

OE ENERGY MARKET SNAPSHOT

Western States Version – November 2008 Data

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

Office of Enforcement
Federal Energy Regulatory Commission
December 2008



Special Report:

- **Summary of OE 2008 Annual Report**



2008 REPORT ON ENFORCEMENT

Docket No. AD07-13-001

Released October 31, 2008

<http://www.ferc.gov/legal/staff-reports/2008-enforc.pdf>

Enforcement Activities FY2008

A. May 15, 2008 Issuances.

- **Revised Policy Statement on Enforcement**
- **Interpretive Order Modifying the No-Action Letter Process and Reviewing Other Mechanisms for Obtaining Guidance**
- **Ex Parte Contacts and Separation of Functions**
- **Instant Final Rule on Submissions to the Commission upon Staff Intention To Seek an Order To Show Cause**

B. Updated Enforcement Webpage

<http://www.ferc.gov/enforcement/enforcement.asp>

C. Compliance Workshop

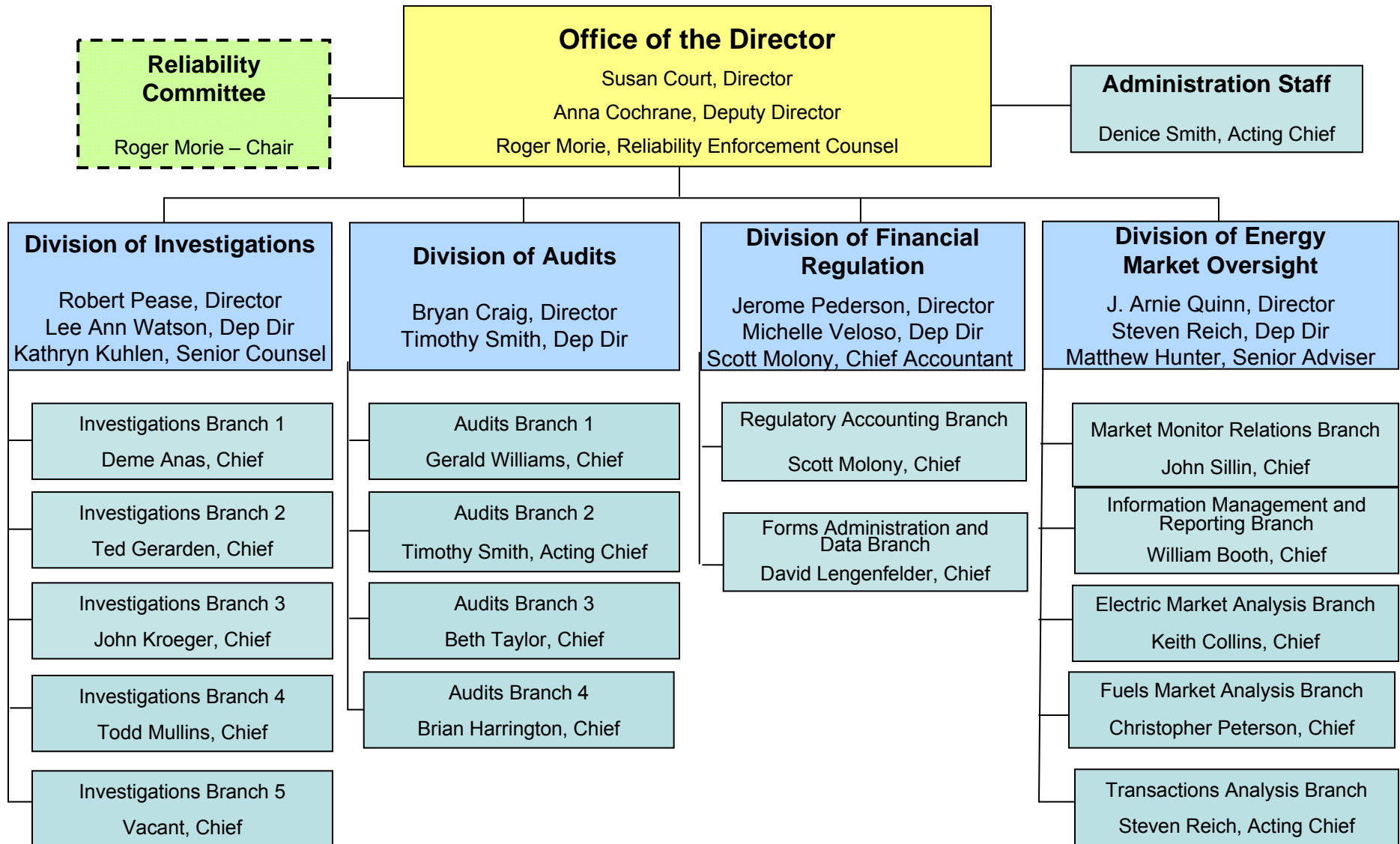
D. Policy Statement on Compliance

E. Rulemakings on Reporting Requirements

- **Reporting Requirements for Natural Gas Pipelines**
- **Reporting Requirements for Electric Utilities and Licensees**
- **Rule on Reporting of Transactions to Price Index Publishers and their Blanket Sales Certificate Status**

Office of Enforcement

10/29/08



Investigation Activities FY2008

- A. Self Reporting Statistics**
- B. Trends in Self Reporting**
- C. Trends in Investigations**
- D. Investigation Statistics**
- E. Settlements**
- F. Proceedings After Orders To Show Cause Have Issued**

Investigation Highlights

A. Number of Investigations increased

- 48 in FY2008
- 35 in FY 2007

B. Increase in Market Manipulation cases

C. Increase in 35.41

D. Increase in referrals from MMUs

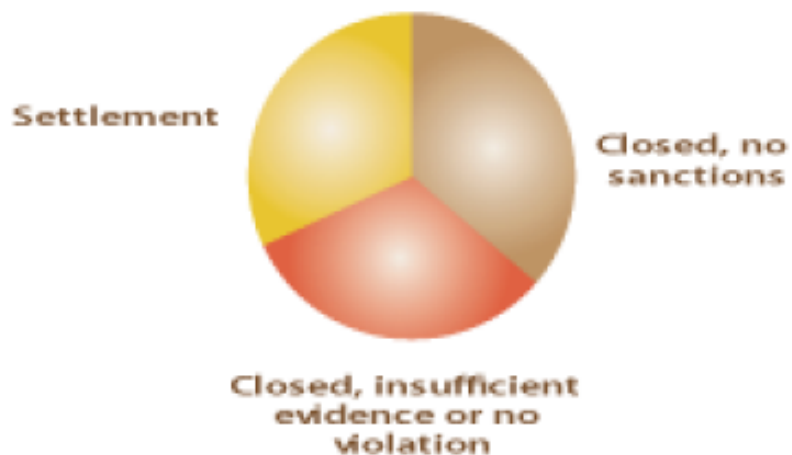
- 15 in 2008 vs 2 in 2007

E. First Reliability related investigations opened in FY2008

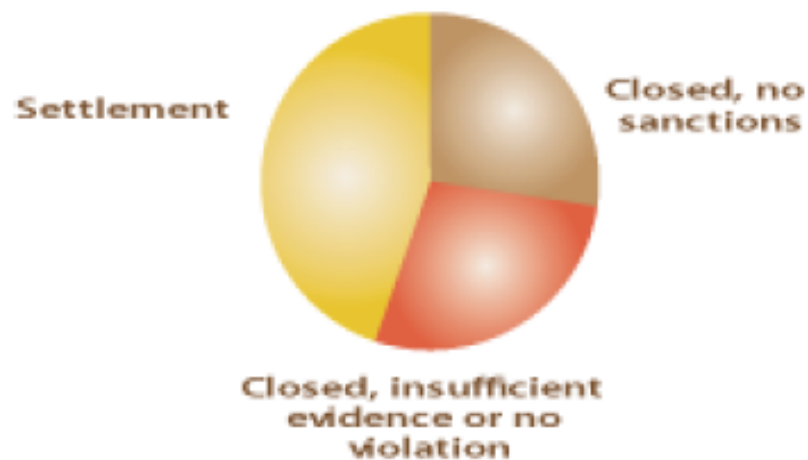
F. Stress on compliance programs

Investigation Dispositions

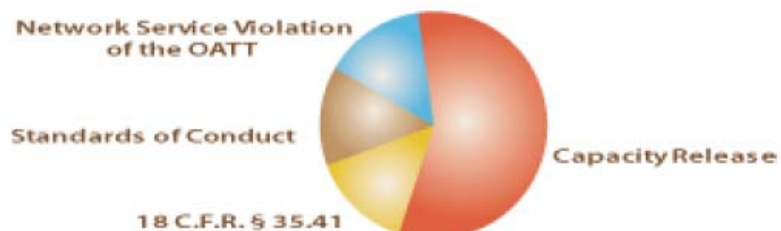
DISPOSITION OF INVESTIGATIONS, FY2008



DISPOSITION OF INVESTIGATIONS, FY2007



SETTLEMENTS BY TYPE OF VIOLATION, FY2008



FY2008 total civil penalty payment: \$19.95 million

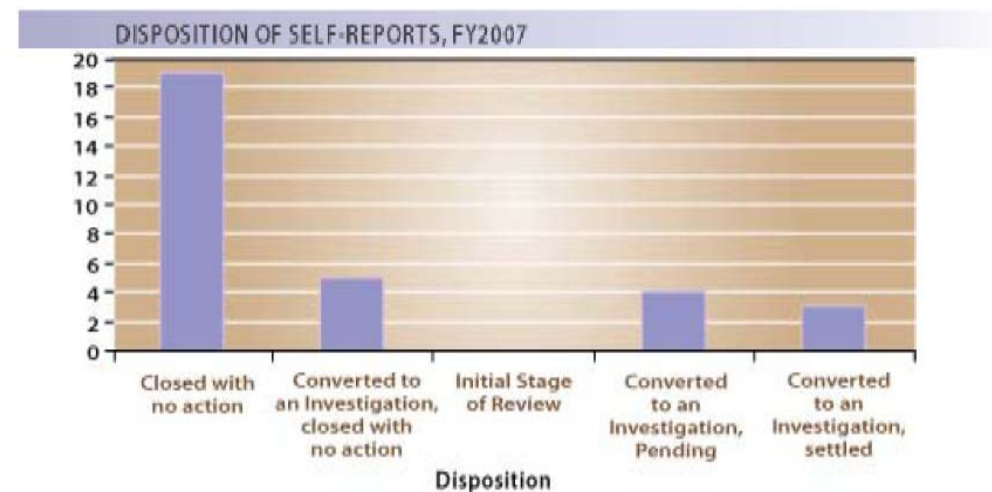
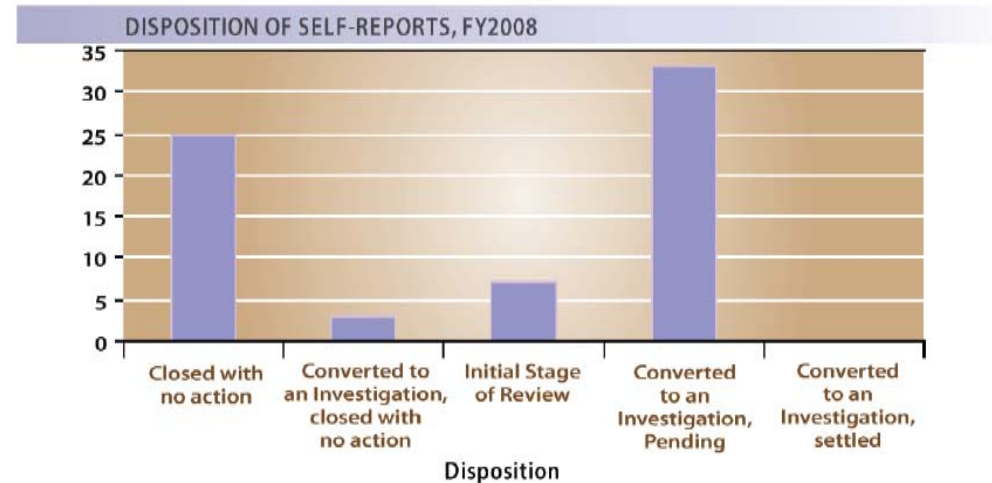
SETTLEMENTS BY TYPE OF VIOLATION, FY2007



FY2007 total civil penalty payment: \$32.5 million

Self Report Highlights

- A. Self Reporting doubled to 68 reports in FY2008 (31 in FY2007)**
- B. Most self reports continue to involve Capacity Release requirements**
- C. SOC self-reports have declined**
- D. Staff closed 25 FY2008 self reports with no action**
- E. None have yet resulted in penalty**



Orders To Show Cause FY2008

A. Amaranth Advisors LLC

B. Energy Transfer Partners, L.P.; and Oasis Pipeline, L.P.

Audits Activities FY2008

A. Summary of Audit Results

- **60 audits in FY2008; 39 Financial & 21 non-financial**
- **156 recommendations for corrective action**
- **\$1 mill recoveries from acctg/billing adjustments**
- **\$8.7 million reductions in utility plant**
- **Implementation of compliance plans**
- **Examples:**
 - **PUCHA 2005 - 1**
 - **Financial Services Trading Companies – 3**
 - **Blanket Authorizations for Mergers, Acquisitions, and other Transactions – 1**
 - **Fuel Adjustment Clause – 1**
 - **Market-Based Rate Authorizations – 2**
 - **OATT – 3**
 - **OASIS – Several**
 - **Reliability – 8 (Observers only)**

B. Referrals to Investigations – Ottertail and DQE

C. Audit Improvements

Energy Market Oversight Activities FY2008

A. Presentations at Commission and Other Public Meetings

- State of Markets
- Summer/Winter Assessments
- Upon Request (ex. Increasing Costs in Electric Markets)
- Conferences (ex. Review of Wholesale Electric Markets)

B. Oversight Website

<http://www.ferc.gov/market-oversight/market-oversight.asp>

C. Domestic and Foreign Delegation Briefings

- 3 Congressional delegations
- 2 groups from state commissions
- 6 industry delegations
- 17 foreign delegations

D. Research in Market Oversight Program

- EPA - emissions
- Missouri PSC – market volatility, distortions, manipulation
- Ireland's Commission on Energy Regulation

E. Monthly Conference Calls With State Energy Officials

F. RTO/ISO Market Monitors

G. Market Monitoring Center (MMC)

Financial Regulation Activities FY2008

A. Forms Administration and Data Collection

- Electric Quarterly Reports
- Annual and Quarterly Financial Reports

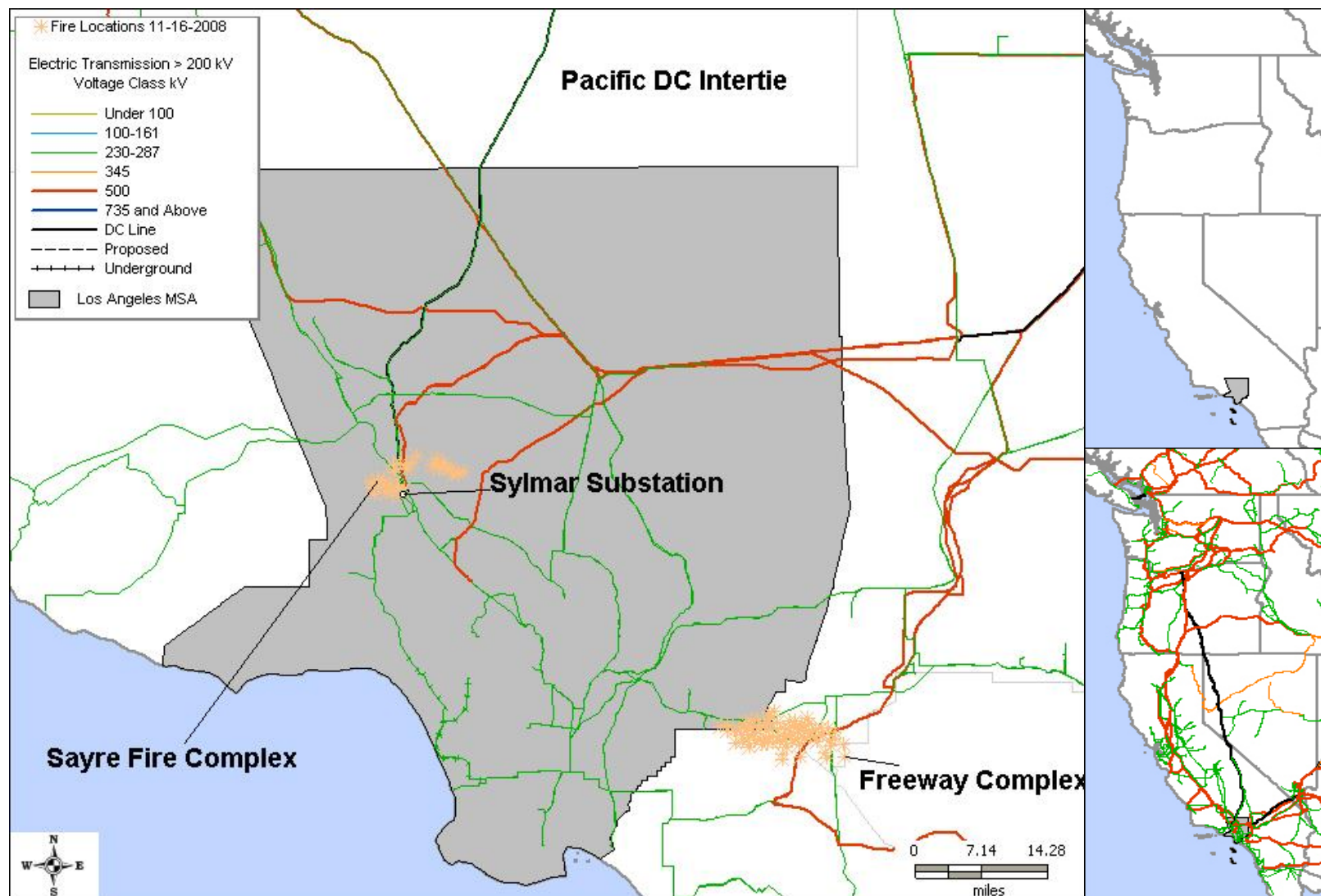
B. Regulatory Accounting

- Help Desk and Outreach
- Requests for Approval of the Chief Accountant
- Certificate Proceedings
- Merger and Acquisition Proceedings
- Rate Proceedings

