

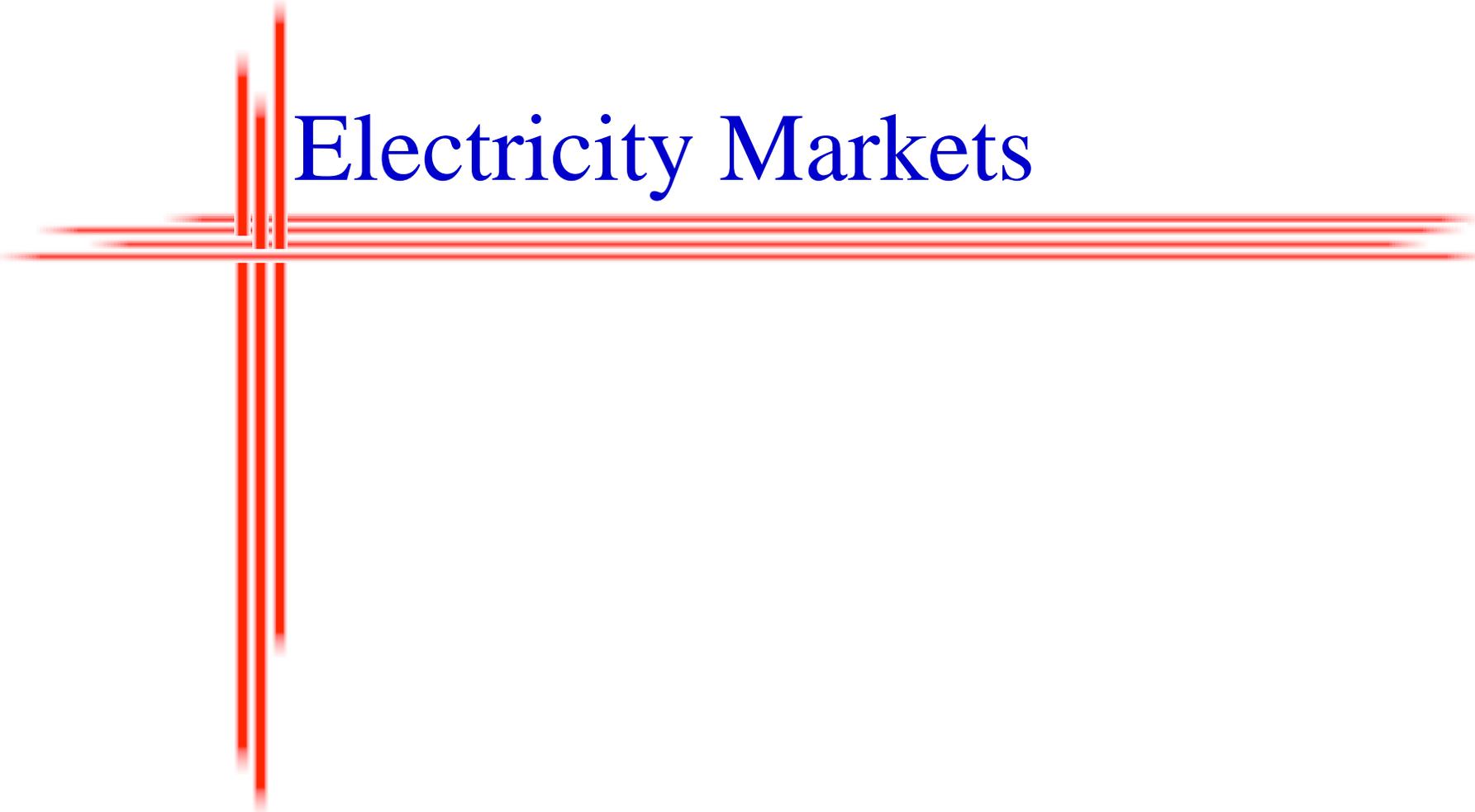
# OE ENERGY MARKET SNAPSHOT

## Mid-Atlantic States Version – July 2010 Data

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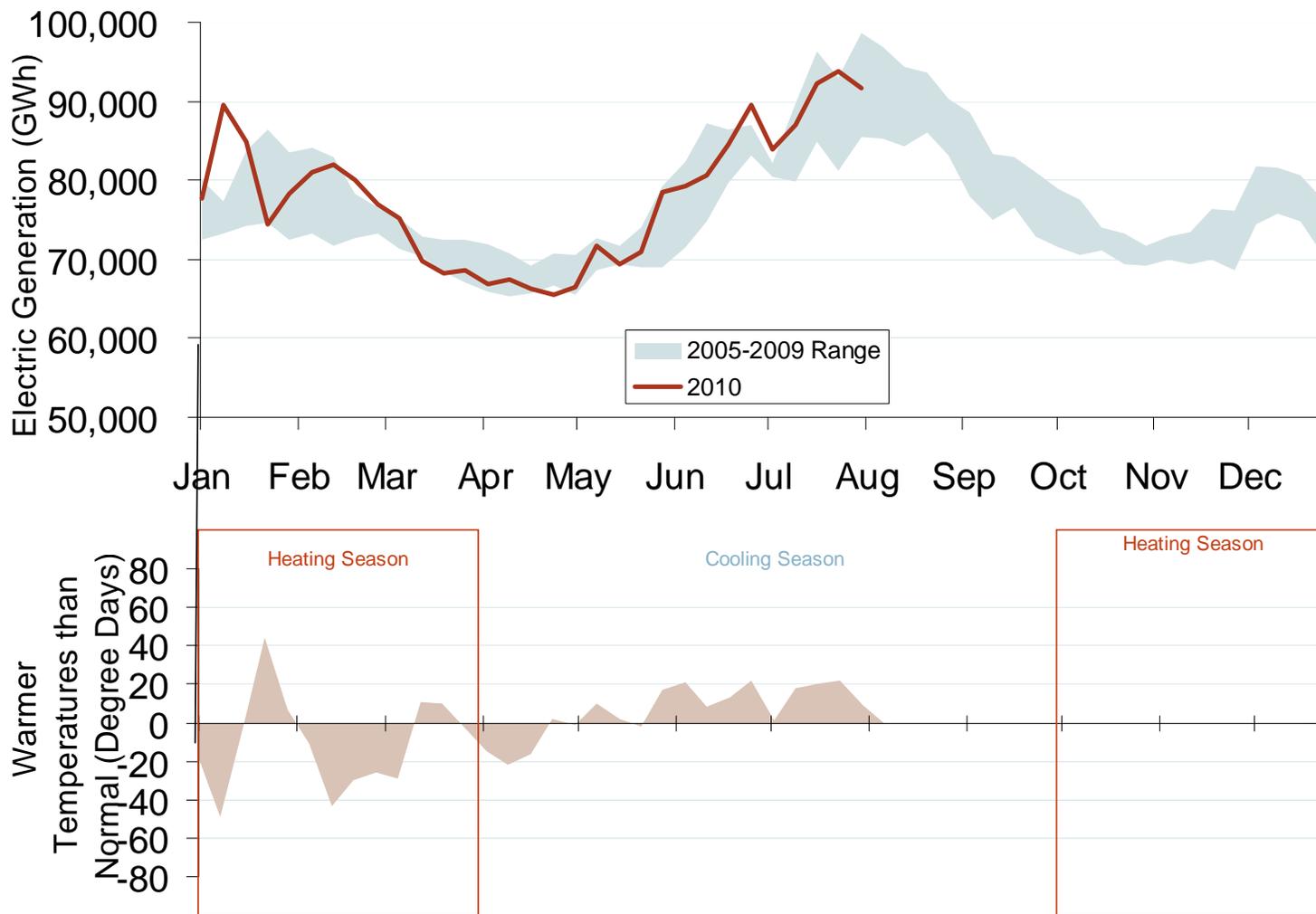
- **Electricity Markets**
- **Natural Gas and Fuel Markets**

Office of Enforcement  
Federal Energy Regulatory Commission  
August 2010

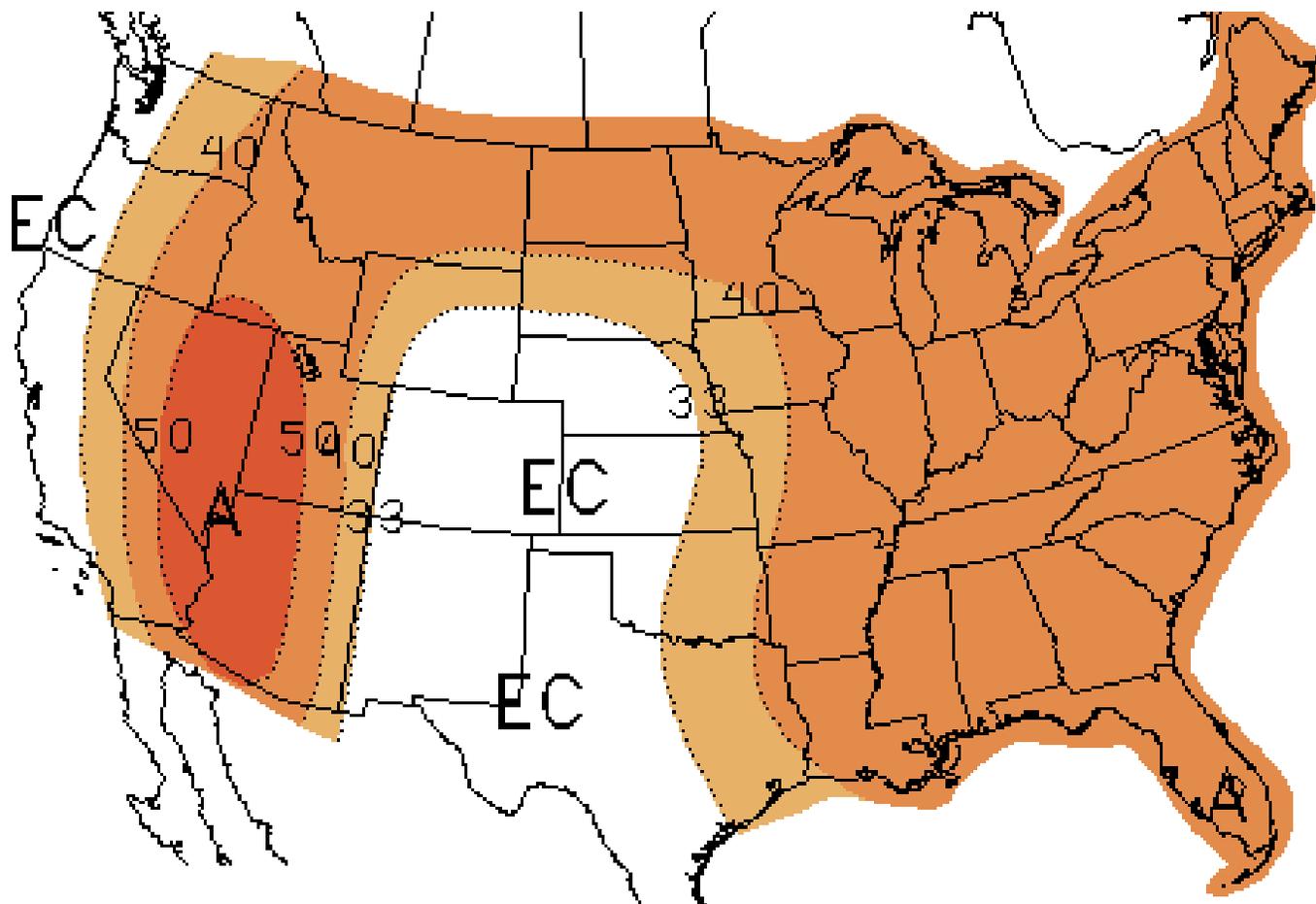


# Electricity Markets

# Weekly U.S. Electric Generation Output and Temperatures

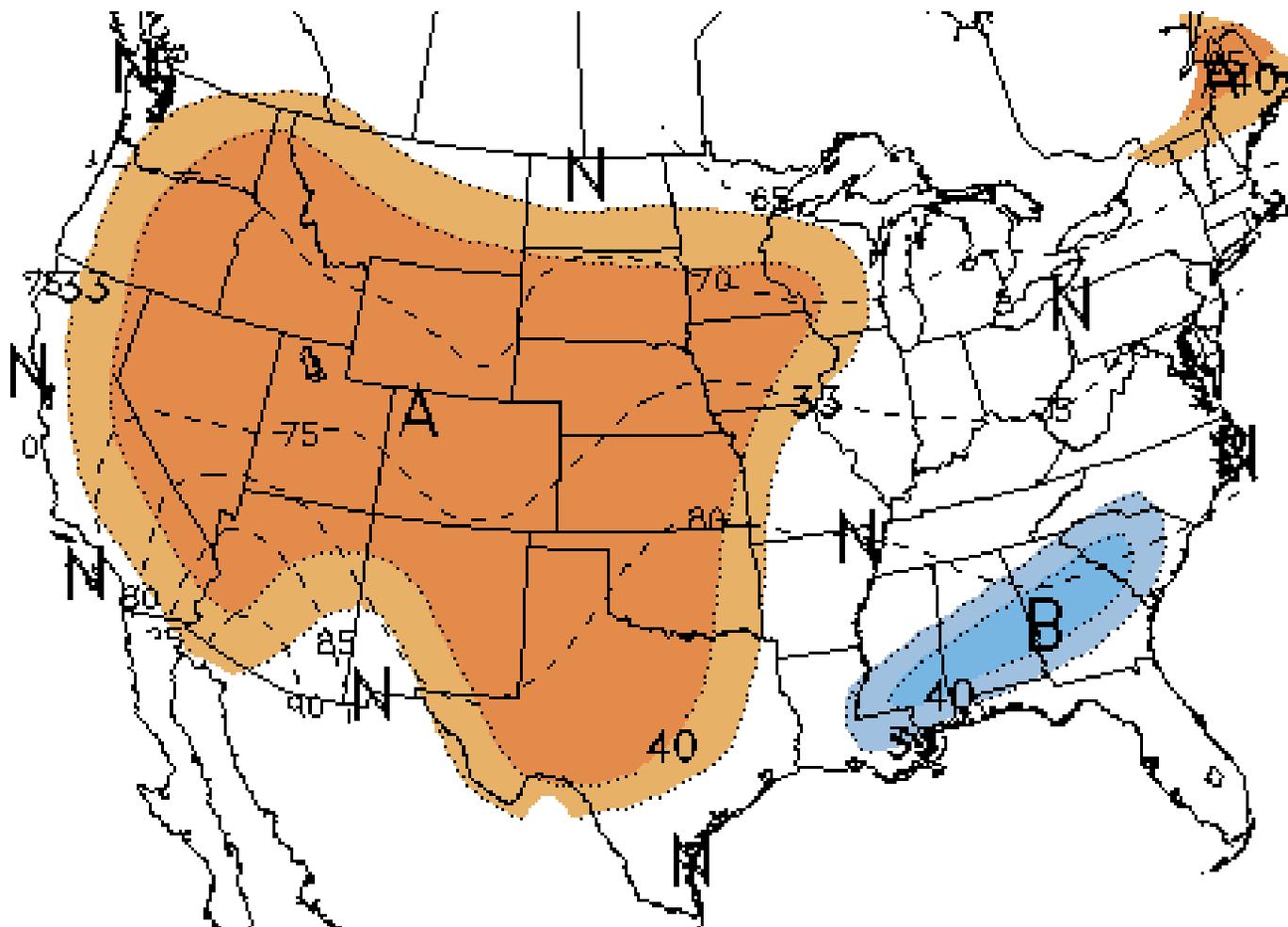


## NOAA's Monthly Temperature Forecast Made July 31, Valid for August 2010



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

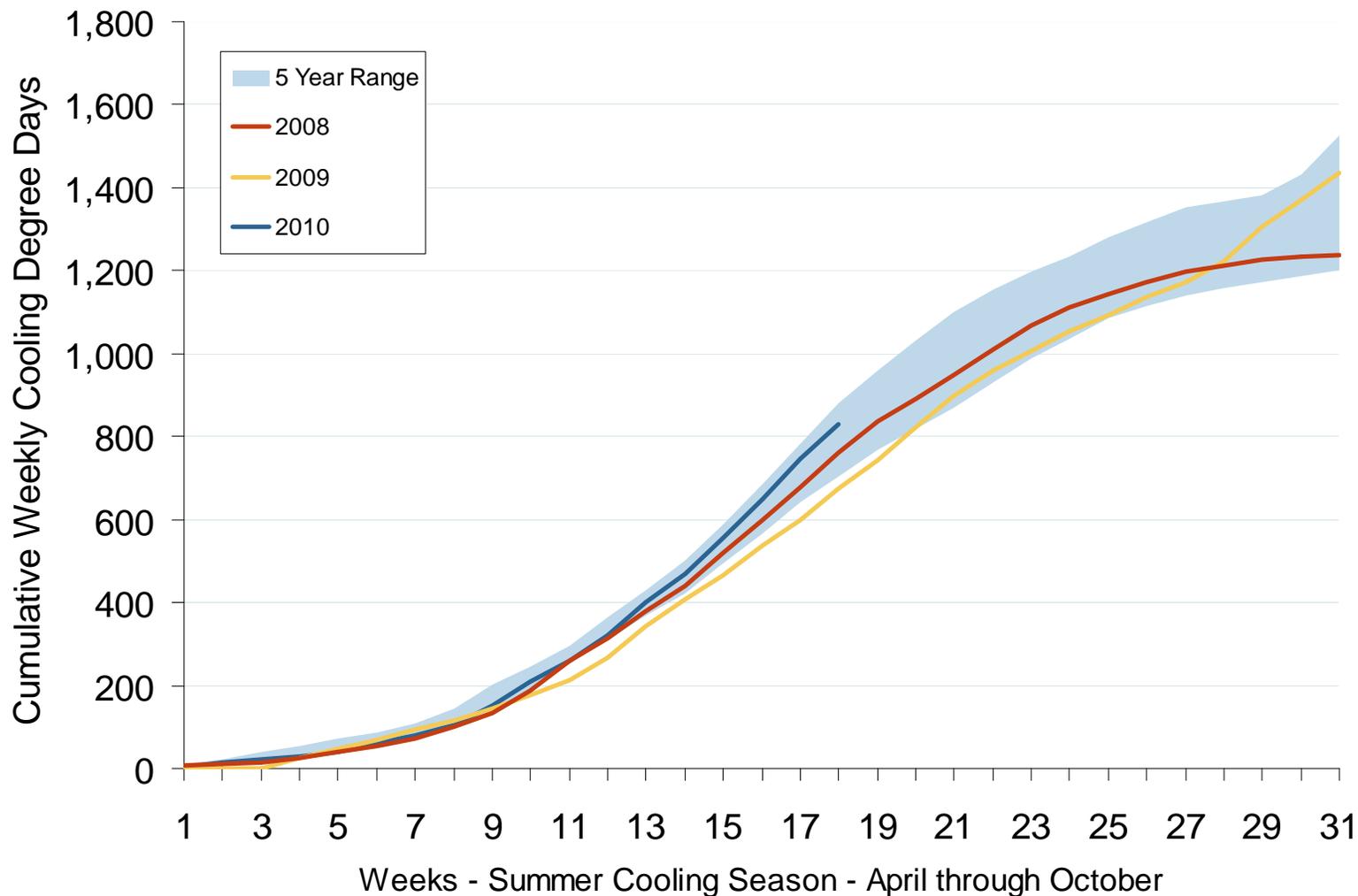
## NOAA's 8 to 14 Day Temperature Forecast Made August 4, Valid for August 12-18, 2010



Note: "A" areas are above normal and "B" areas are below normal. Normal is based on the last 30 years of data.

