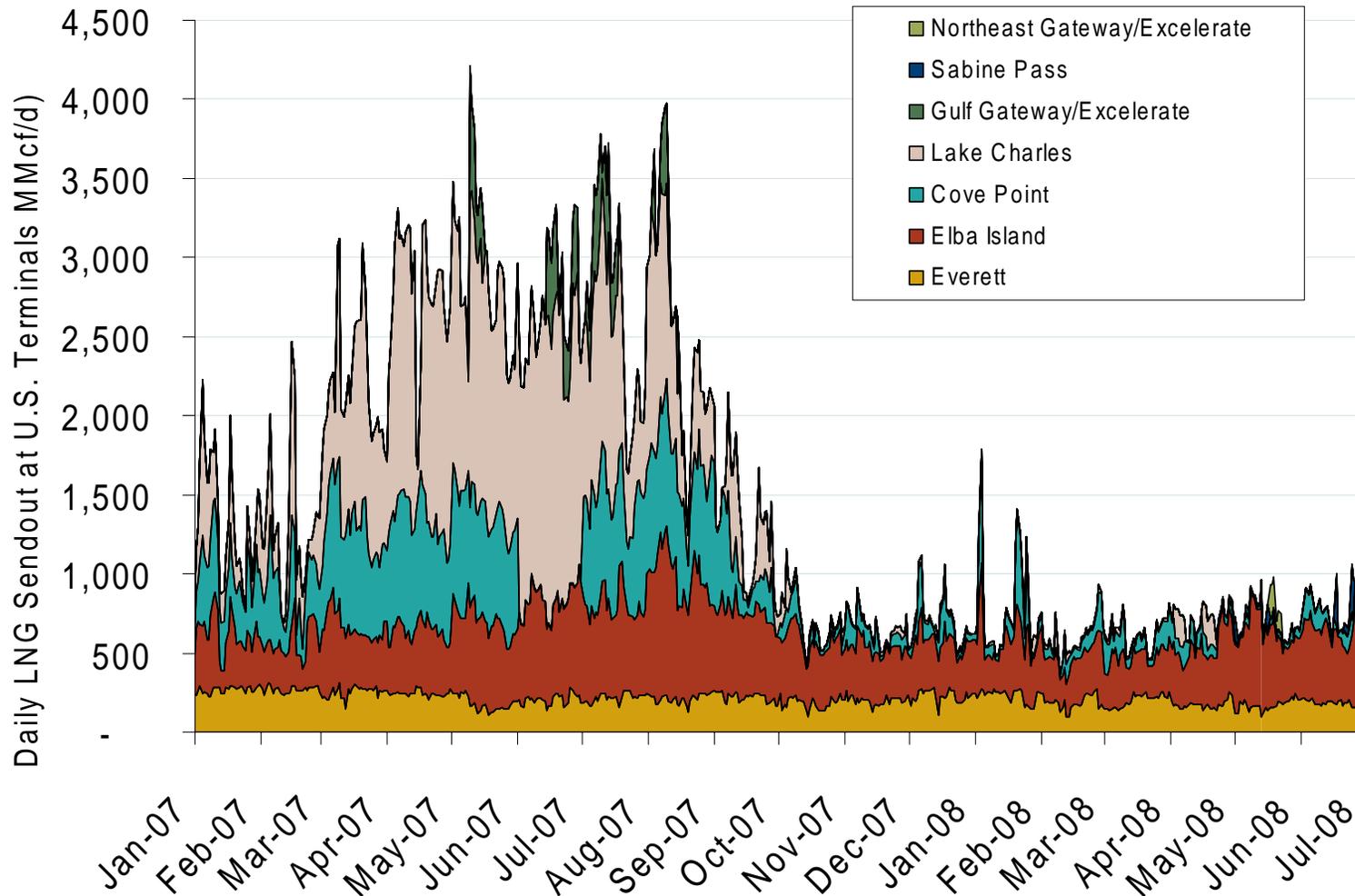
## Monthly Gas Imports at Existing U.S. LNG Facilities



Source: Derived from DOE Office of Fossil Energy data.