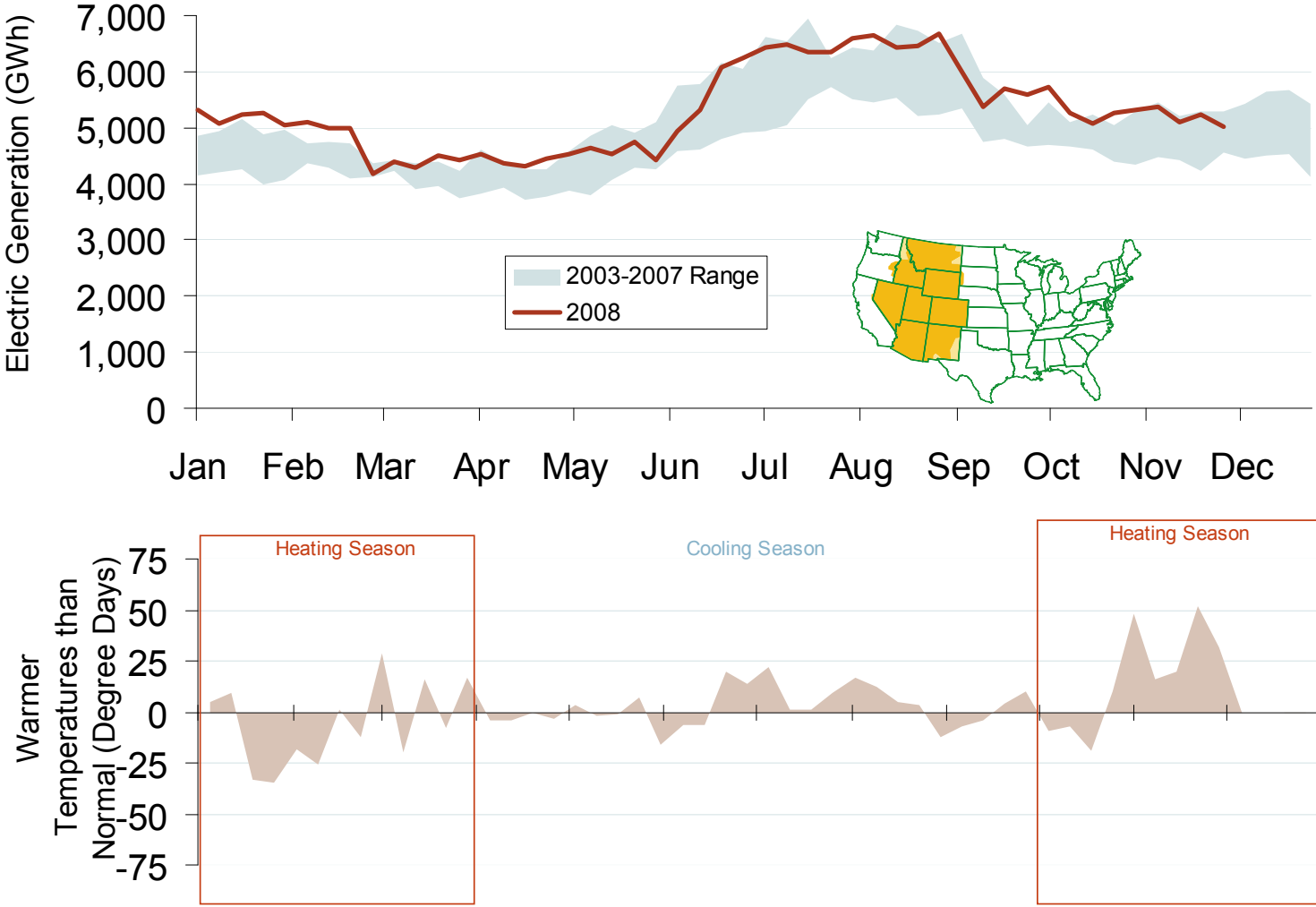


Electricity Markets

Los Angeles Fires Cause Outages on Pacific DC Intertie

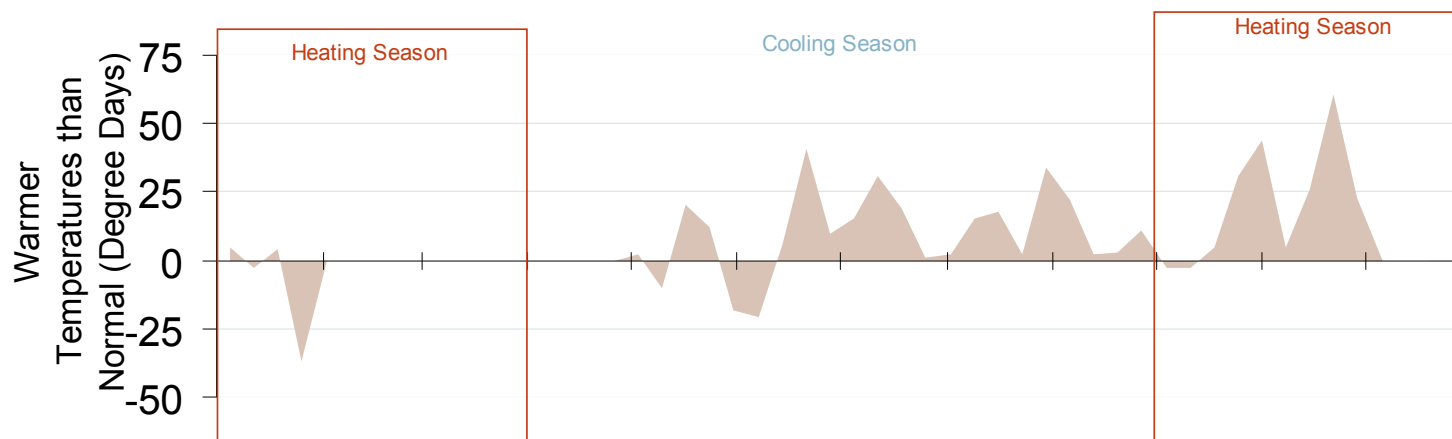
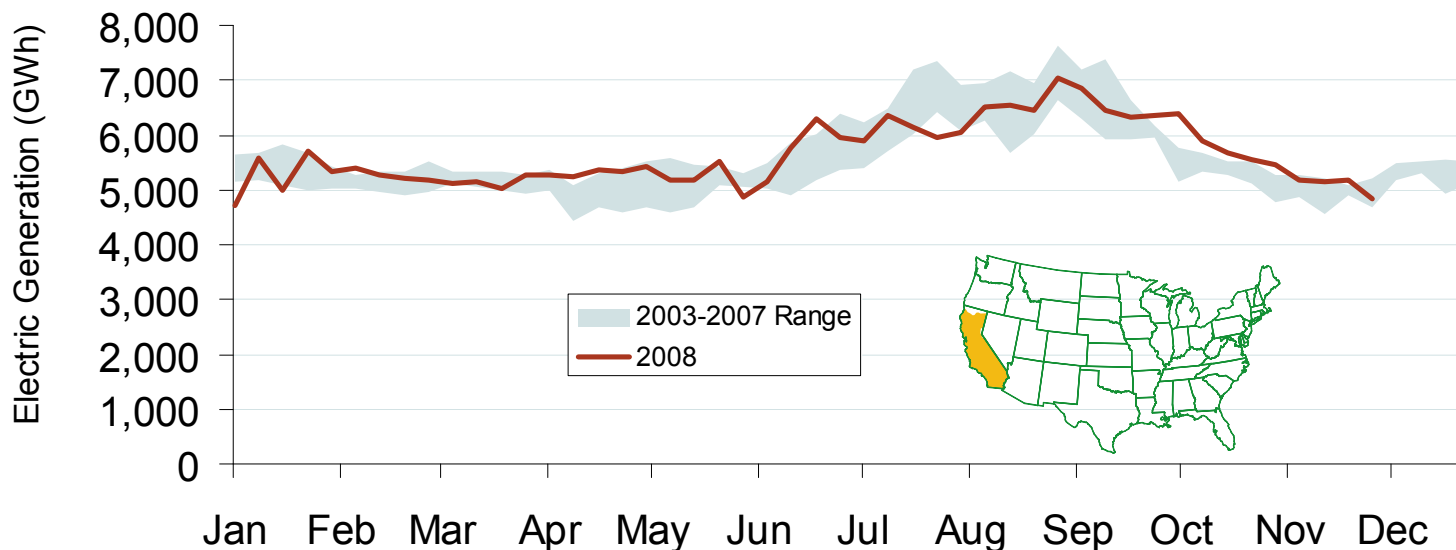