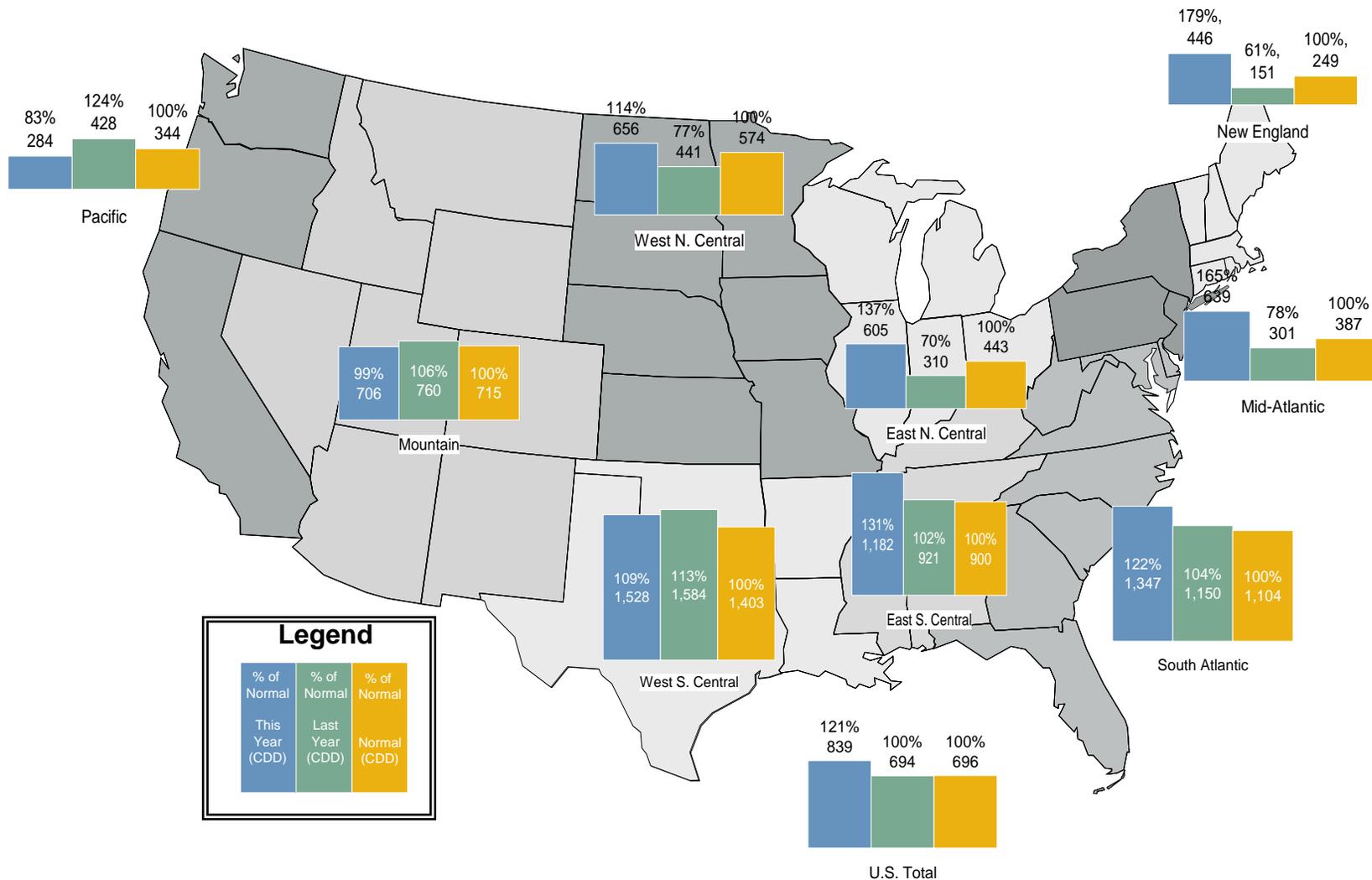
Source: NOAA

## U. S. Summer Cumulative Cooling Degree Days - 2010



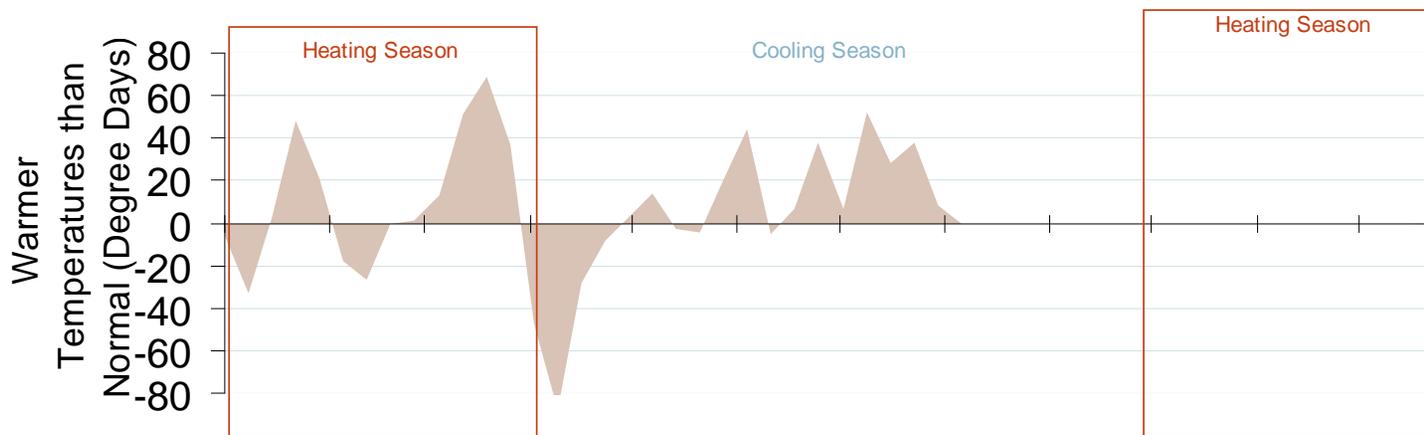
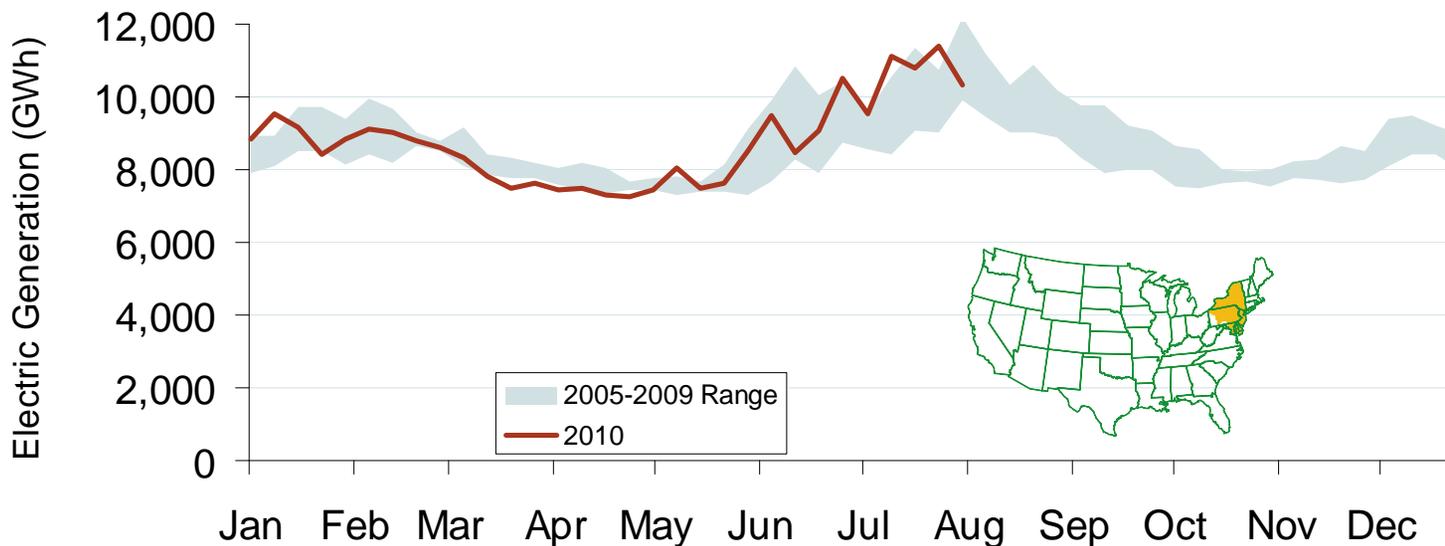
Source: Derived from NOAA data.

# Regional Cooling Degree Days: January – July 2010

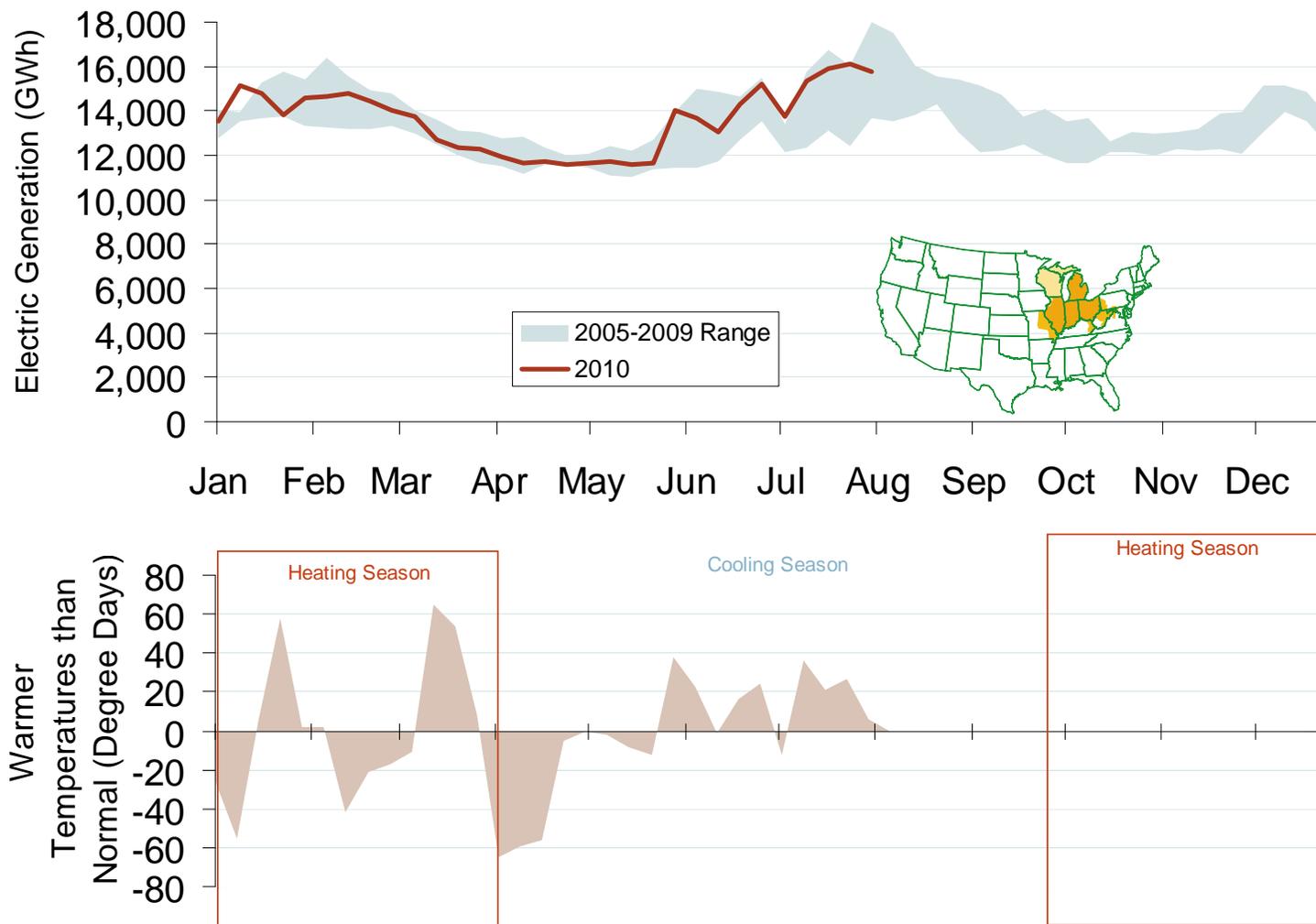


Source: Derived from NOAA data. Normal is based on a 30-year average of cooling degree days.

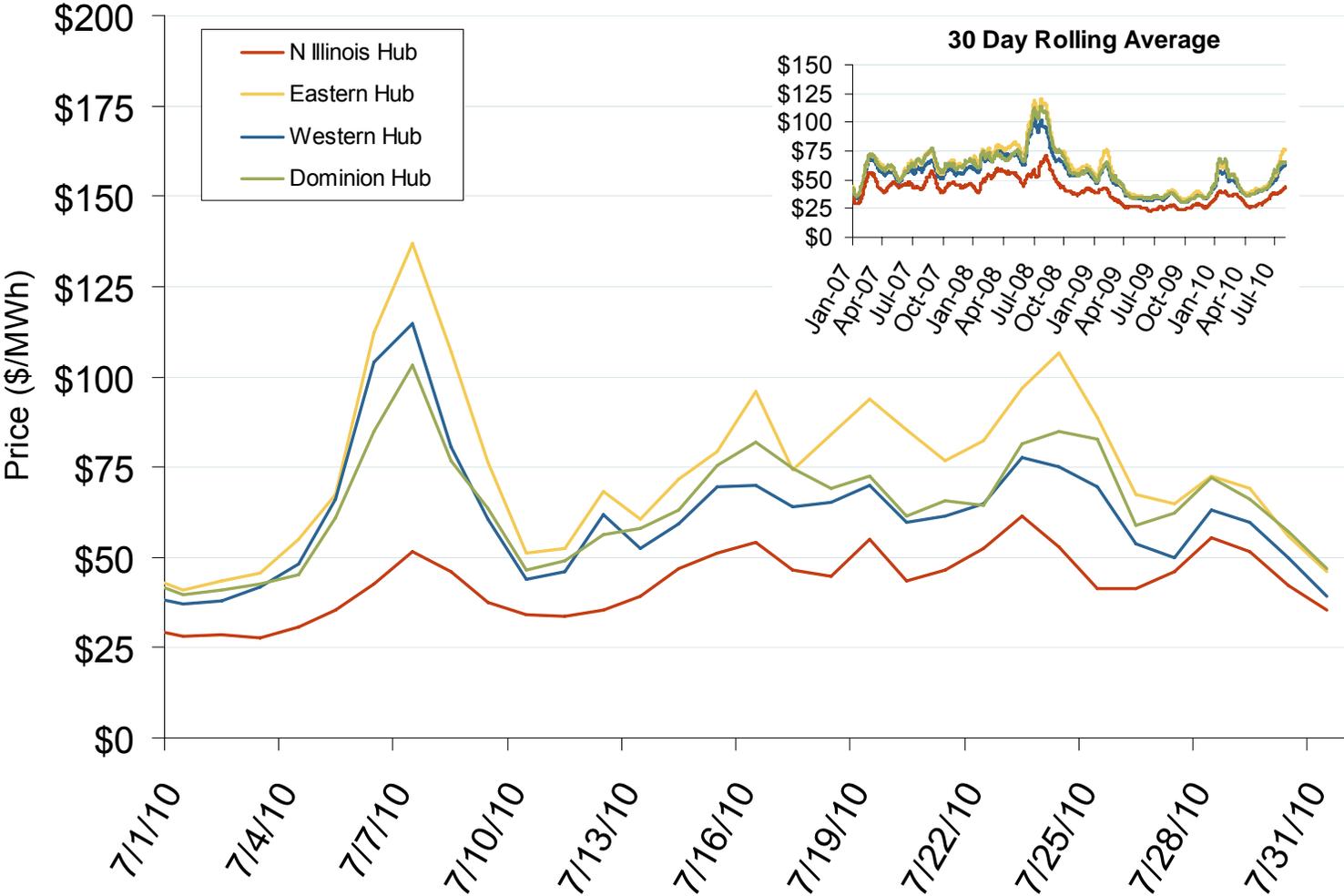
# Weekly Electric Generation Output and Temperatures Mid Atlantic Region