Updated July 9, 2008

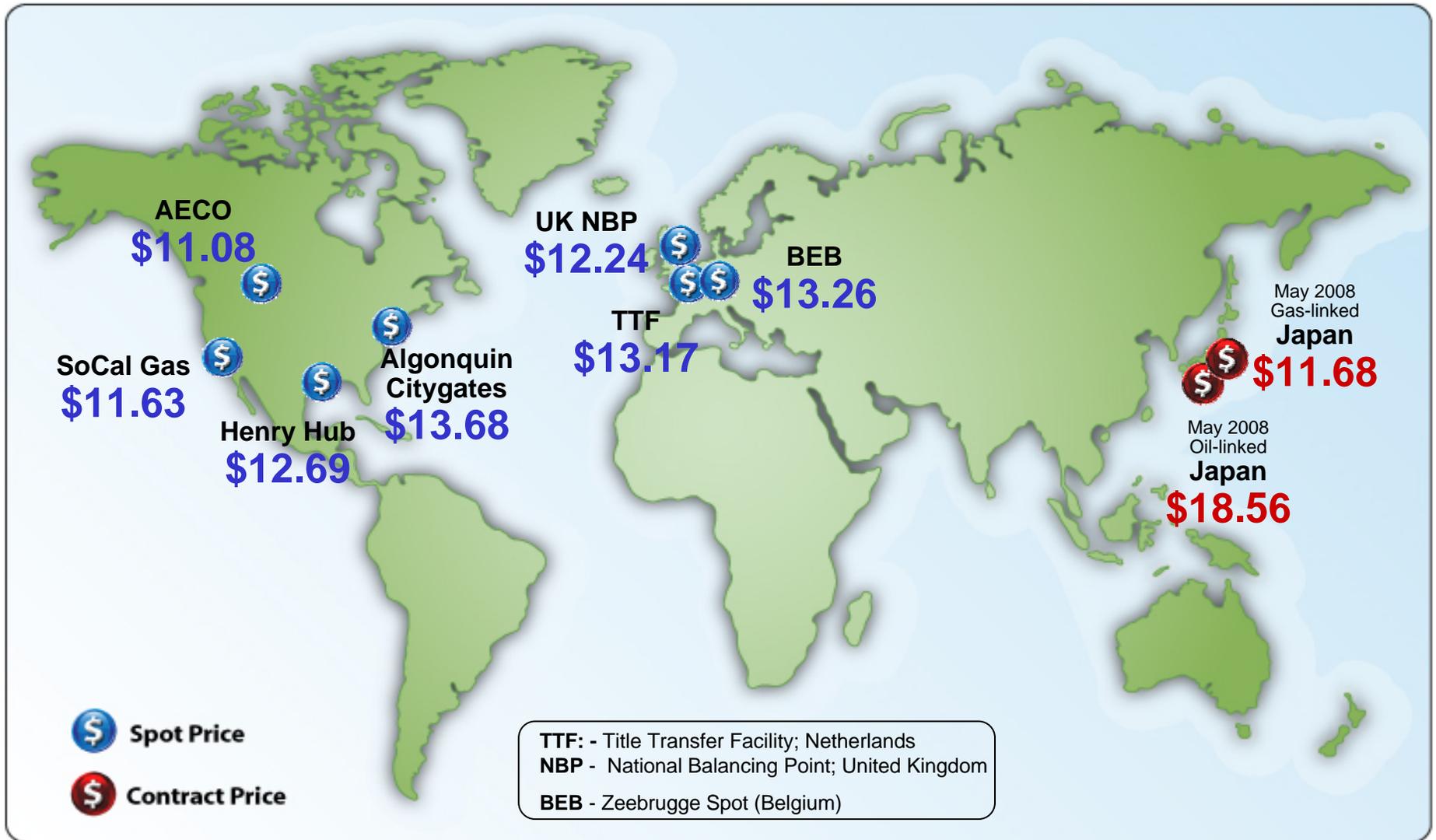
## Daily Gas Sendout from Existing U.S. LNG Facilities



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.

Updated July 14, 2008 3007

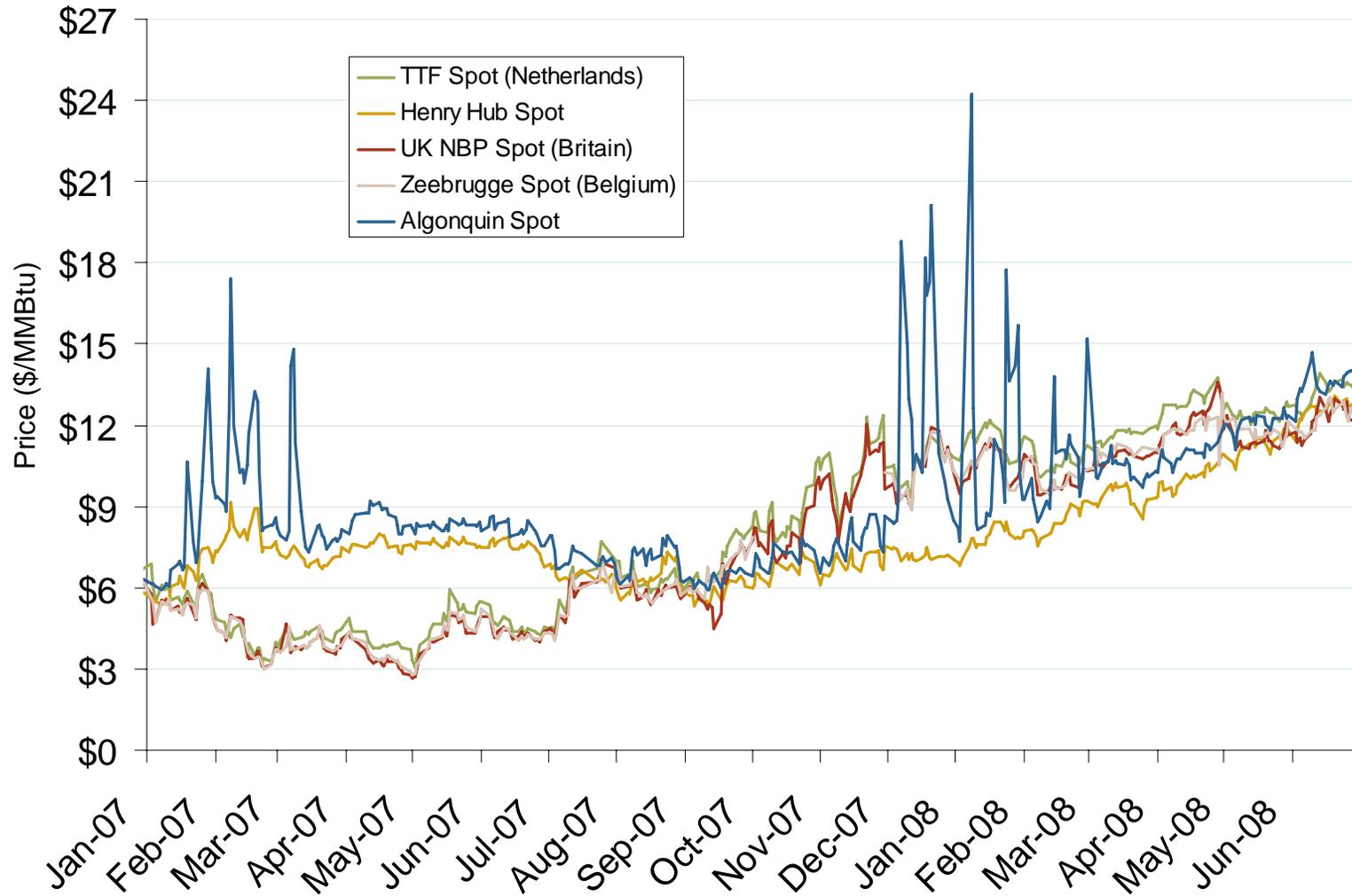
## World Natural Gas Prices for June 2008



