# OE ENERGY MARKET SNAPSHOT

## National Version – April 2011 Data

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

Office of Enforcement
Federal Energy Regulatory Commission
May 2011

# Special Report:

- **2010 State of the Markets**

**Federal Energy Regulatory Commission • Market Oversight @ FERC.gov**

FEDERAL ENERGY REGULATORY COMMISSION

# 2010 State of the Markets

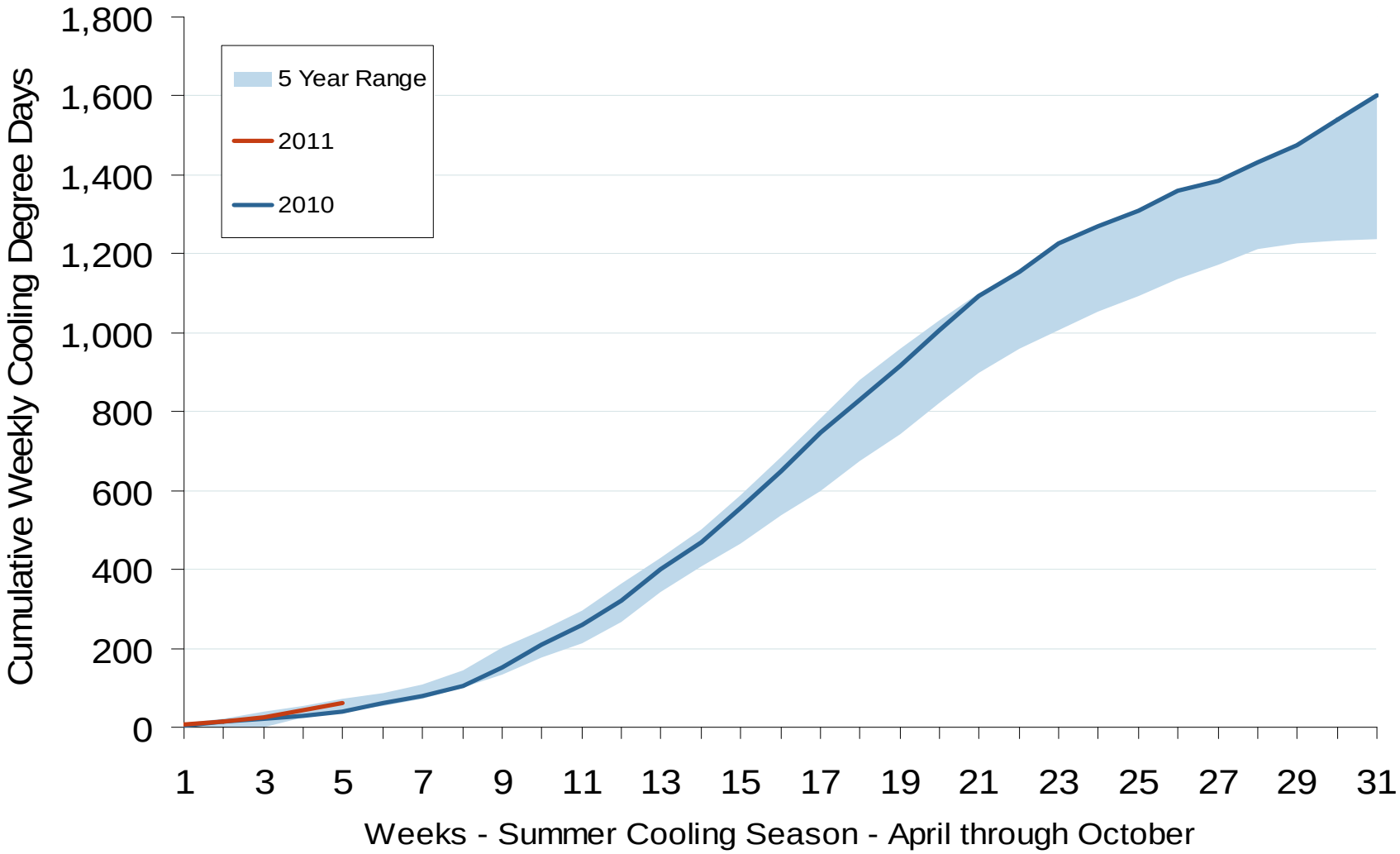
**Item No: A-3**

**April 21, 2011**

http://www.ferc.gov/market-oversight/st-mkt-ovr/som-rpt-2010.pdf

# Weather

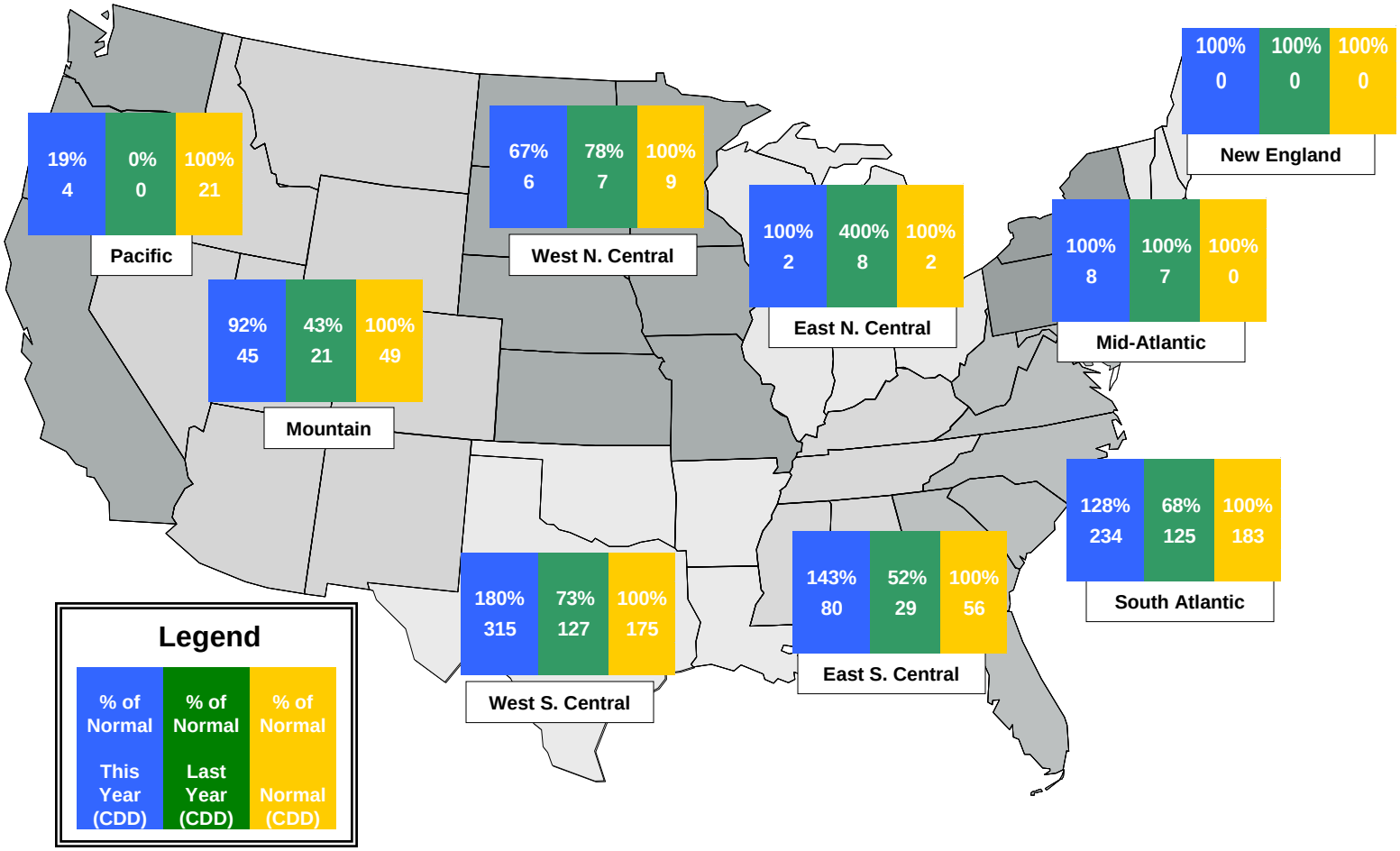
# U. S. Summer Cumulative Cooling Degree Days - 2011




Source: Derived from *NOAA* data.

Updated May 6, 2011

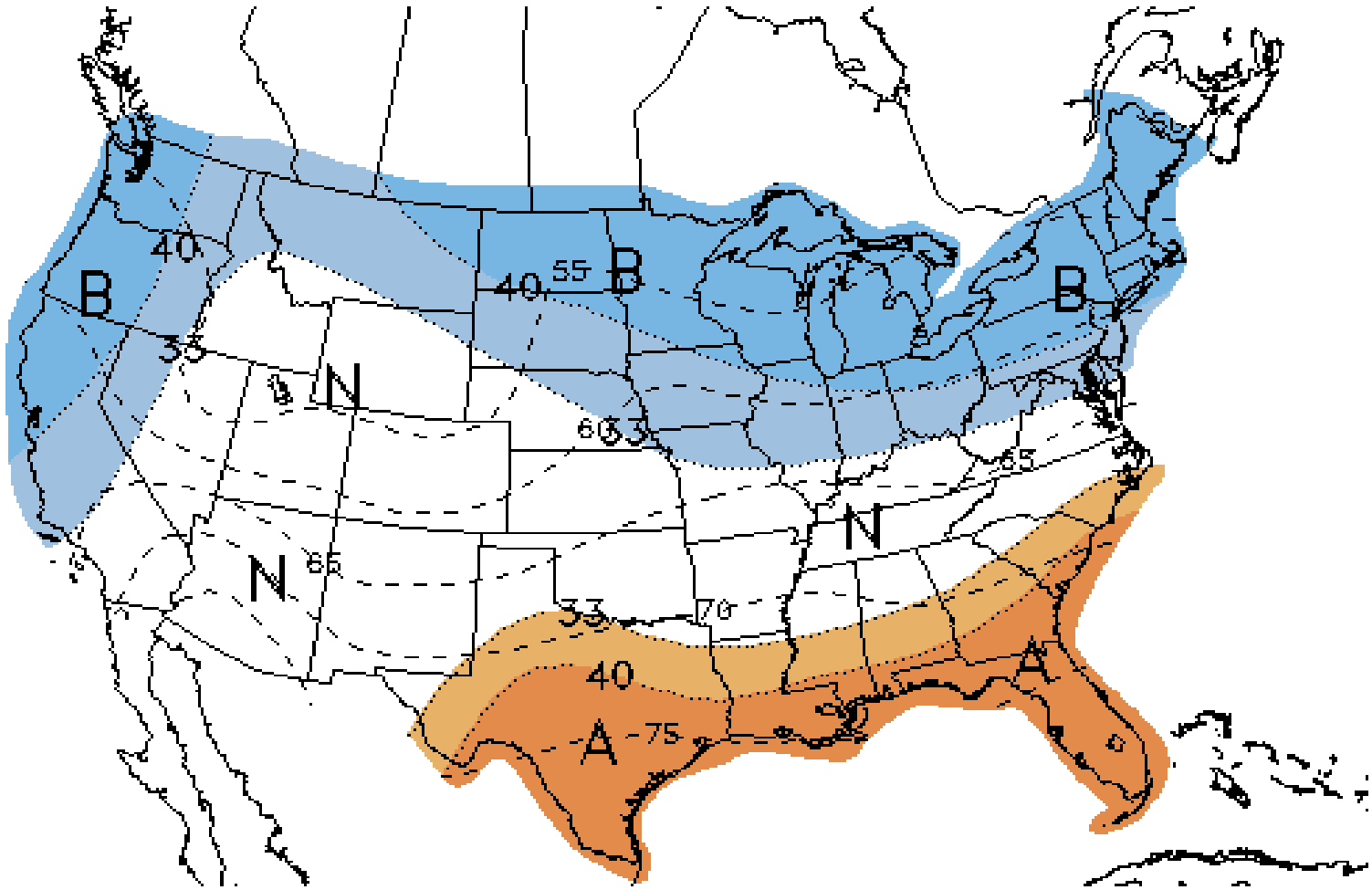
# Regional Cooling Degree Days
# January Through April 2011




Source: Derived from *NOAA* data. Normal is based on a 30-year average of heating degree day data.

Updated May 6, 2011

# NOAA's 8 to 14 Day Temperature Forecast
# Made May 3, 2011, Valid for May 2011




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

Source: Derived from *NOAA* data.