# Weekly Electric Generation Output and Temperatures Central Industrial Region



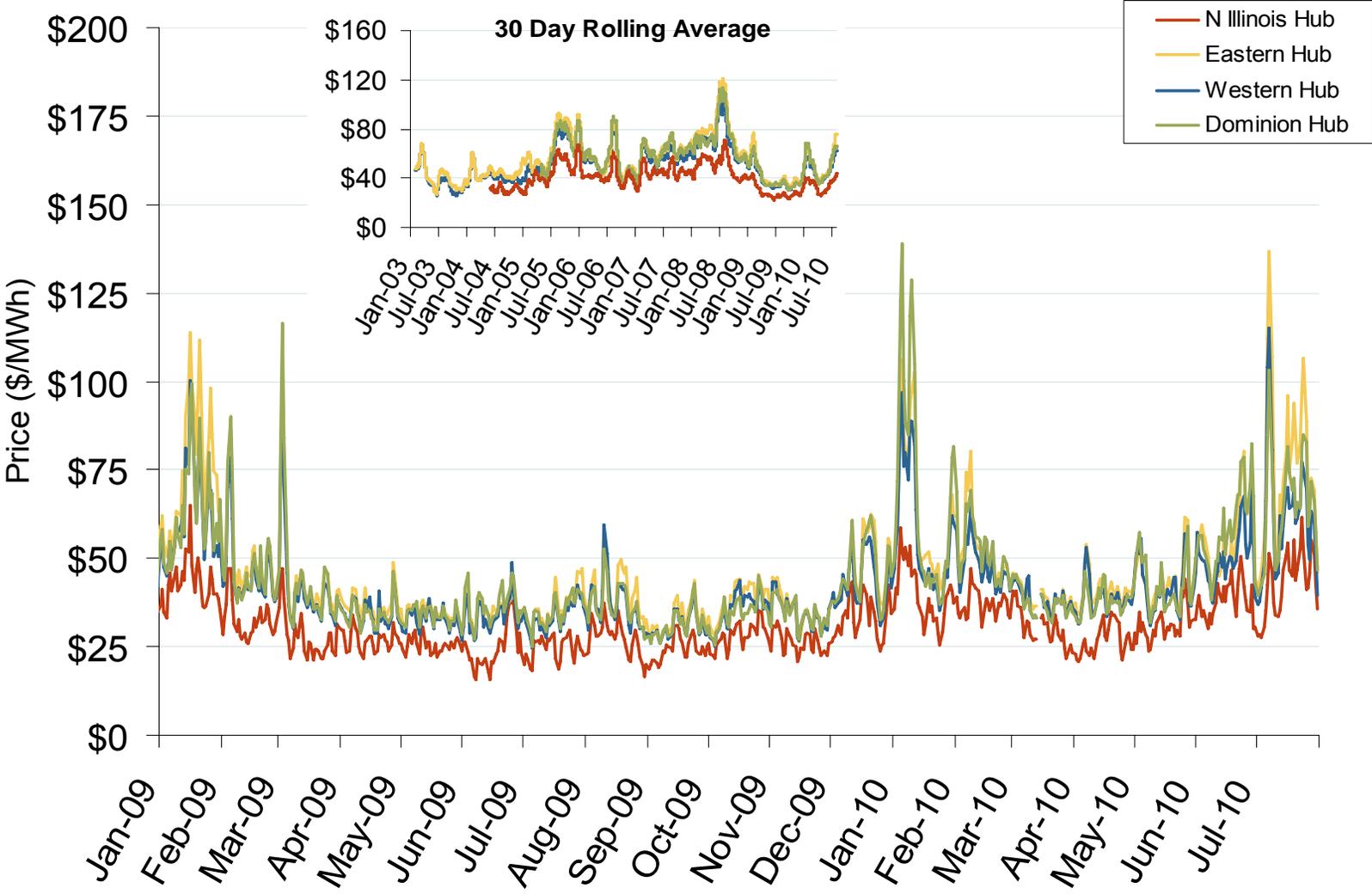
# Daily Average of PJM Day-Ahead Prices - All Hours



Source: Derived by Bloomberg from PJM data as reported by Bloomberg. August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2010

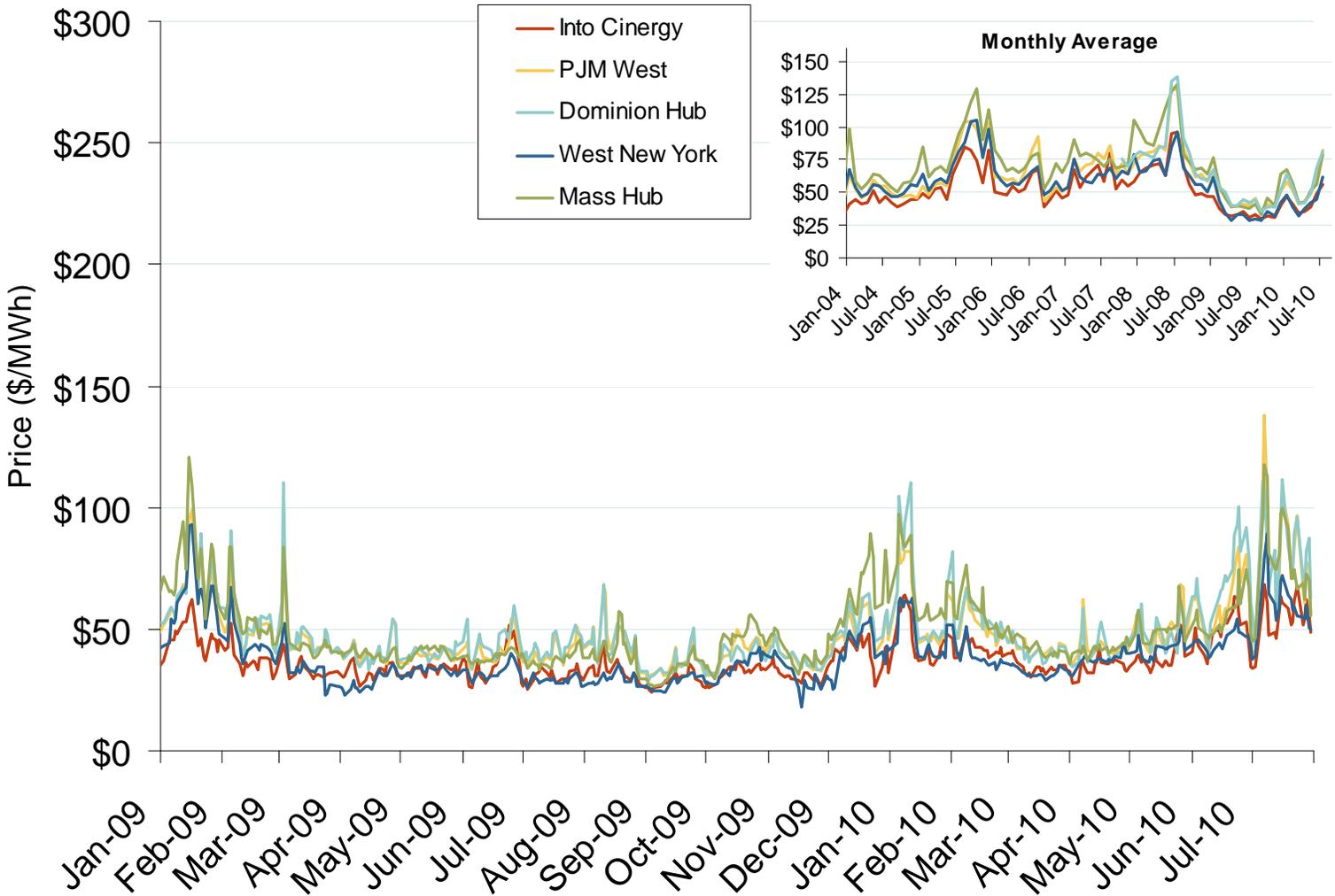
# Daily Average of PJM Day-Ahead Prices - All Hours



Source: Derived by Bloomberg from PJM data as reported by Bloomberg.  
August 2010 Mid-Atlantic Snapshot Report

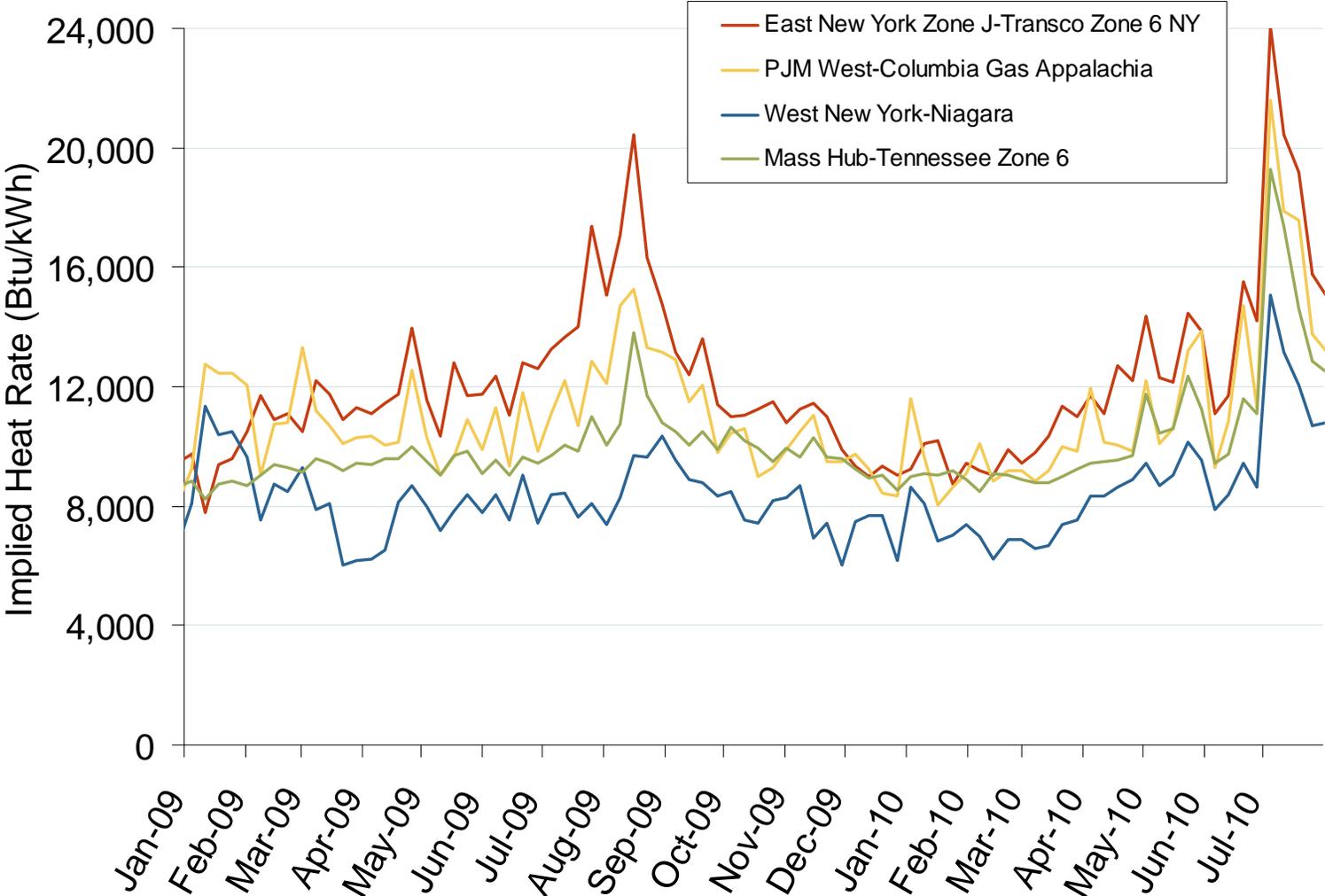
Updated August 6, 2010

# Eastern Daily Bilateral Day-Ahead On-Peak Prices



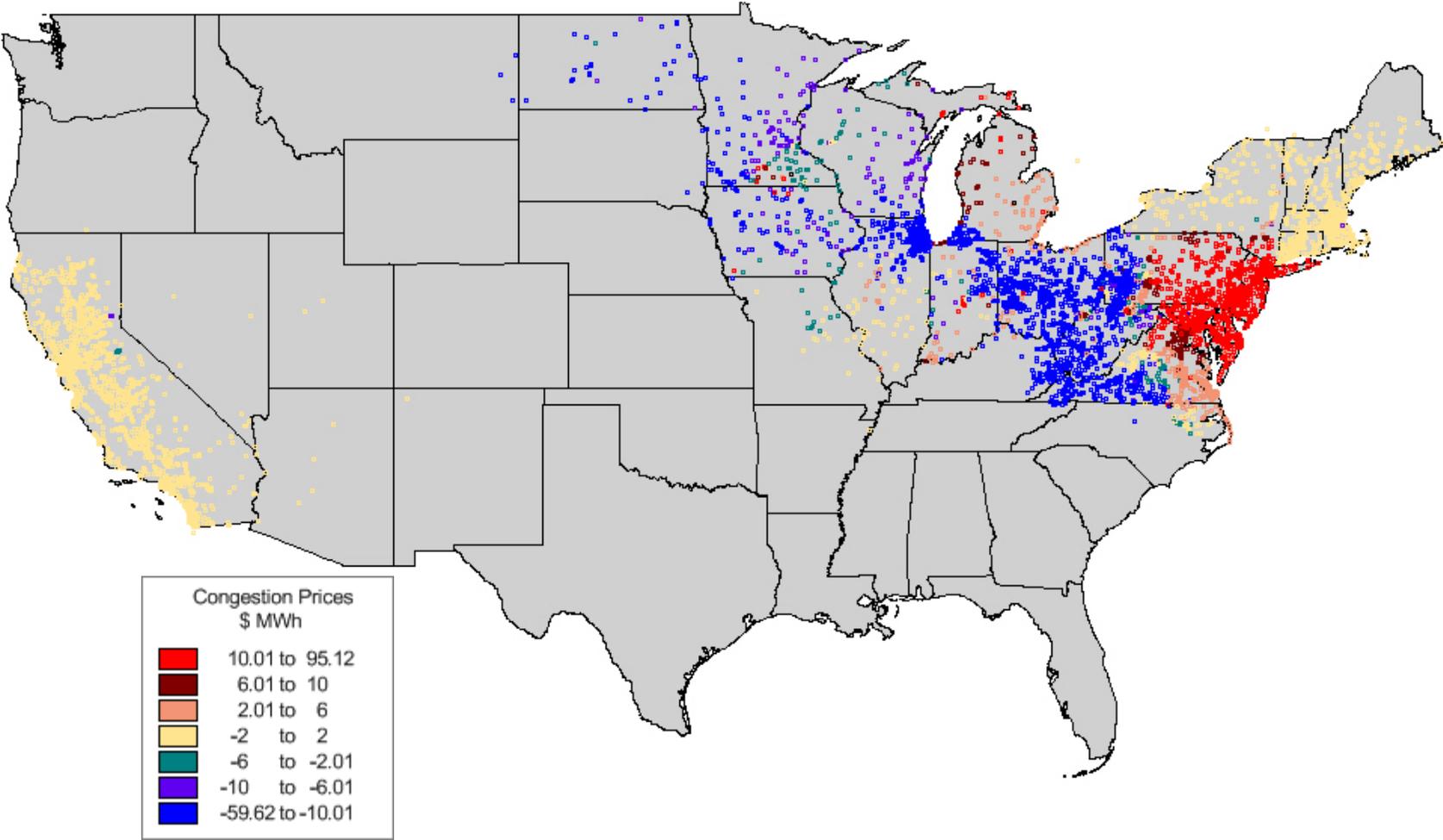
Source: Derived from *Platts* data.  
August 2010 Mid-Atlantic Snapshot Report