Source: Derived from *Bloomberg, ICE, ICAP and LNG Japan Corp.* data. Spot Price is a monthly average of daily prices. Contract Price is a monthly price. All prices in \$US/MMBtu.

Updated July 9, 2008

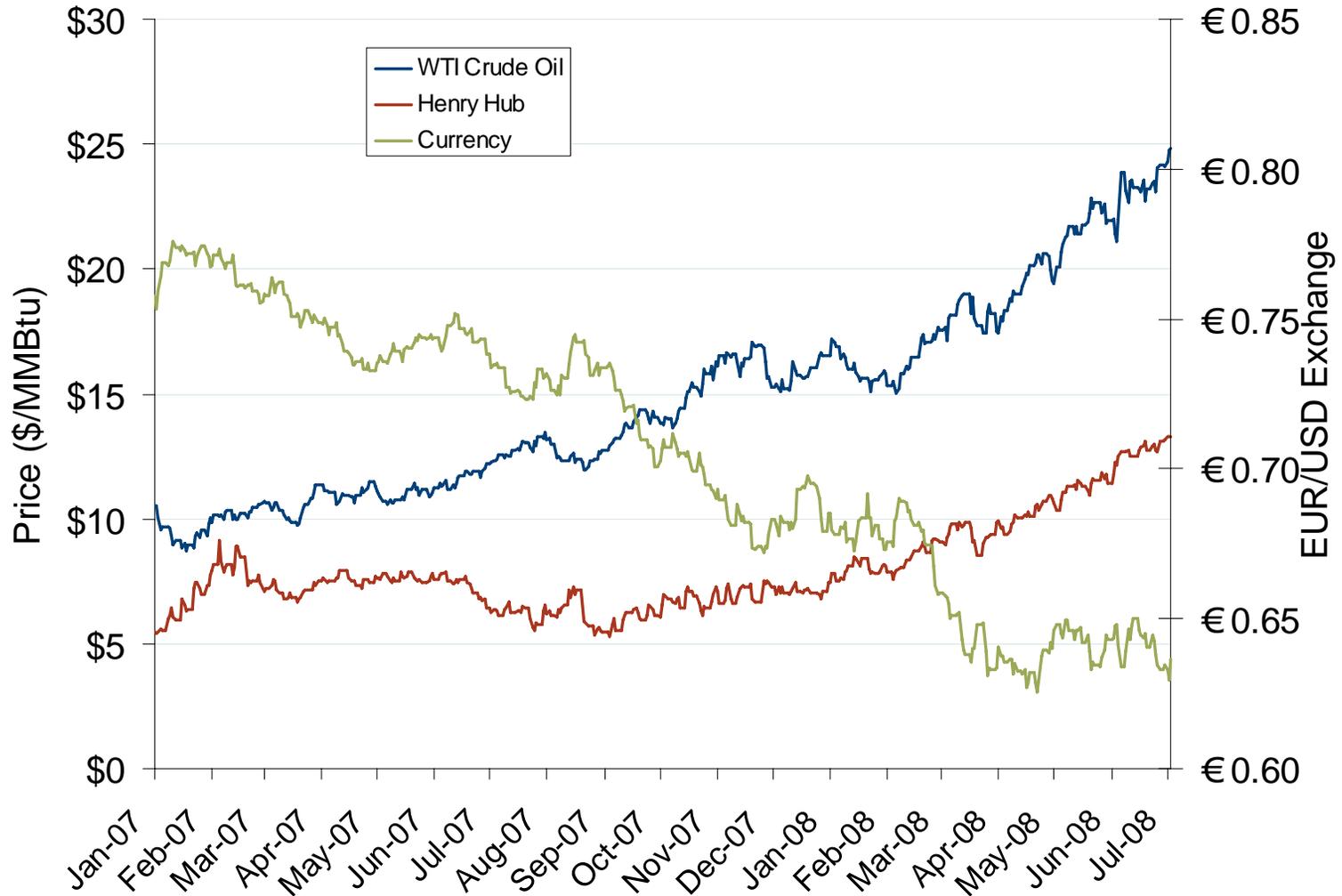
# Atlantic Basin European and US Spot Natural Gas Prices