Updated May 6, 2011

## Weather: NOAA Temperature Forecast

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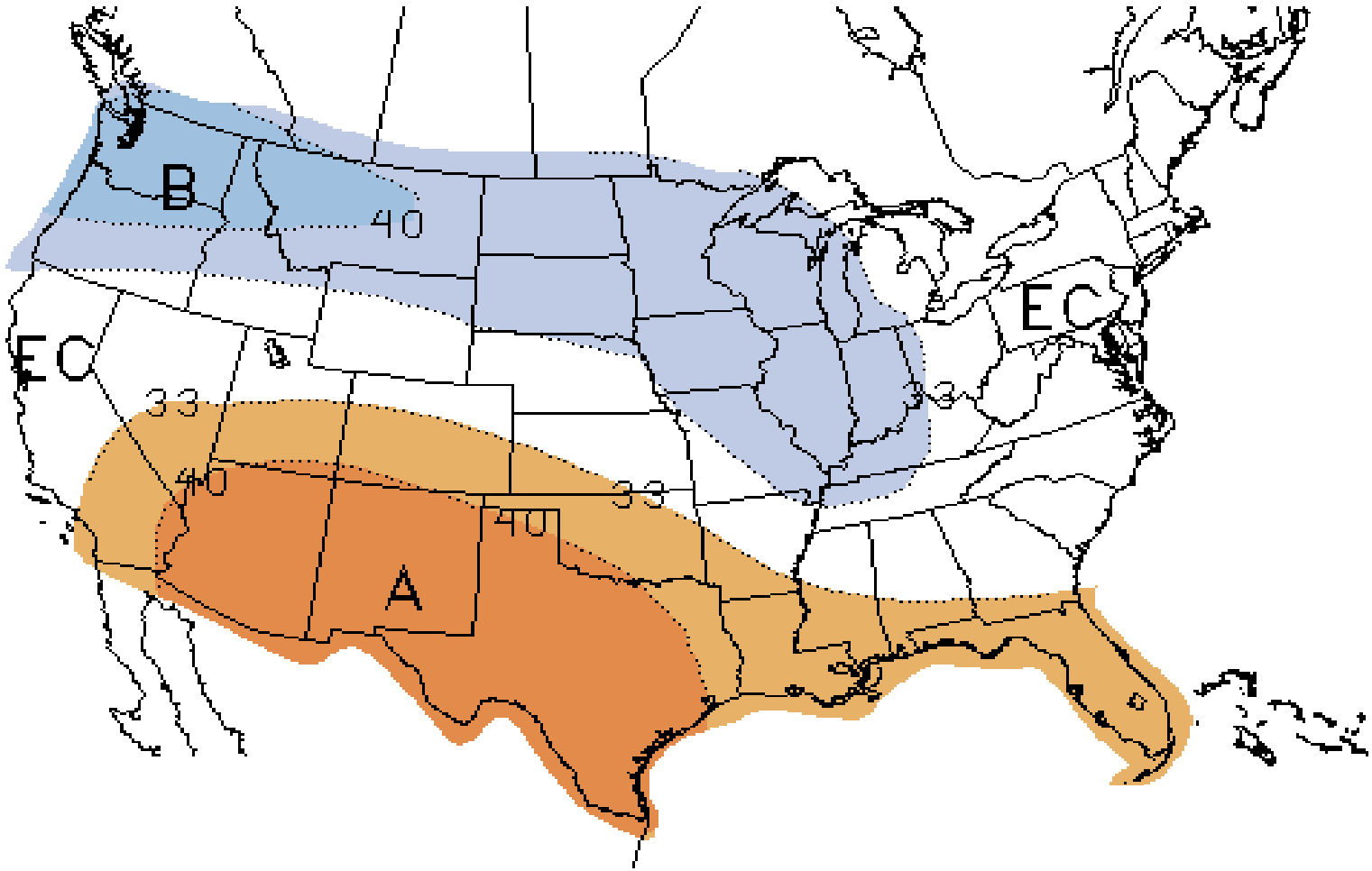
# NOAA's Monthly Temperature Forecast
# Made April 30, 2011, Valid for May 2011




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.
Source: Derived from *NOAA* data.

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# Electricity Markets

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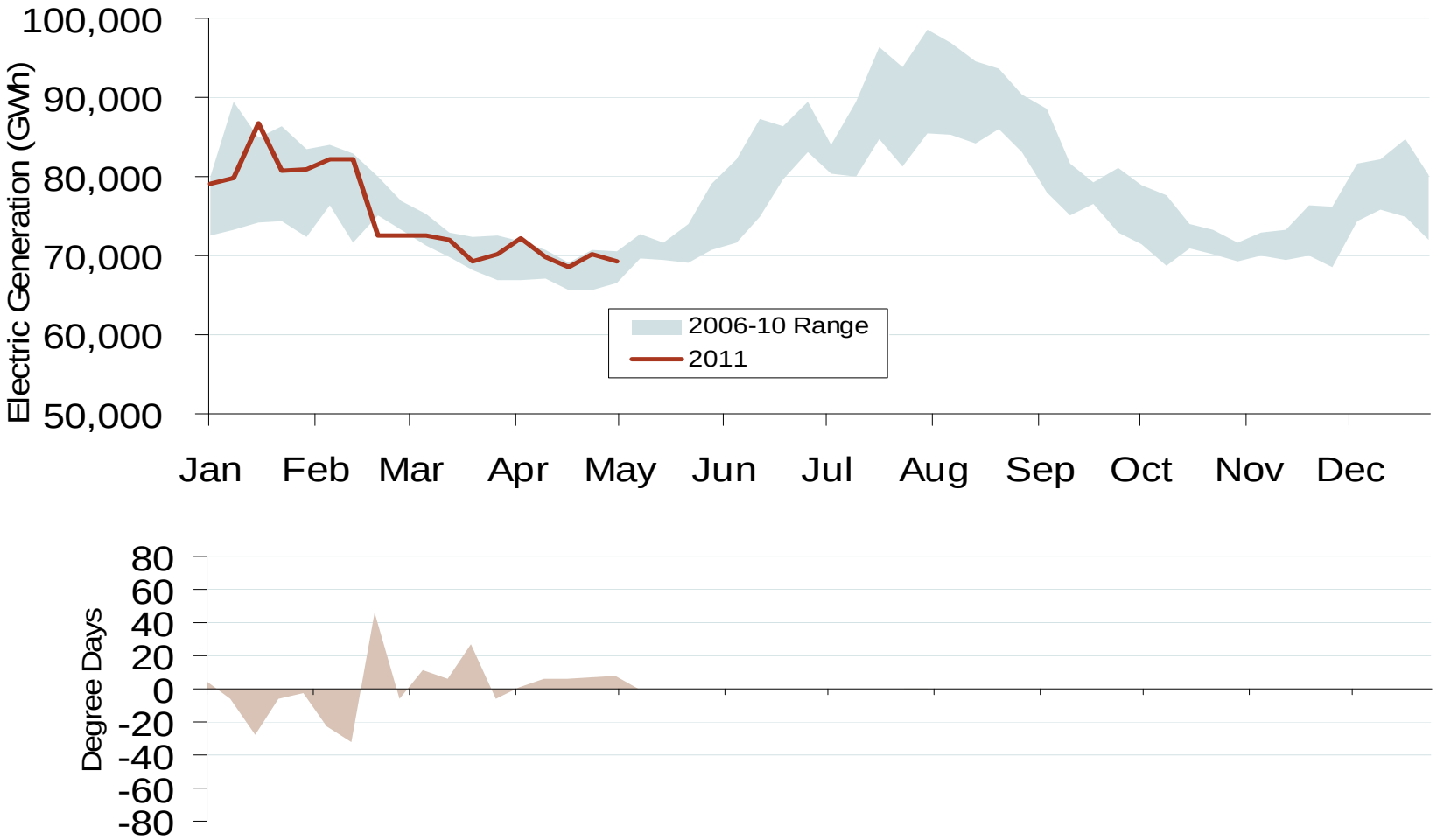
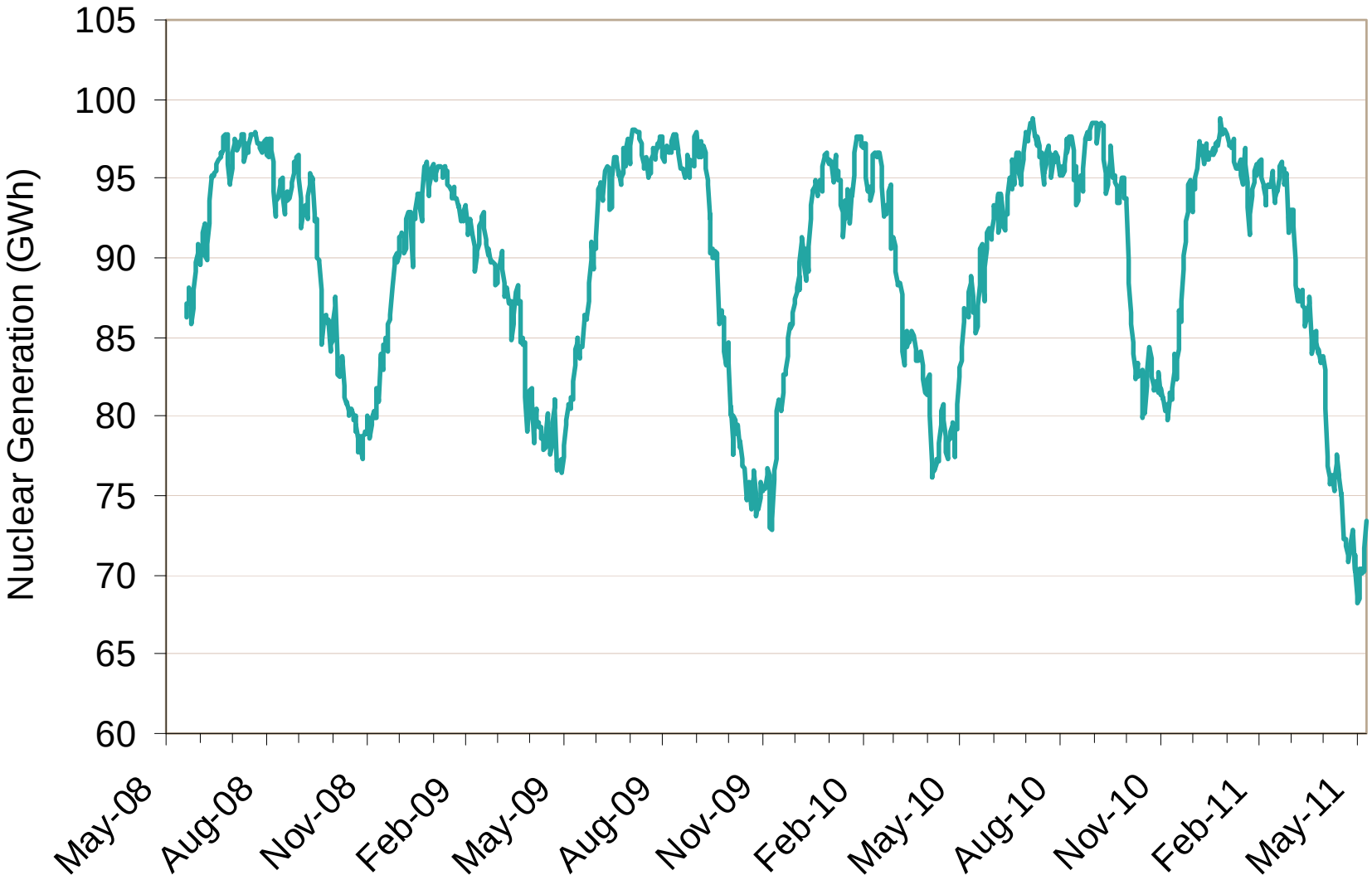
# Weekly U.S. Electric Generation Output and Temperatures




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

Updated May 6, 2011

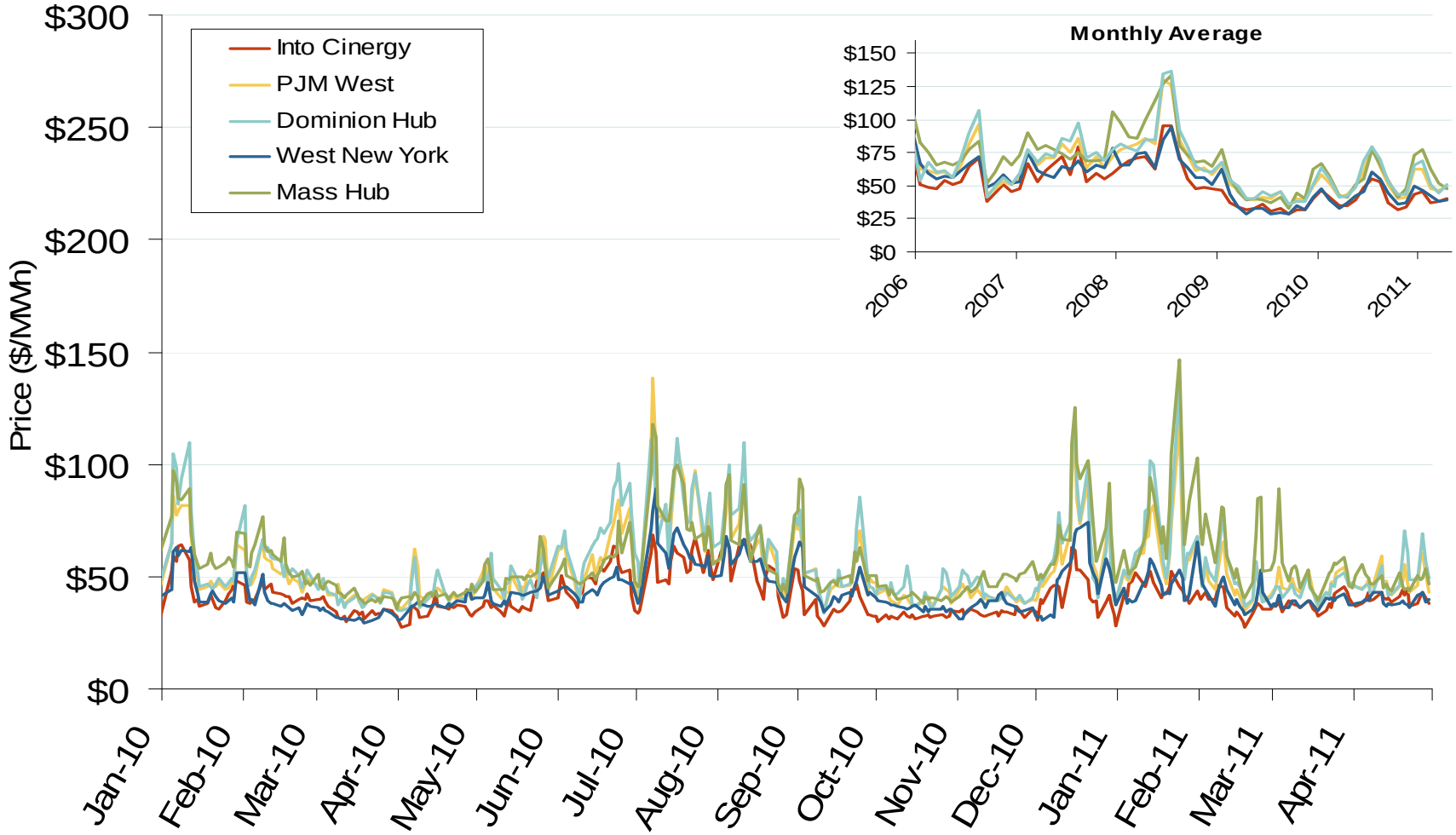
# Spring 2011 Nuclear Outages Greater Than Usual




Source: Derived from Bloomberg Data

Updated May 9, 2011

# Eastern Daily Bilateral Day-Ahead On-Peak Prices




Source: Derived from *Platts* data.