# Implied Heat Rates at Eastern Trading Points Weekly Averages

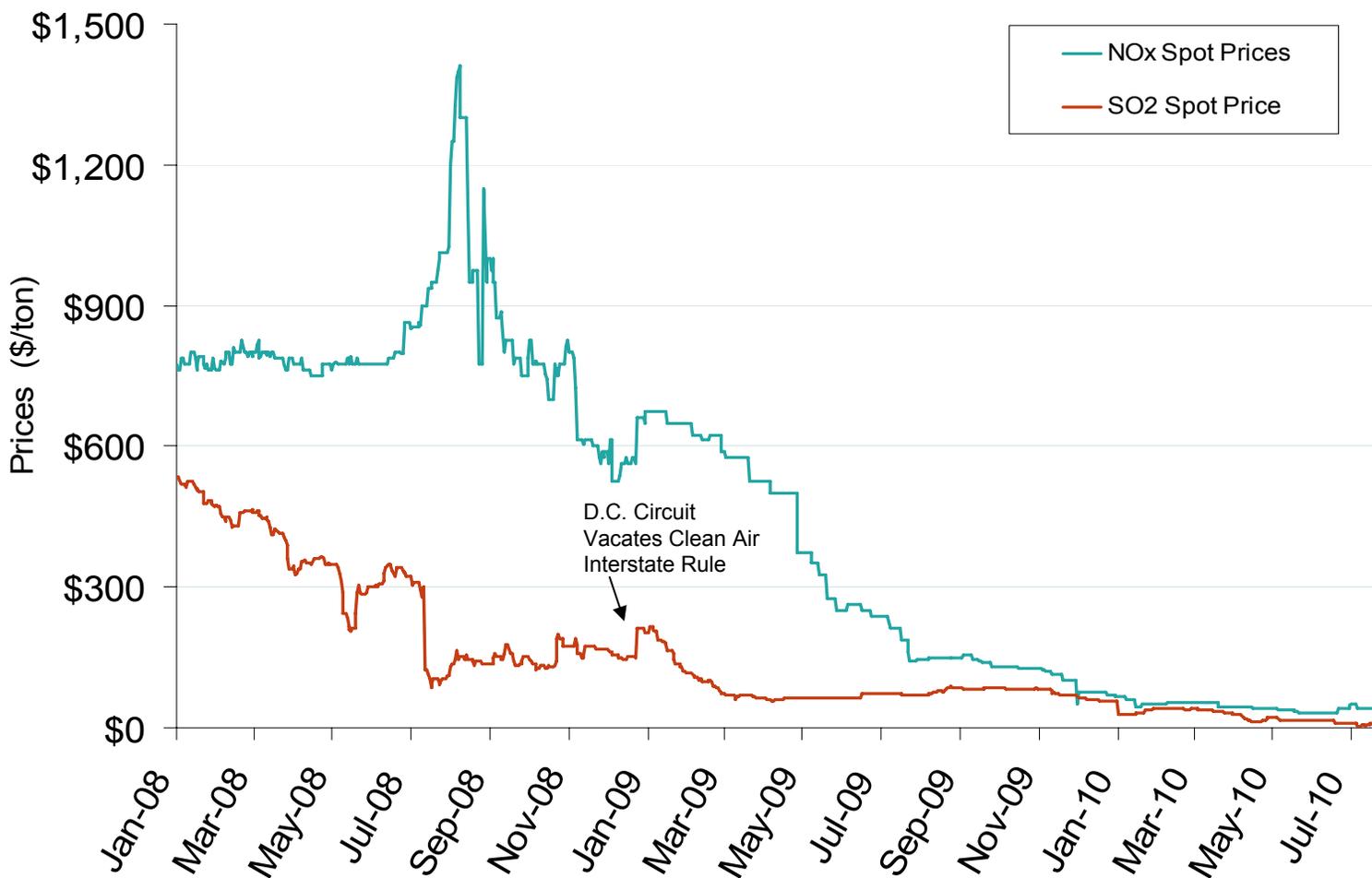


Source: Derived from *Platts* on-peak electric and natural gas price data.  
August 2010 Mid-Atlantic Snapshot Report

# Day Ahead On-Peak Congestion Average Monthly Prices July 2010



## SO<sub>2</sub> Allowance Spot Prices and NOx Seasonal Allowance Spot Prices

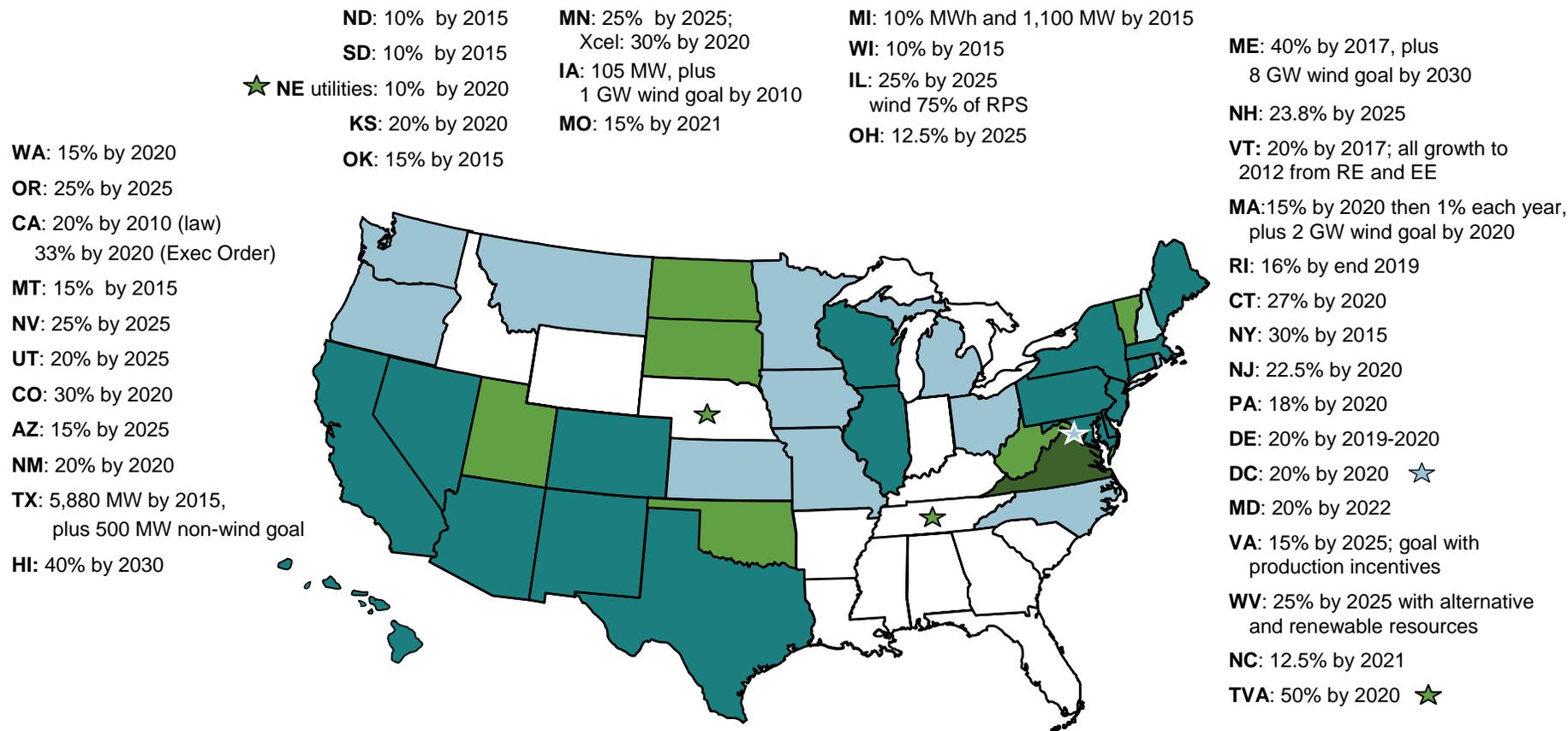


# Chicago Climate Exchange CO2 Index



Source: Derived from *Bloomberg*.  
August 2010 Mid-Atlantic Snapshot Report

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



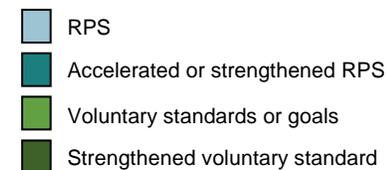
Updates at: <http://www.ferc.gov/market-oversight/othr-mkts/renew.asp>

**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.

\* Nebraska does not have a state-wide goal, but its two largest public power districts do.

TVA's goal is not state policy; it calls for 50% zero- or low-carbon generation by 2020.

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



Updated June 29, 2010

## Renewable Portfolio Provisions for Solar and Distributed Generation

16 States and D.C. use Set-asides, 3 use Multipliers to Encourage these Technologies

**WA:** double-credit for DG

**OR:** 20 MW PV by 2020;  
\* 2 utility PV credit

**CA:** 3 GW, including 1,940 MW distributed solar by 2016

**NV:** 1.5% solar by 2025  
\* 2.4 central PV;  
\* 2.45 distributed PV

**UT:** \* 2.4 solar-electric multiplier

**CO:** 3% DG by 2020  
1.5% customer-sited

**AZ:** 4.5% DG by 2025;  
half residential

**NM:** 4% solar-electric,  
0.6% DG by 2020

**TX:** double-credit for non-wind;  
non-wind goal – 500 MW

**MO:** 0.3% solar-electric by 2021

**IL:** 1.5% solar PV by 2025

**MI:** triple credit for solar-electric

**OH:** 0.5% solar-electric by 2025

**NH:** 0.3% solar-electric by 2014

**NY:** customer-sited is 7% of RPS increments, 0.5% of 2015 sales

**MA:** 400 MW PV by 2020

**RI:** 3 MW solar by 2013

**NJ:** 5,316 GWh solar-electric by 2026

**PA:** 0.5% PV by 2020

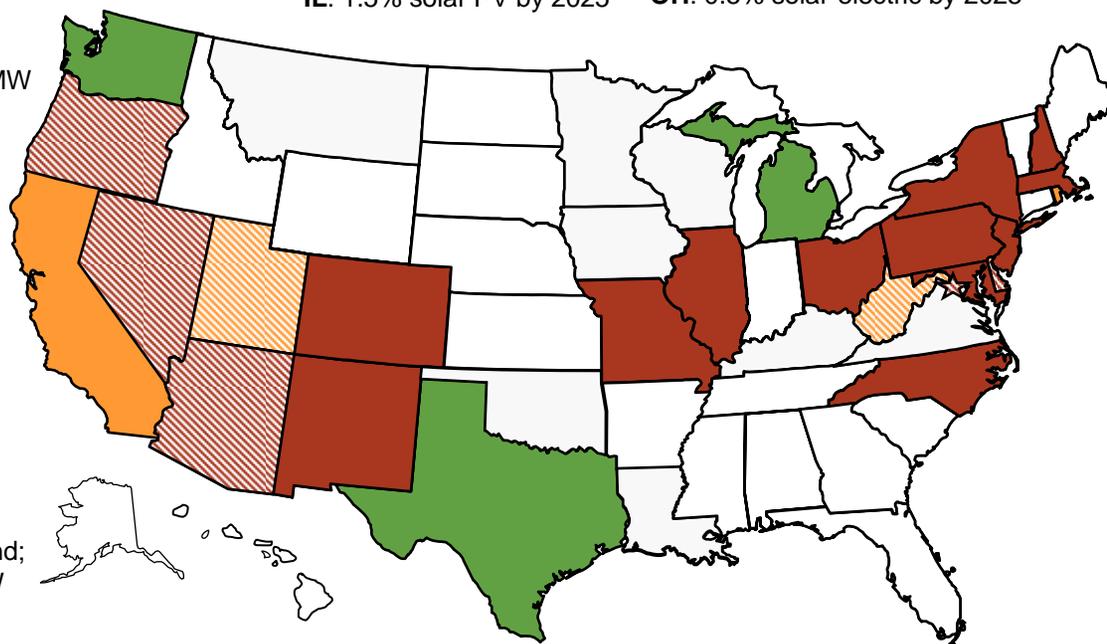
**WV:** various multipliers

**DE:** 2.005% PV by 2019;  
\* 3 PV credit

**DC:** 0.4% solar by 2021 ★

**MD:** 2% solar-electric in 2022

**NC:** 0.2% solar by 2018



- MI, TX, and WA use RPS multipliers only
- AZ, DC, DE, NV, and OR have RPS set-asides and multipliers
- CA, RI, UT, and WV have solar targets outside an RPS

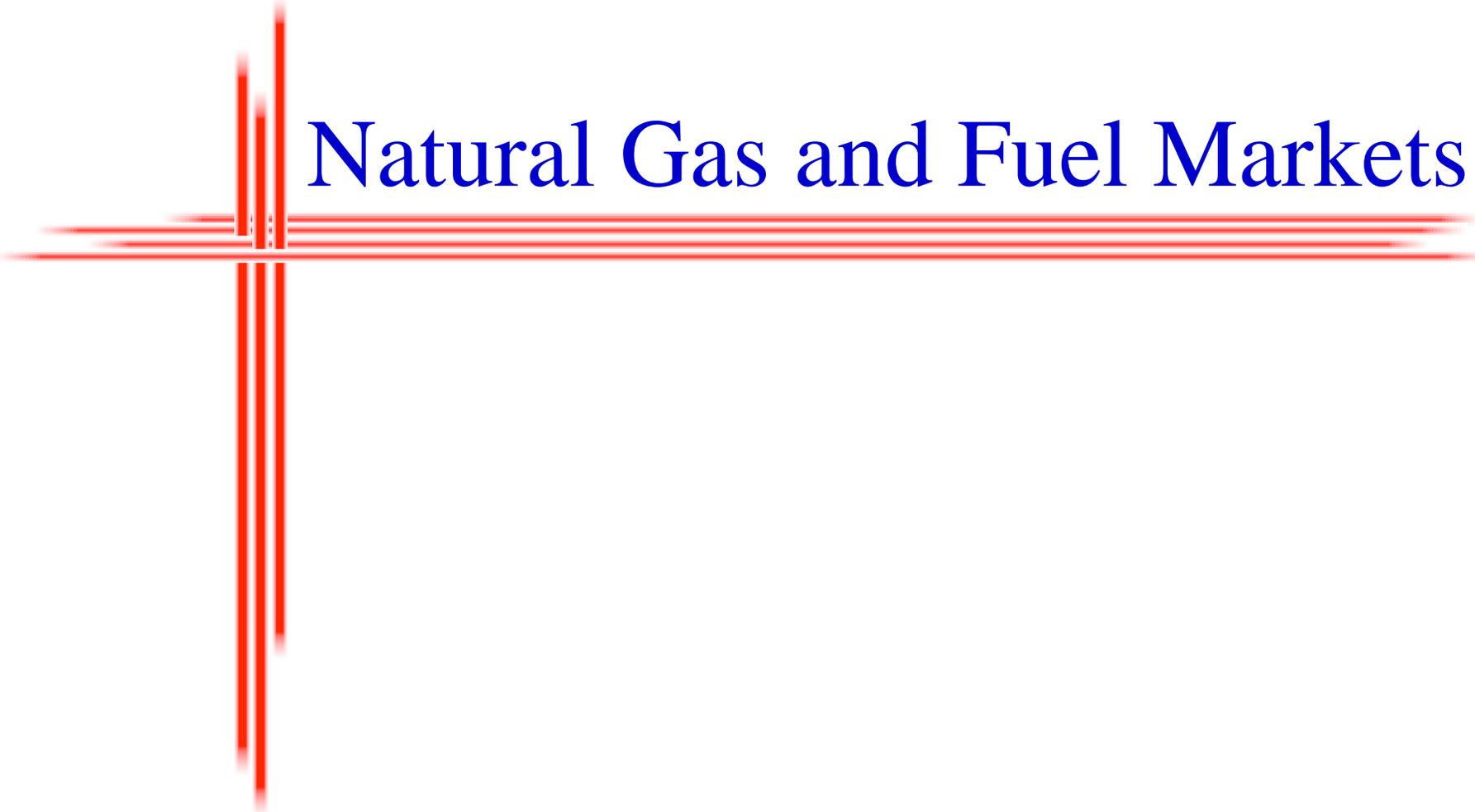
- Solar / DG set-aside in RPS
- Solar / DG in other renewable program
- RPS credit multiplier for Solar / DG
- ▨ Multiplier & set-aside in an RPS
- ▩ Multiplier & set-aside in Renewable Goal

**Updates at:** <http://www.ferc.gov/market-oversight/othr-mkts/renew/othr-rnw-rps-solar-DG.pdf>

**Notes:** (\*) **Multipliers** receive extra credit towards RPS compliance. **Set-asides** are specific technology targets in an RPS, specified by percent, MW, or MWh. An RPS requires a percent of an electric provider's energy sales (MWh) or installed capacity (MW) to come from renewable resources.