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

Updated July 9, 2008

## Oil, Natural Gas and Currency Spot Prices

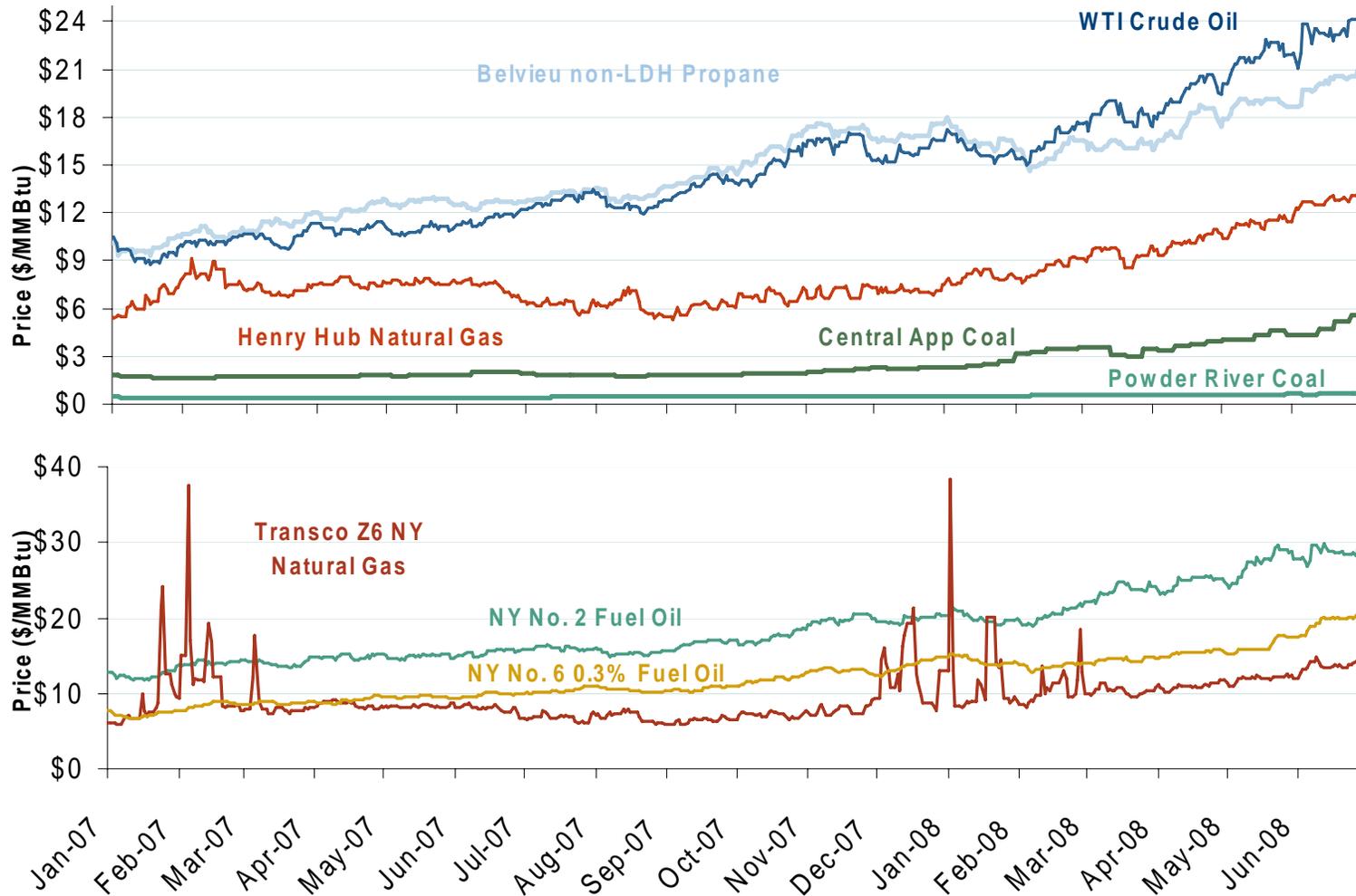


Source: Derived from *Bloomberg* data.