Updated May 6, 2011

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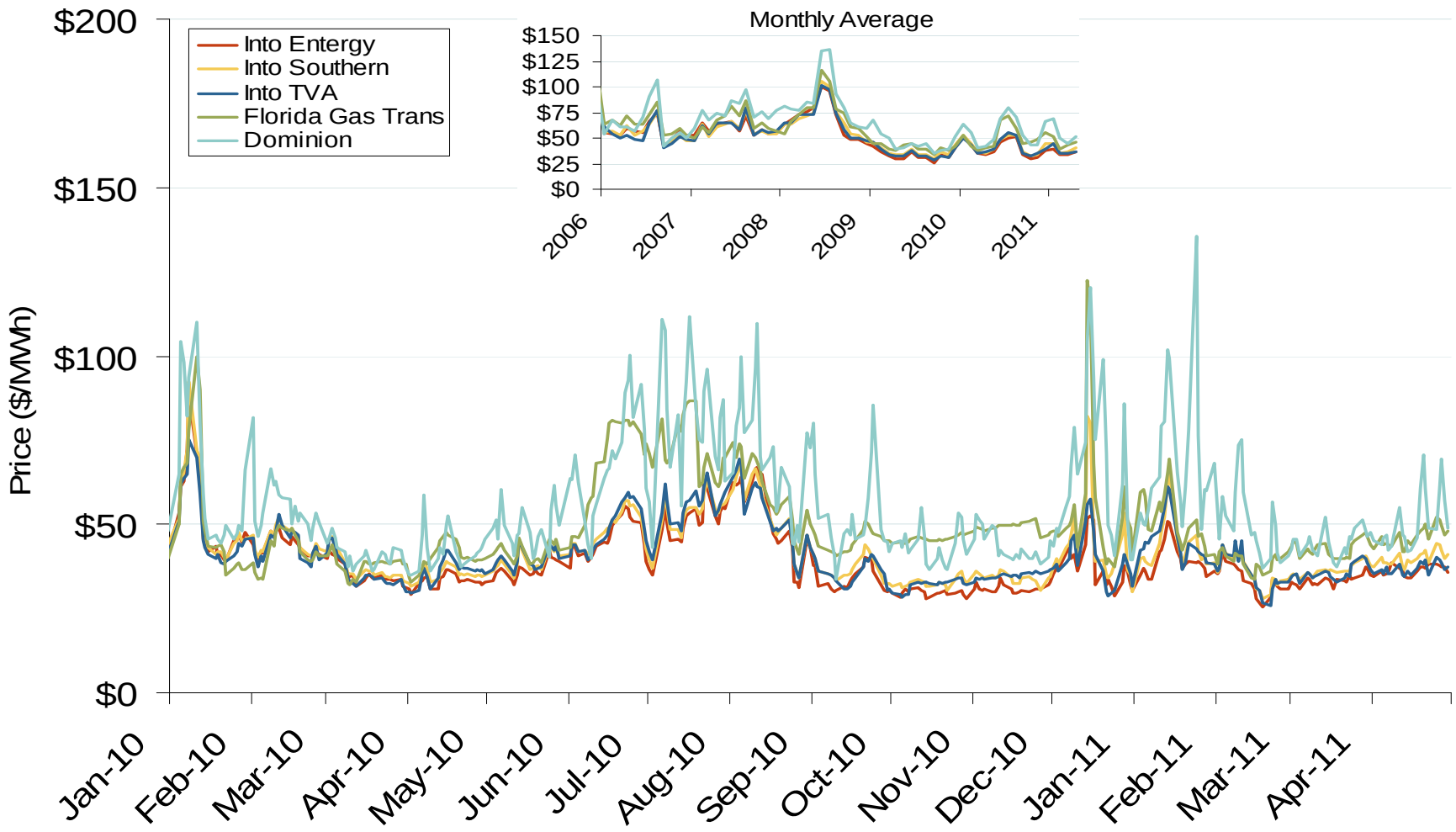
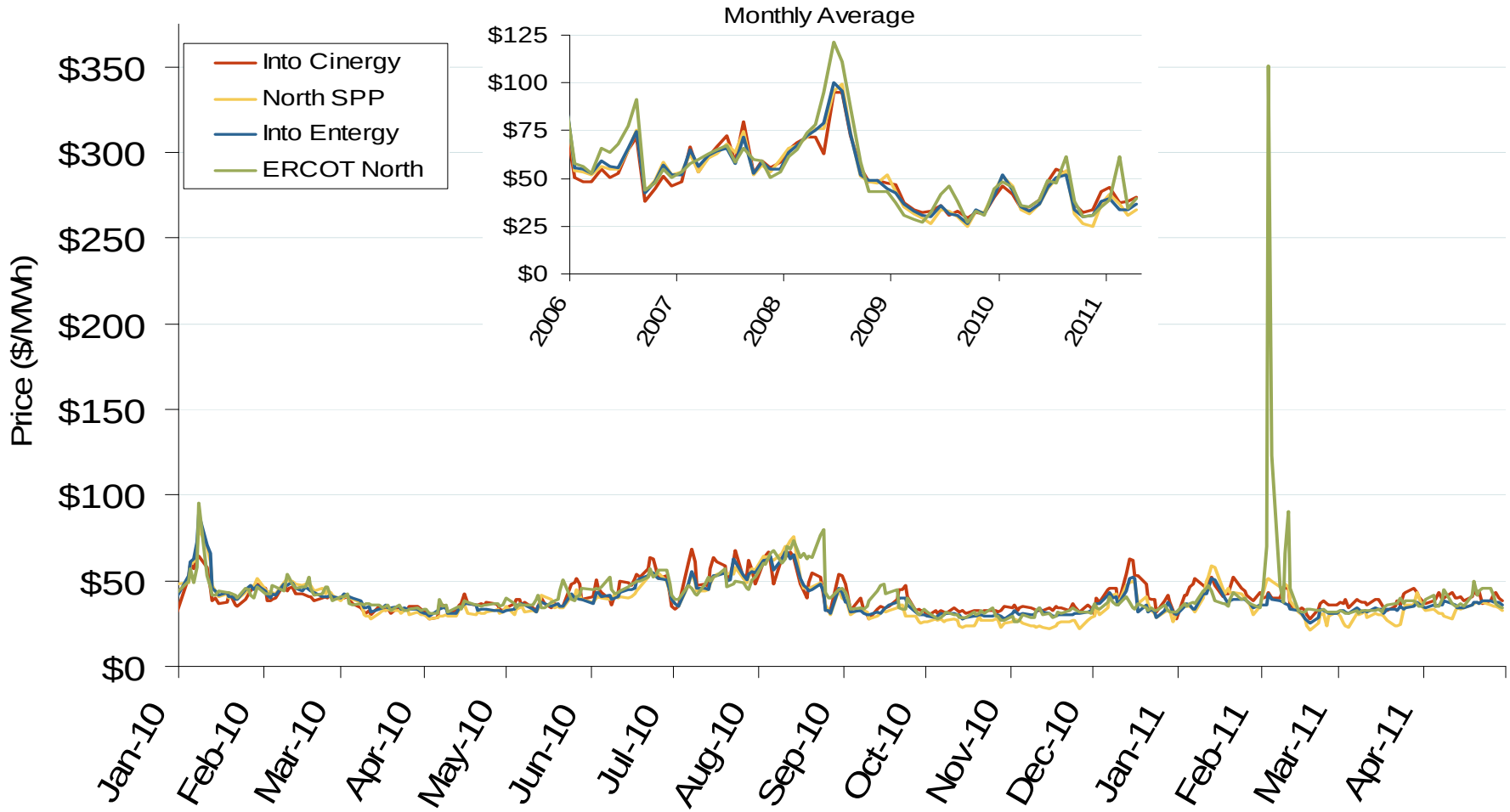
# Southeastern Daily Bilateral Day-Ahead On-Peak Prices




Source: Derived from *Platts* data.

Updated May 6, 2011

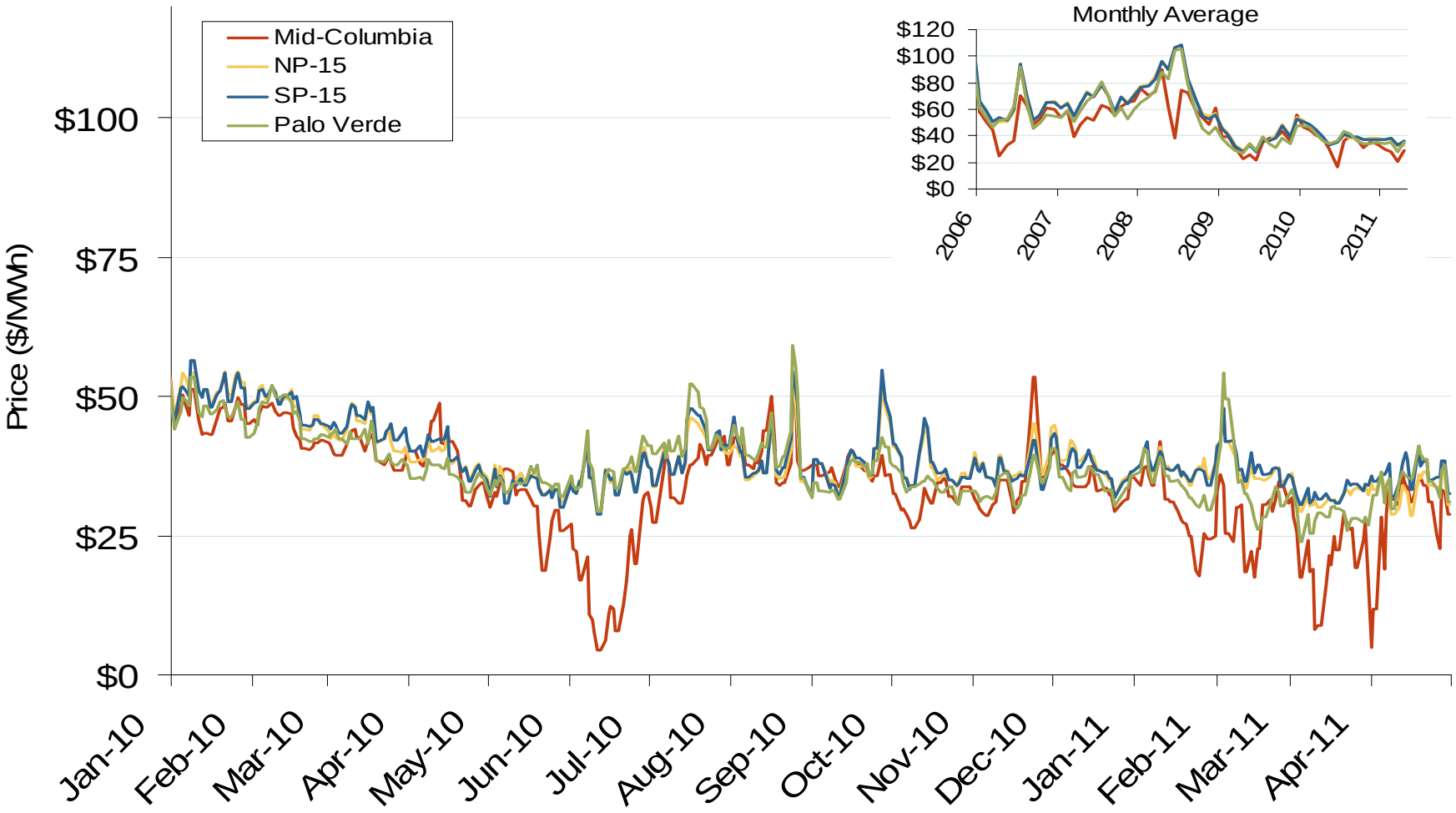
# Central Daily Bilateral Day-Ahead On-Peak Prices




Source: Derived from *Platts* data.