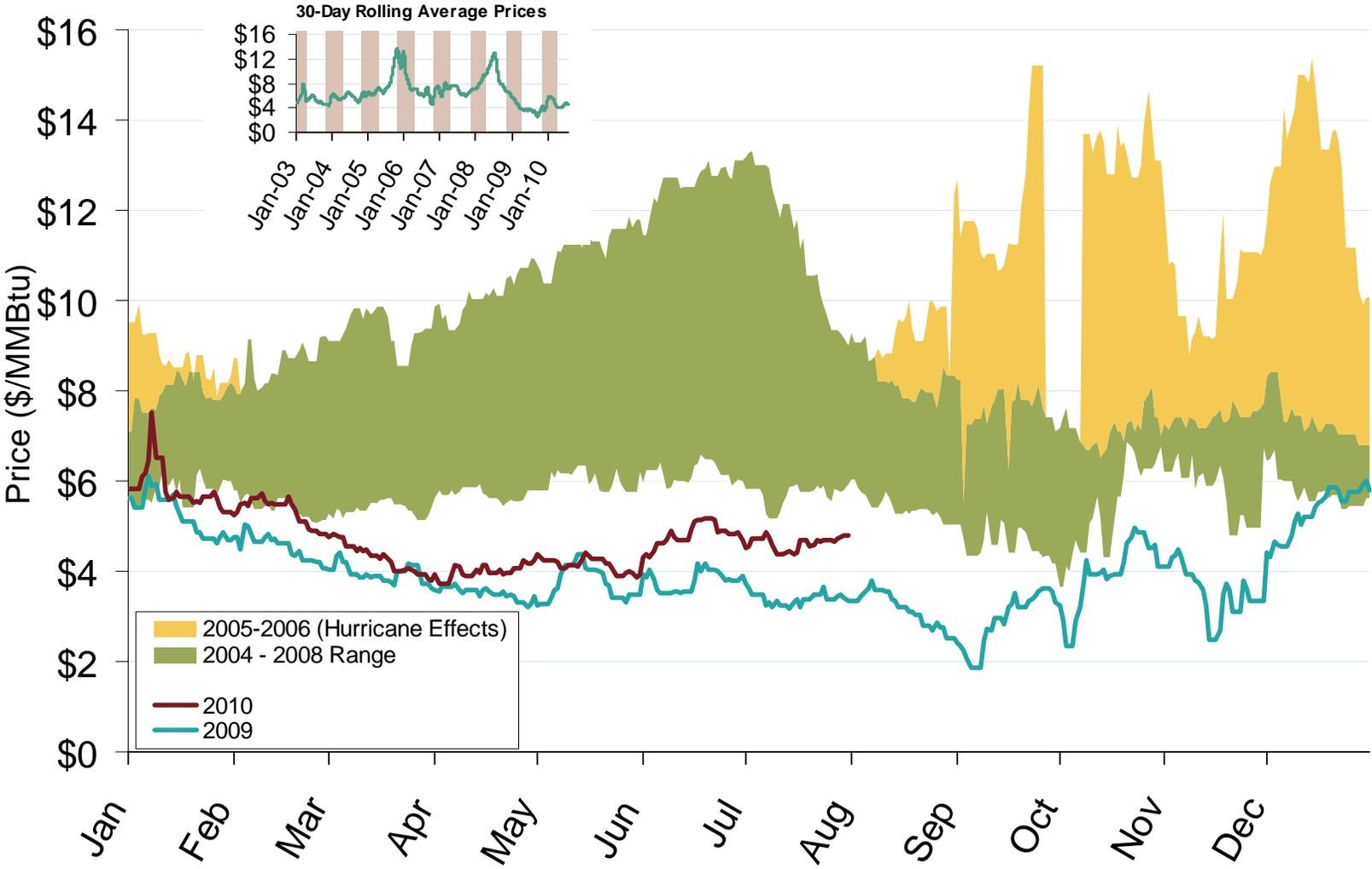
**Abbreviations:** DG – distributed generation; PV – solar photo-voltaic; RPS – Renewable Portfolio Standard

**Sources:** Derived from data in: LBNL, State Legislative and Public Utility web sites, California Solar Initiative, and the Database of State Incentives for Renewables and Energy Efficiency: <http://www.dsireusa.org>



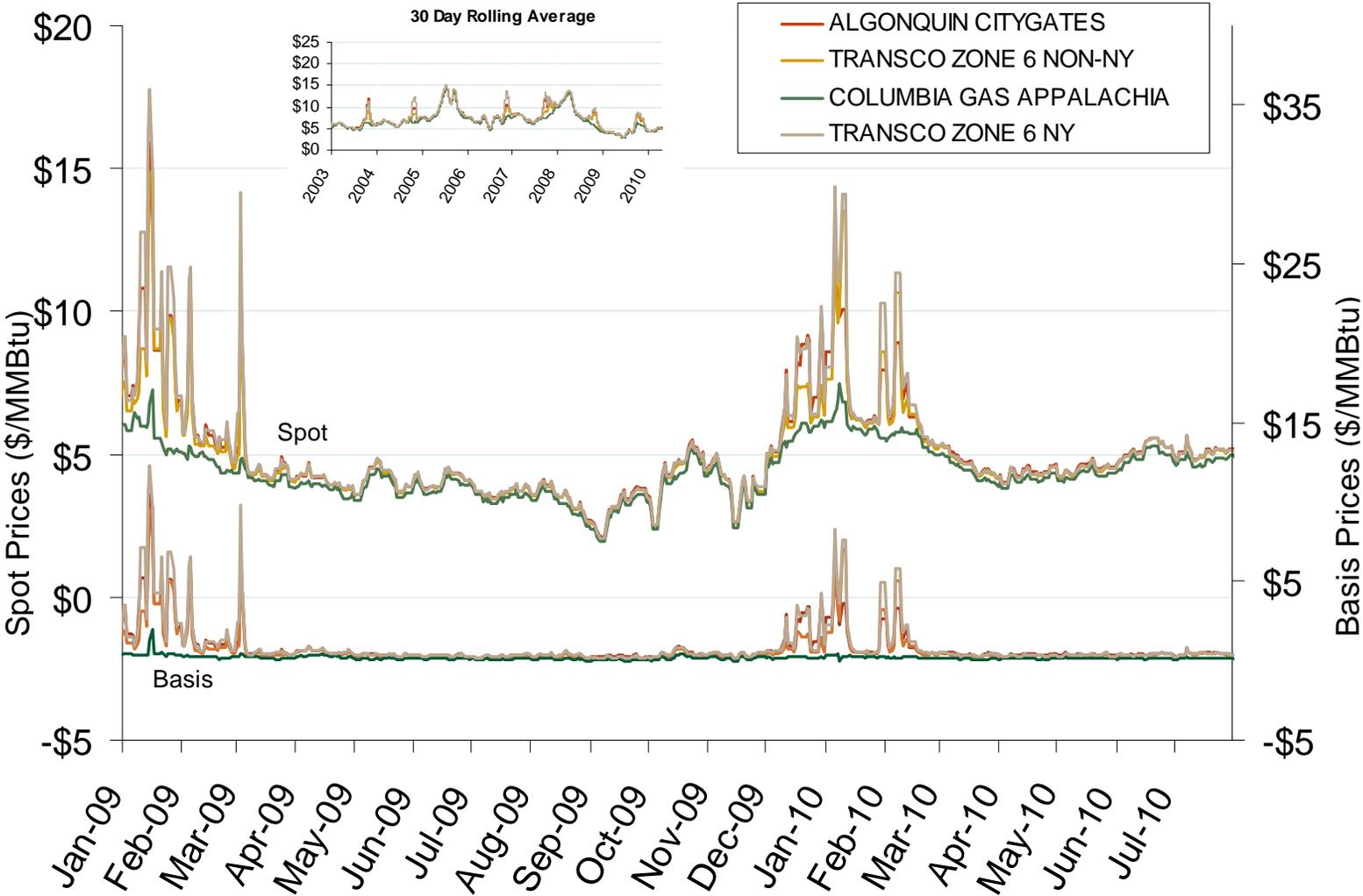
# Natural Gas and Fuel Markets

# Henry Hub Natural Gas Daily Spot Prices



Source: Derived from *Platts* data.  
August 2010 Mid-Atlantic Snapshot Report

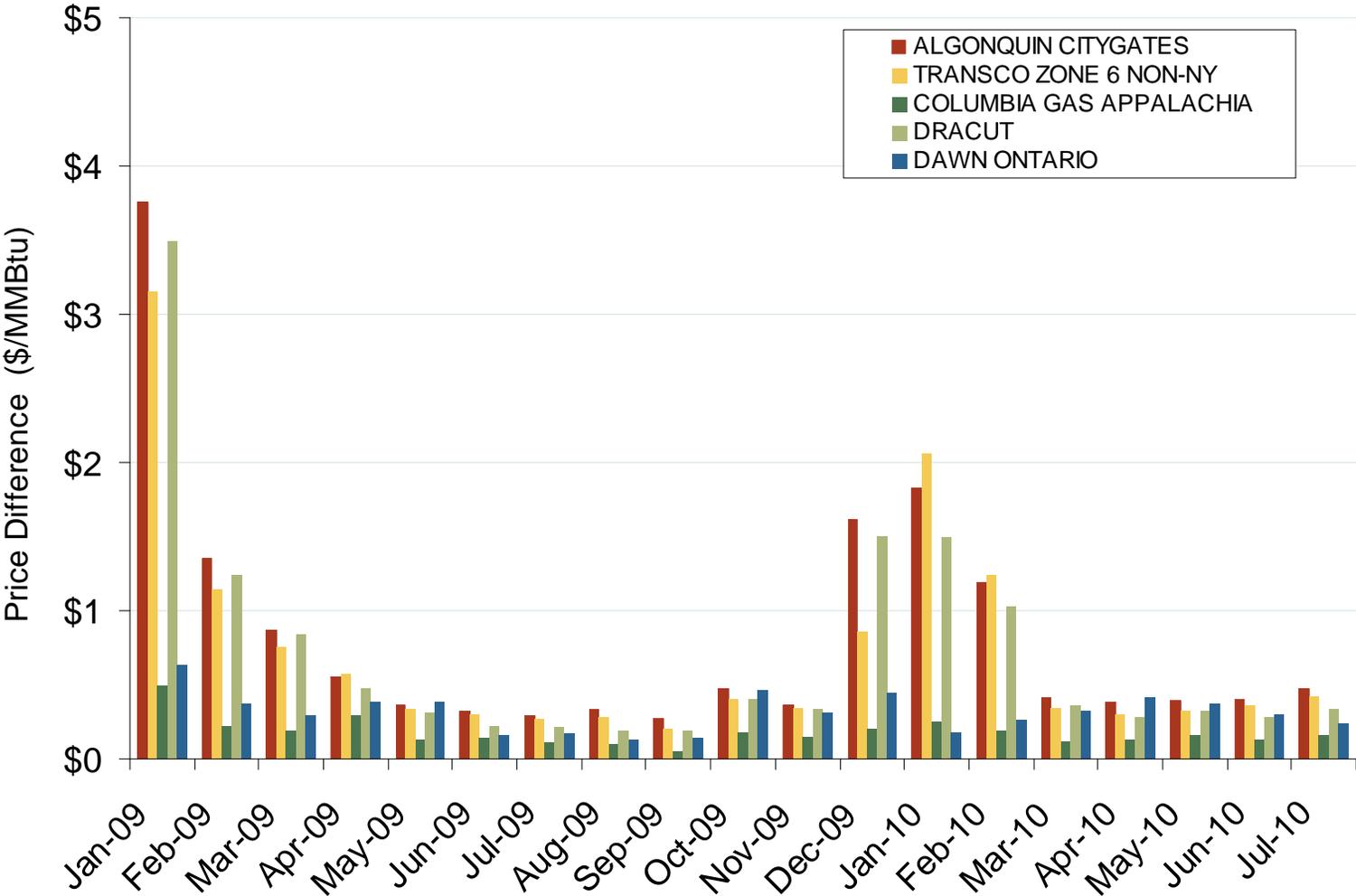
# Northeastern Spot Prices and Basis



Source: Derived from *Platts* data.  
August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2010

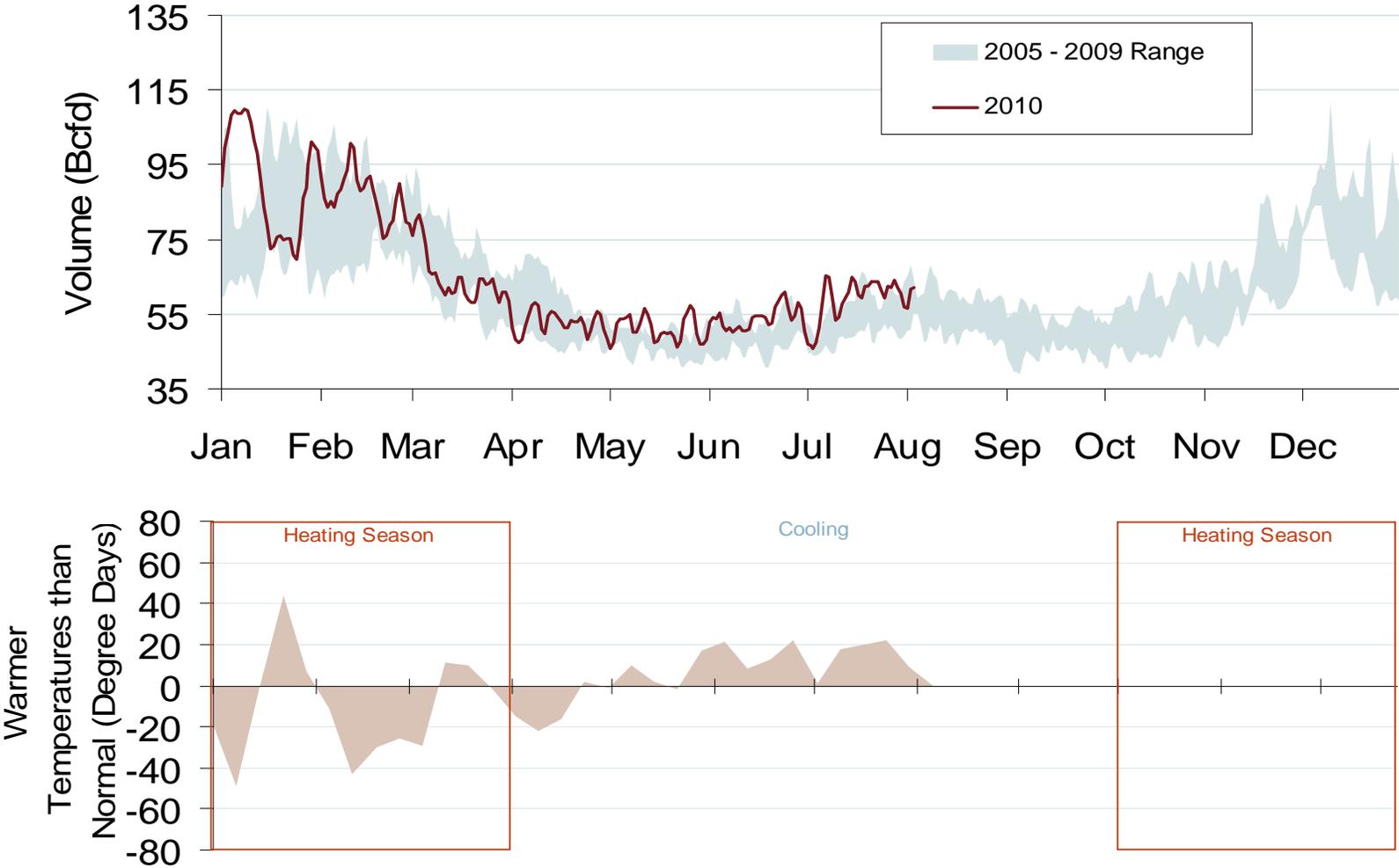
# Northeastern Monthly Average Basis Value to Henry Hub



Source: Derived from *Platts* data.  
August 2010 Mid-Atlantic Snapshot Report

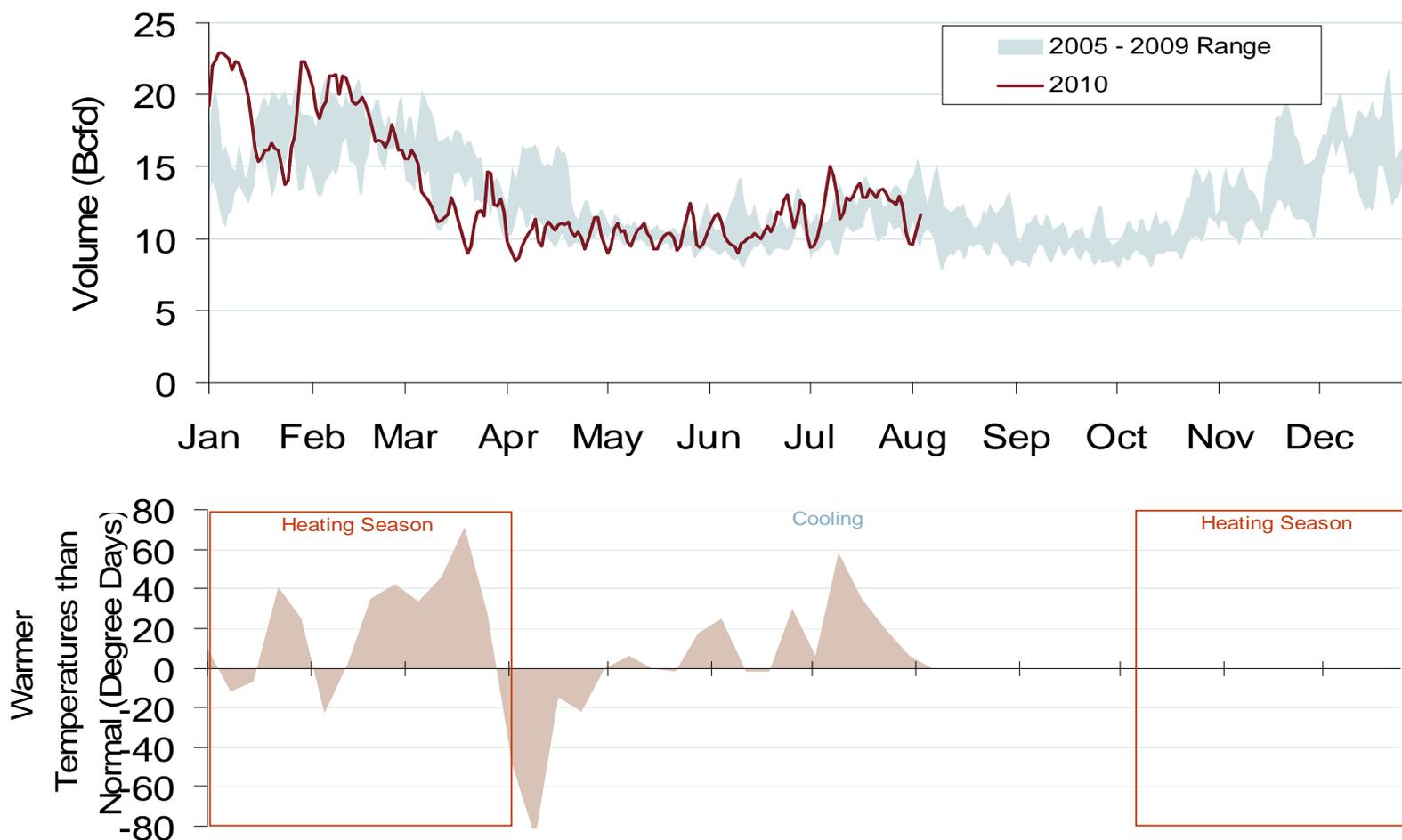
Updated August 6, 2010

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



Source: Derived from Bentek Energy and Weekly NOAA data.  
August 2010 Mid-Atlantic Snapshot Report