Updated July 9, 2008

3009

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

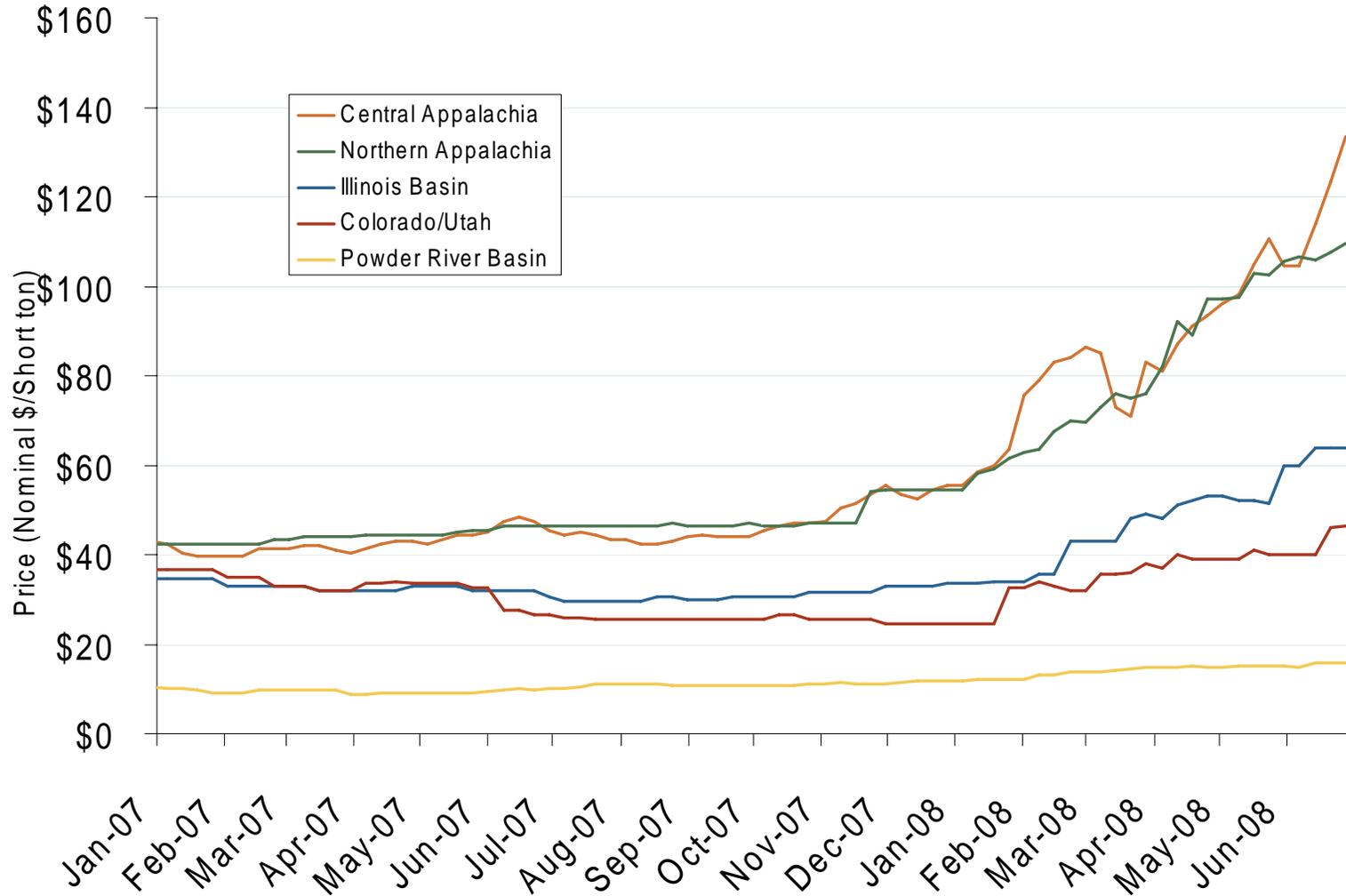


Source: Derived from ICE and Bloomberg data.

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.