Weekly Electric Generation Output and Temperatures Rocky Mountains Region

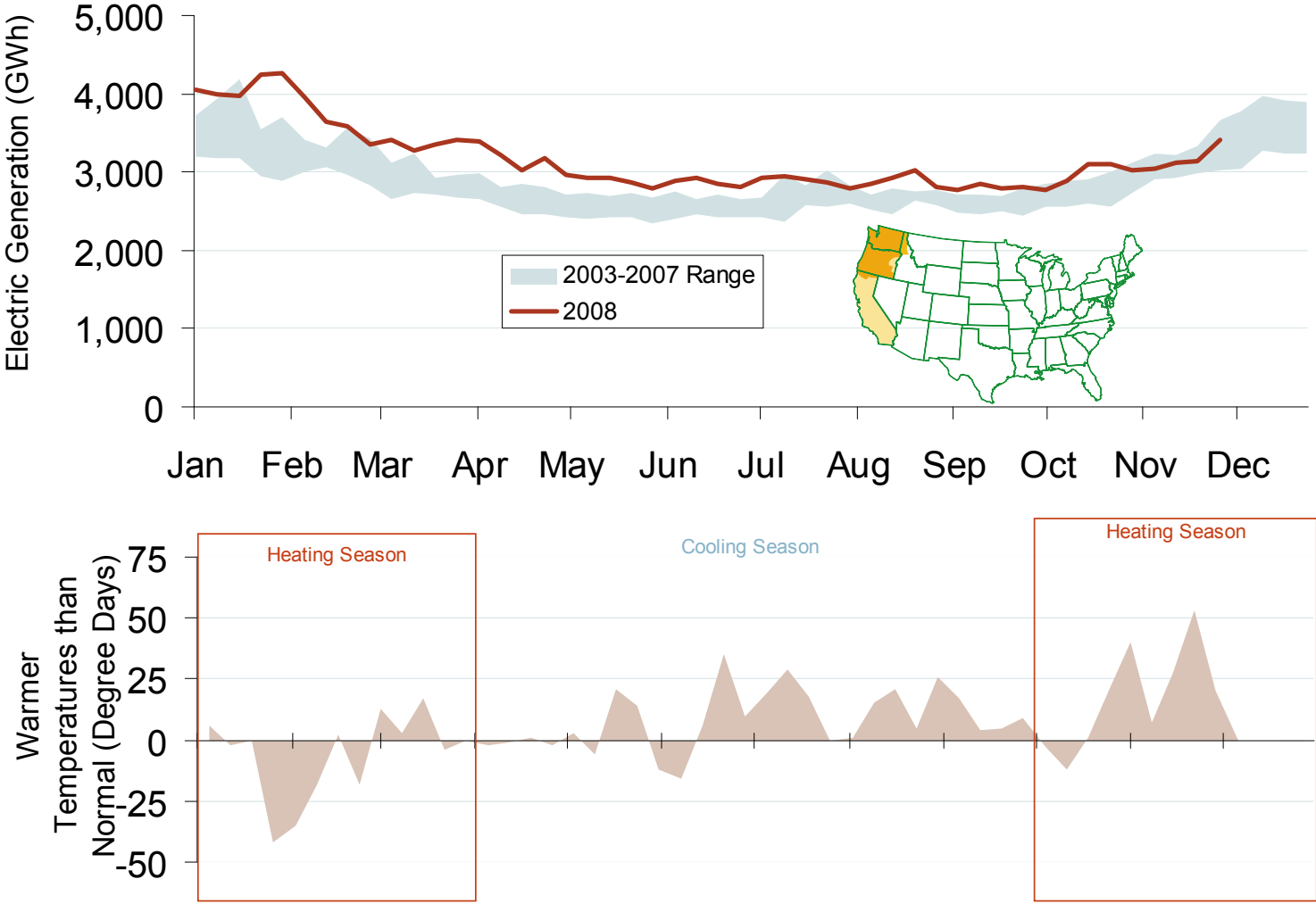


Source: Derived from EEI and NOAA data.
December 2008

Weekly Electric Generation Output and Temperatures California

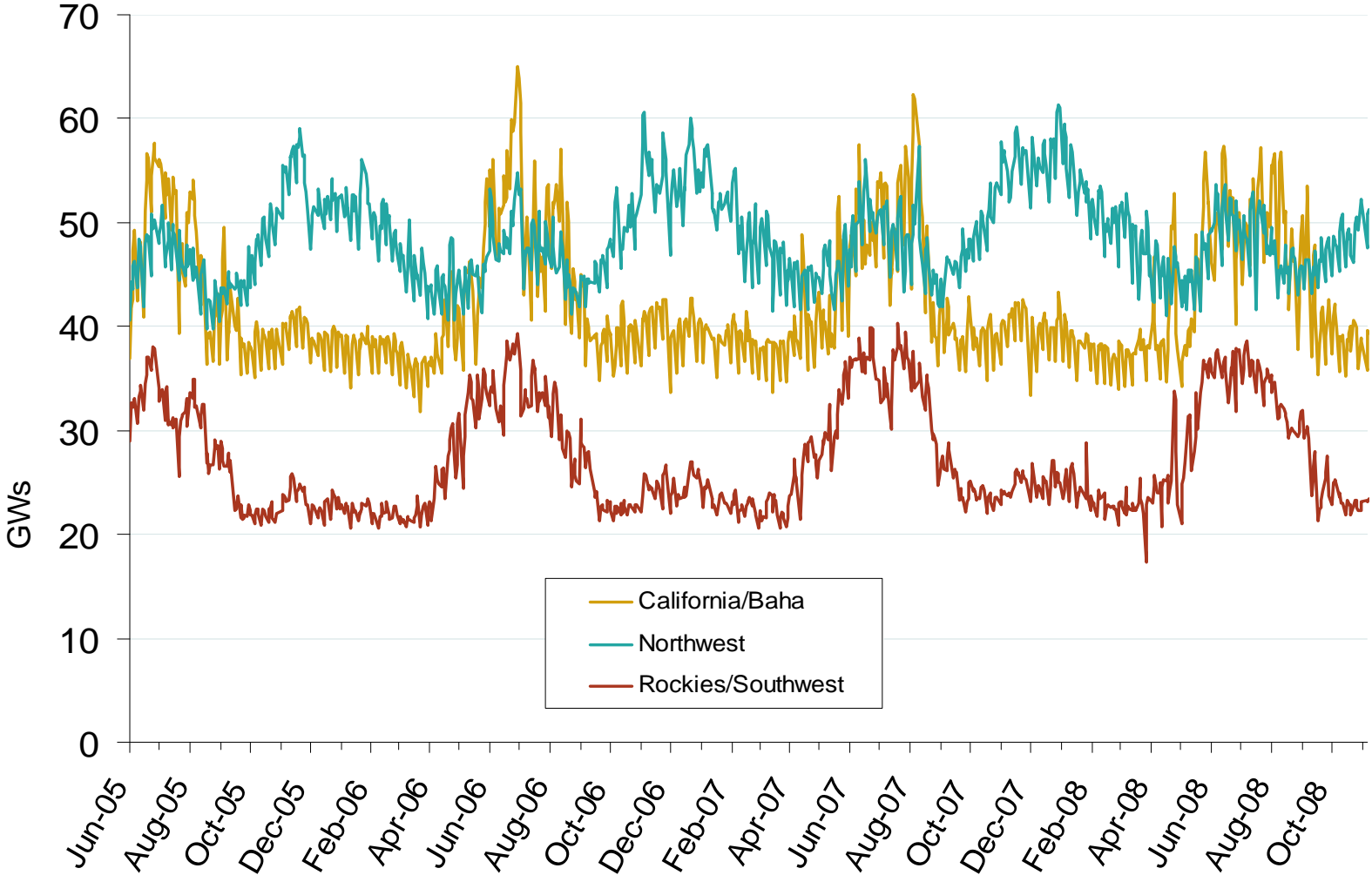


Weekly Electric Generation Output and Temperatures Pacific Northwest Region



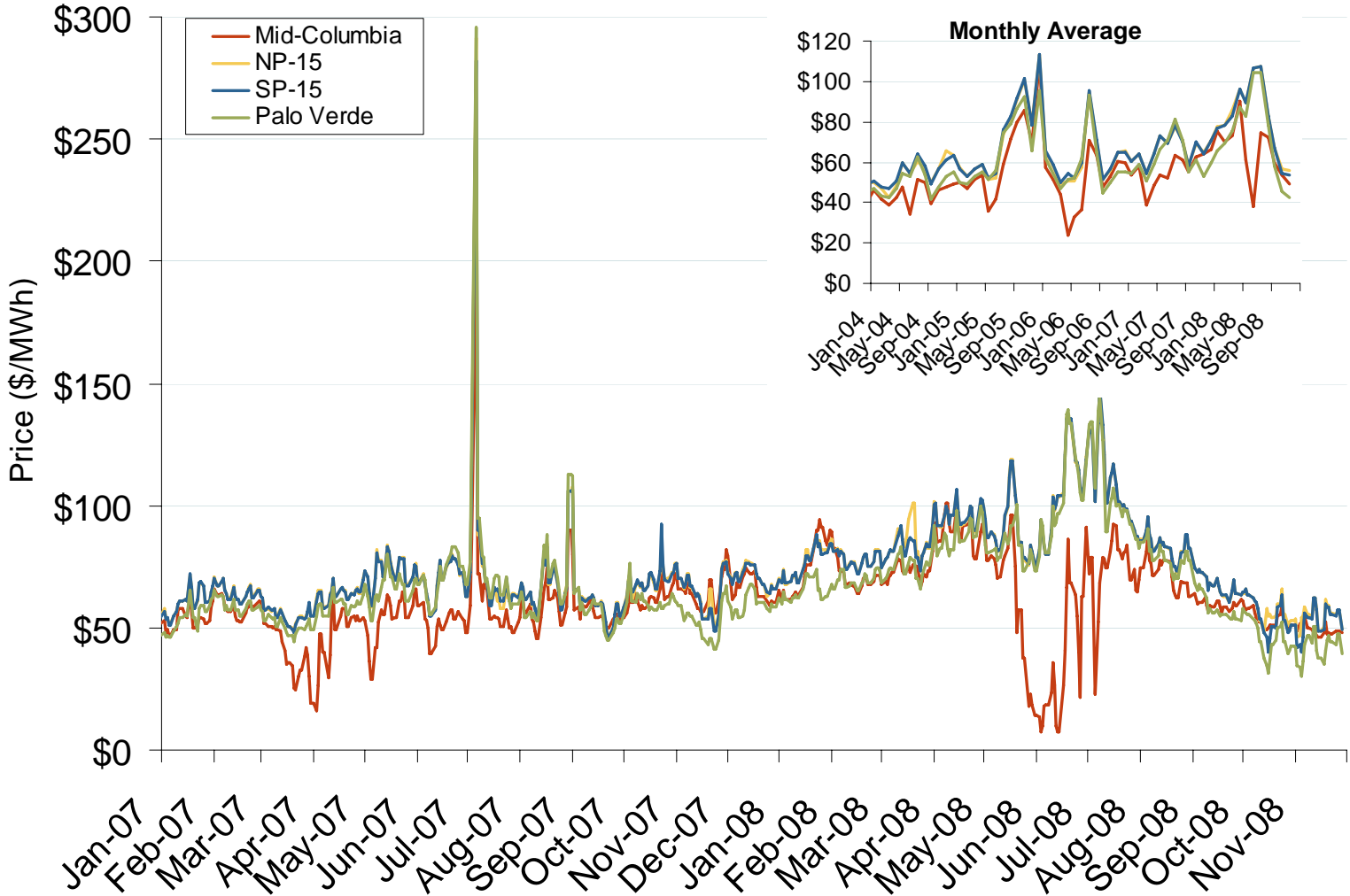
Source: Derived from *EI* and *NOAA* data.
December 2008

Western Daily Actual Peak Demand



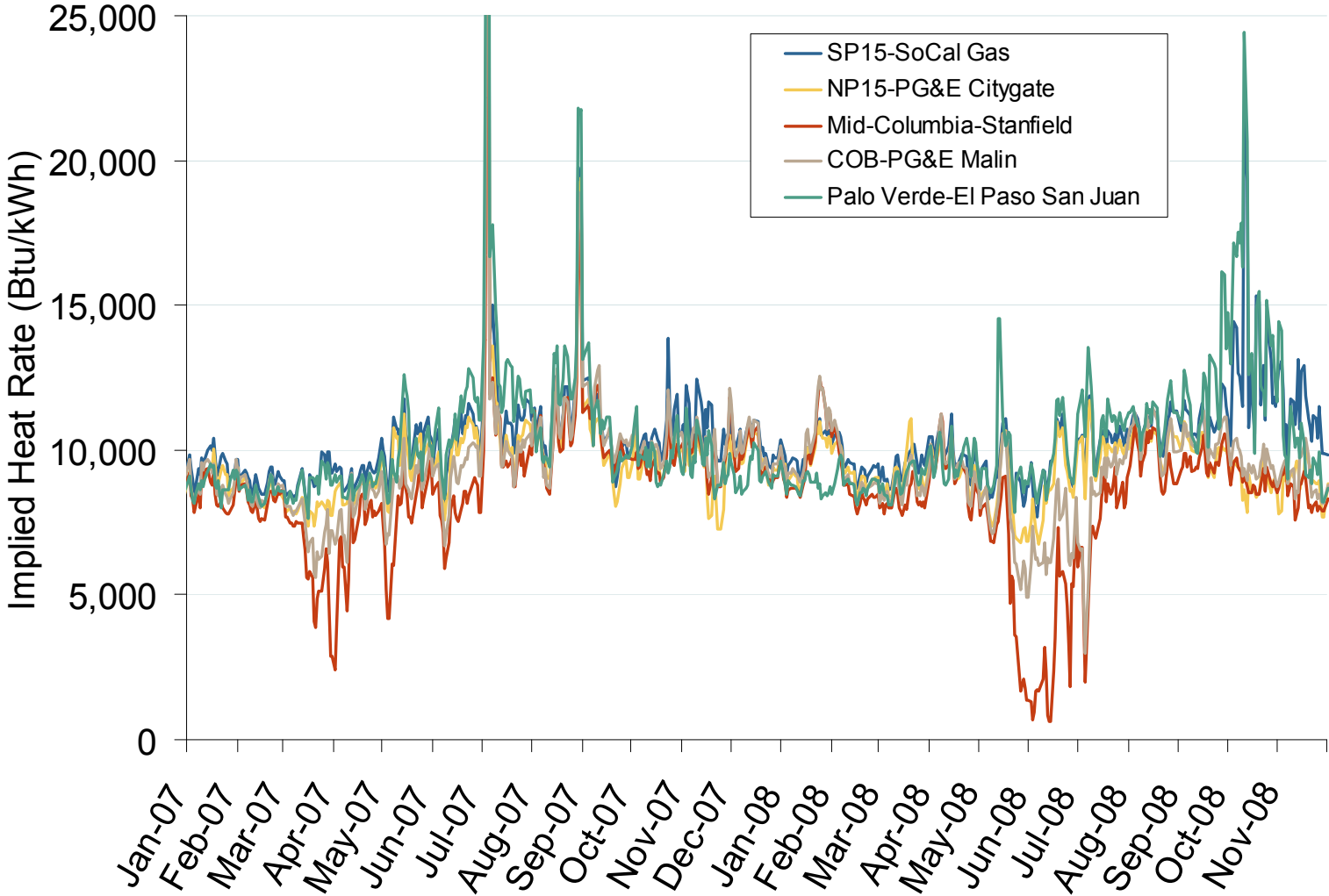
Source: Derived from WECC Daily Report data available at <http://wecc.biz>. Data shown is generally Sunday through Thursday due to limitations of daily reports.

Western Daily Bilateral Day-Ahead On-Peak Prices



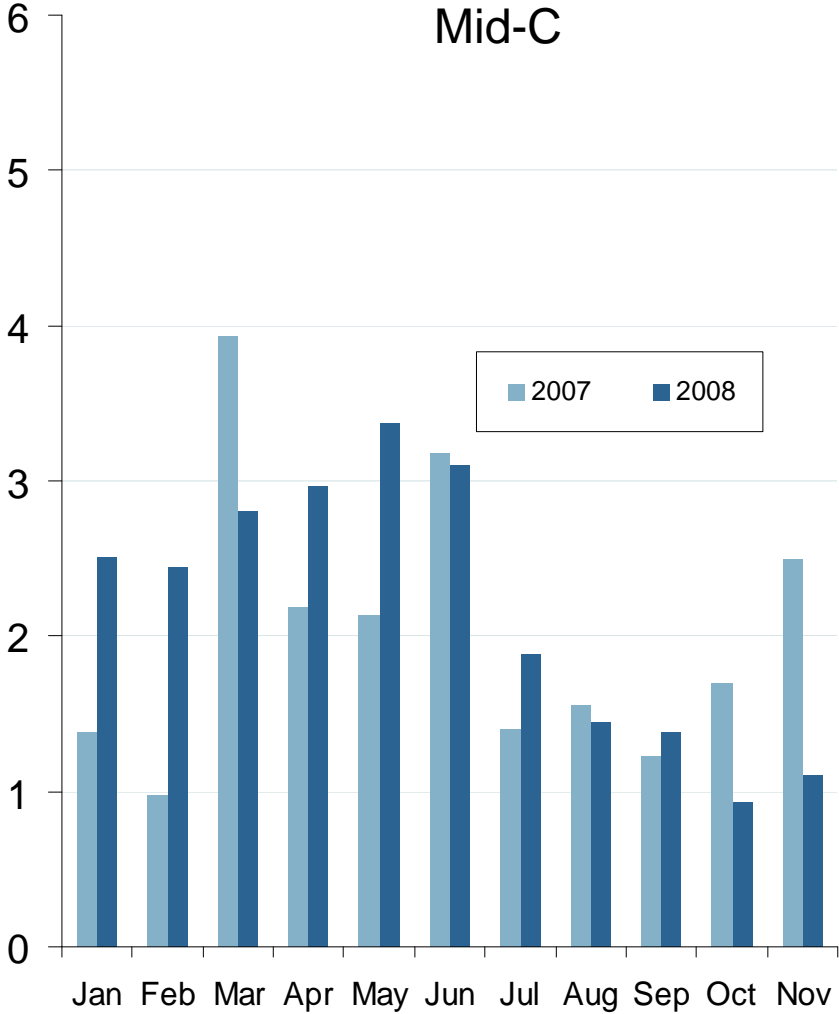
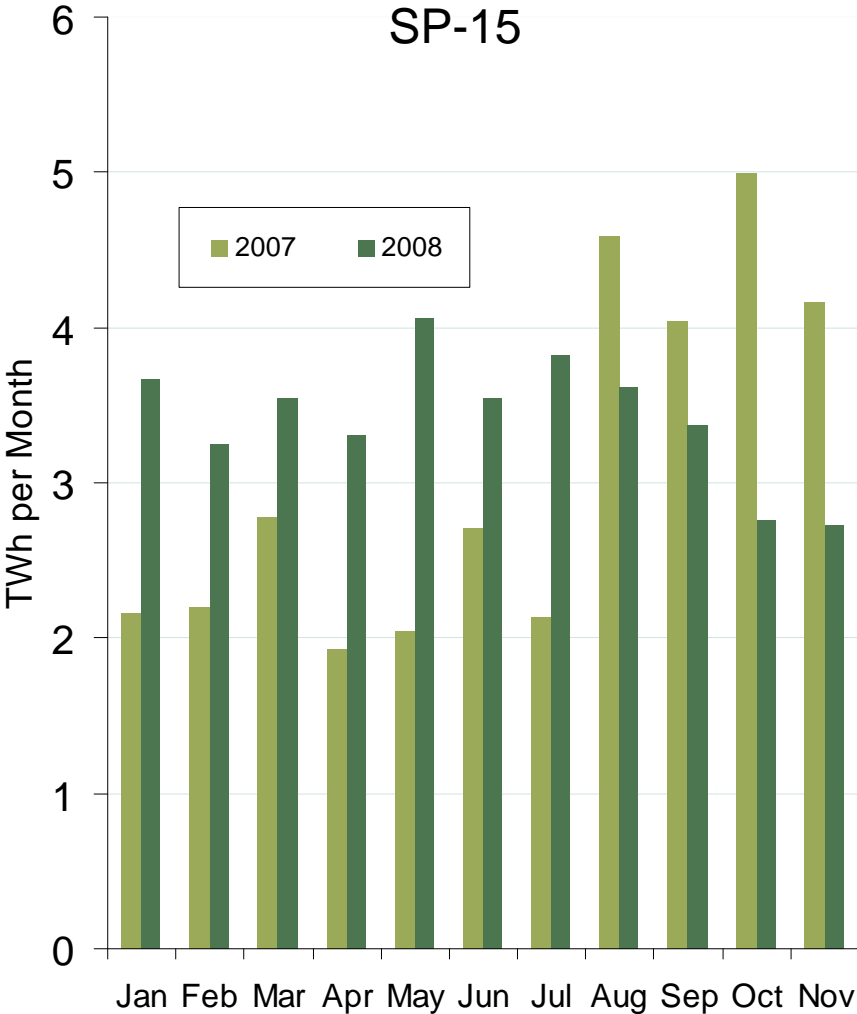
Source: Derived from *Platts* data.

Implied Heat Rates at Western Trading Points



Source: Derived from Platts data
December 2008

Western Next Day Physical Power Volumes Sold on ICE 2007 and 2008

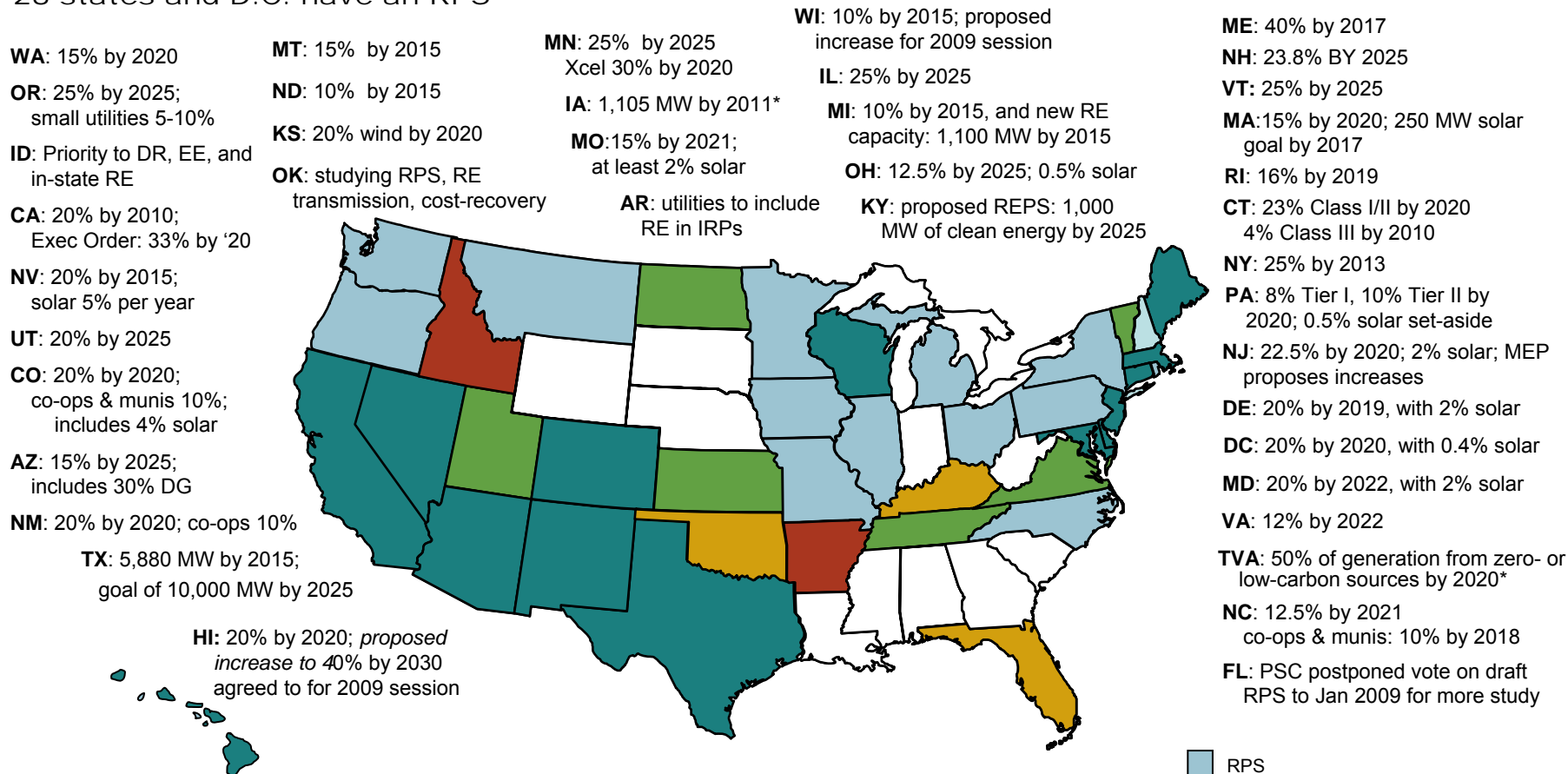


Source: Derived from ICE data.