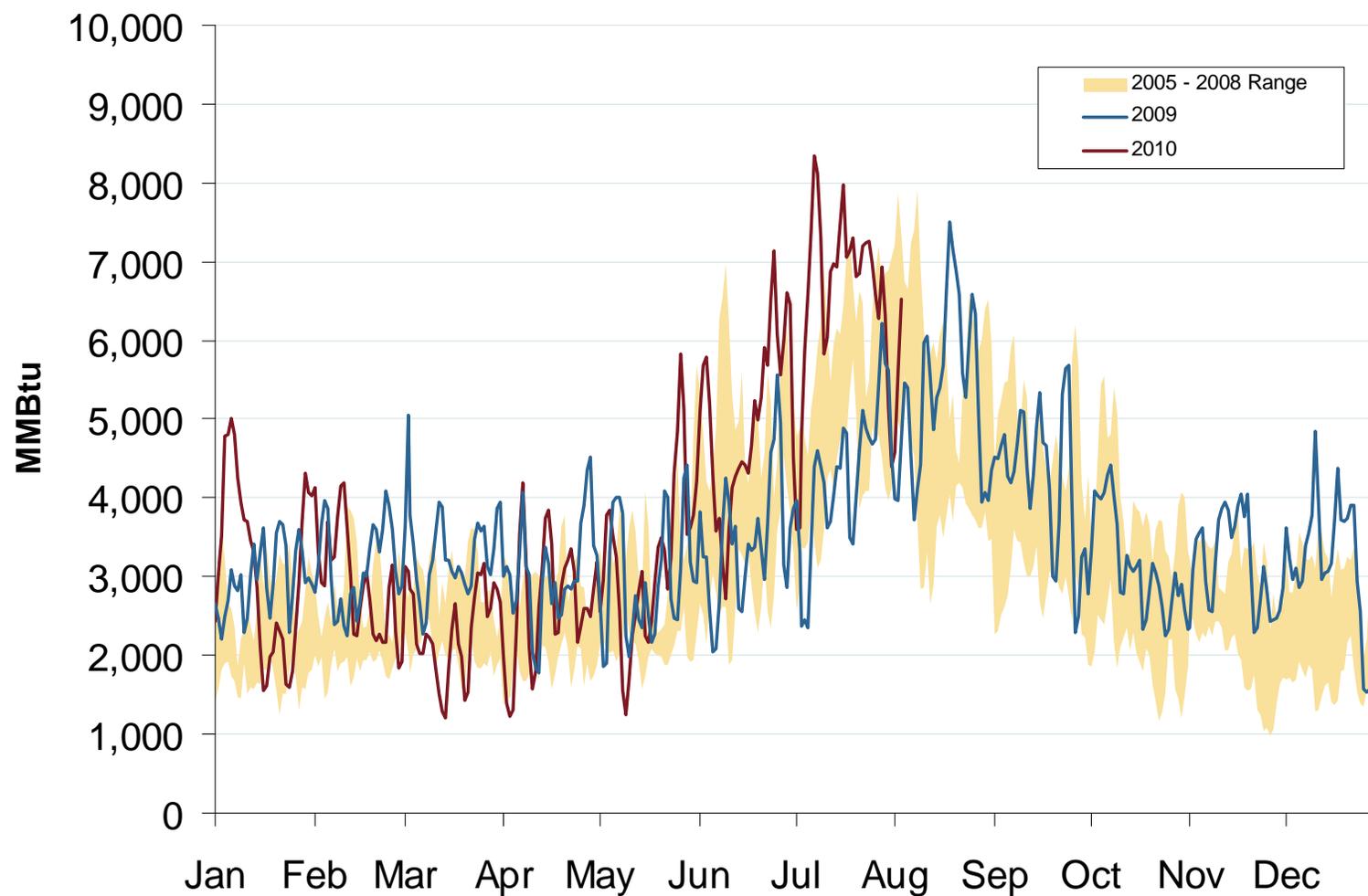
## Daily Northeast Natural Gas Demand All Sectors



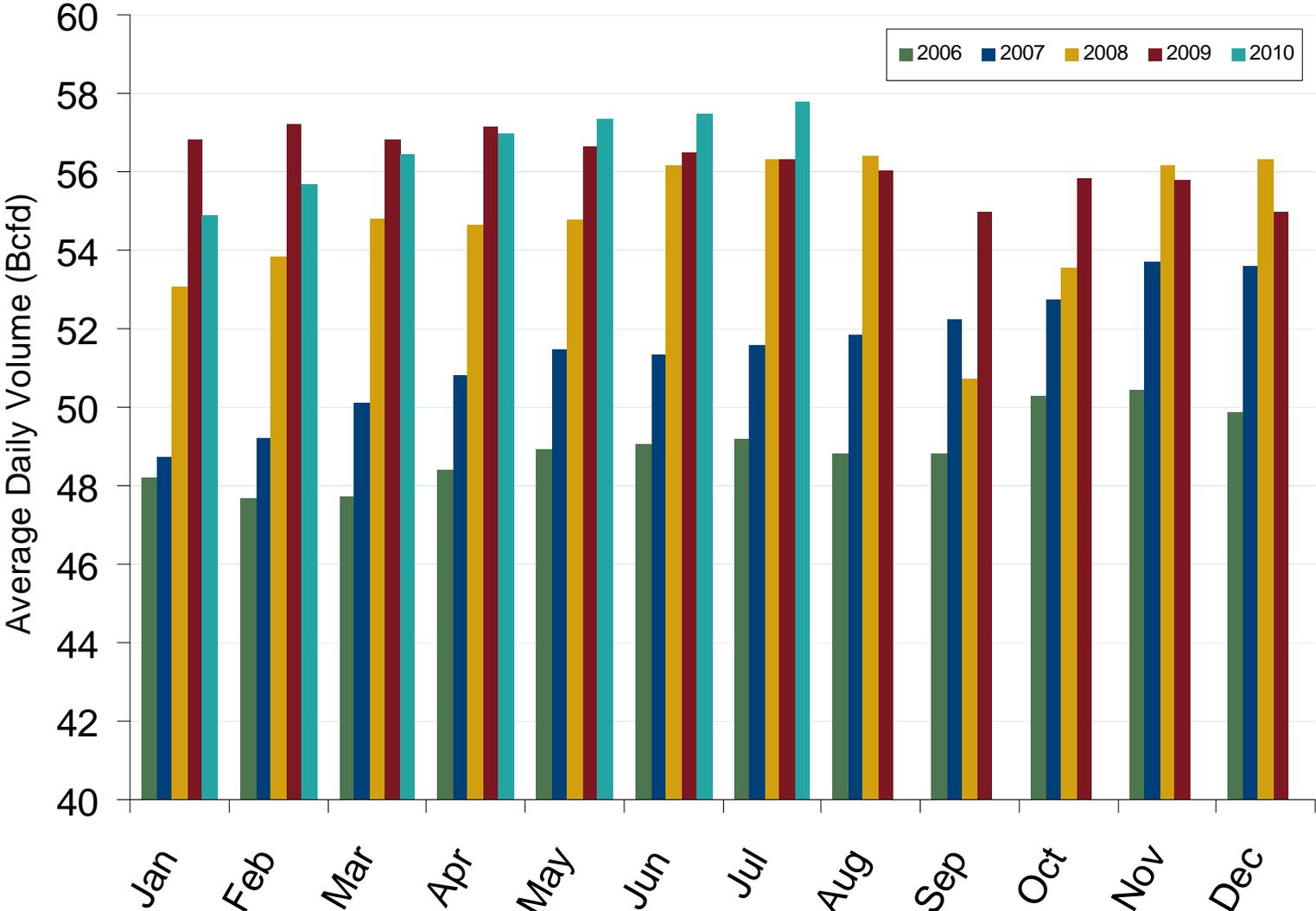
## Northeast Natural Gas Market: NG Consumption for Power Generation

Federal Energy Regulatory Commission • Market Oversight • [www.ferc.gov/oversight](http://www.ferc.gov/oversight)

# Northeast Natural Gas Consumption for Power Generation



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



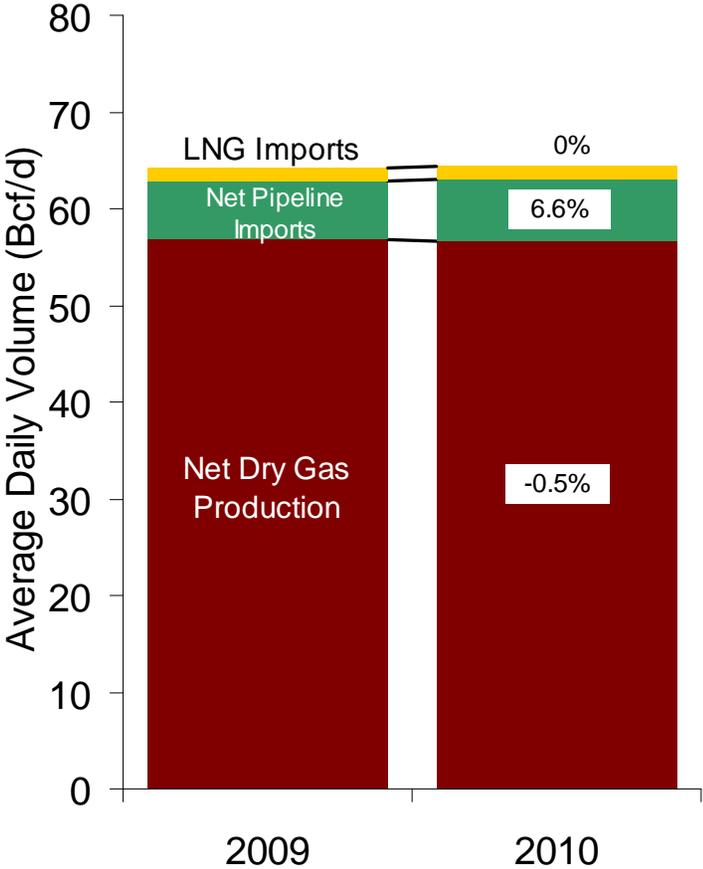
Source: Derived from Bentek data.

Note: Prior to July 2010, chart was derived from a combination of EIA and Bentek data  
August 2010 Mid-Atlantic Snapshot Report