Updated July 14, 2008

## Regional Coal Spot Prices

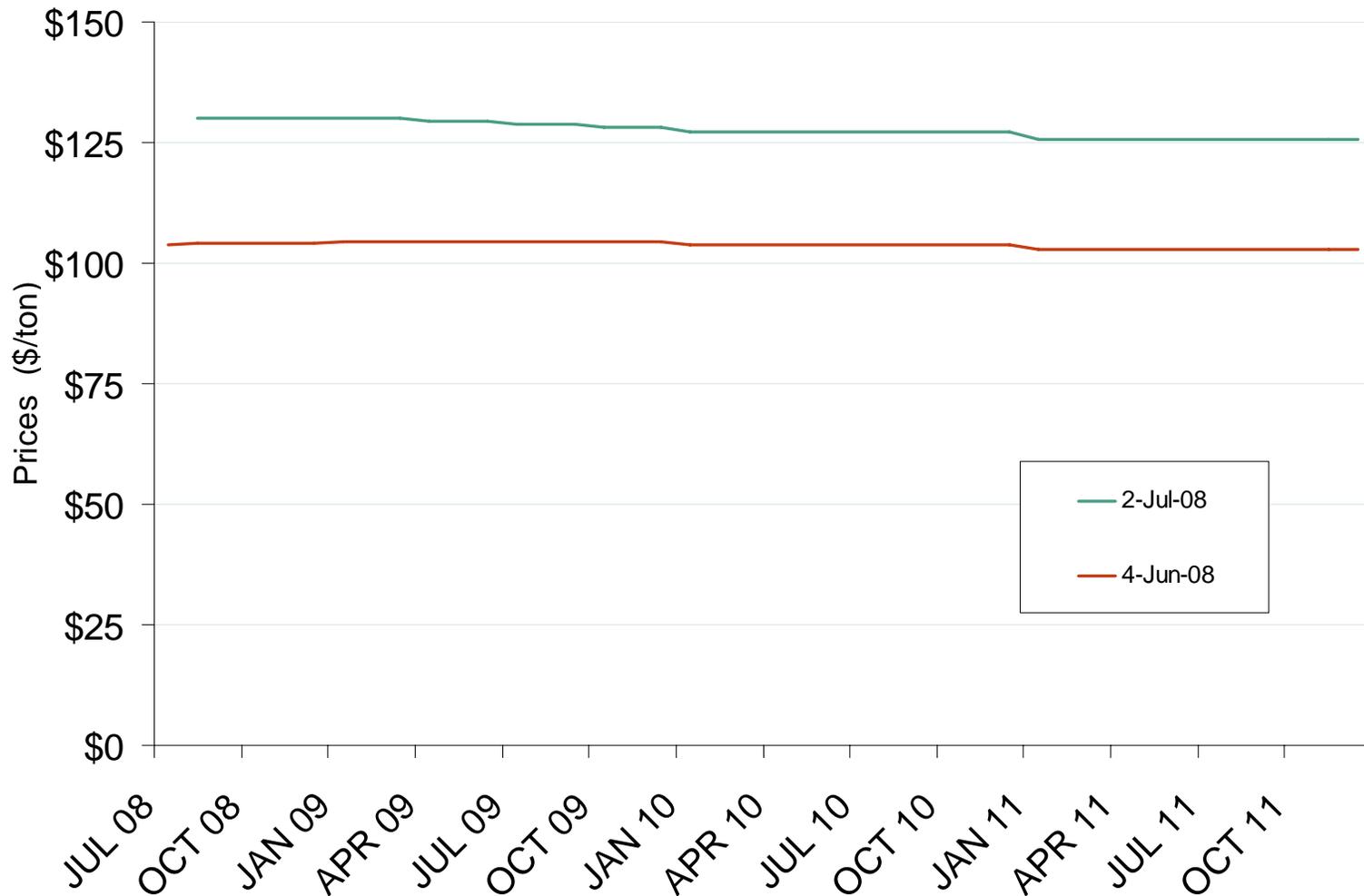


Note: Does not reflect the delivered price of coal; excludes incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.

Updated July 14, 2008

## Central Appalachian Coal Futures Prices

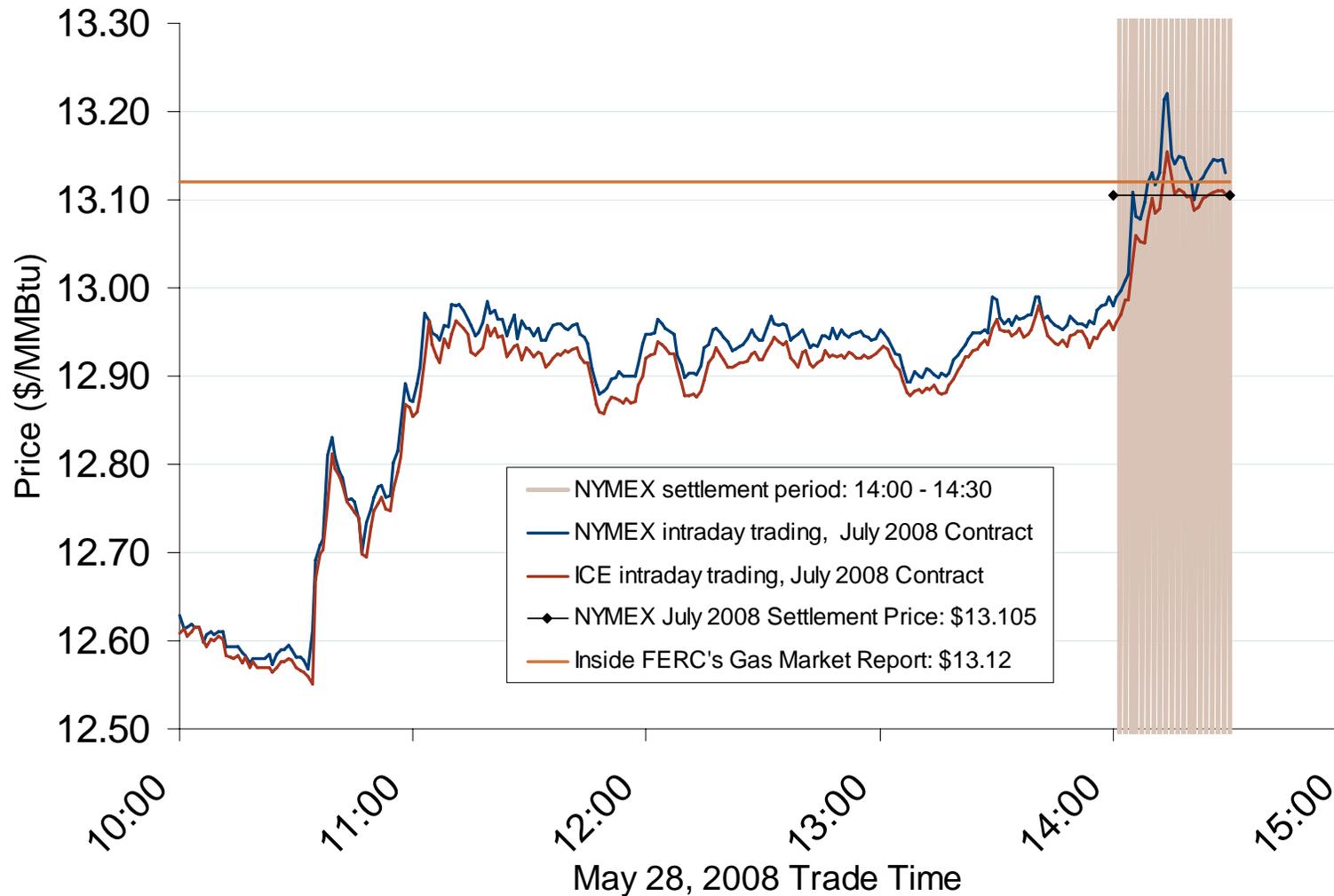


Source: Derived from Nymex data.