Updated May 6, 2011

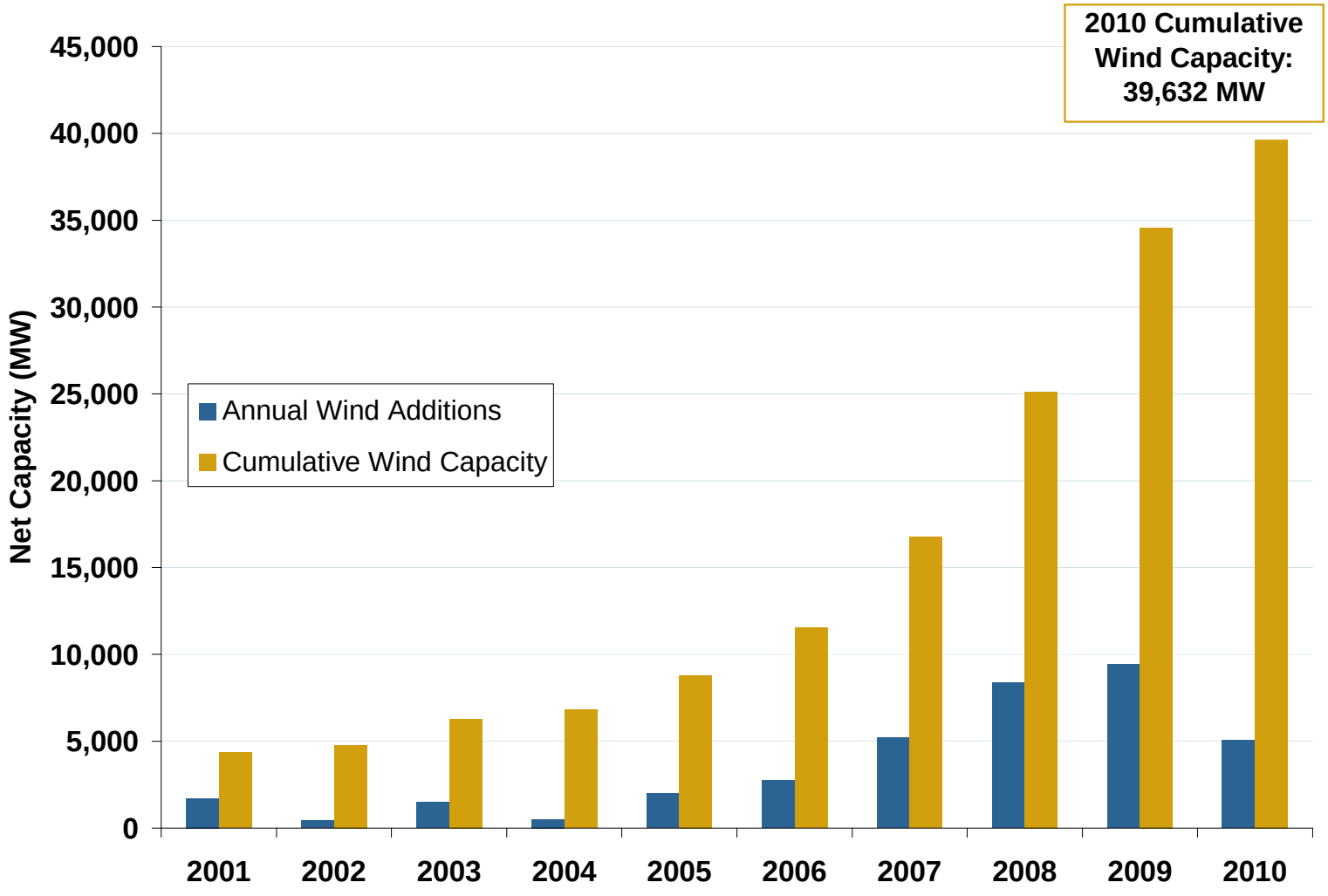
# Western Daily Bilateral Day-Ahead On-Peak Prices




Source: Derived from *Platts* data.

Updated May 6, 2011

# U.S. Wind Capacity Growth, 2001 – 2010




Source: Energy Velocity Generating Unit Capacity Dataset
May 2011 National Snapshot Report

Updated May 4, 2011

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# Renewable Portfolio Standards (RPS) and Goals

## 29 states and D.C. have RPS policies; 9 states and 3 power authorities have nonbinding goals

**AK**: 50% by 2025

**WA**: 15% by 2020

**OR**: 25% by 2025;
5 -10% – smaller utilities

**CA**: 33% by 2020

**MT**: 15% by 2015

**NV**: 25% by 2025

**UT**: 20% by 2025

**CO**: 30% by 2020;
10% – co-ops, munis

**AZ**: 15% by 2025

**NM**: 20% by 2020;
10% – co-ops

**TX**: 5,880 MW by 2015;
500 MW non-wind goal

**HI:** 40% by 2030

**ND**: 10% by 2010

**SD**: 10% by 2015

**NE** Public Power Districts
10% by 2020

**KS**: 20% by 2020

**OK**: 15% by 2015

**MN**: 25% by 2025;
30% by 2020 – Xcel

**IA**: 105 MW;
1 GW wind goal by 2010

**MO**: 15% by 2021

**LA**: 350 MW by 2012-13

**MI**: 10% MWh and
1,100 MW by 2015

**WI**: 10% by 2015

**IL**: 25% by 2025;
wind 75% of RPS

**IN**: 10% by 2025

**OH**: 12.5% by 2025

**ME**: 30% by 2010 and 10% new by
2017; 8 GW wind goal by 2030

**NH**: 23.8% by 2025

**VT:** 20% by 2017; all growth to
2012 from RE and EE

**MA**:15% new by 2020;
2 GW wind goal by 2020

**RI**: 16% by 2020

**CT**: 23% by 2020

**NY**: 30% by 2015

**NJ**: 22.5% by 2020

**PA**: 18% by 2020

**DE**: 25% by 2025

**DC**: 20% by 2020

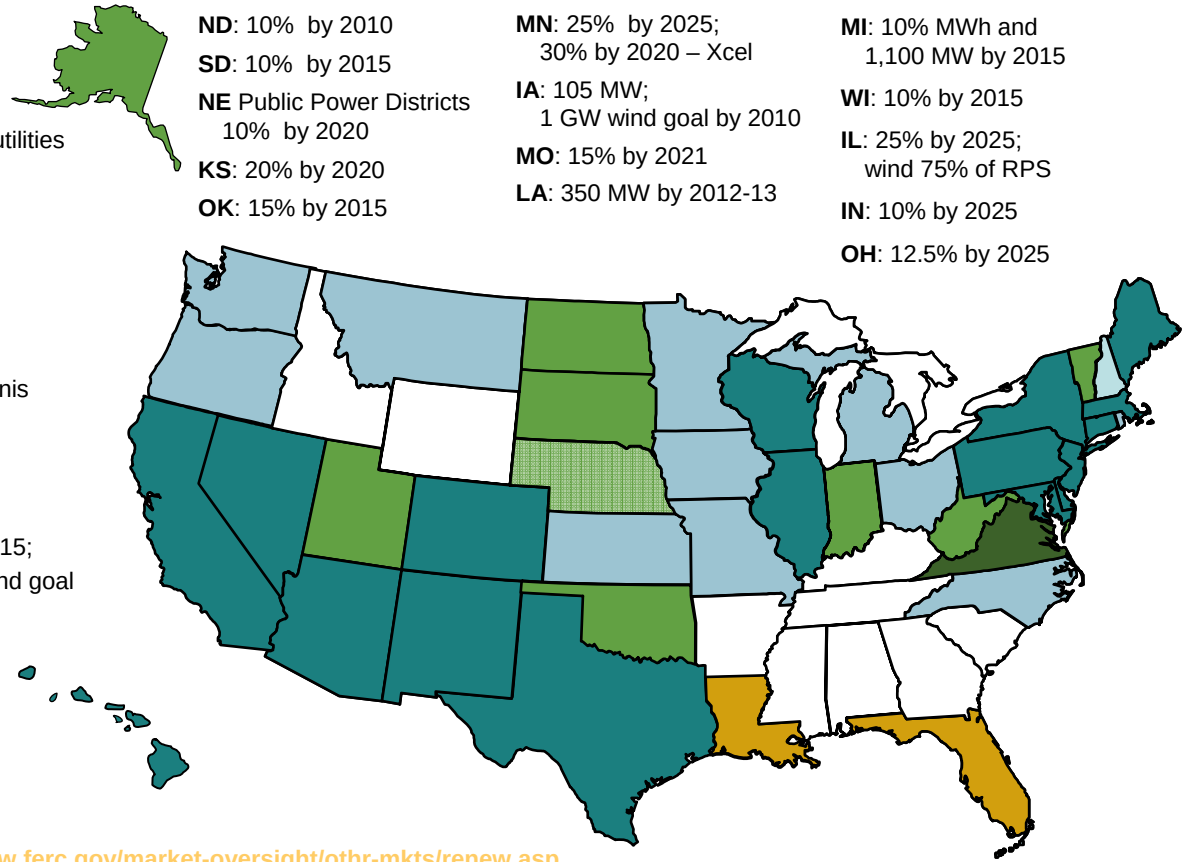
**MD**: 20% by 2022

**WV**: 25% by 2025

**VA**: 15% by 2025; goal with
production incentives

**NC**: 12.5% by 2021;
10% by 2018 – co-ops, munis

**FL**: solar pilot 2010 - 2014



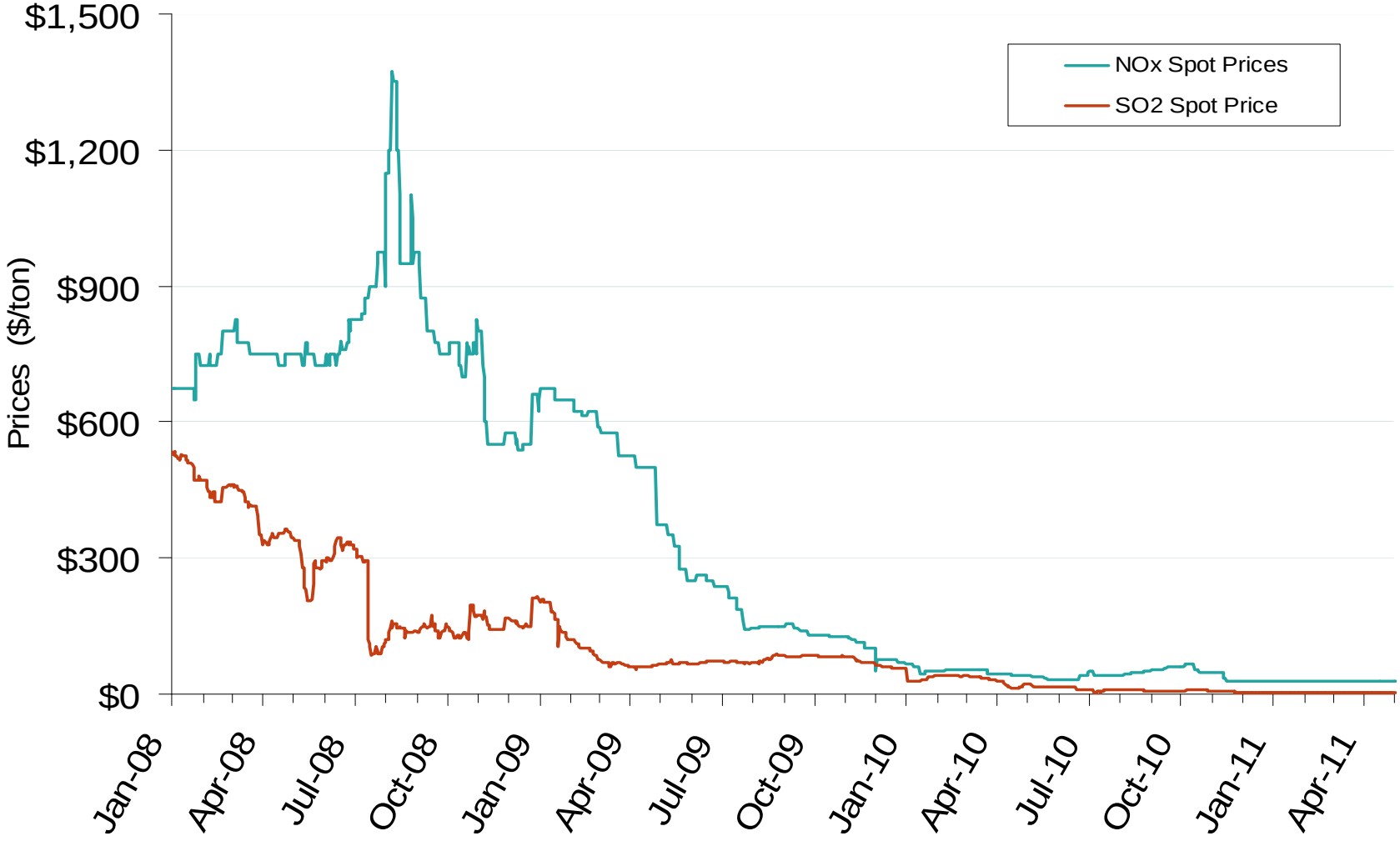
Updates at: http://www.ferc.gov/market-oversight/othr-mkts/renew.asp