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

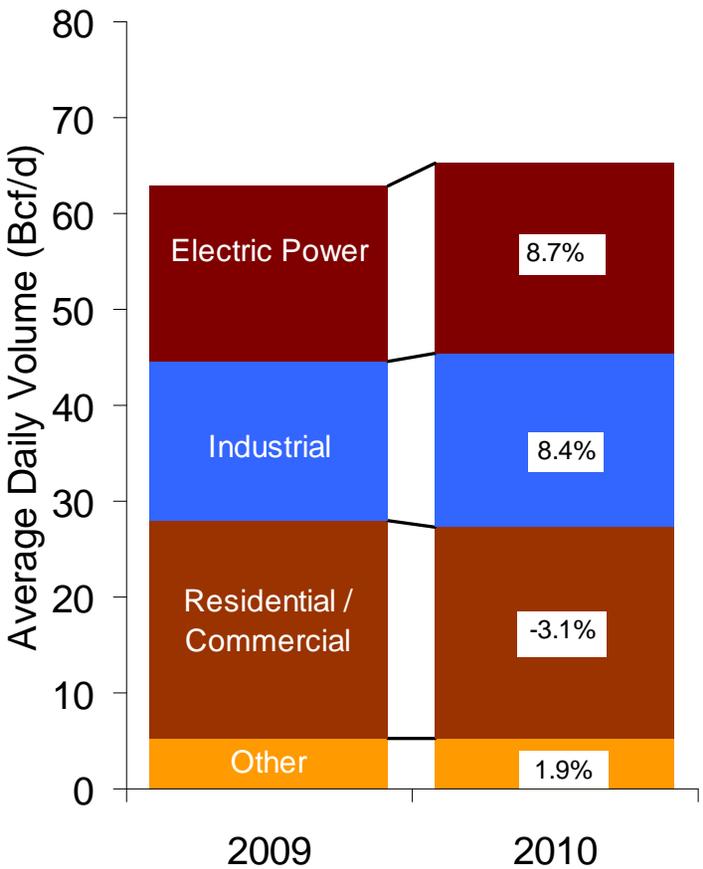
### US Natural Gas Supply

Total Change in Supply 0.3%



### US Natural Gas Demand

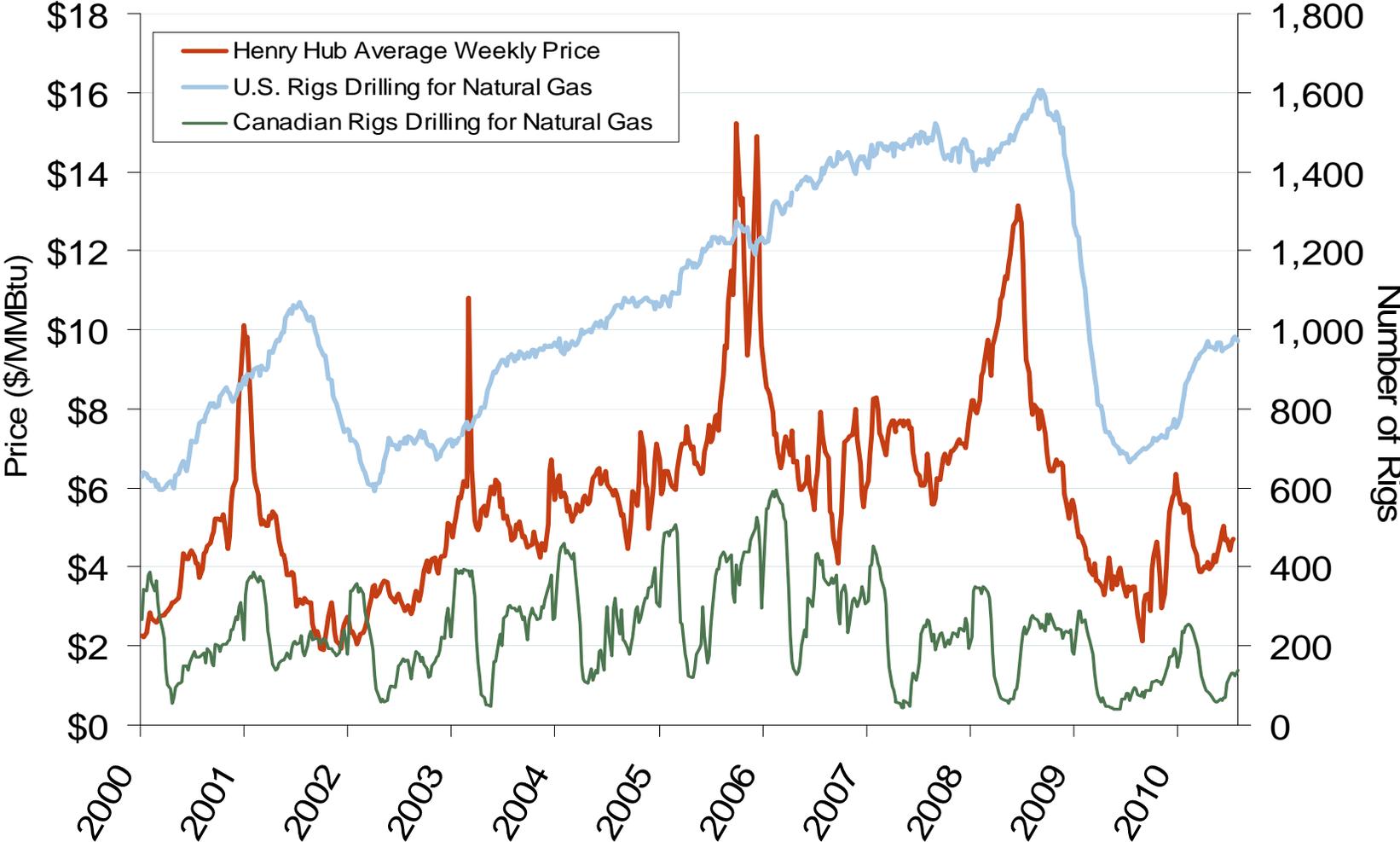
Total Change in Demand 3.7%



Source: Derived from Bentek data.  
August 2010 Mid-Atlantic Snapshot Report

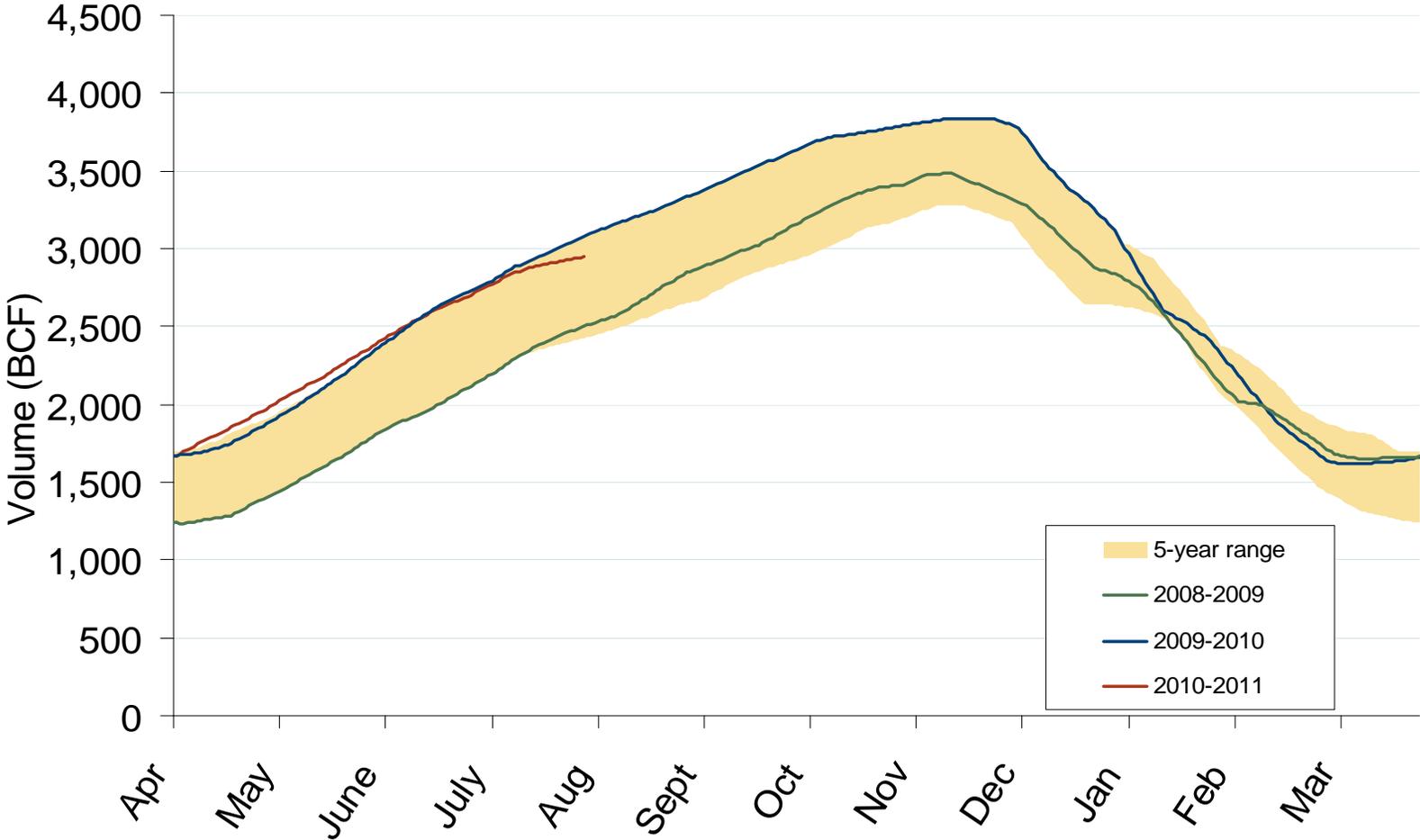
Updated August 6, 2010

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



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

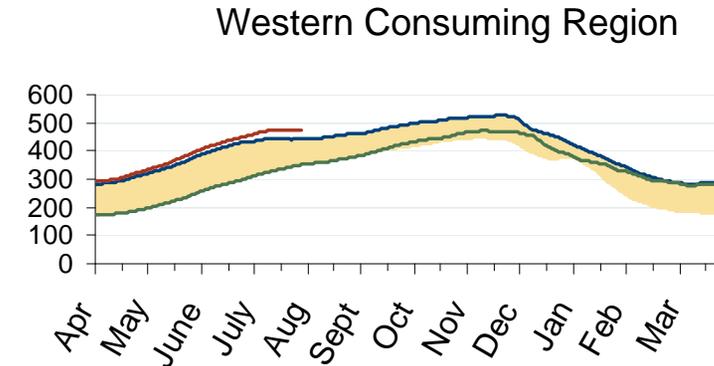
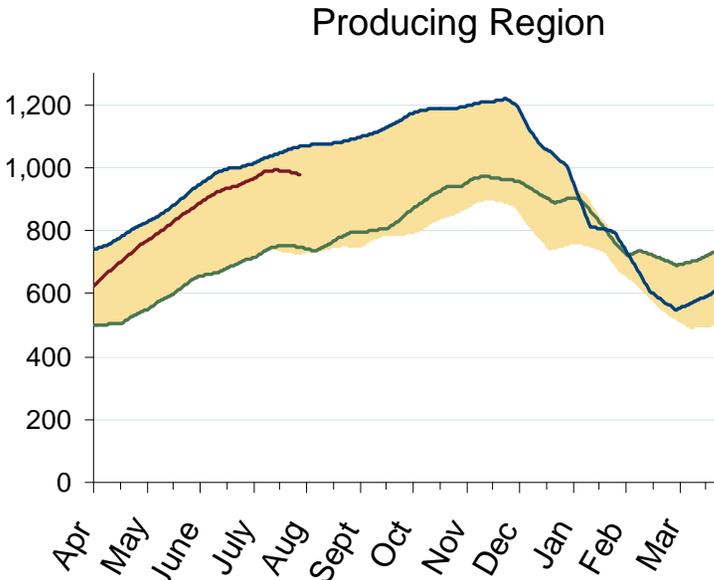
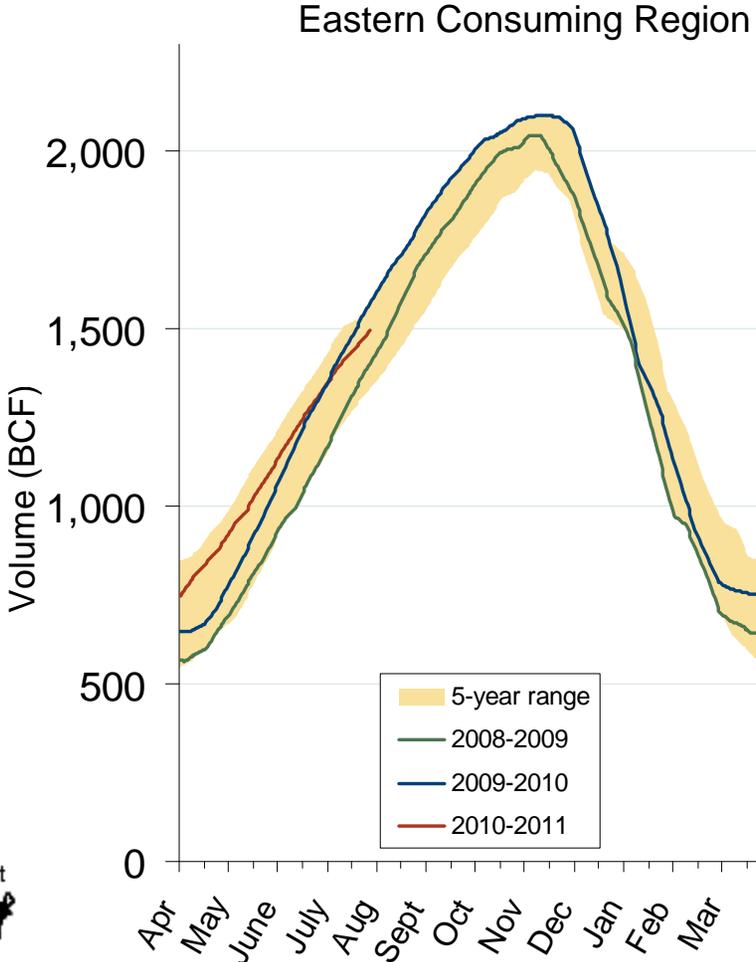
# Total U.S. Working Gas in Storage



Source: Derived from EIA data.  
August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2013

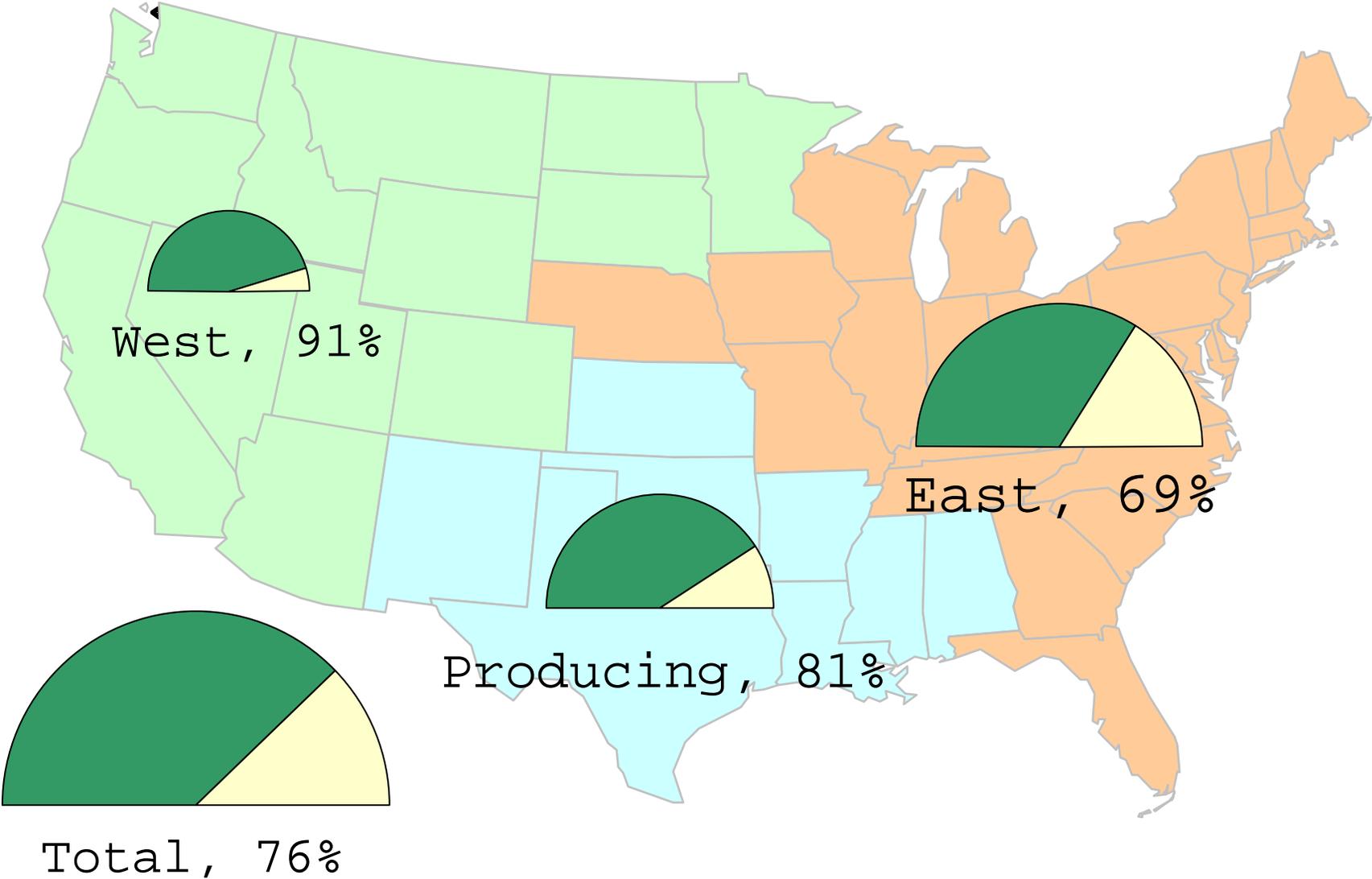
# Regional Totals of Working Gas in Storage



Source: Derived from EIA data.  
August 2010 Mid-Atlantic Snapshot Report

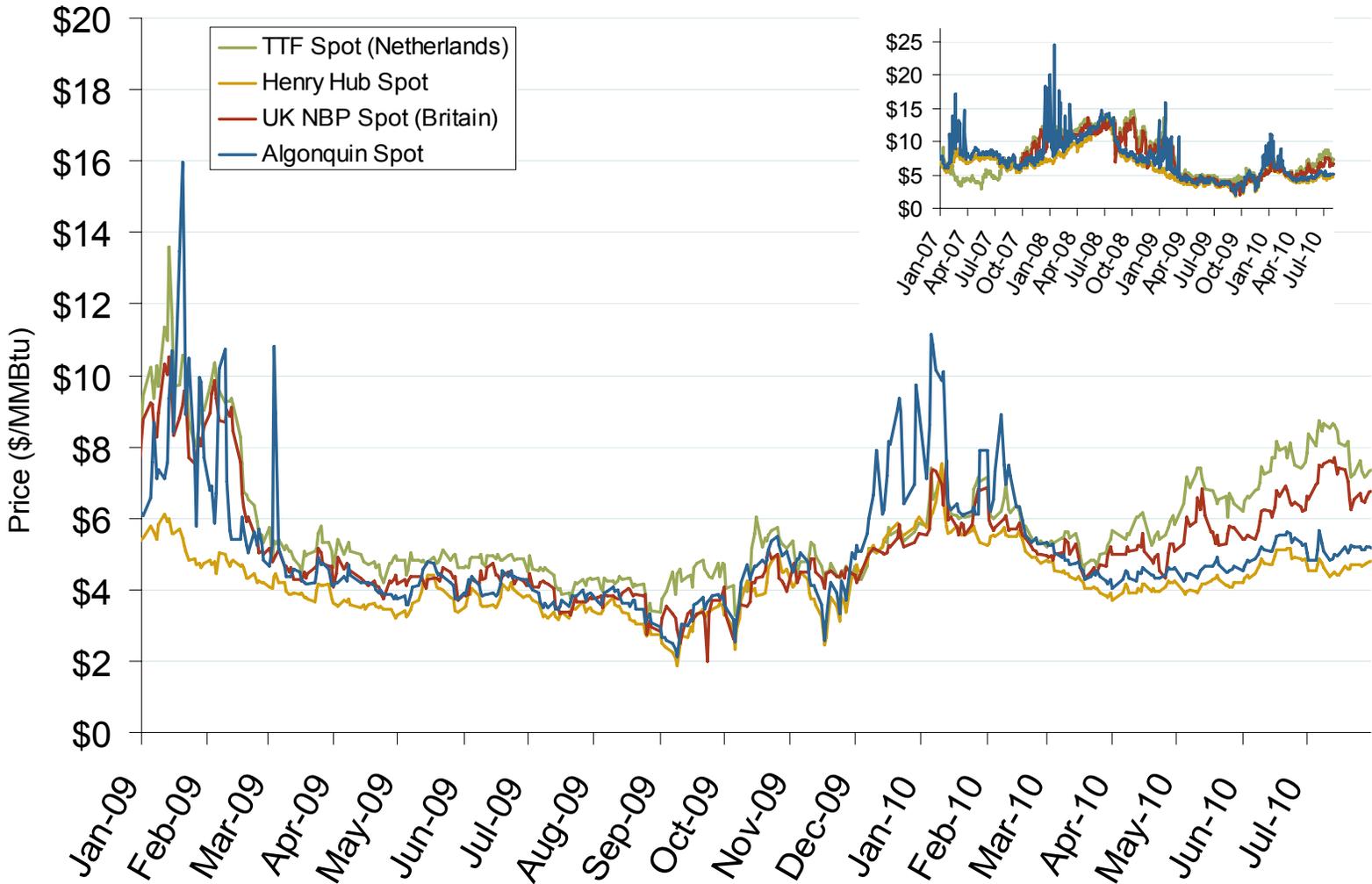
Updated August 6, 2014

# Natural Gas Storage Inventories – % full on July 30, 2010



Source: Derived from EIA Weekly Storage Report and the 2009 Estimated Peak Underground Working Gas Storage Capacity. Updated August 6, 2010 20022  
August 2010 Mid-Atlantic Snapshot Report

# Atlantic Basin European and US Spot Natural Gas Prices



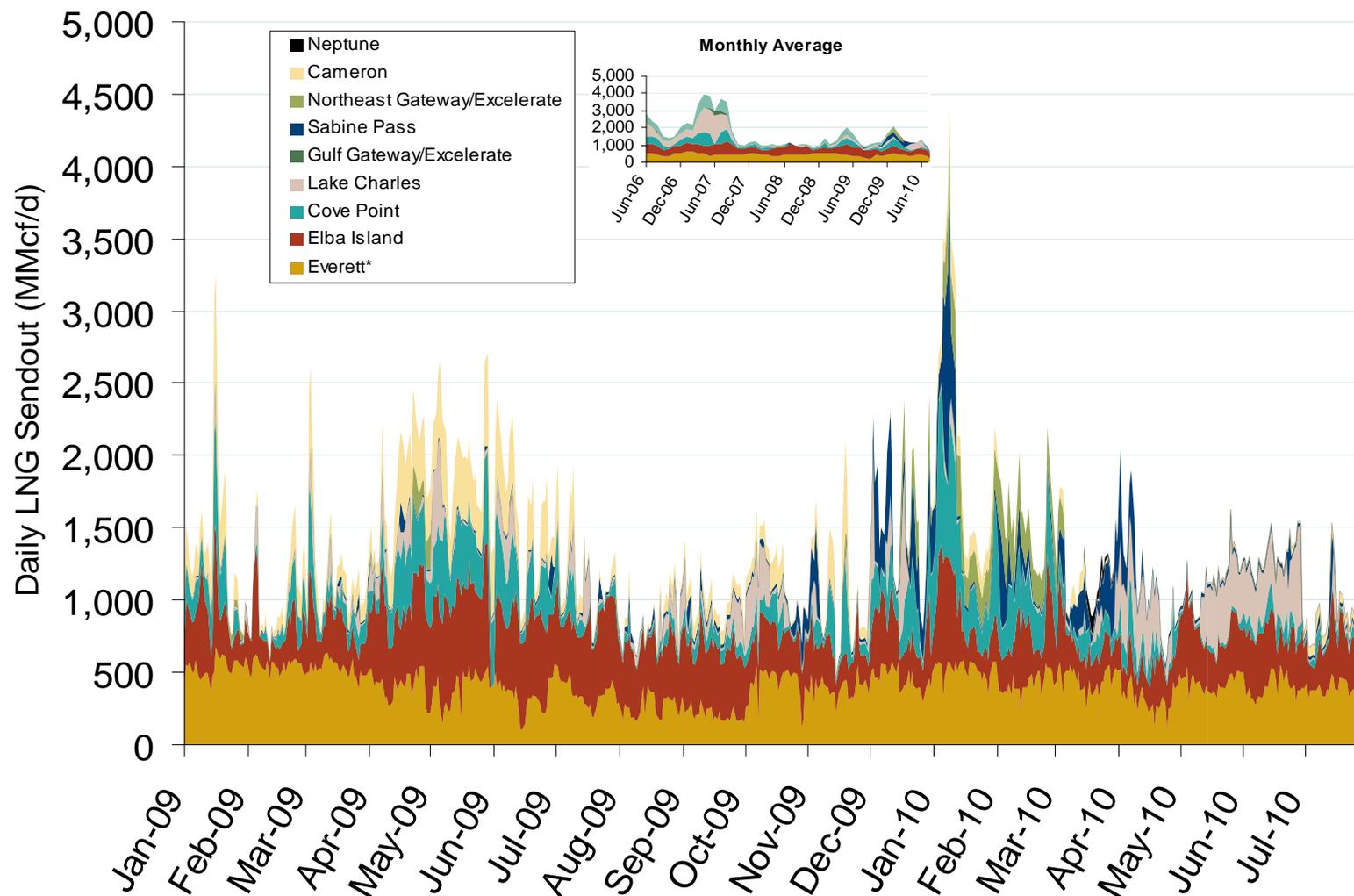
Source: Derived from *Bloomberg* and *ICE* data.  
August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2010