Updated July 9, 2008

3003

## July 2008 NYMEX and ICE Contract Final Settlement Day



Source: Derived from Nymex and ICE data.

Updated July 2, 2008

2166

# Renewable Energy Portfolio Standards (RPS)

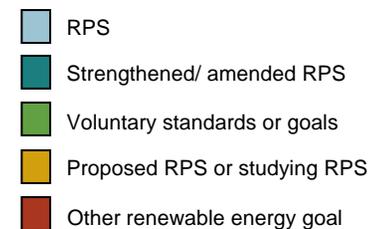
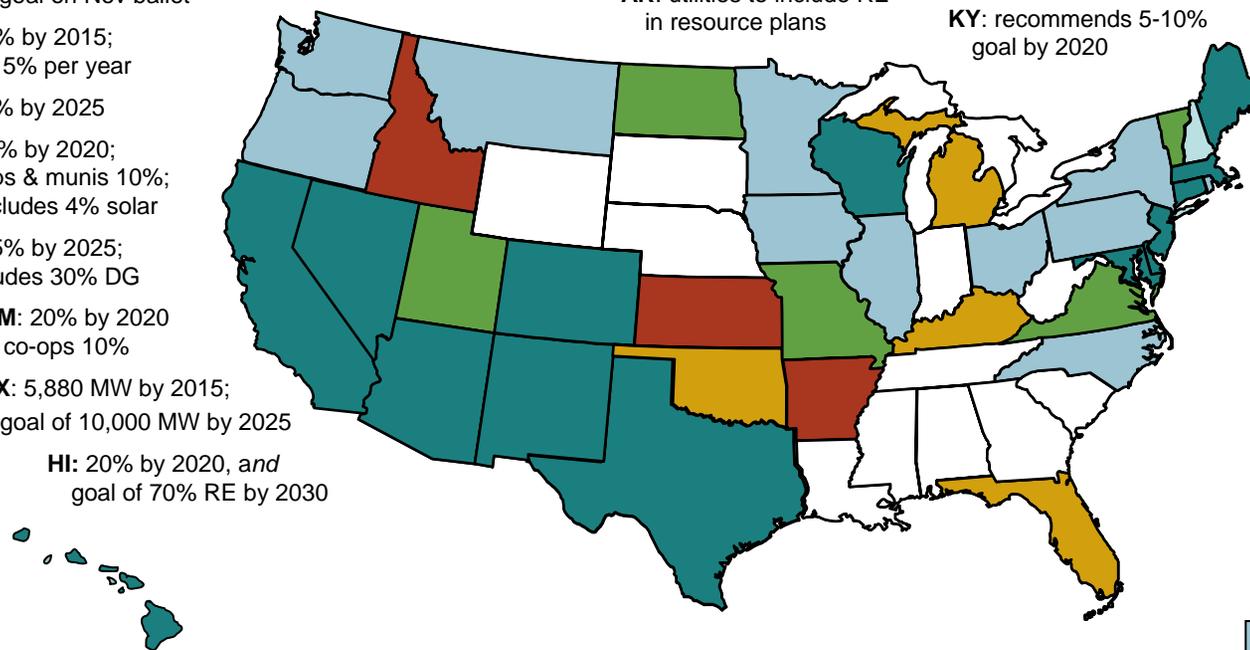
**WA:** 15% by 2020  
**OR:** 25% by 2025; small utilities 5-10%  
**CA:** 20% by 2010; goal of 33% by 2020; 50% goal on Nov ballot  
**NV:** 20% by 2015; solar 5% per year  
**UT:** 20% by 2025  
**CO:** 20% by 2020; co-ops & munis 10%; includes 4% solar  
**AZ:** 15% by 2025; includes 30% DG  
**NM:** 20% by 2020 co-ops 10%  
**TX:** 5,880 MW by 2015; goal of 10,000 MW by 2025  
**HI:** 20% by 2020, and goal of 70% RE by 2030

**MT:** 15% by 2015  
**ND:** 10% by 2015  
**KS:** 20% wind by 2020  
**OK:** studying RPS, RE transmission, cost-recovery

**MN:** 25% by 2025 Xcel 30% by 2020  
**IA:** 1,105 MW by 2011\*  
**MO:** 11% by 2020; ballot initiative for mandate  
**AR:** utilities to include RE in resource plans

**WI:** 10% by 2015  
**IL:** 25% by 2025  
**MI:** different bills passed by House and Senate  
**OH:** 12.5% by 2025, with 0.5% solar  
**KY:** recommends 5-10% goal by 2020