- RPS
- Accelerated or strengthened RPS
- Voluntary state or utility standards or goals
- Strengthened voluntary standard
- Pilot or study

**Notes**: A Renewable Standard 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. Nebraska's two largest public power districts, which serve close to two-thirds of its load, have renewable goals. The Tennessee Valley Authority's (TVA) goal across its 7-state territory is 50% zero- or low-carbon generation by 2020.
**Sources**: derived from data from: Lawrence Berkeley Labs, state Public Utility Commission (PUC) and 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 May 3, 2011

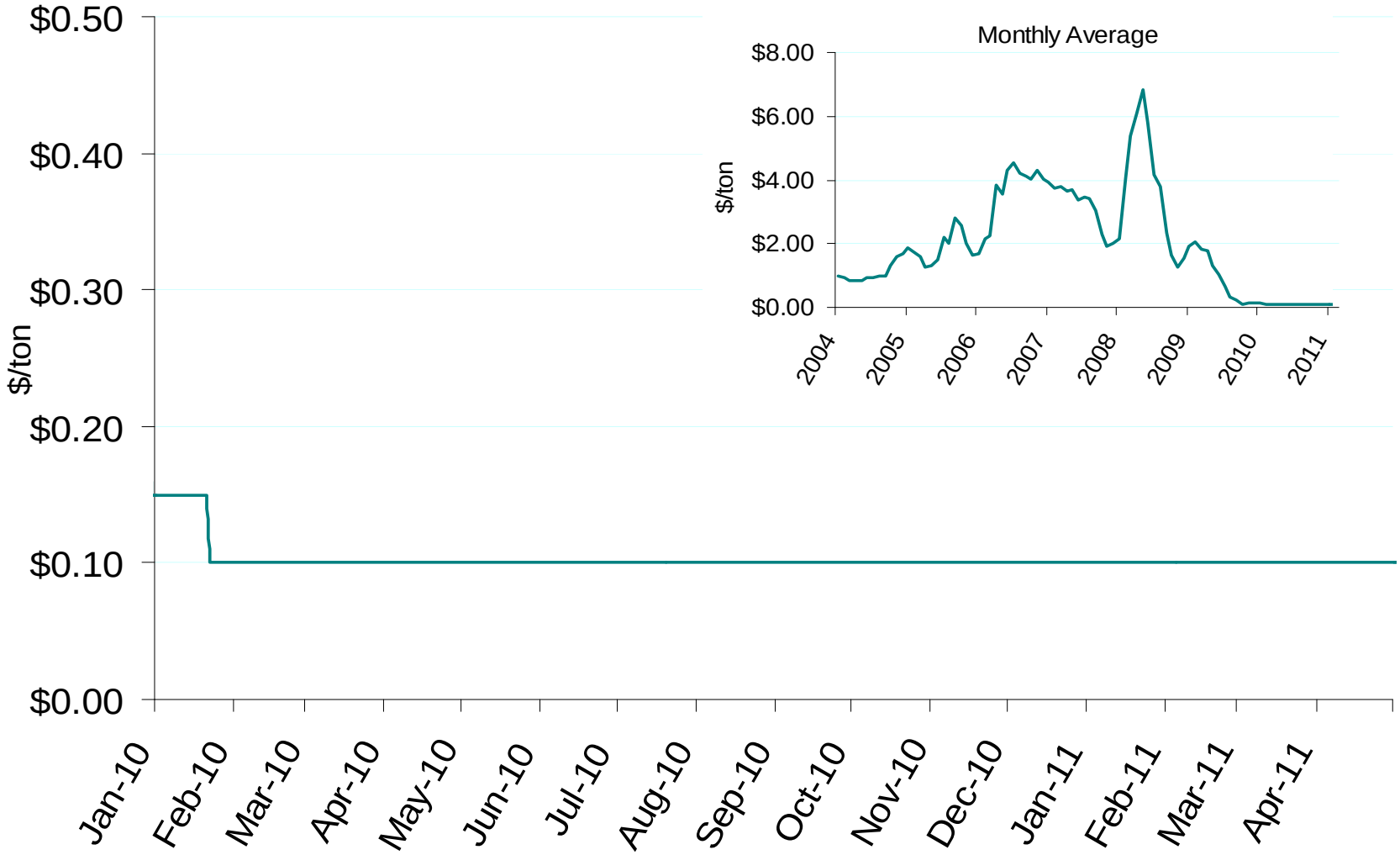
# SO2 Allowance Spot Prices and NOx Seasonal Allowance Spot Prices




Source: Derived from *Bloomberg data.*

Updated May 6, 2011

# Chicago Climate Exchange CO2 Index

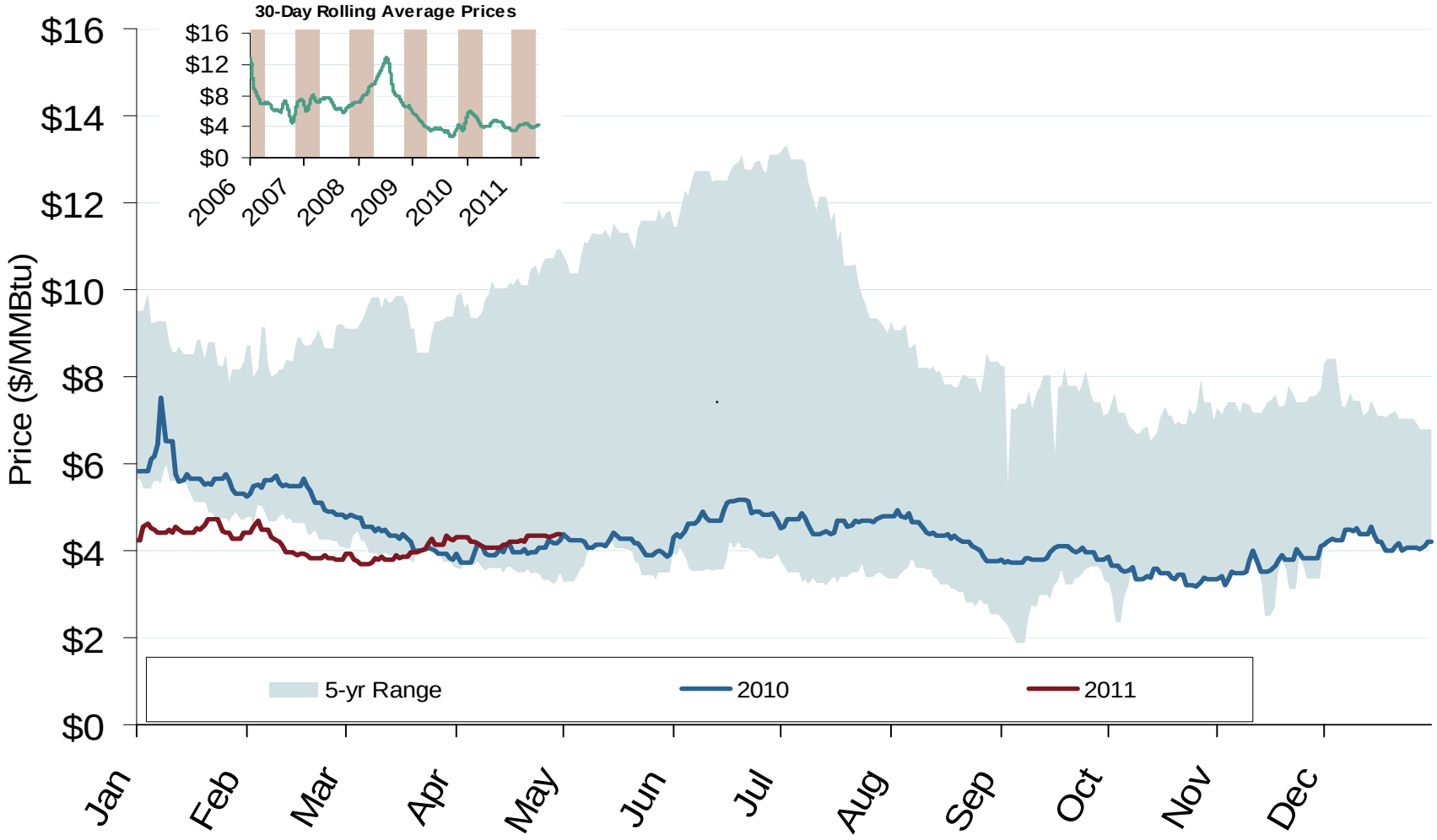



Source: Derived from *Bloomberg*.

Updated May 6, 2011

# Natural Gas and Fuel Markets

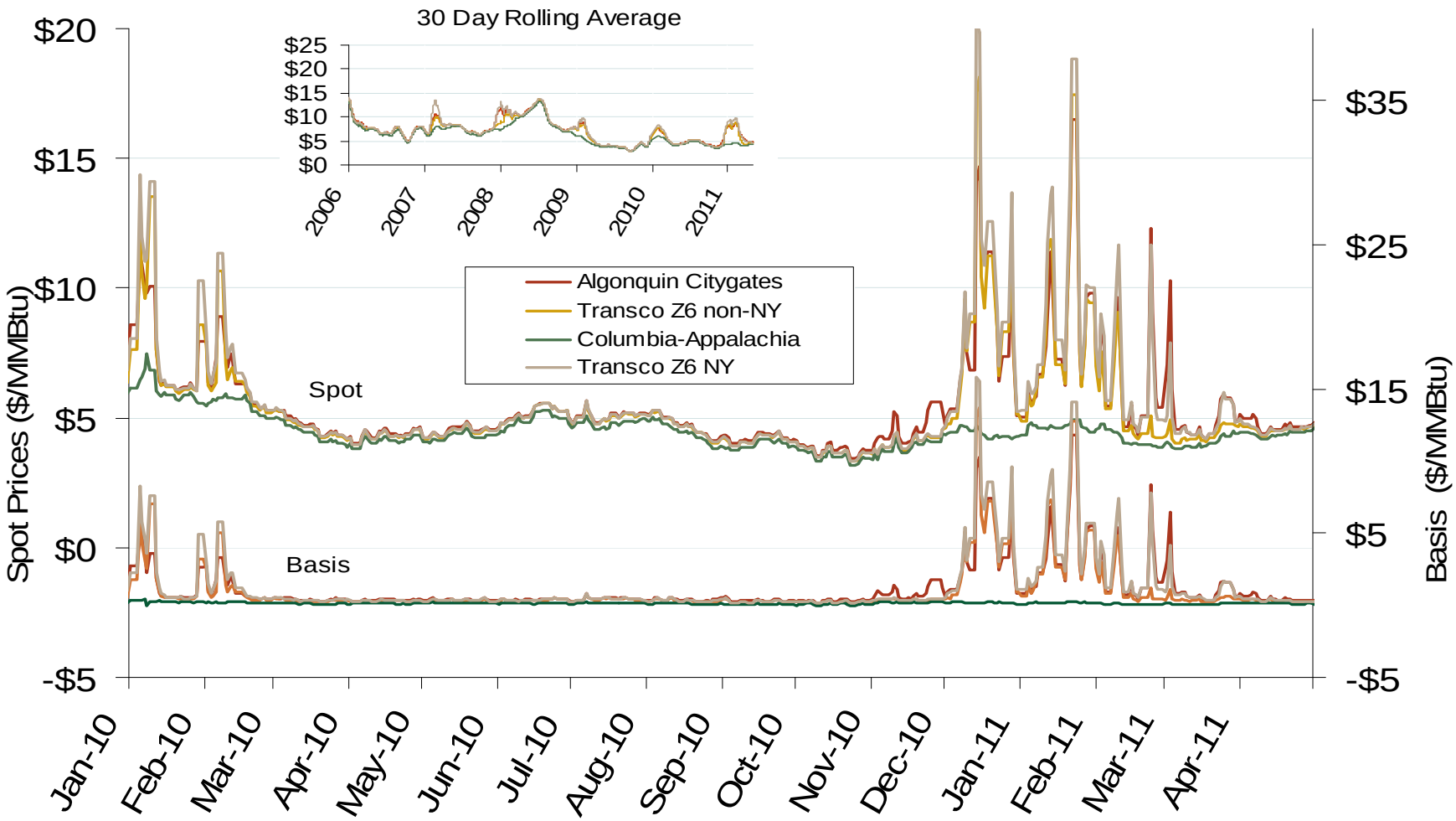
# Henry Hub Natural Gas Daily Spot Prices




Source: Derived from *Platts* data.