December 2008

Renewable Energy Portfolio Standards (RPS)

28 states and D.C. have an RPS



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

Notes: Alaska has no RPS; * Iowa has a goal of 1,000 MW of wind by 2010; TVA's "Renewable Energy and Clean Energy Assessment" is from the Public Power Authority; it is not a state policy.

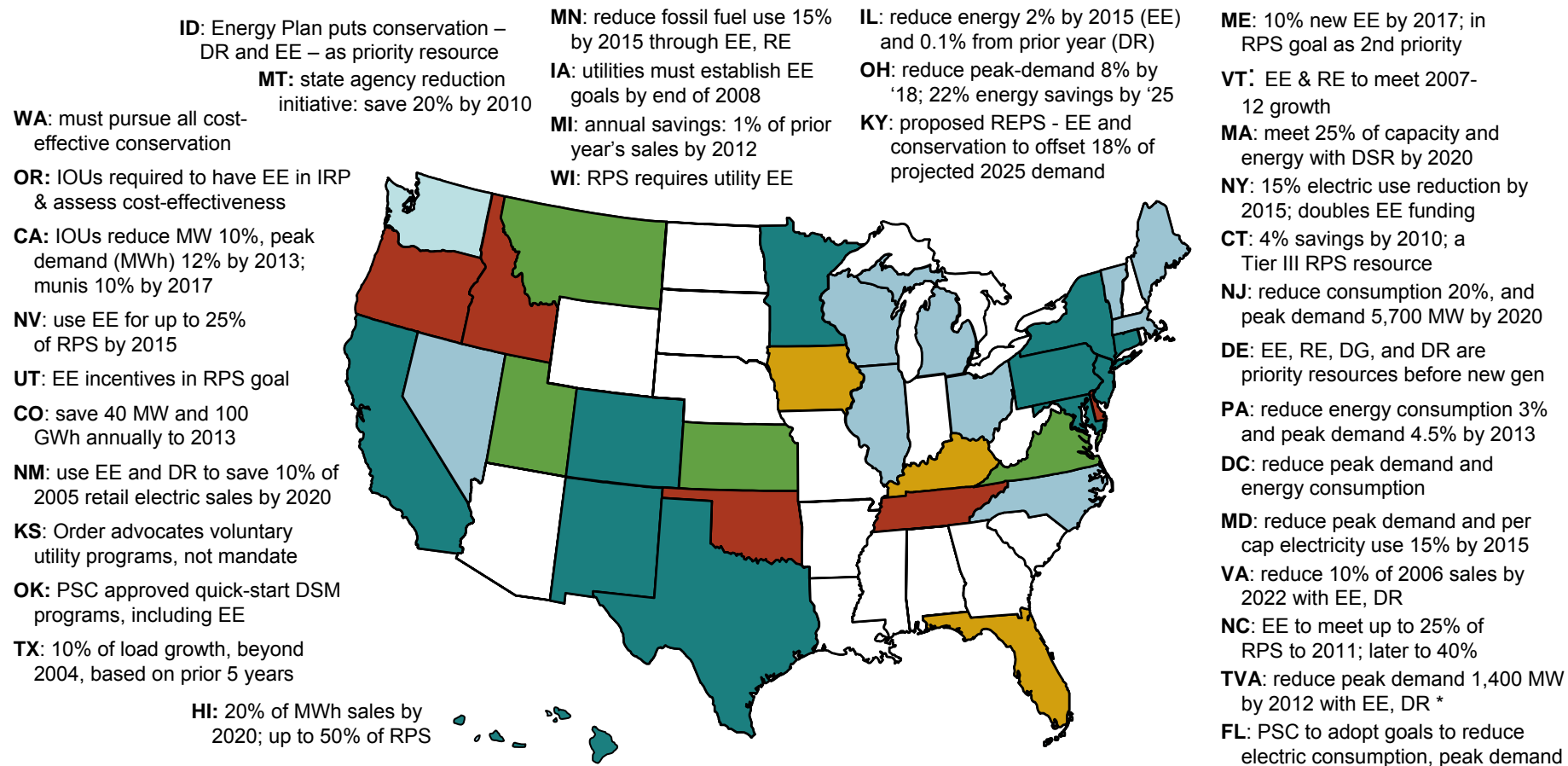
Abbreviations: DG: distributed generation; DR: demand response; EE: energy efficiency; IRP: integrated resource plan.

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.

- RPS
- Strengthened/ amended RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS
- Other renewable energy goal

Updated December 5, 2008

Energy Efficiency Resource Standards (EERS)

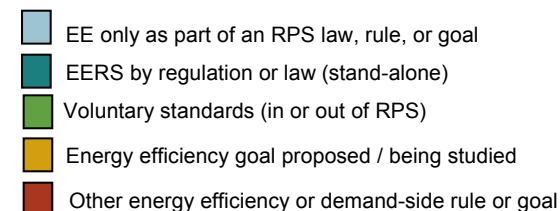


Updates at: <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-eeeps.pdf>

* TVA's "EE and DR Plan" is from the Public Power Authority, and is not a state policy.

Abbreviations: CHP – Combined heat & power; DG – distributed generation; DR - demand response; DSM - demand side management; DSR – demand-side resources; EE - energy efficiency; E&G: electric and gas utilities; IRP – integrated resource plan; RPS: Renewable Portfolio Standard

Sources: ACEEE, EPA, Regulatory Assistance Project, Union of Concerned Scientists, State regulatory and legislative sites, trade press



Updated December 5, 2008

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*
- WCI 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:

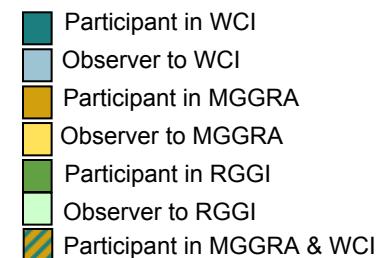
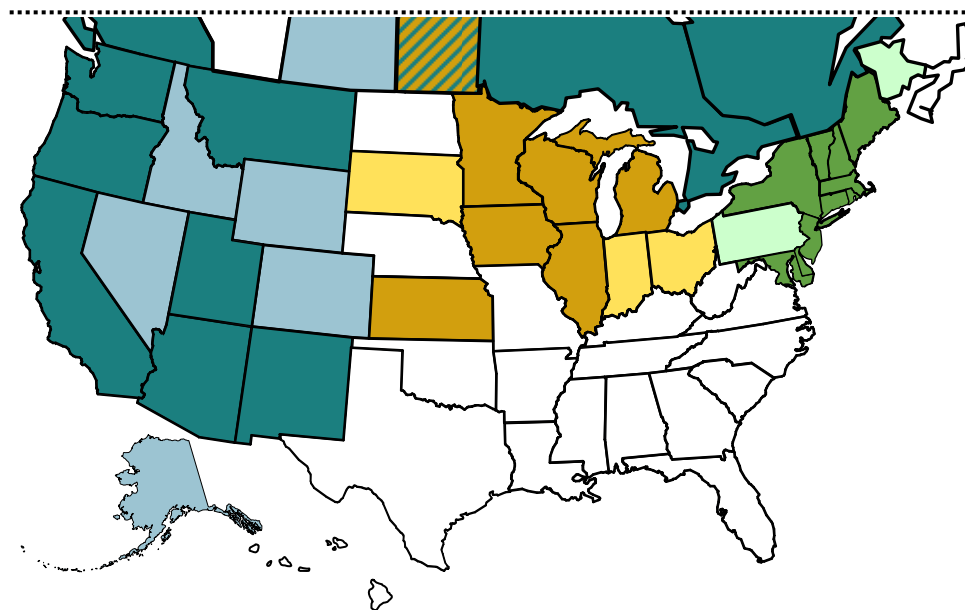
- Established November 2007
- Participants: 6 states, 1 province; 3 Observer states, 1 province
- *Preliminary* GHG policy recommendation: 15 – 25% reductions by 2020, 60 – 80% by 2050

Regional Greenhouse Gas Initiative (RGGI):

- Takes effect Jan 2009
- 10 Participant 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
- 188 million allowances to be sold in 6 auctions

Auctions:

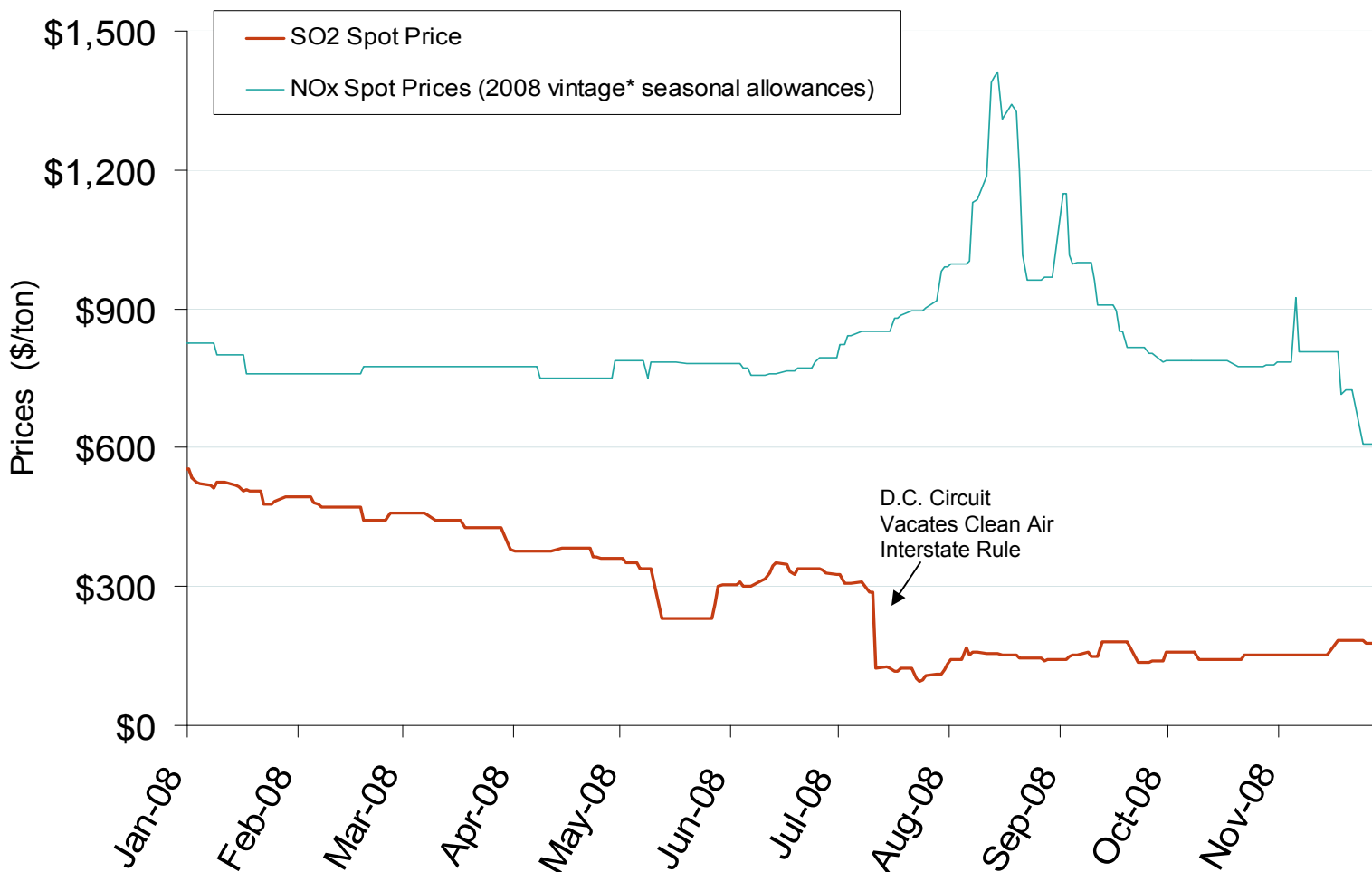
1. **9/25**: 12.5 million allowances sold by 6 states, clearing at \$3.07/allowance.
2. **12/17/08**: first 6 states plus NY, NJ, NH, DE to participate in sale of 31.5 million allowances
- 3 to 6: All ten states on same percent basis as prior auctions.
 - 2009 dates: 3/18, 6/17, 9/16, 12/16



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, trade press, Pew Center.

SO₂ Allowance Spot Prices and NOx Seasonal Allowance Spot Prices



Source: Derived from *Cantor Fitzgerald* data.

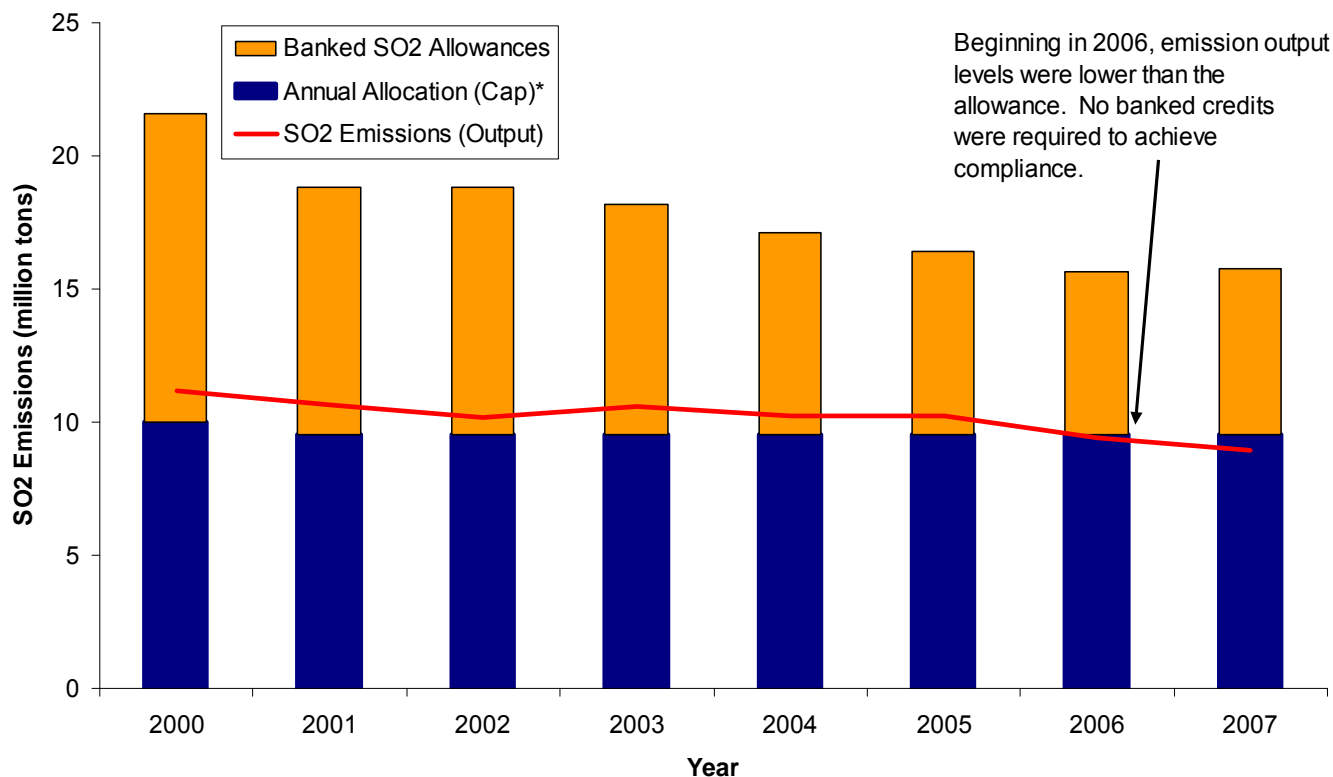
* Earliest year an allowance may be applied against emissions.
December 2008

Updated December 5, 2008

3004

SO₂ Allowances Available for Compliance and SO₂ Emission Output under Cap-and-Trade

SO₂ Allowances Available for Compliance and SO₂ Emission Output under Cap-and-Trade