**ME:** 40% by 2017  
**NH:** 23.8% BY 2025  
**VT:** 25% by 2025  
**MA:** doubles RPS - 15% by 2020; goal of 250 MW solar by 2017  
**RI:** 16% by 2019  
**CT:** 23% Class I/II by 2020 4% Class III by 2010  
**NY:** 24% by 2013  
**PA:** 8% Tier I, 10% Tier II by 2020; solar set-aside  
**NJ:** 22.5% by 2020, with 2% solar  
**DE:** 20% by 2019, with 2% solar  
**DC:** doubles RPS - 20% by 2020; no less than 0.4% solar  
**MD:** 20% by 2022, with 2% solar  
**VA:** 12% by 2022  
**NC:** 12.5% by 2021 co-ops & munis: 10% by 2018  
**FL:** law directs PSC to write RPS regulations

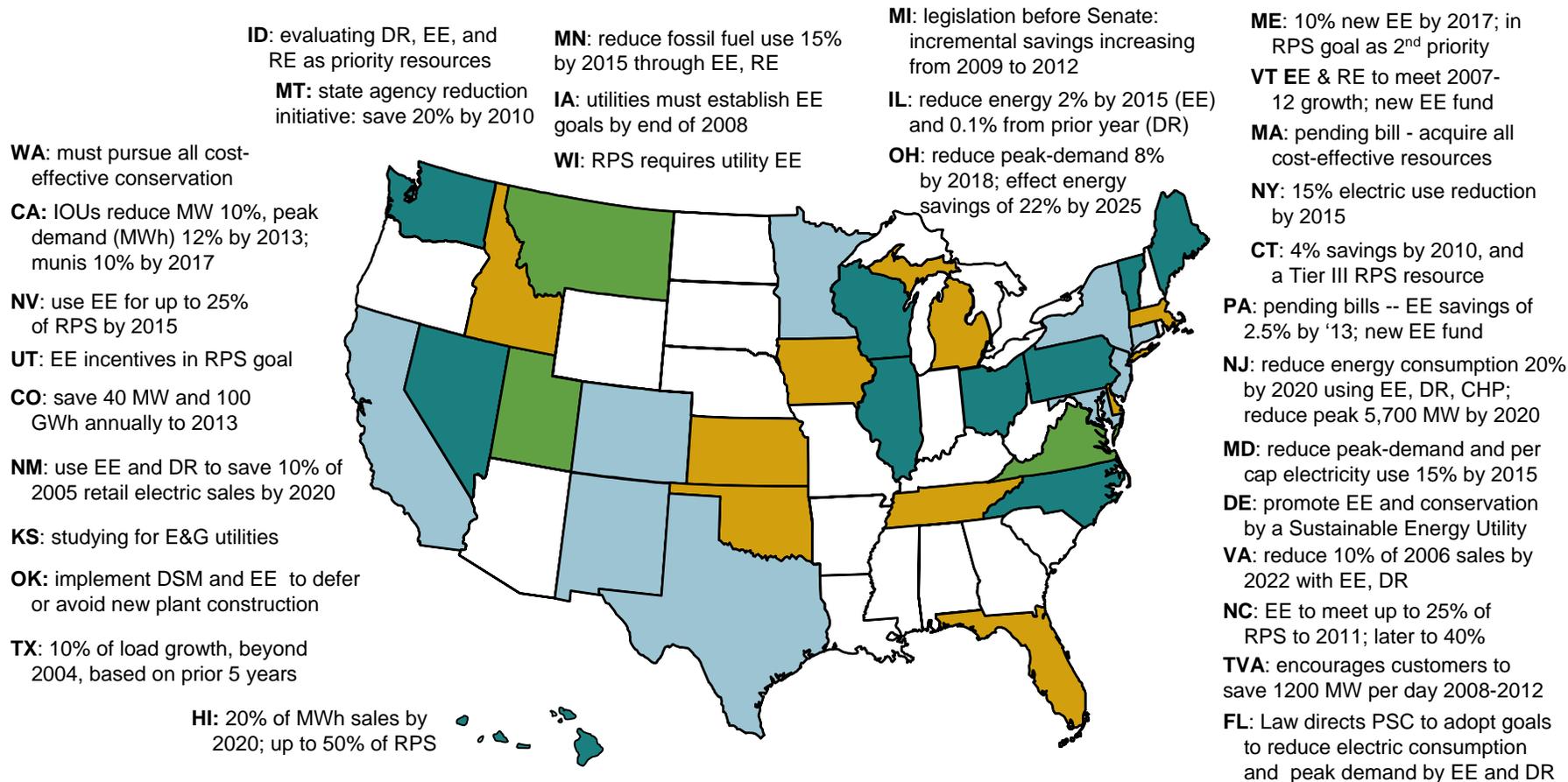


Updates at: <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf>

**Notes:** Alaska has no RPS; DG is distributed generation; \* Iowa has a goal of 1,000 MW of wind by 2010  
**Sources:** Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, Database of State Incentives for Renewables and Efficiency, and the Union of Concerned Scientists.

Updated July 17, 2008

# Energy Efficiency Resource Standards (EERS)



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

**Abbreviations:** CHP – Combined heat & power; DR - demand response; DSM - demand side management; EE - energy efficiency; E&G: electric and gas utilities; RPS: Renewable Portfolio Standard  
**Sources:** ACEEE, EPA, Regulatory Assistance Project, Union of Concerned Scientists, State legislative sites, trade press

- EERS by regulation or law (separate from RPS)
- Energy efficiency part of an RPS rule or goal
- Voluntary standards (in or out of RPS)
- Energy efficiency goal proposed / being studied

Updated July 9, 2008