Updated May 6, 2011

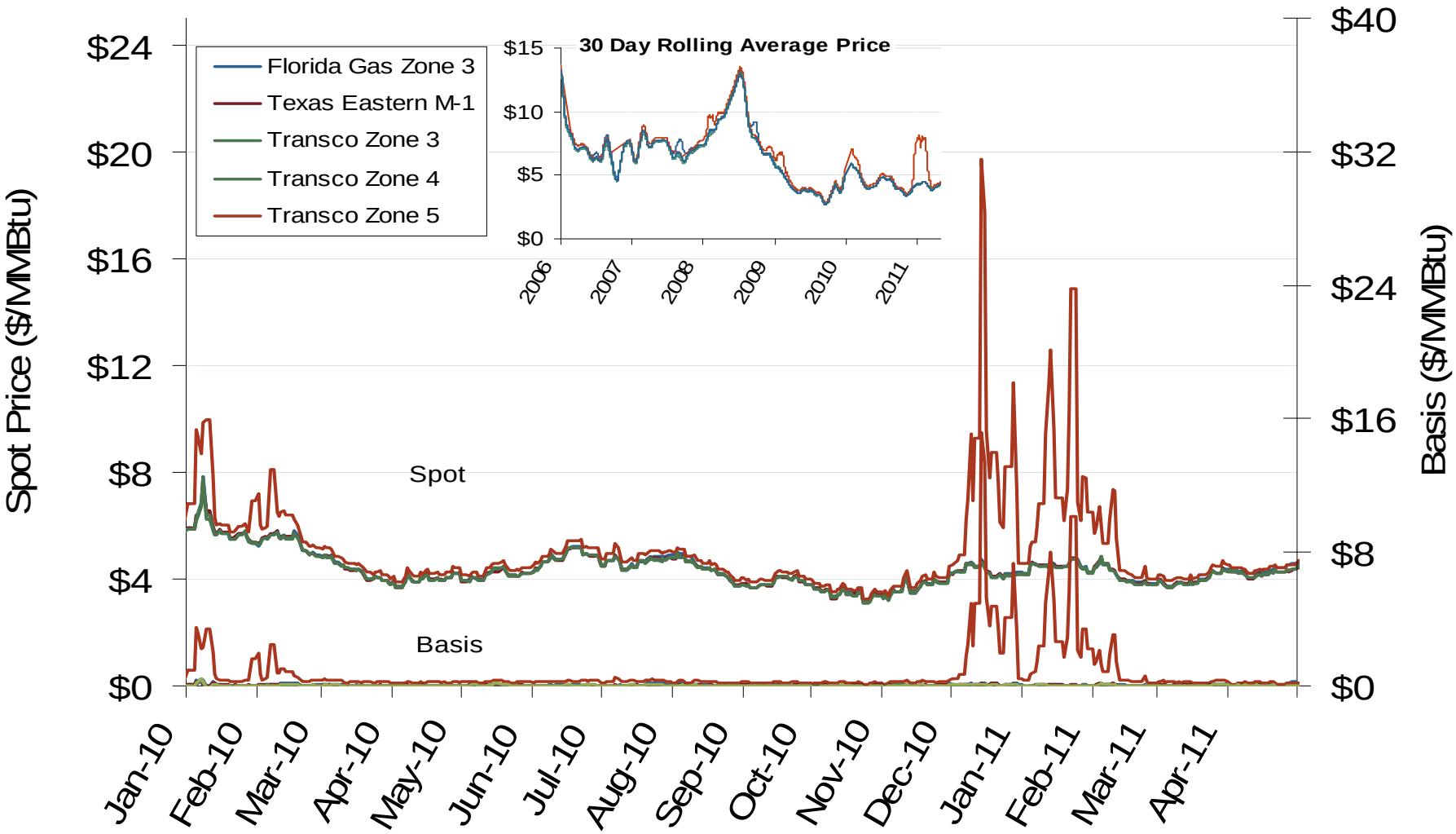
# Northeastern Spot Prices and Basis




Source: Derived from *Platts* data.

Updated May 6, 2011

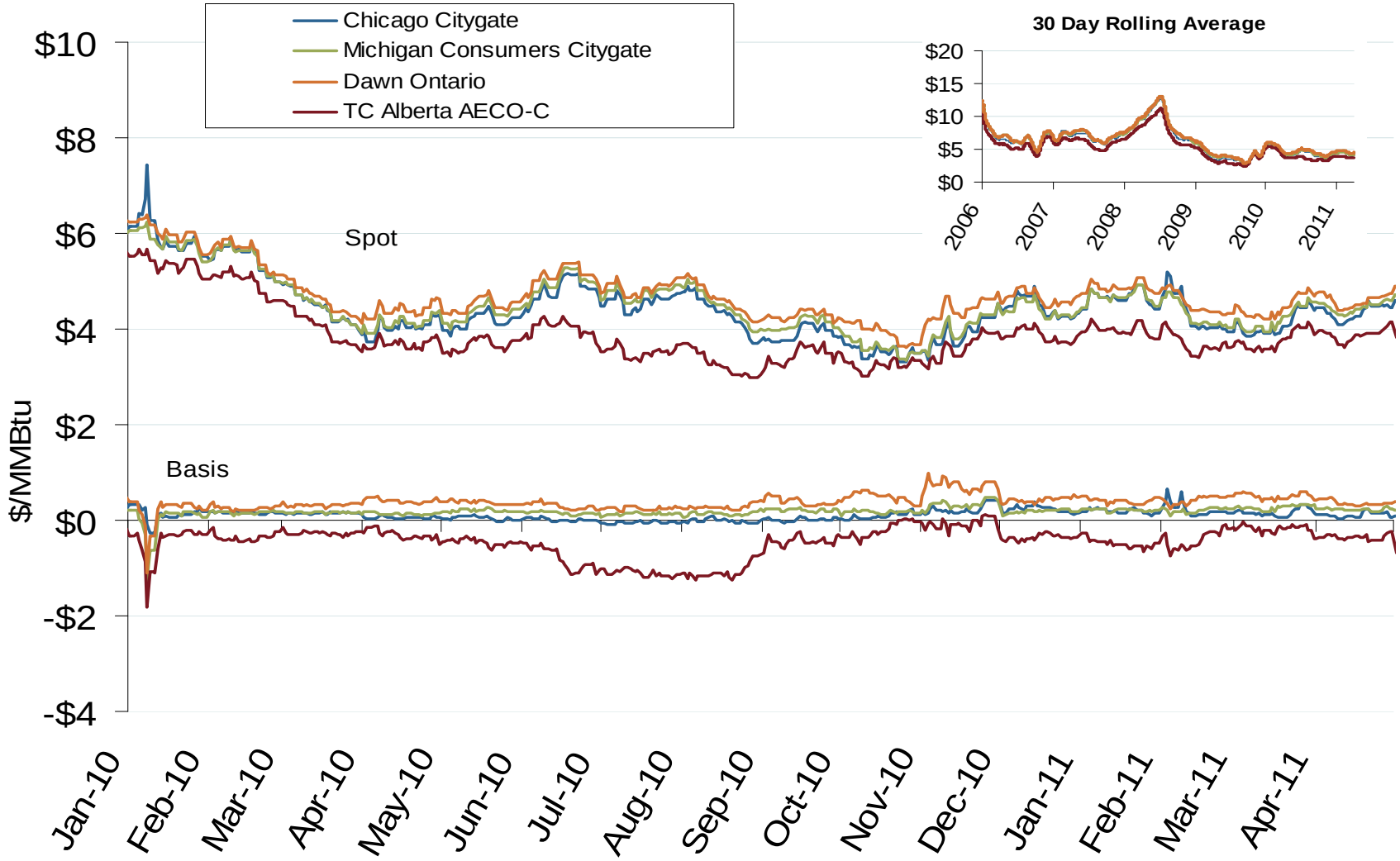
# Southeastern Day-Ahead Hub Spot Prices and Basis




Source: Derived from *Platts* data.

Updated May 6, 2011

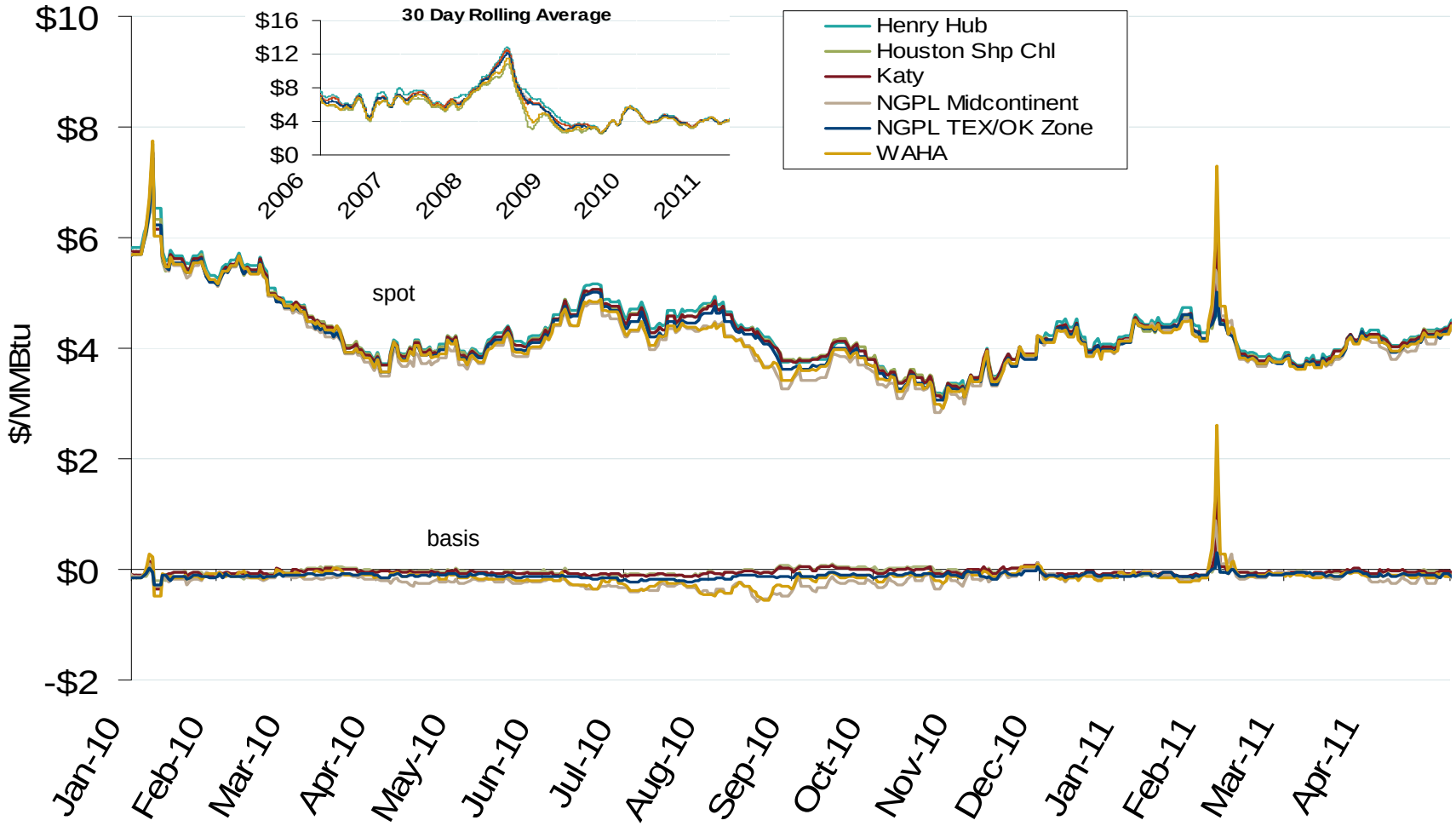
# Midwestern Day-Ahead Hub Spot Prices and Basis




Source: Derived from *Platts* data.

Updated May 6, 2011

# Gulf Day-Ahead Hub Spot Prices and Basis




Source: Derived from *Platts* data.