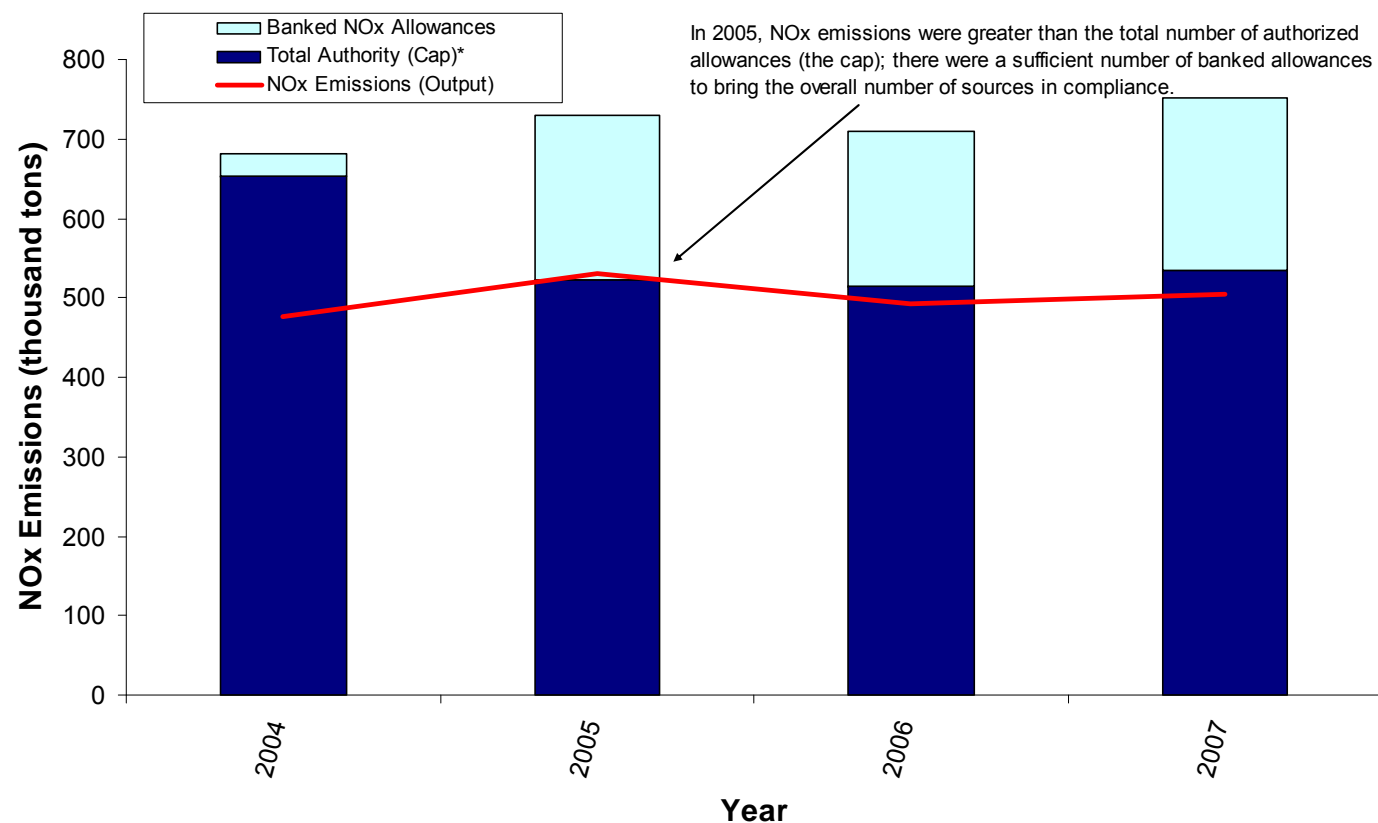


Source: EPA

See overview on following slide.
December 2008

Updated December 5, 2008

NOx Allowances Available for Compliance and NOx Emission Output under Cap-and-Trade



Source: EPA

See notes on following slide.
December 2008

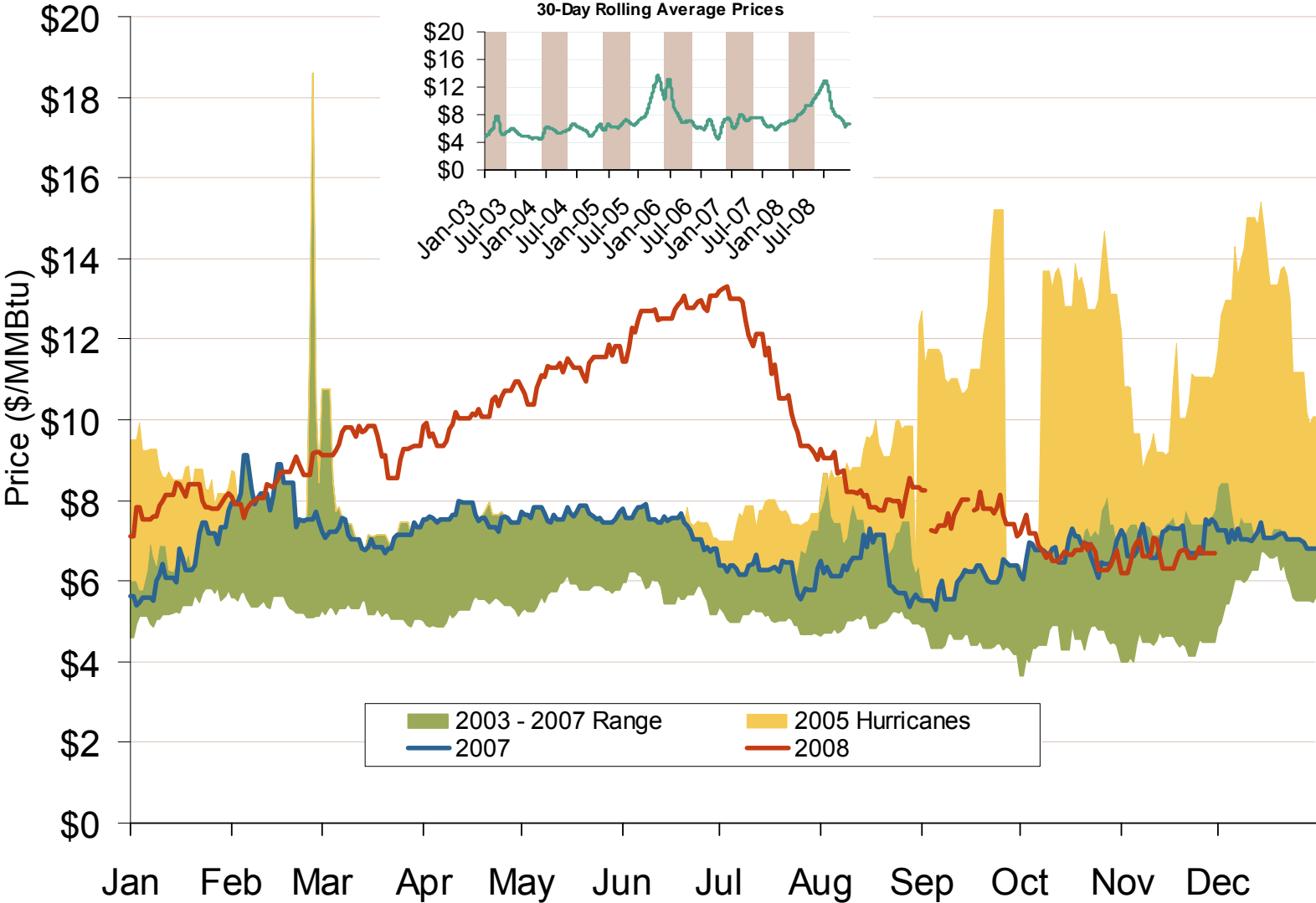
Updated October 9, 2008



Natural Gas and Fuel Markets

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

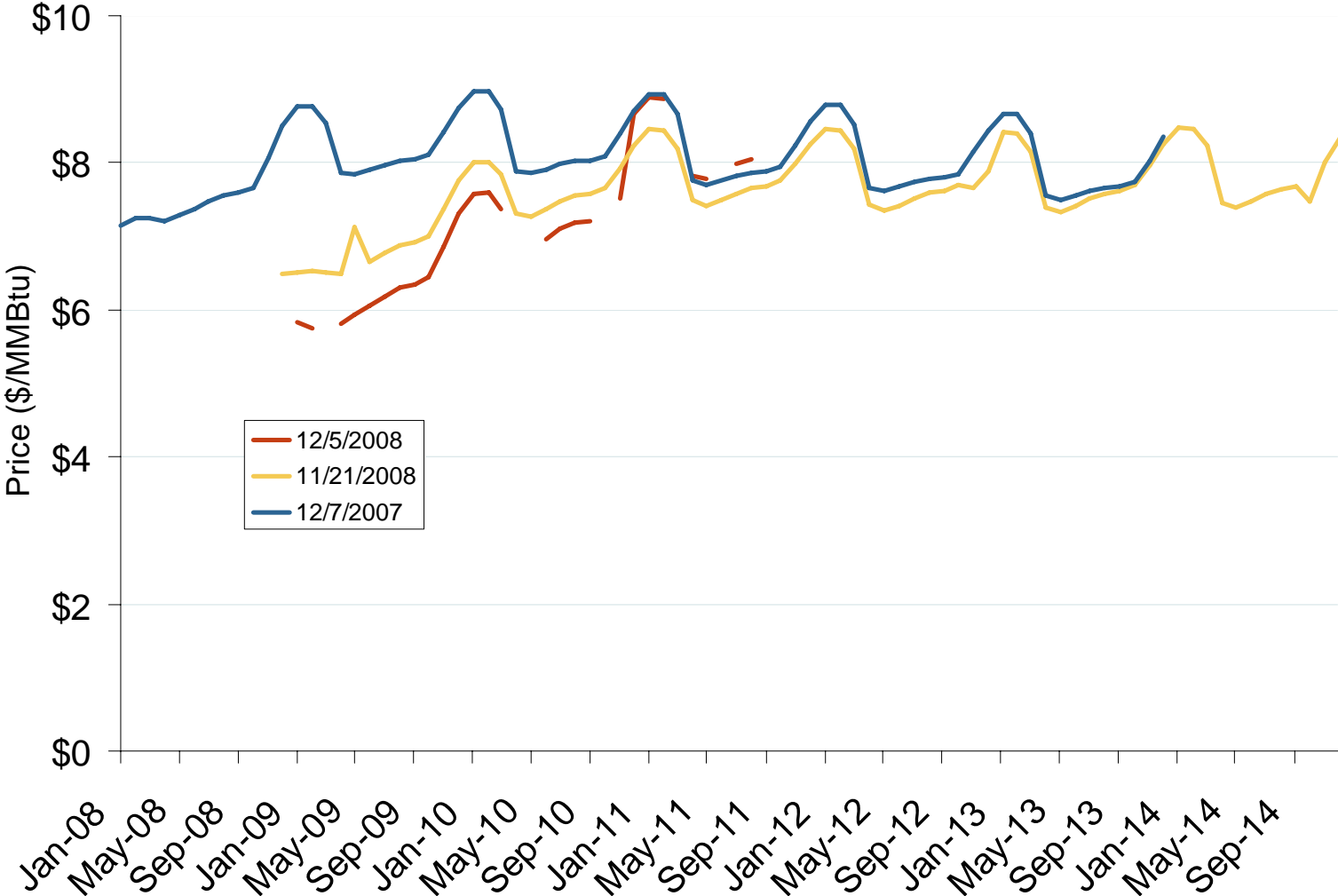
Henry Hub Natural Gas Daily Spot Prices 2007, 2008 and 2003-2007 Year Range



Source: Derived from *Platts* data.
December 2008

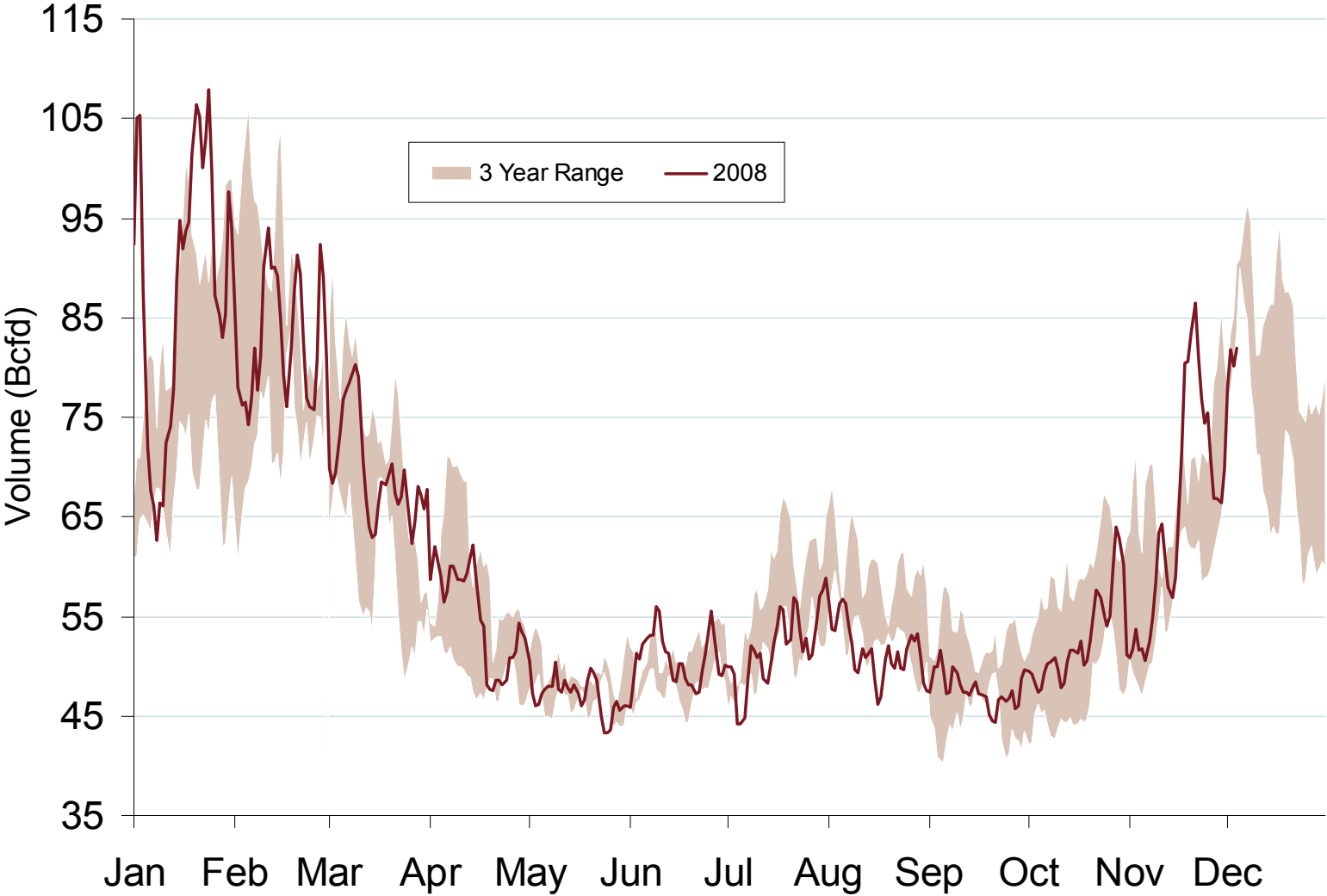
Updated December 5, 2008

NYMEX Natural Gas Forward Price Curve



Source: Derived from NYMEX data.
December 2008

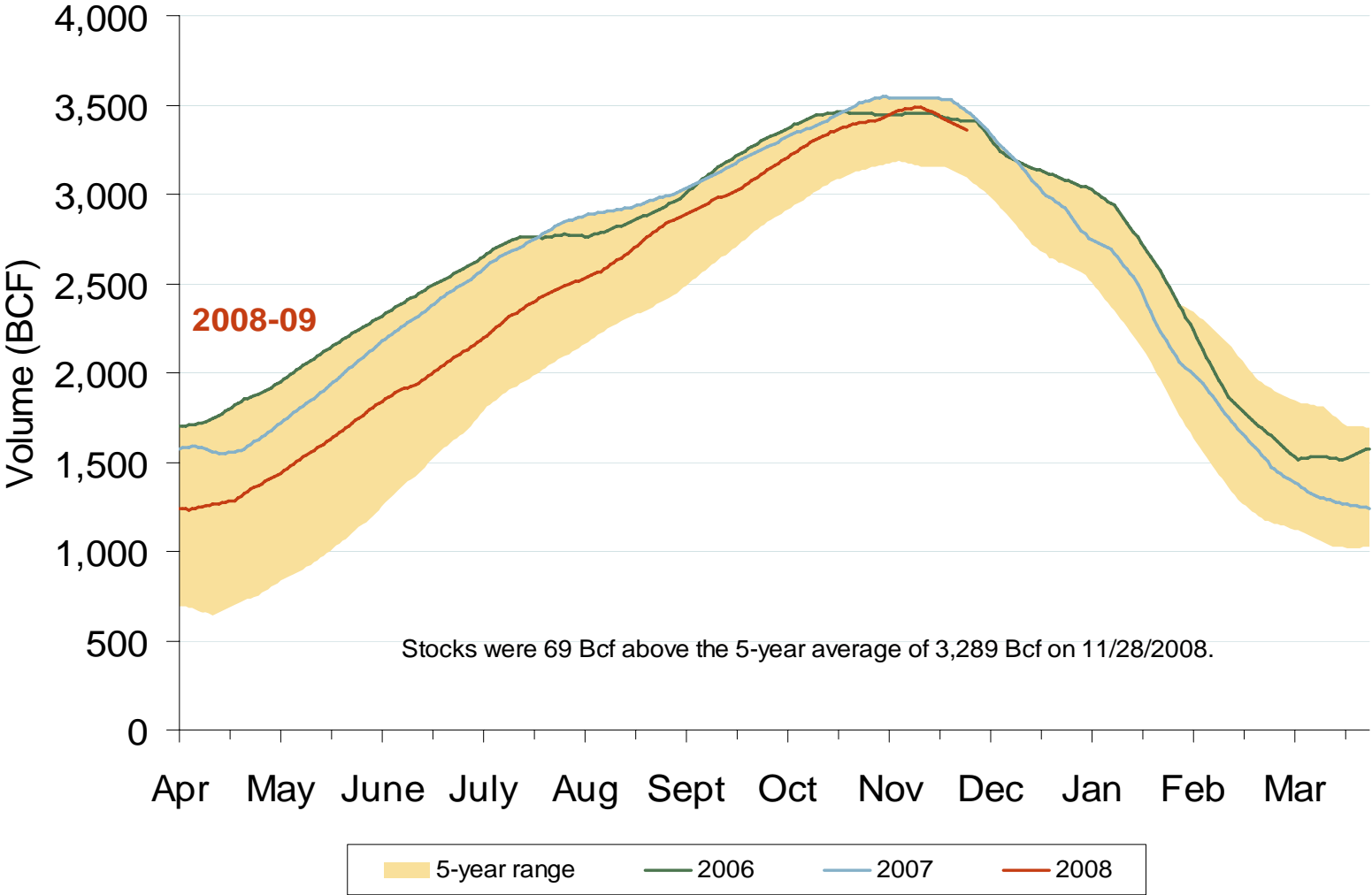
Total U.S. Natural Gas Demand (All Sectors)