## World LNG Estimated August 2010 Landed Prices



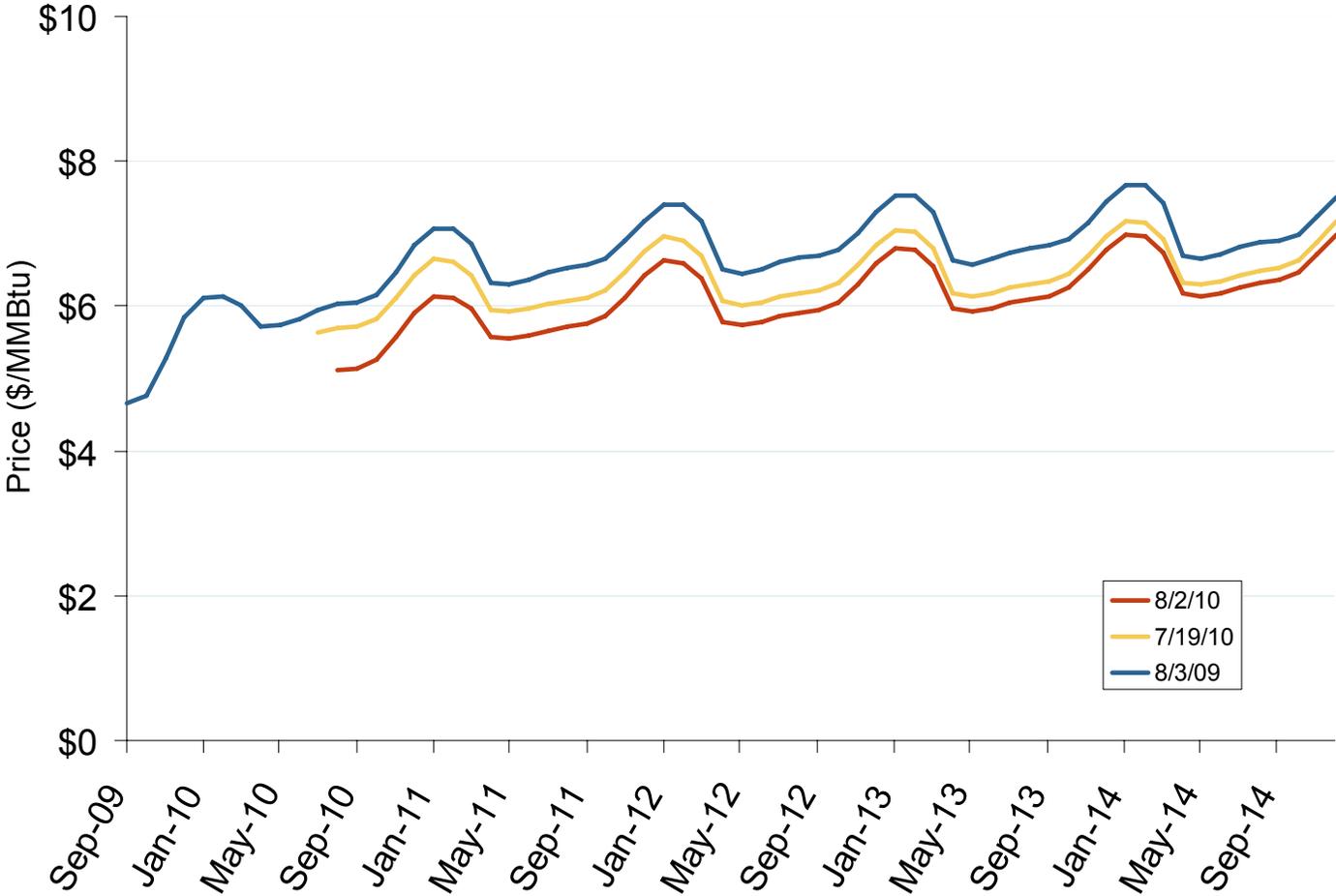
## Daily Gas Sendout from Existing U.S. LNG Facilities



Source: Derived from *Bentek* data.

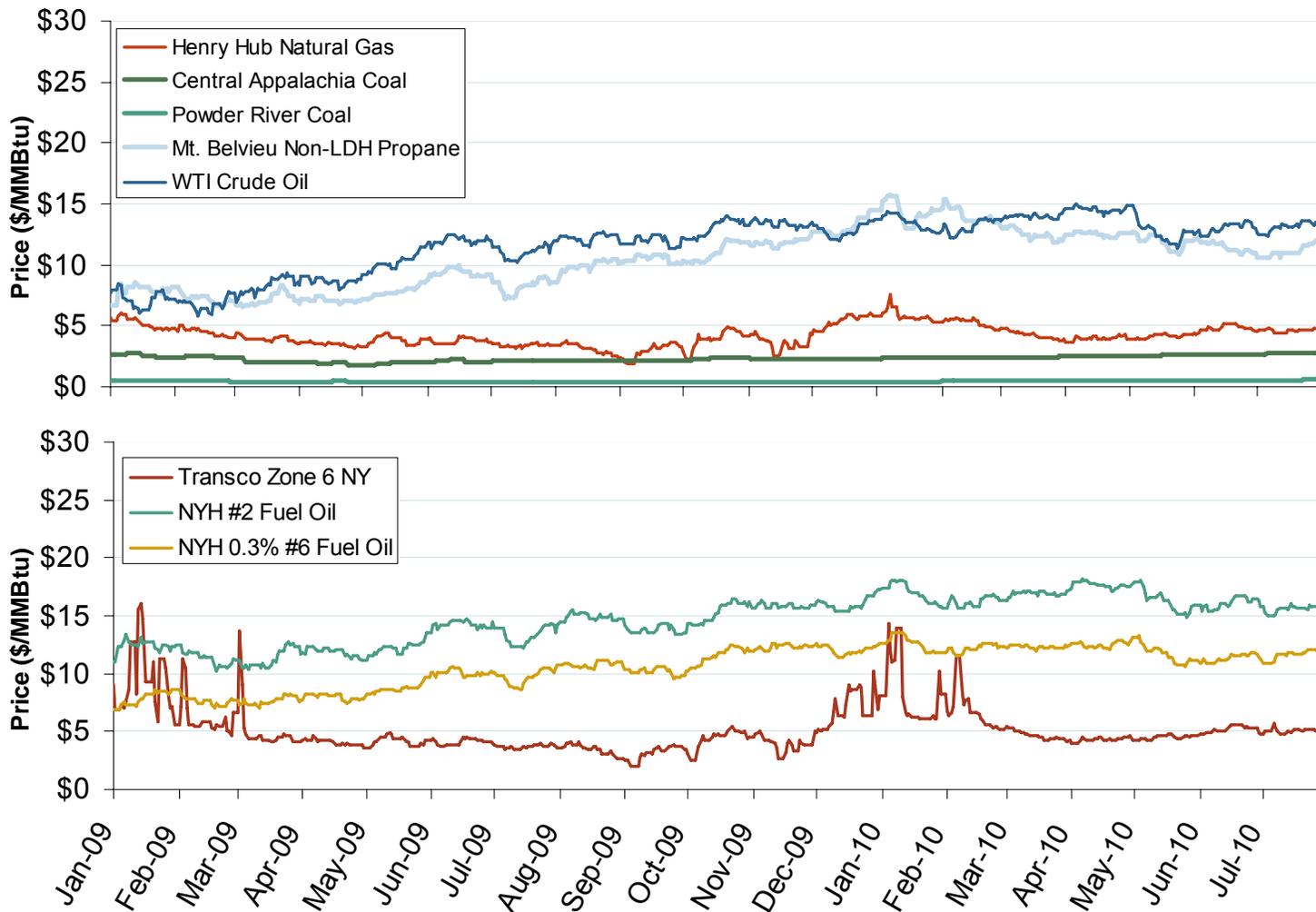
\* Everett data includes flows onto the AGT and TGP interstate lines, plus estimates of flows to the Mystic 7 power plant, Keyspan Boston Gas, and LNG trucked out of the terminal. Excludes Freeport LNG which flows via intrastate pipelines.

# NYMEX Natural Gas Forward Price Curve



The NYMEX futures contract trades in 10,000 million Btu units. The blue series shows the forward price curve for these contracts 1-year ago. The red and yellow curves show prices for contracts traded on the current and previous months.

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

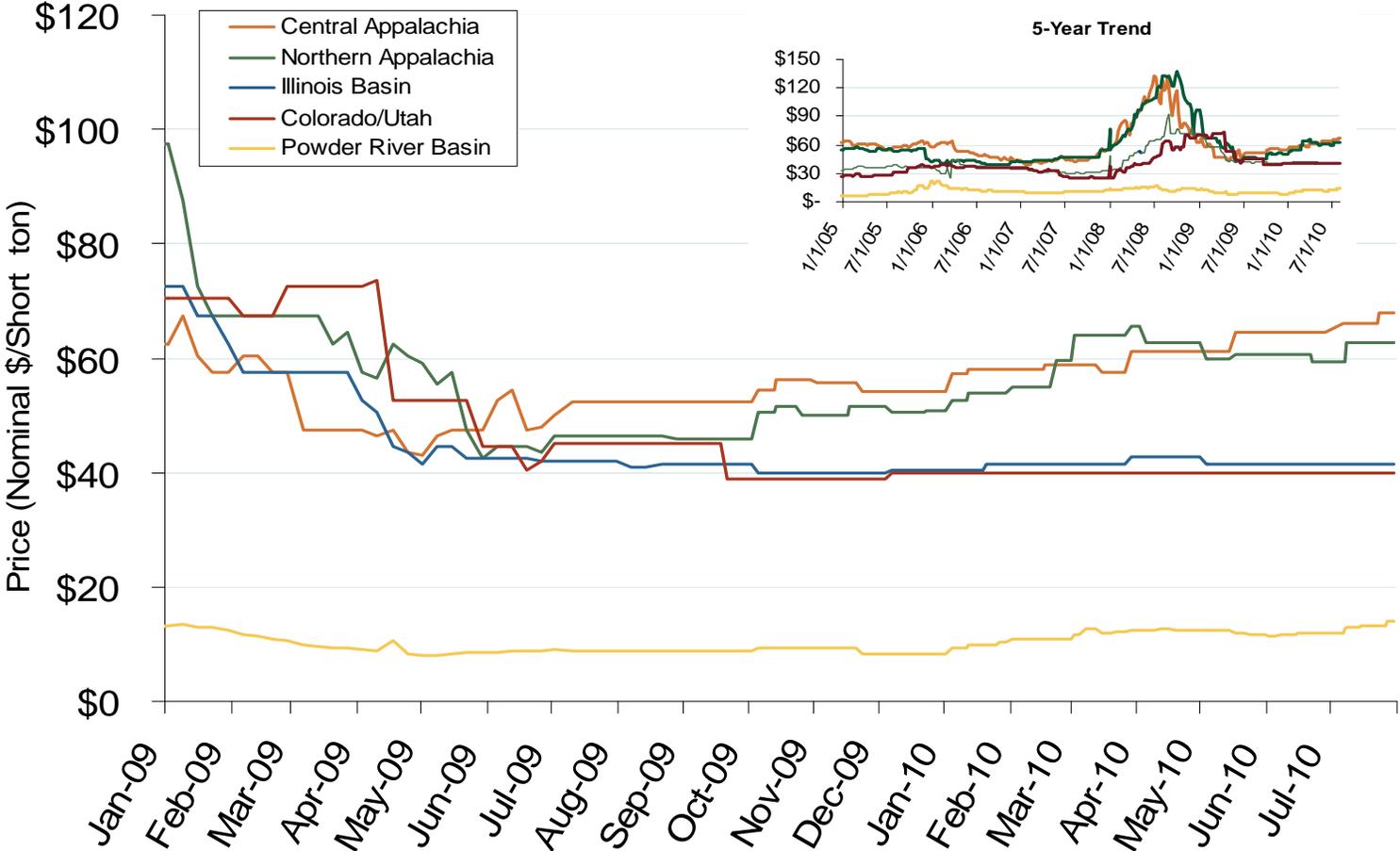


Source: Derived from ICE and Bloomberg data.

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 August 6, 2010

# Regional Coal Spot Prices

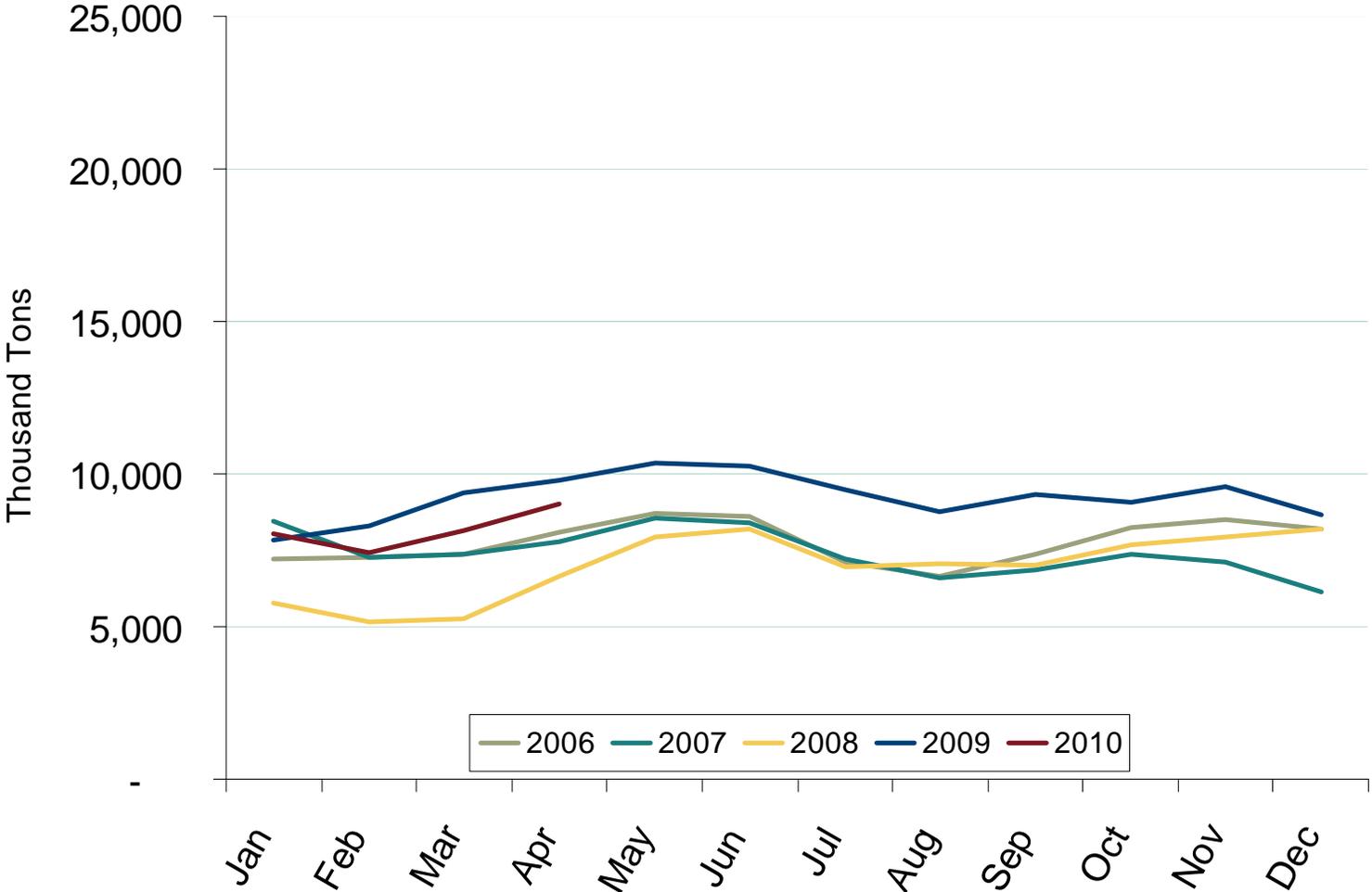


Note: the Central Appalachian (CAPP) coal is priced at Big Sandy. All others are mine mouth prices. Prices do not include transportation costs to a plant, as those can vary widely by contract specifications. Prices exclude incremental cost of emissions allowances.

Source: Derived from *Bloomberg* data.  
August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2010

# Northeast Coal Stockpiles at Electric Power Generating Facilities



Source: Energy Information Administration. Excludes Industrial and Commercial Plants.  
August 2010 Mid-Atlantic Snapshot Report

Updated August 6, 2010