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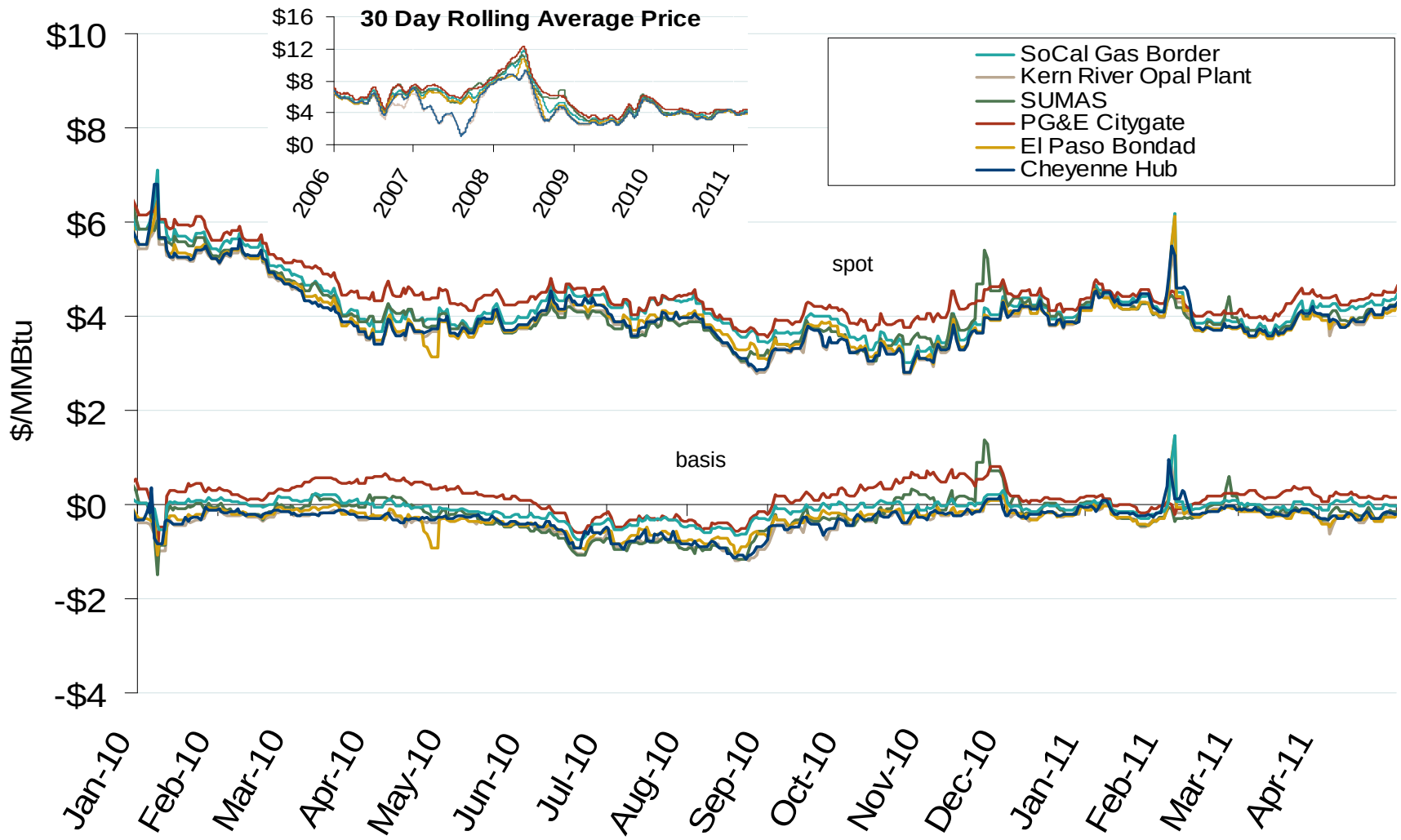
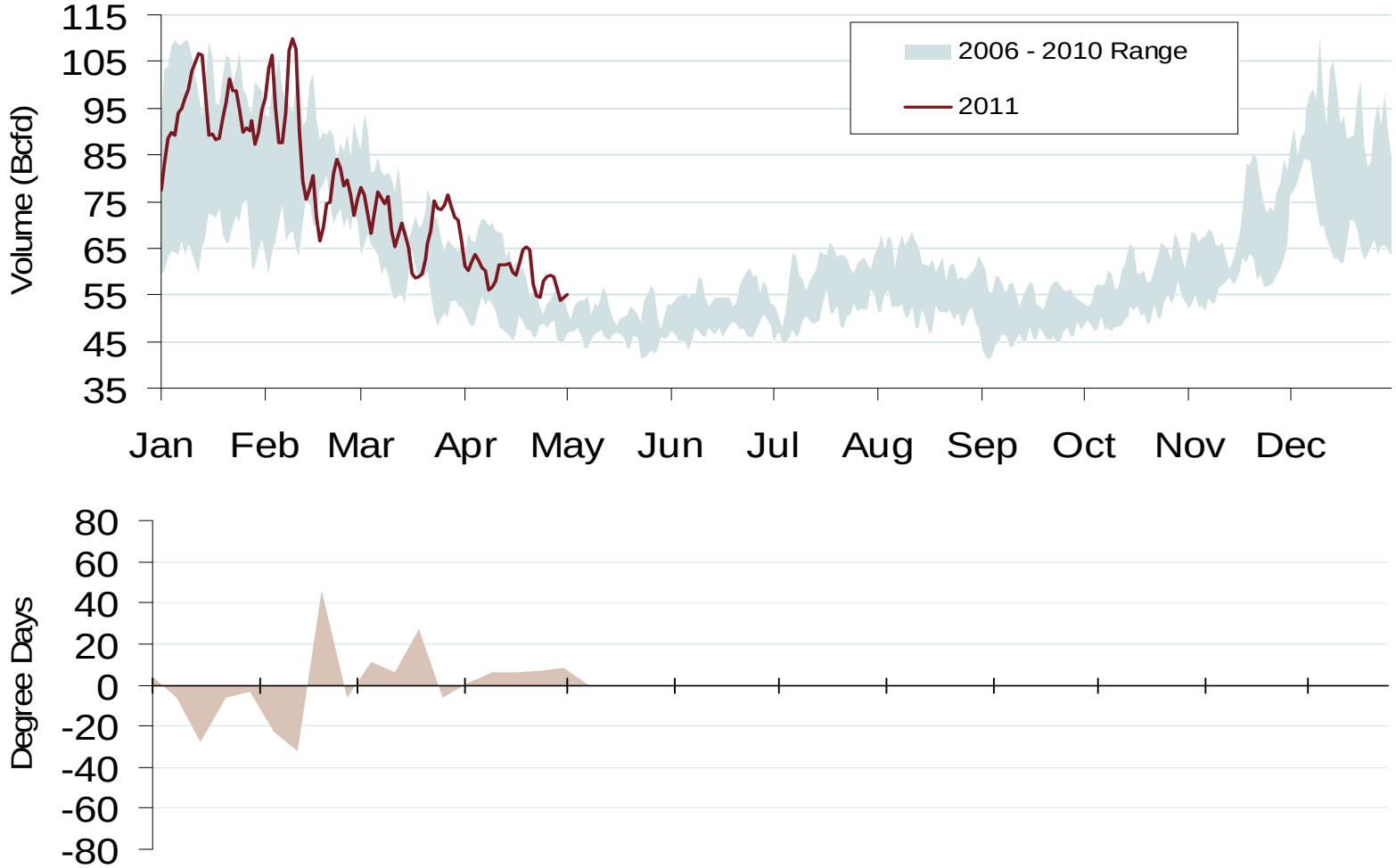
# Western Day-Ahead Hub Spot Prices and Basis




Source: Derived from *Platts* data.

Updated May 16, 2011

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




Source: Derived from *Bentek Energy* and *Weekly NOAA* data.

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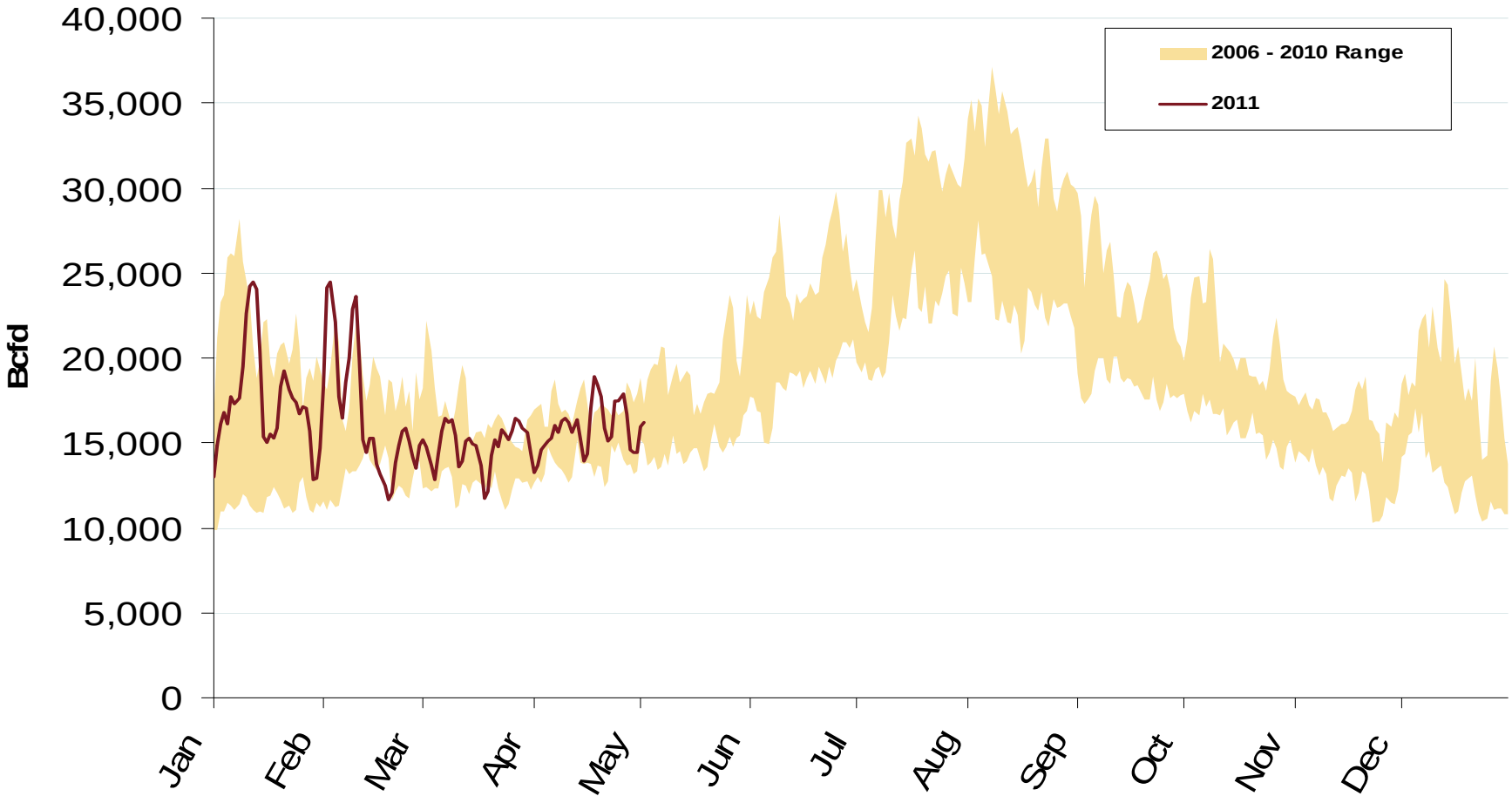
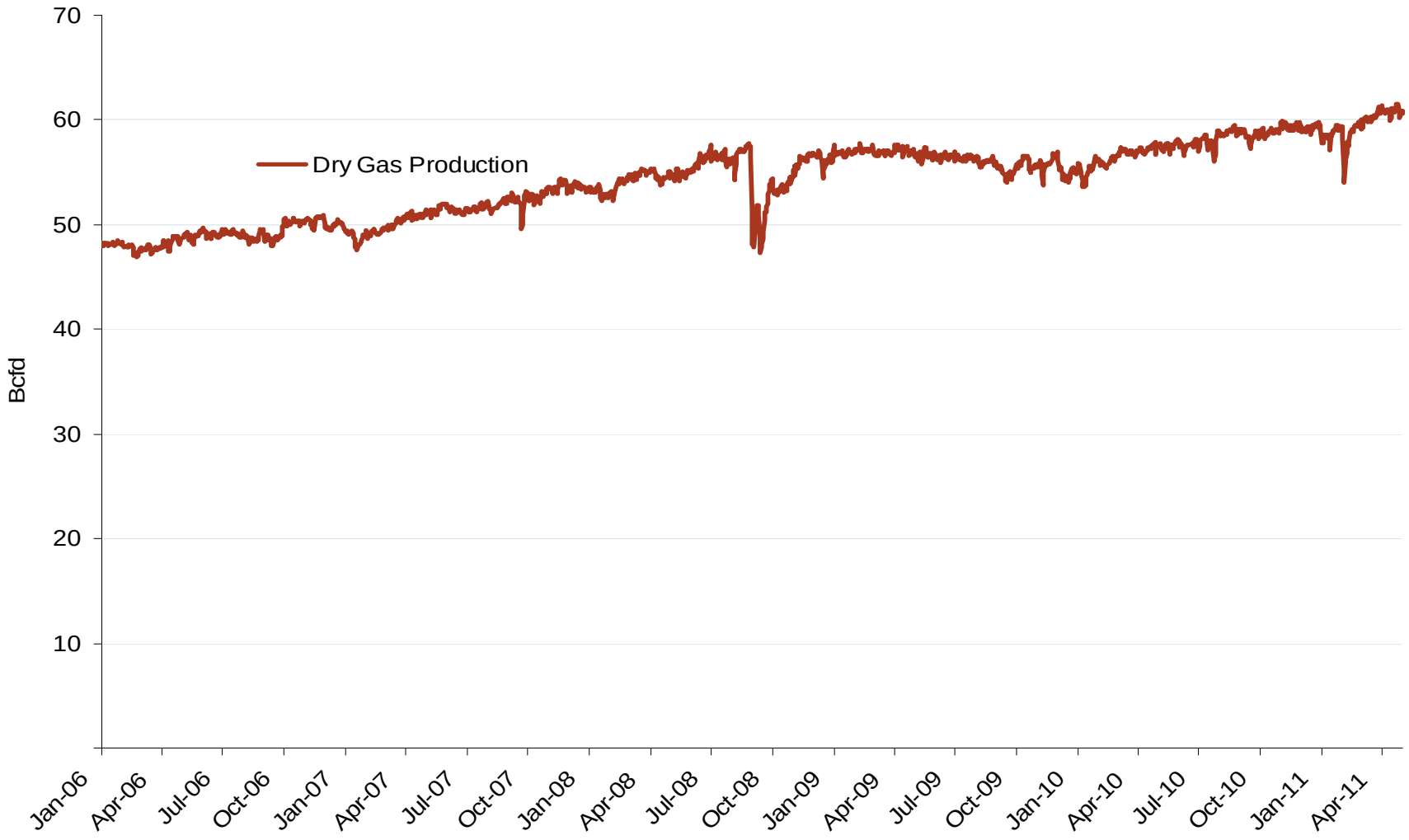
# U.S. Natural Gas Consumption for Power Generation




Source: Derived from *Bentek Energy* data.