Source: Derived from *Bentek Energy* data.
December 2008

Updated December 5, 2008

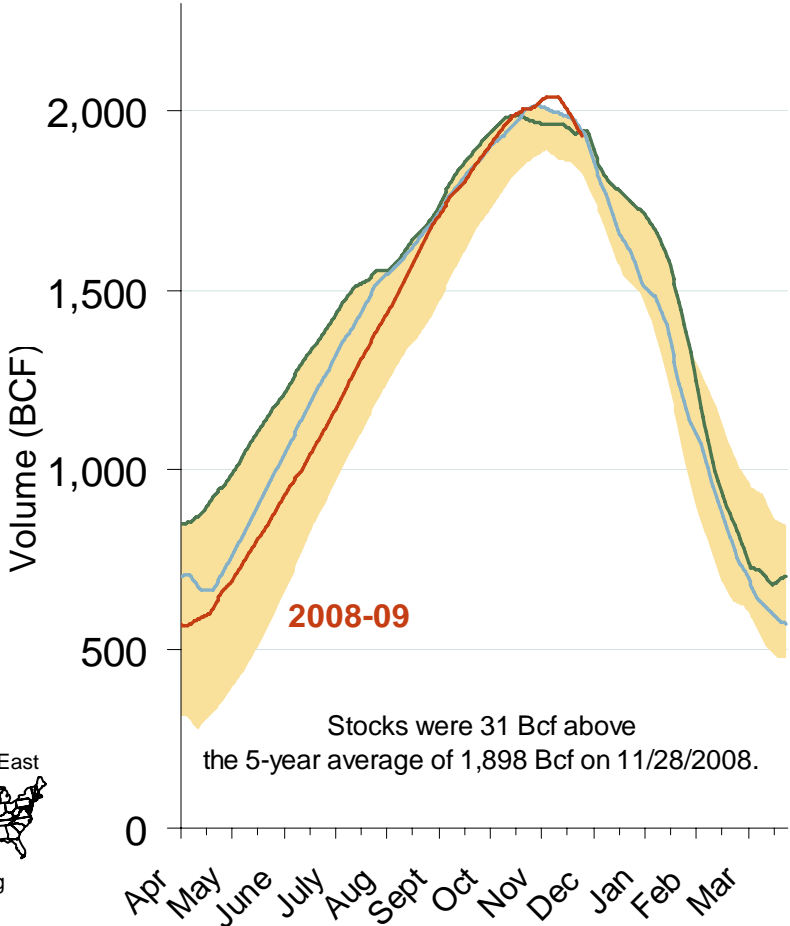
Total U.S. Working Gas in Storage



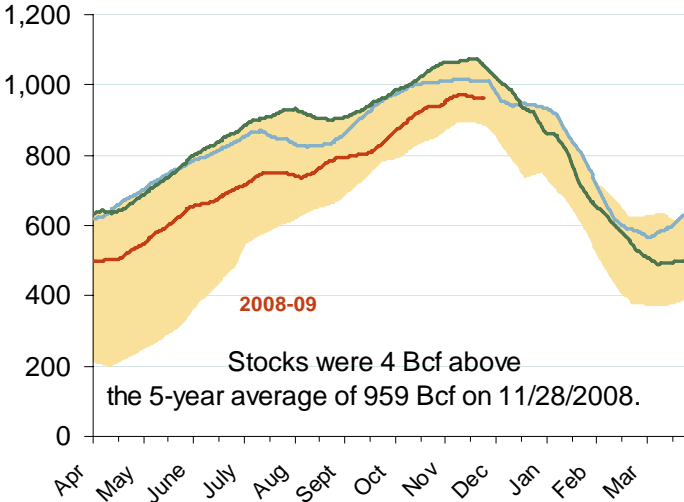
Source: Derived from EIA data.
December 2008

Regional Totals of Working Gas in Storage

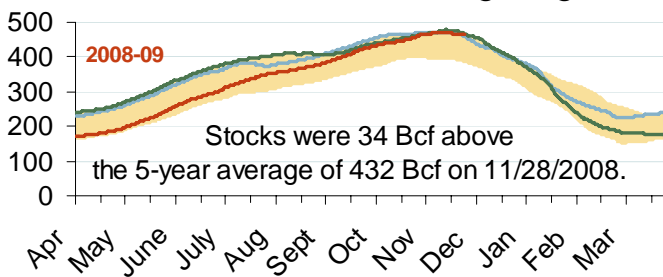
Eastern Consuming Region



Producing Region



Western Consuming Region

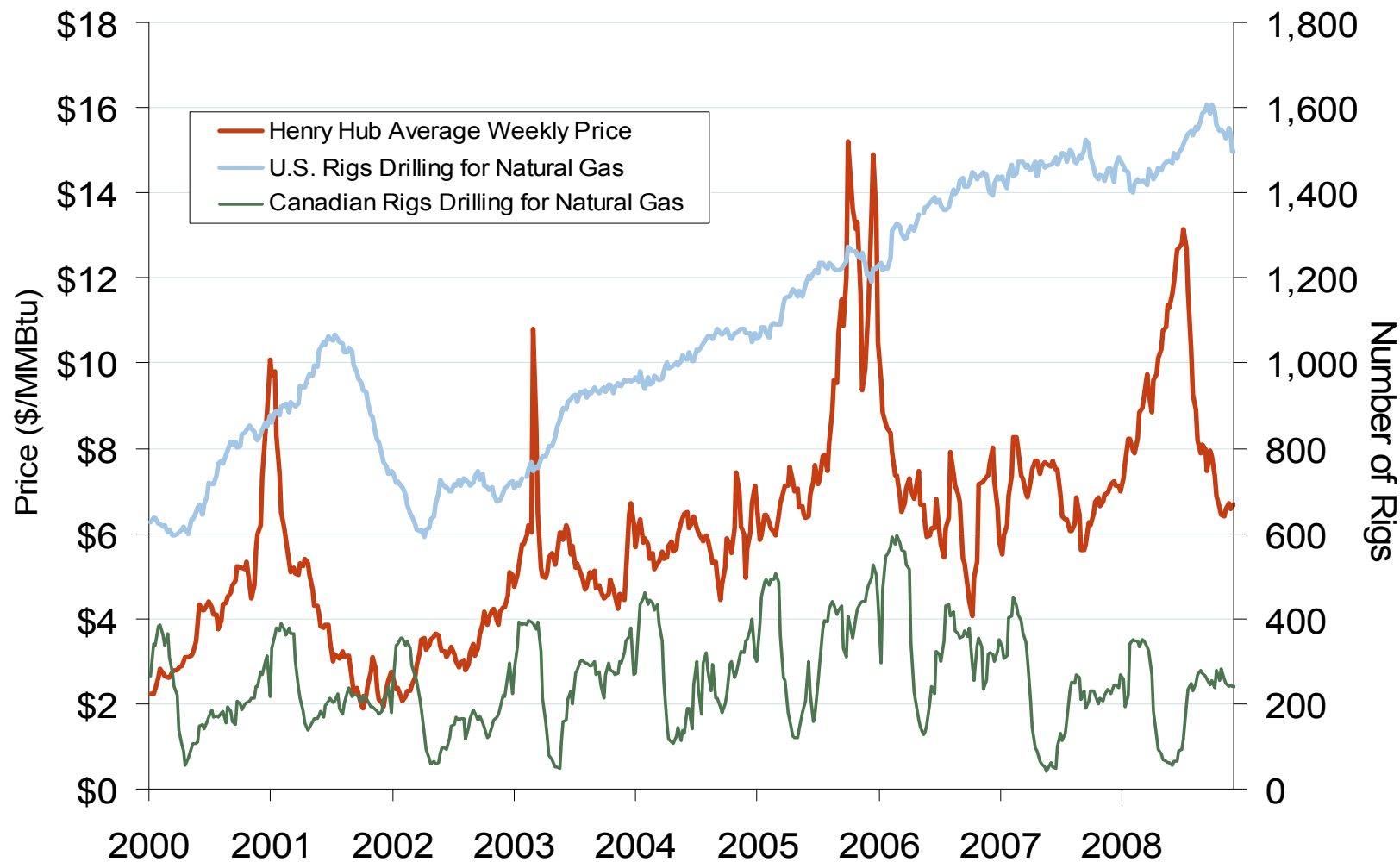


5-year range
 2006
 2007
 2008

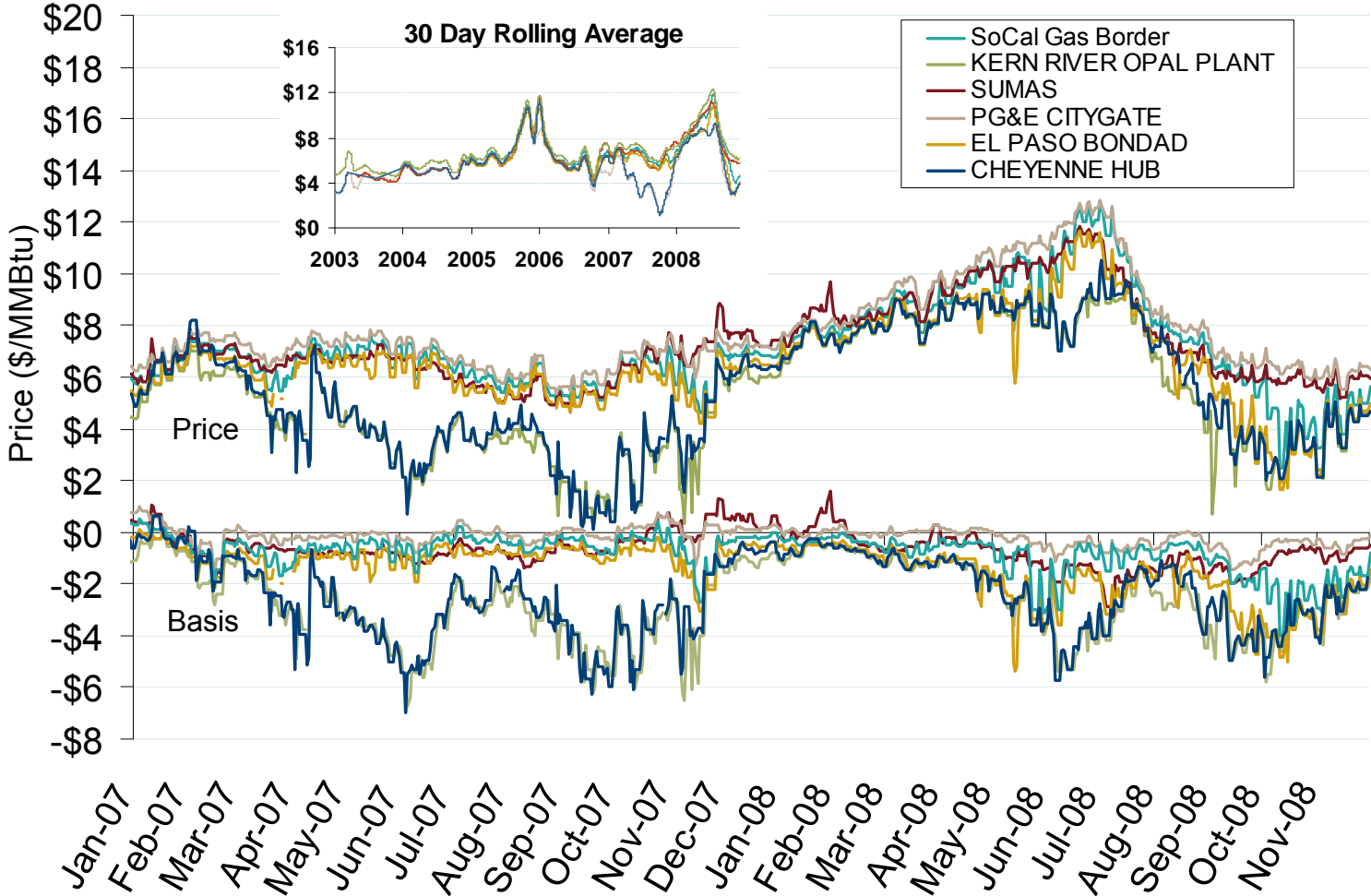
Source: Derived from EIA data. December 2008

Updated December 5, 2008

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

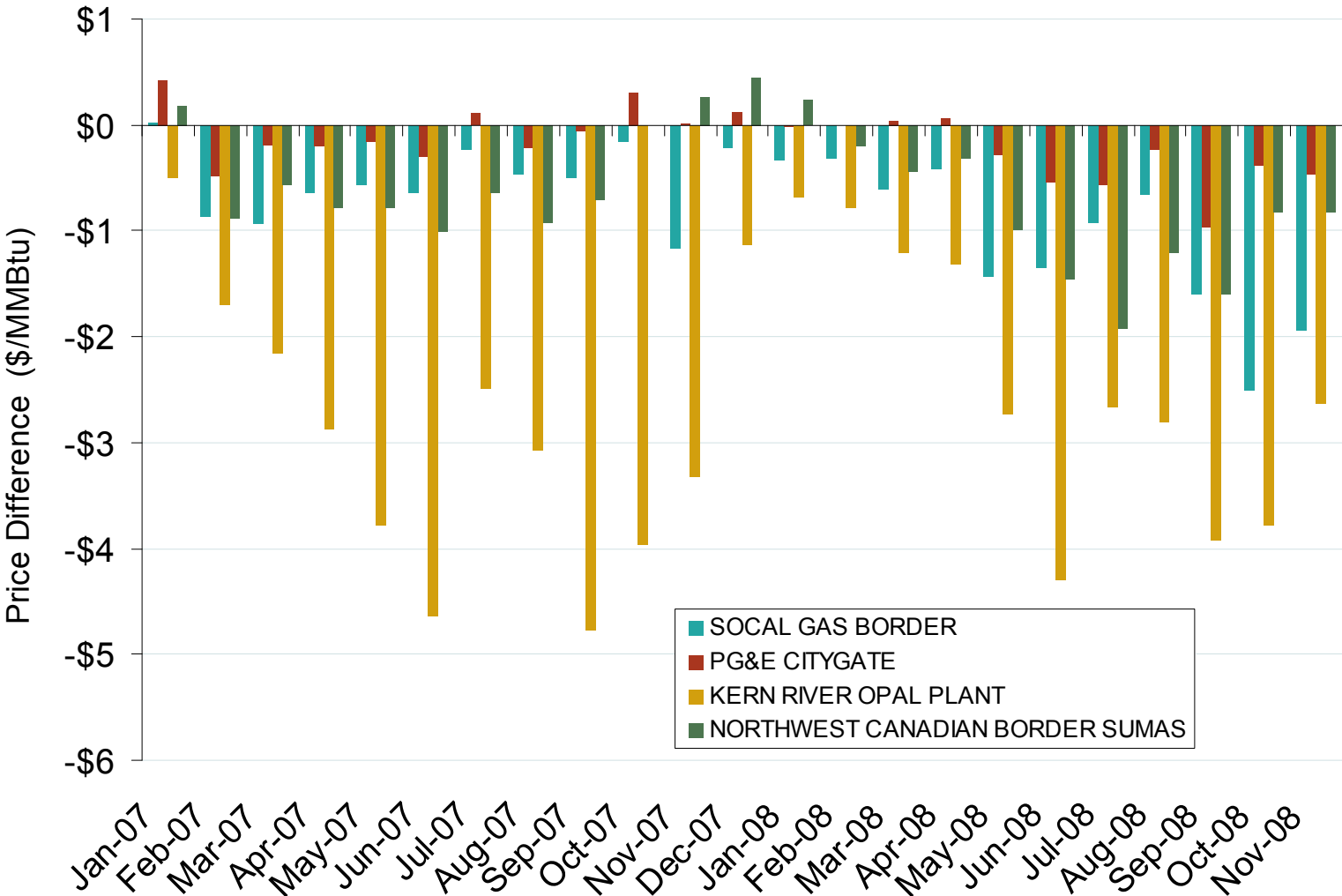


Western Day-Ahead Hub Spot Prices and Basis



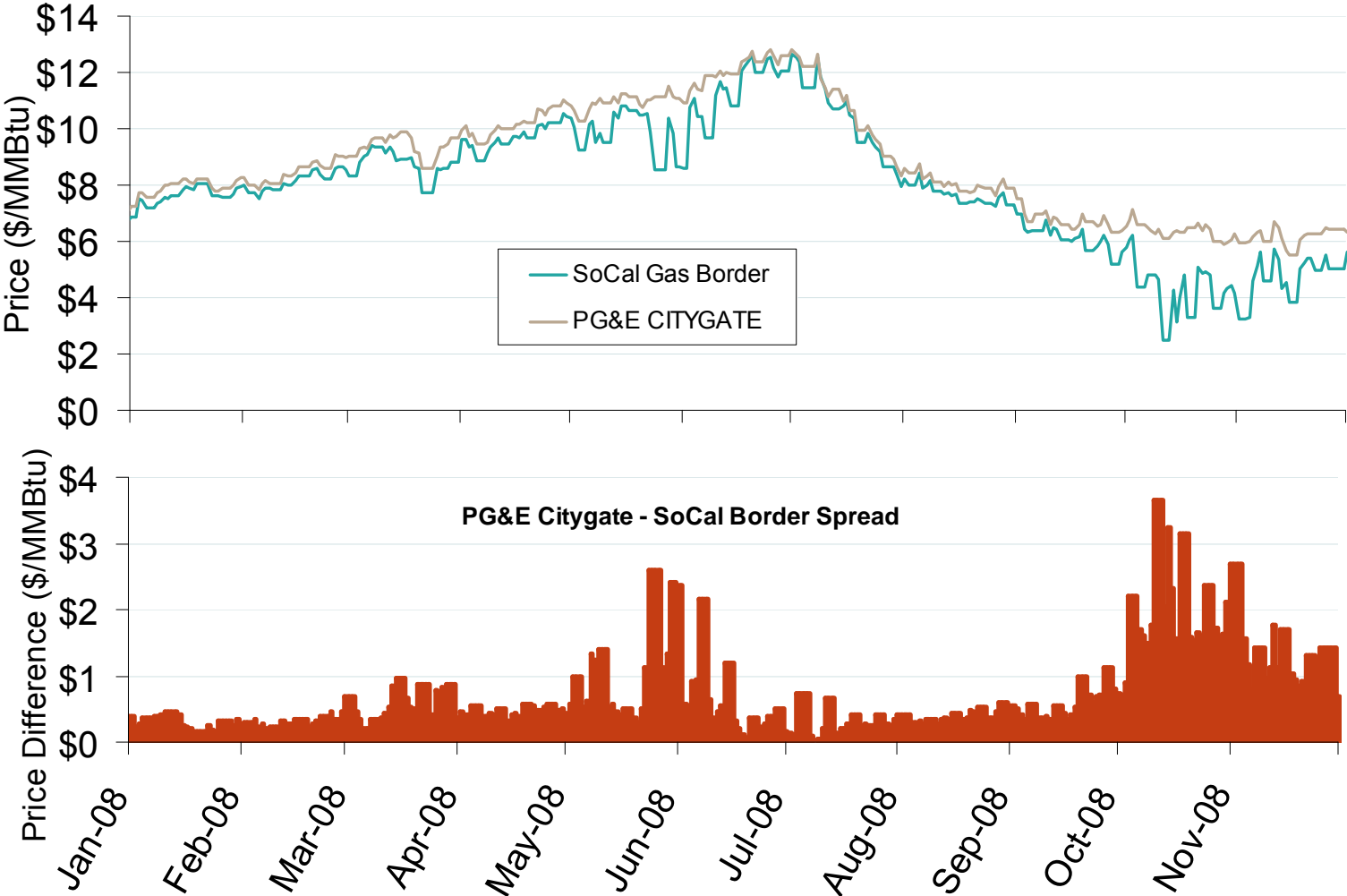
Source: Derived from Platts data.

Western Monthly Average Basis Value to Henry Hub



Source: Derived from Platts data.
December 2008

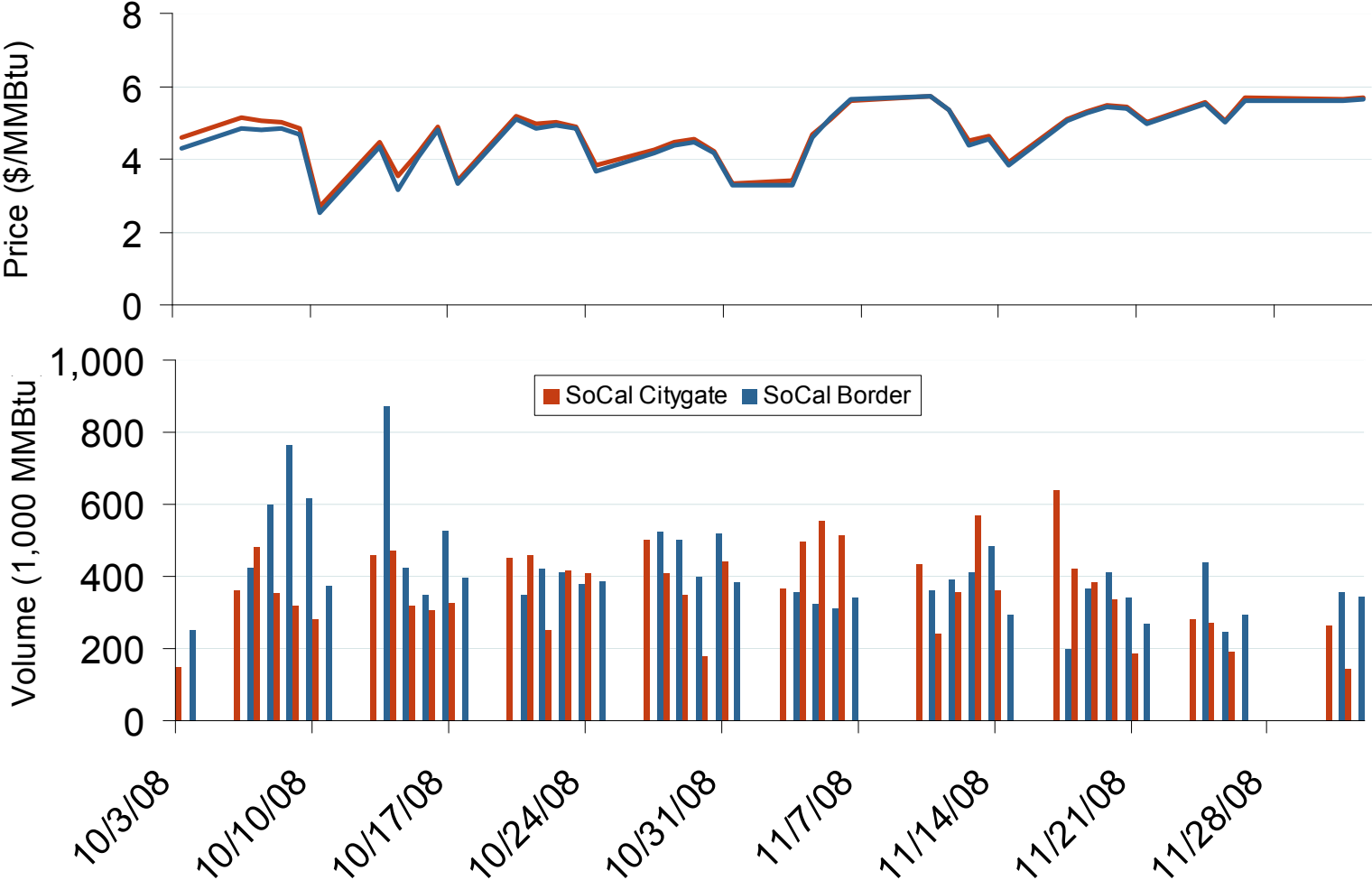
Difference in Northern and Southern California Daily Spot Prices



Source: Derived from *Platts* data.
December 2008

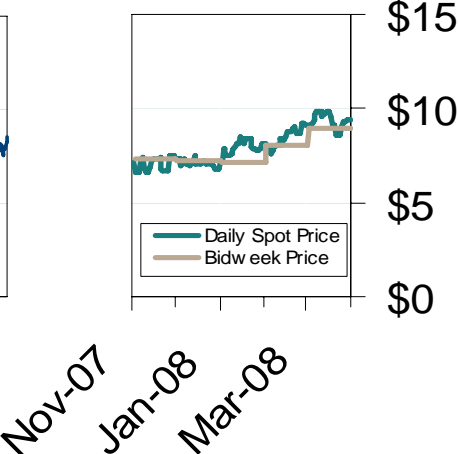
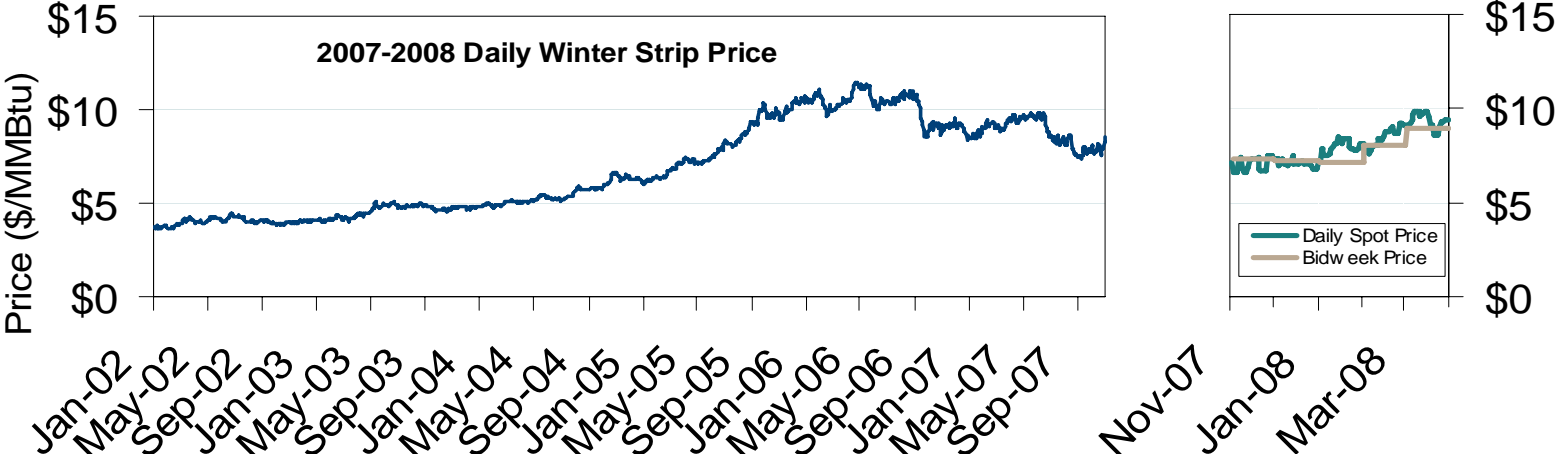
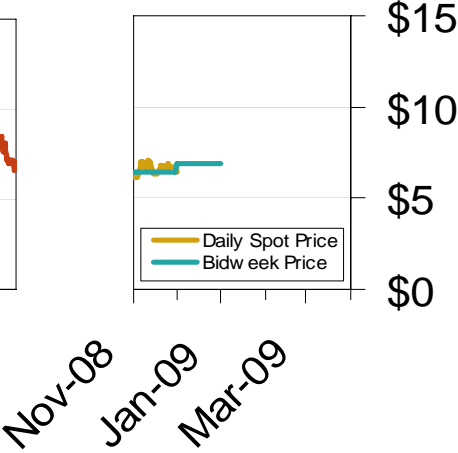
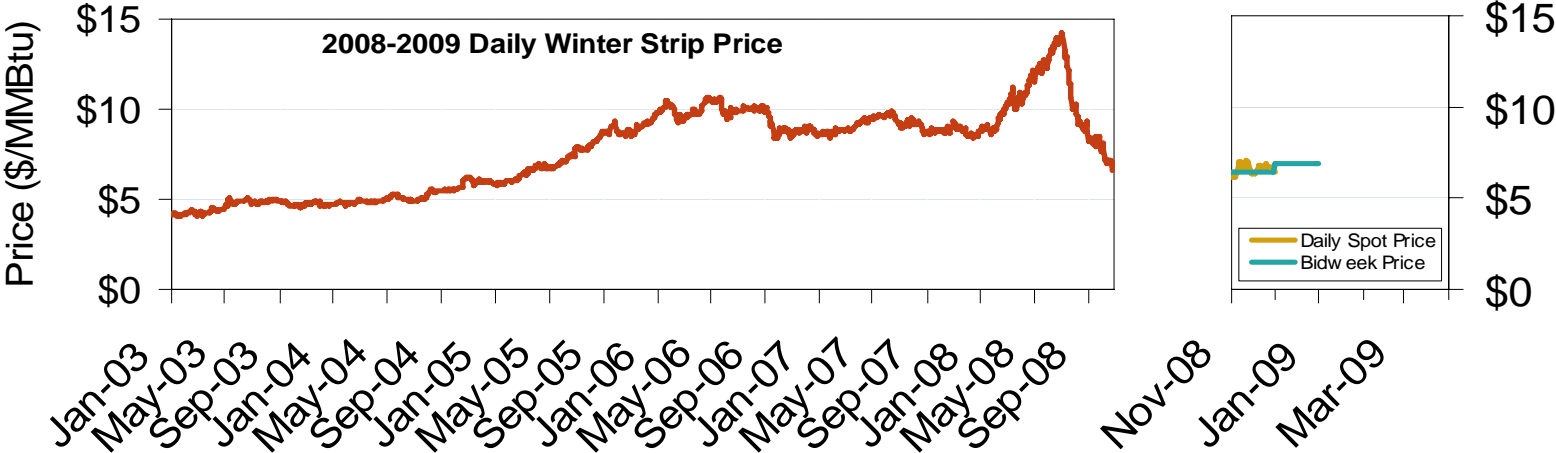
Updated December 5, 2008

SoCal Citygate and SoCal Border Day-Ahead Hub Spot Prices



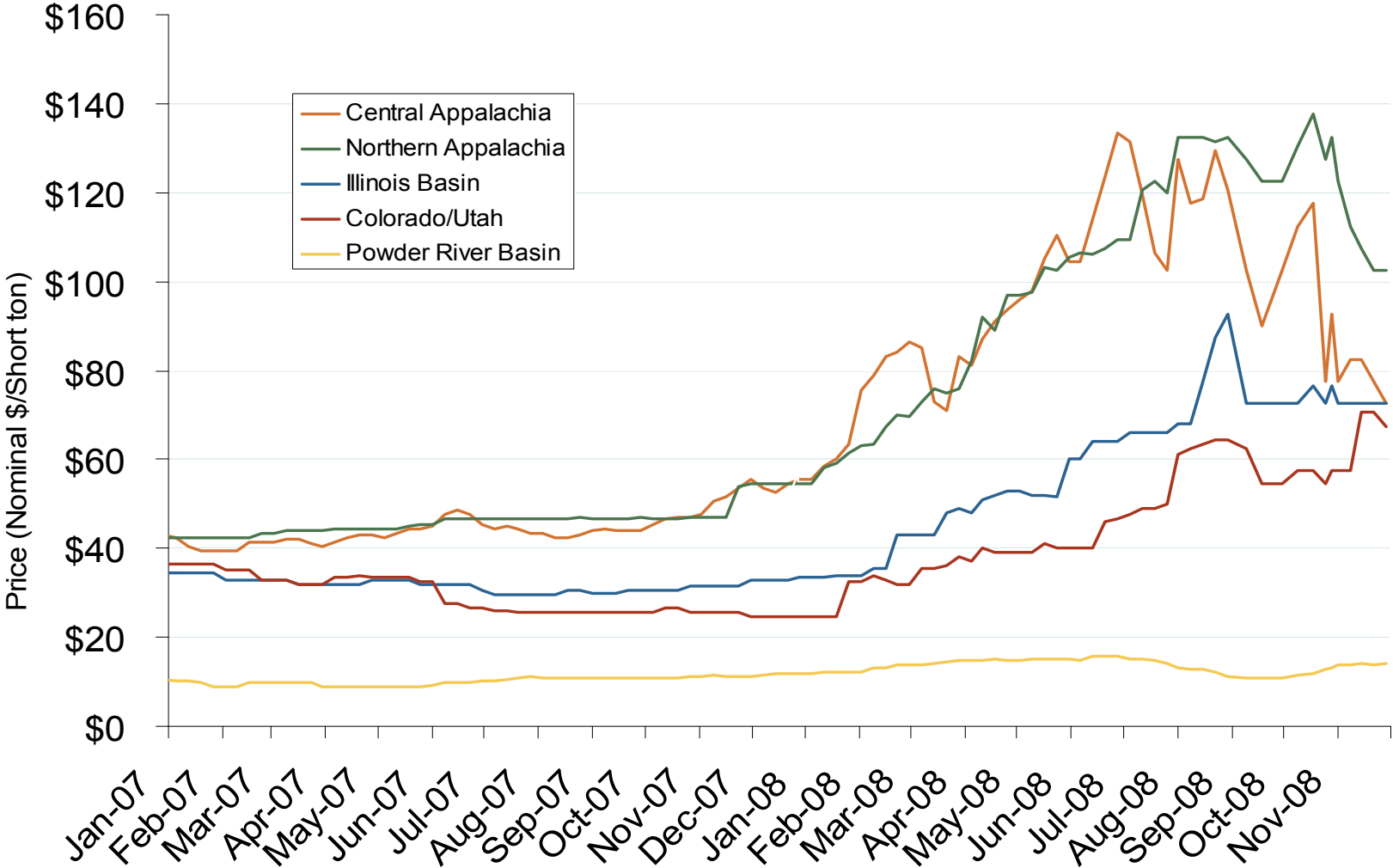
Source: Derived from ICE data.
December 2008

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



Source: Derived from *Platts* and *Nymex* data.
December 2008

Regional Coal Spot Prices

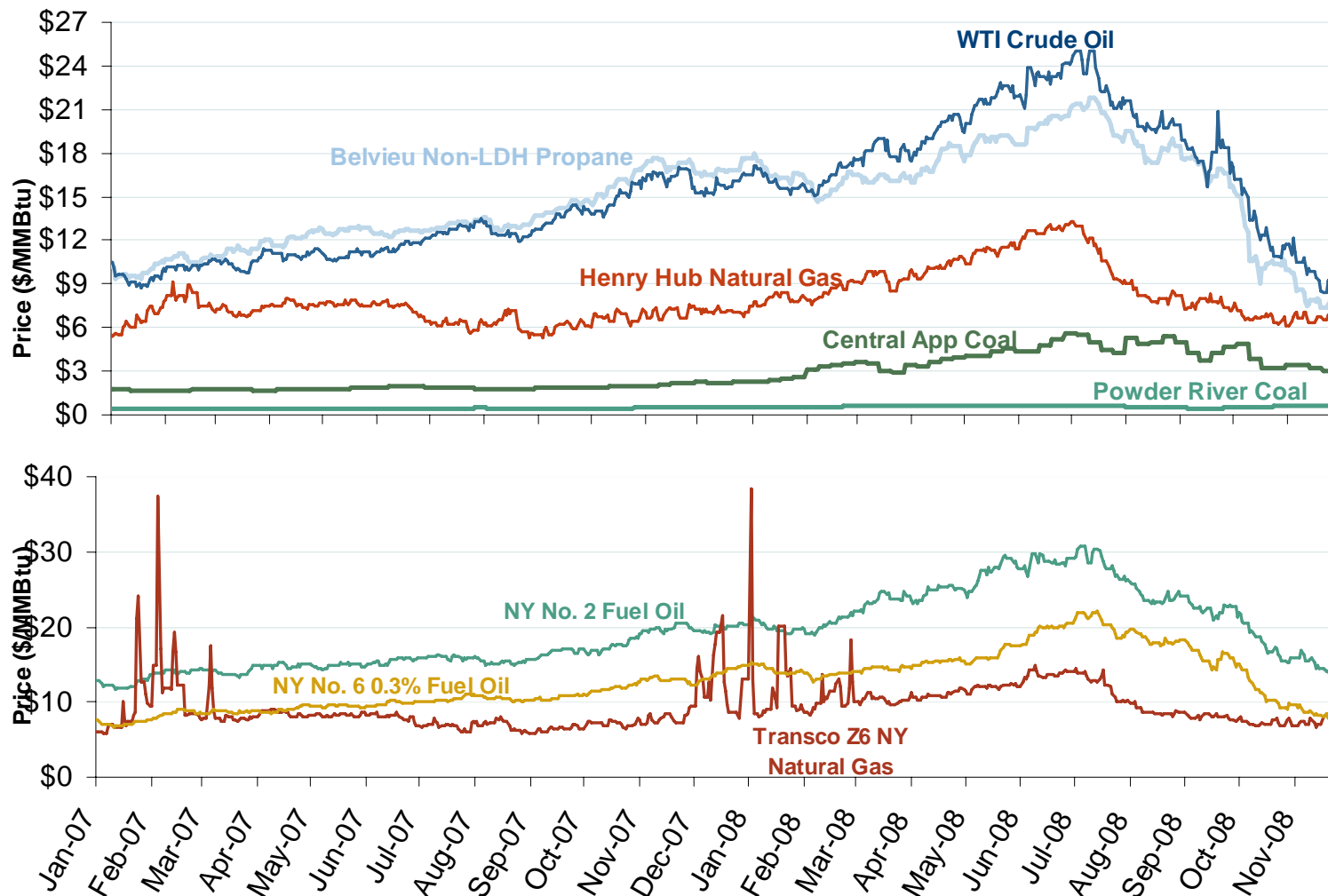


Note: Does not reflect the delivered price of coal; excludes incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.
December 2008

Updated December 5, 2008

Oil, Coal, Natural Gas and Propane Daily Spot Prices

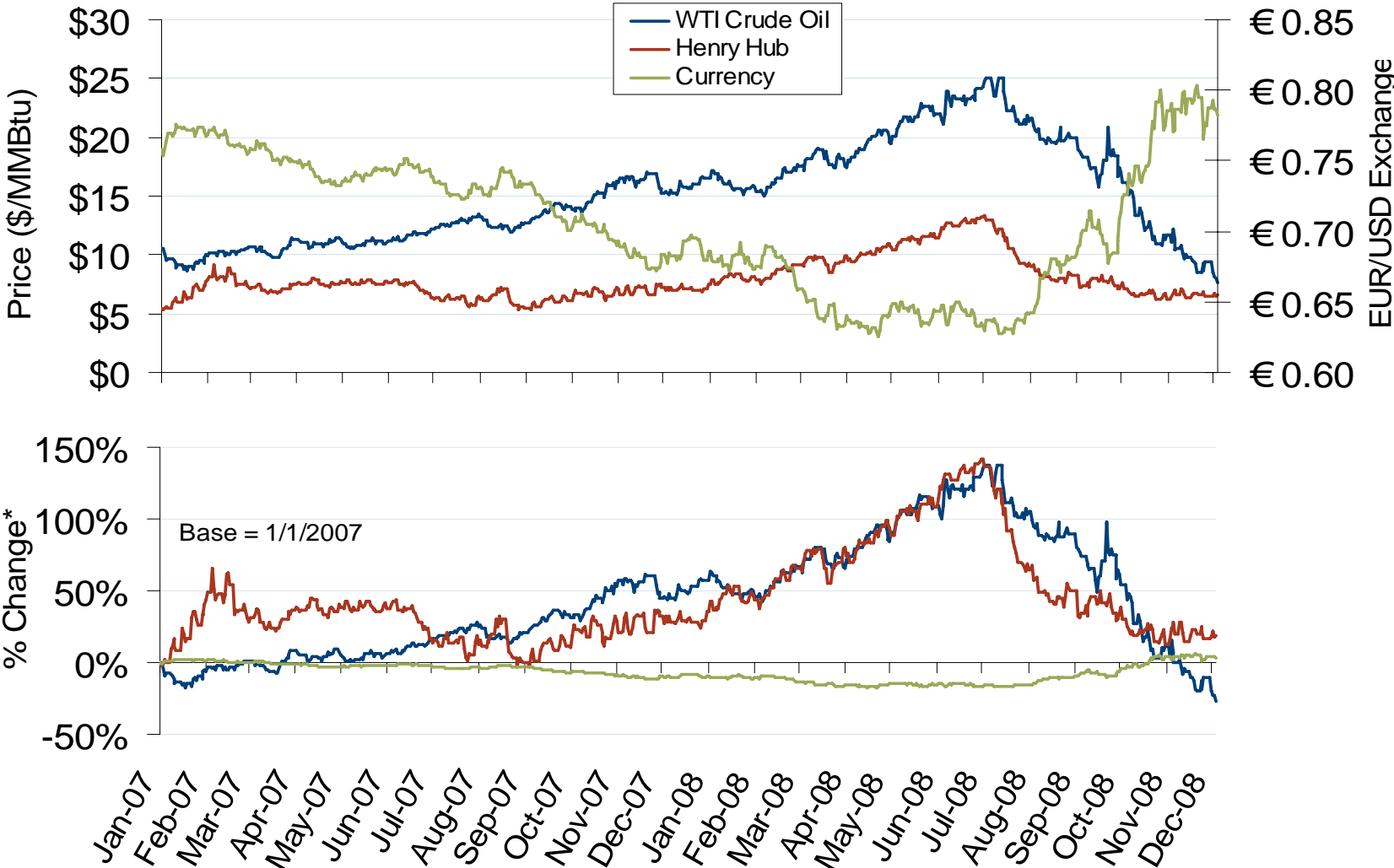


Source: Derived from ICE and Bloomberg data.

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 December 5, 2008

Oil, Natural Gas and Currency Spot Prices

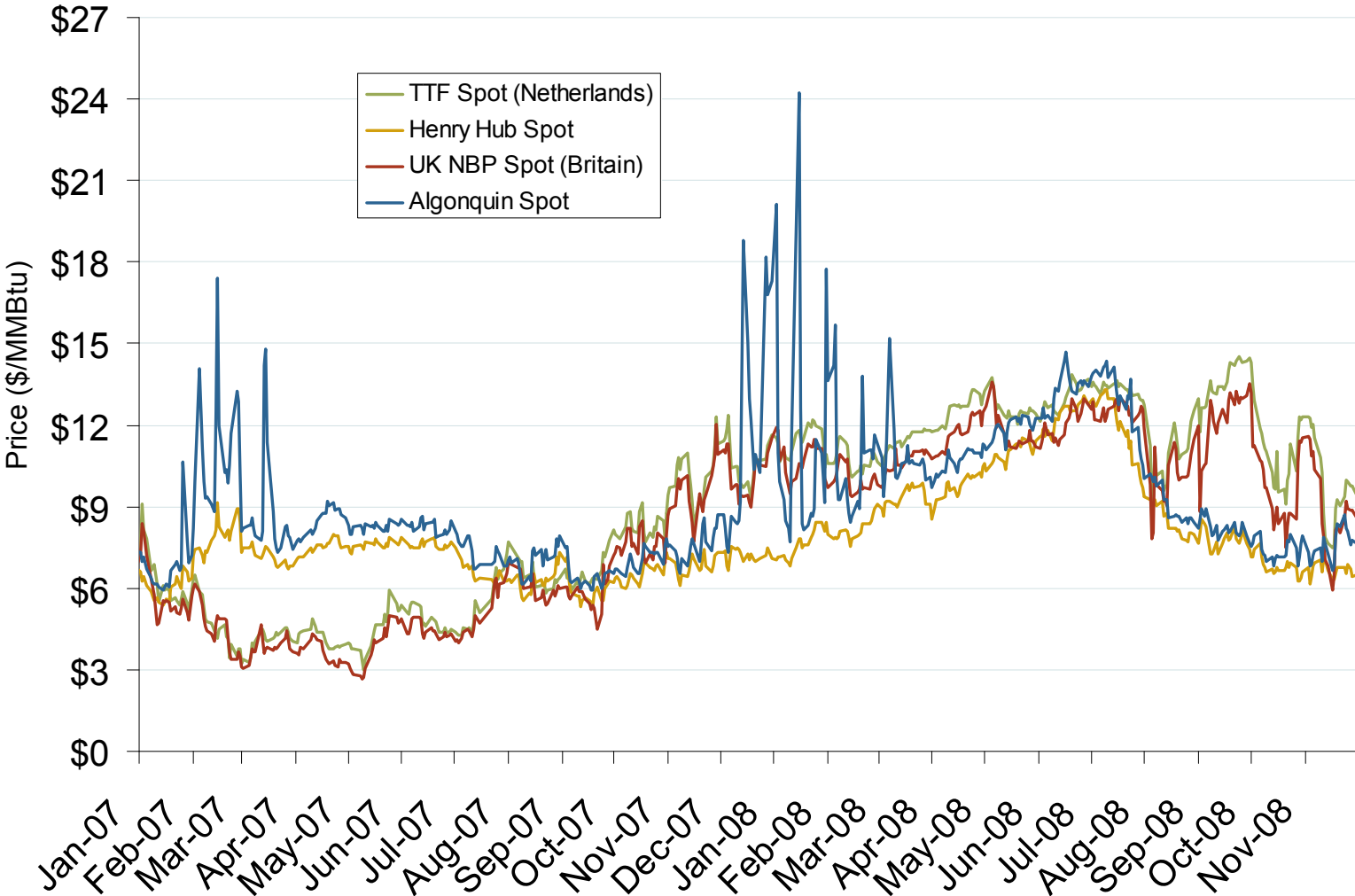


Source: Derived from Bloomberg data.

World LNG Estimated December 2008 Landed Prices

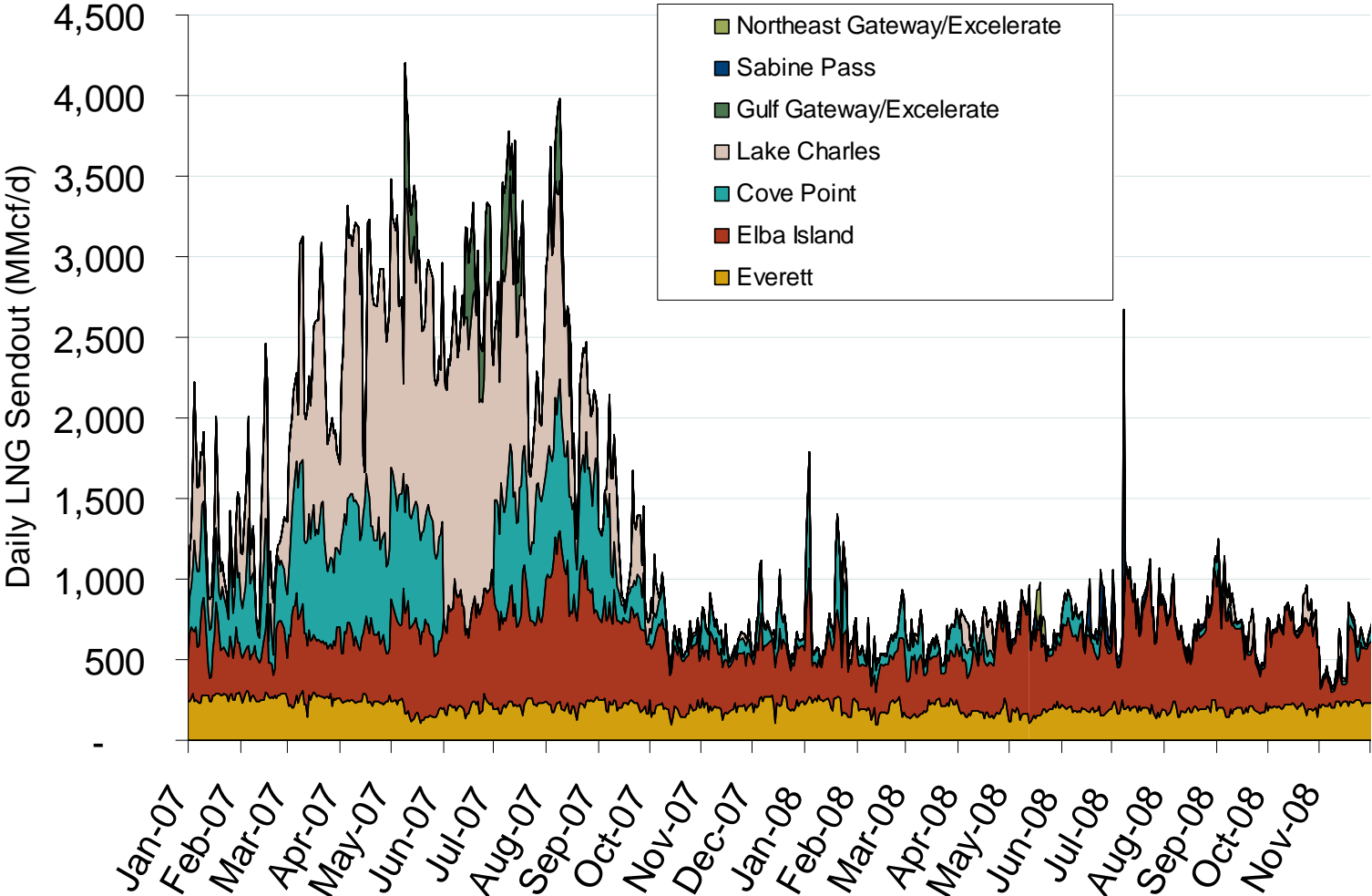


Atlantic Basin European and US Spot Natural Gas Prices



Source: Derived from *Bloomberg* and *ICE* data.
December 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.
December 2008