Updated May 6, 2011

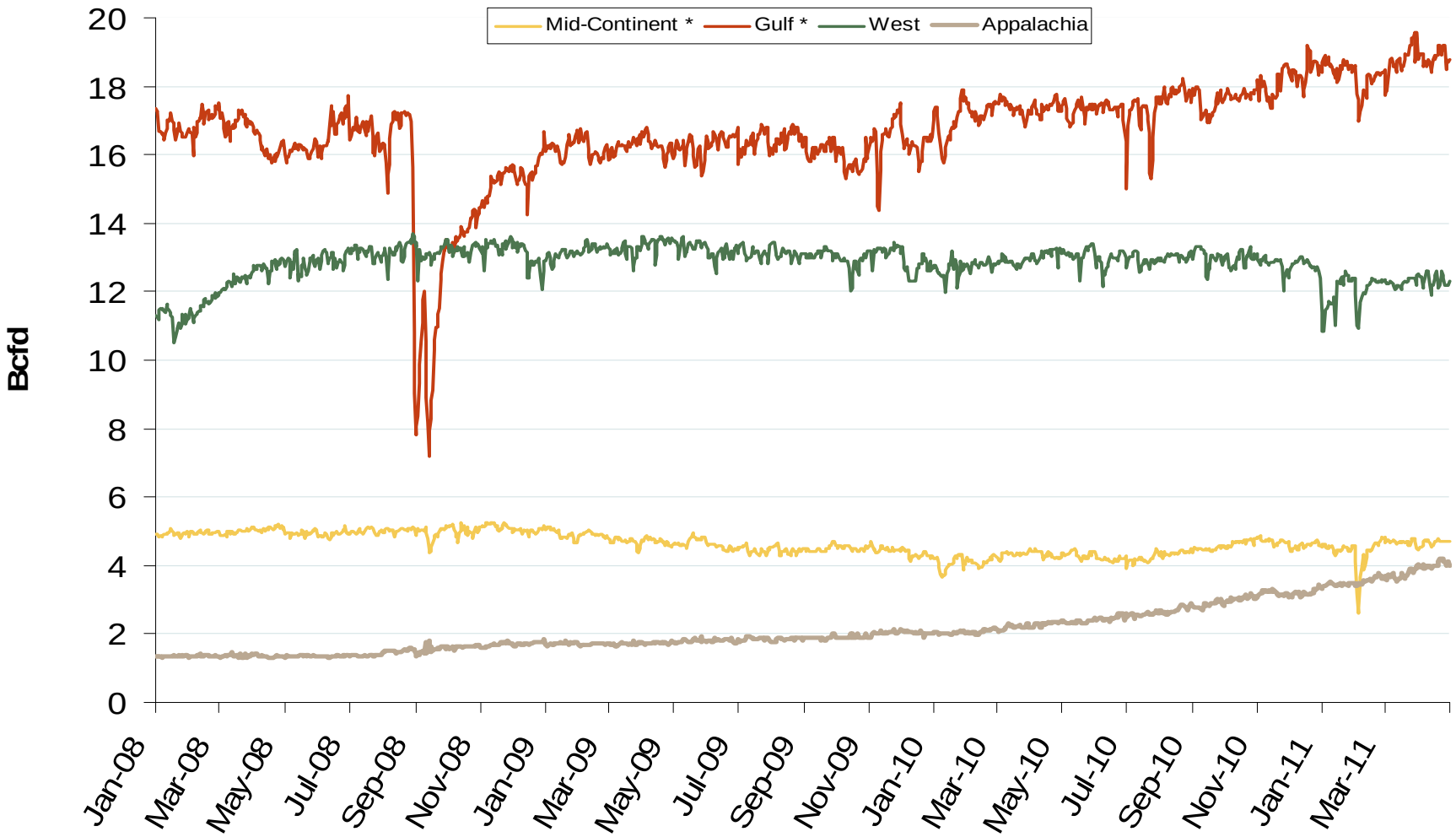
# U.S. Dry Gas Production




Source: Derived from *EIA and Bentek data.*

Updated May 6, 2011

# Regional Natural Gas Production




Source: Derived from *Bentek* data.

* On July 1, 2009 Bentek redefined its regions, moving some of the southern Midcontinent production to the Southeast, which is included in Gulf series.

Updated May 6, 2011

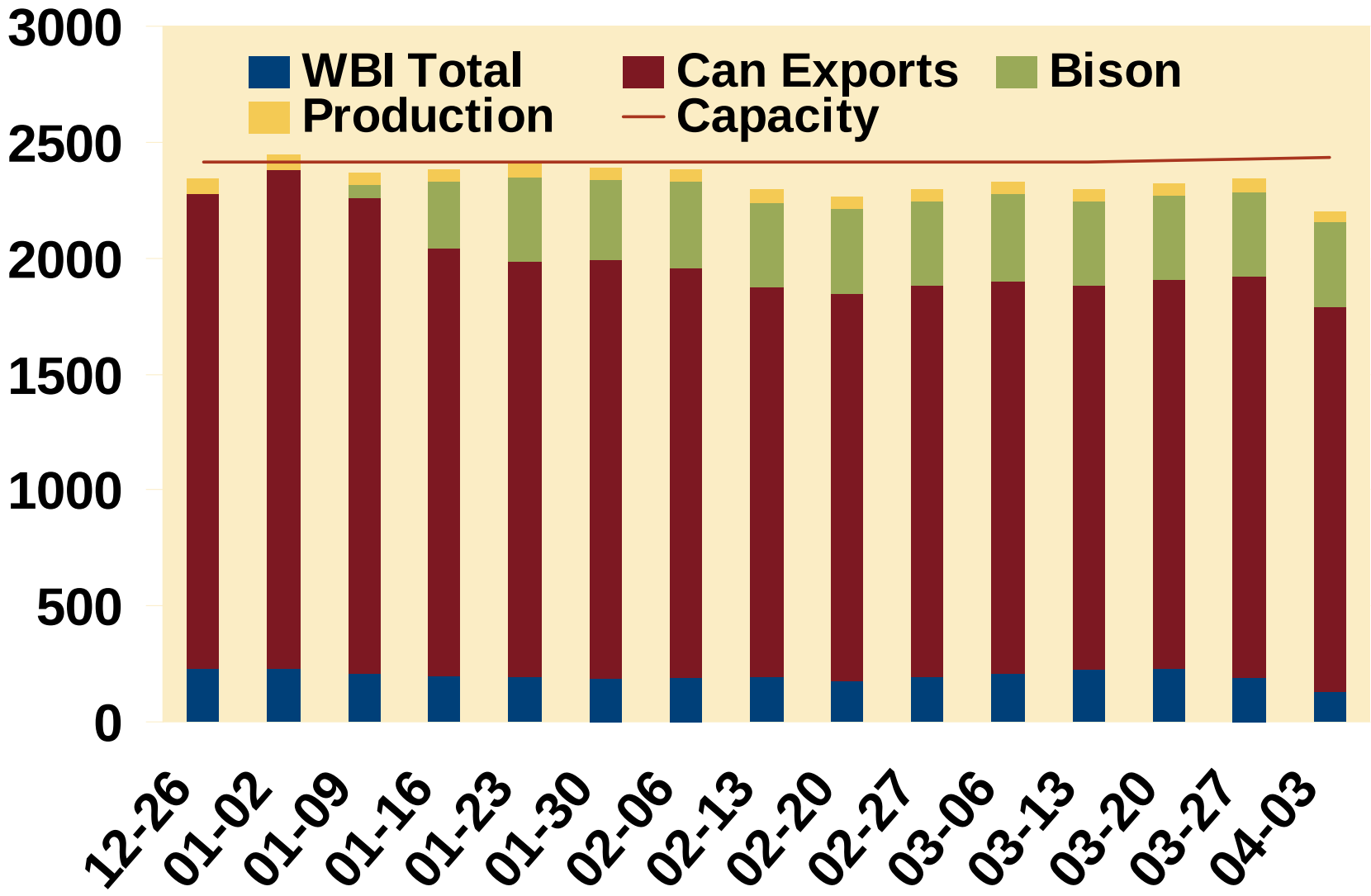
# Uncompleted Wells by Shale Regions

| *Shale Formation* | *Estimate of Uncompleted and Shut-in Well Count* | *Production Potential (Bcfd)* |
|---|---|---|
| Marcellus | 900 | 3.4 |
| Barnett | 950 | 2.5 |
| Eagle Ford | 650 | 4.6 |
| Total | 2500 | 10.5 |

Source: Derived from Bentek Energy
May 2011 National Snapshot Report

Updated May 5, 2011

# Bison Pipeline Displaces Canadian Gas

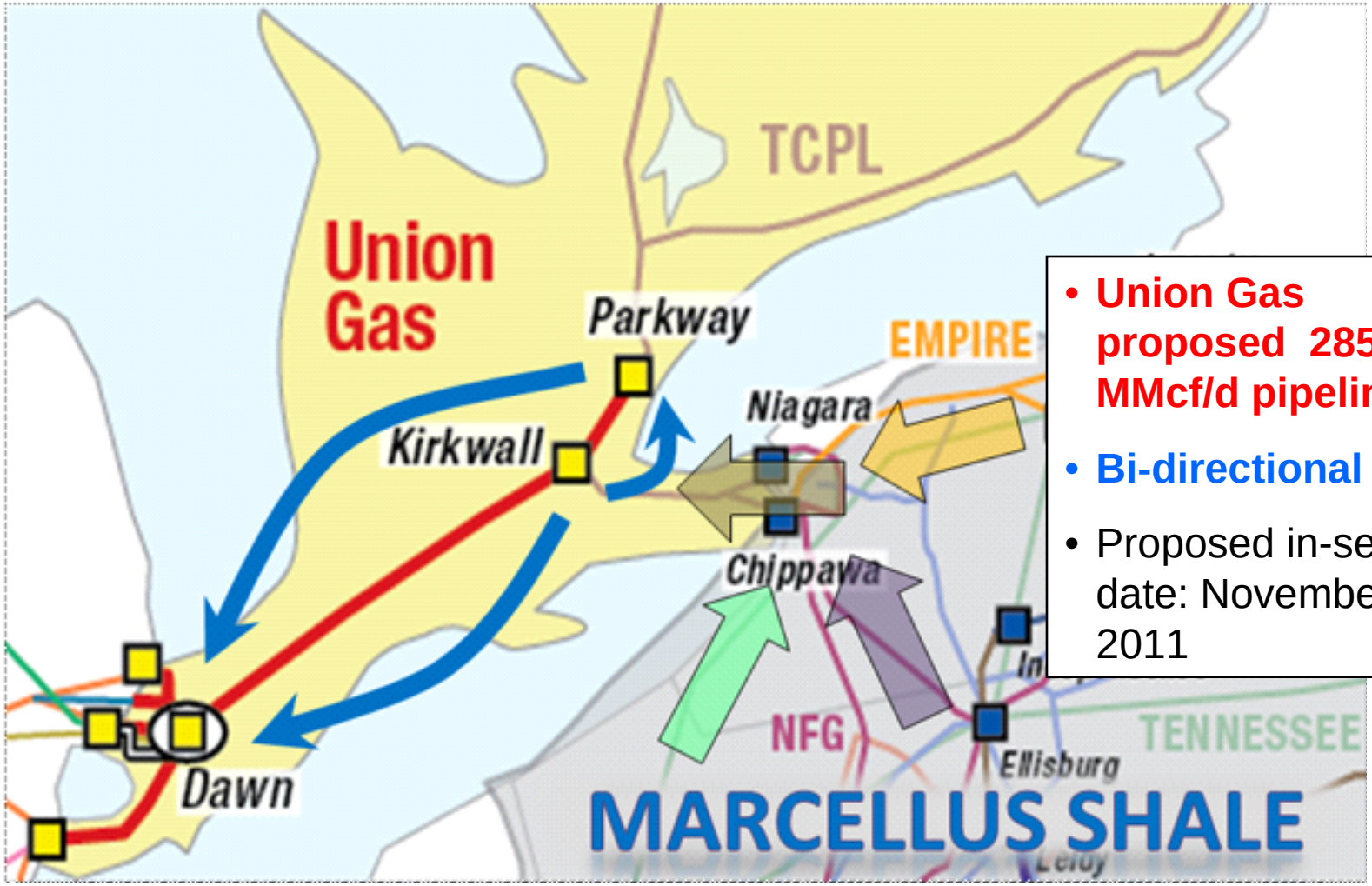



Source: Derived from Bentek Energy Data

WBI = Williston Basin Pipeline

Updated May 5, 2011

# Proposed Pipeline Could Revive Trading at Dawn




- **Union Gas proposed 285 MMcf/d pipeline**
- **Bi-directional flow**
- Proposed in-service date: November 2011

Source: Derived from Union Gas
May 2011 National Snapshot Report

Updated May 5, 2011

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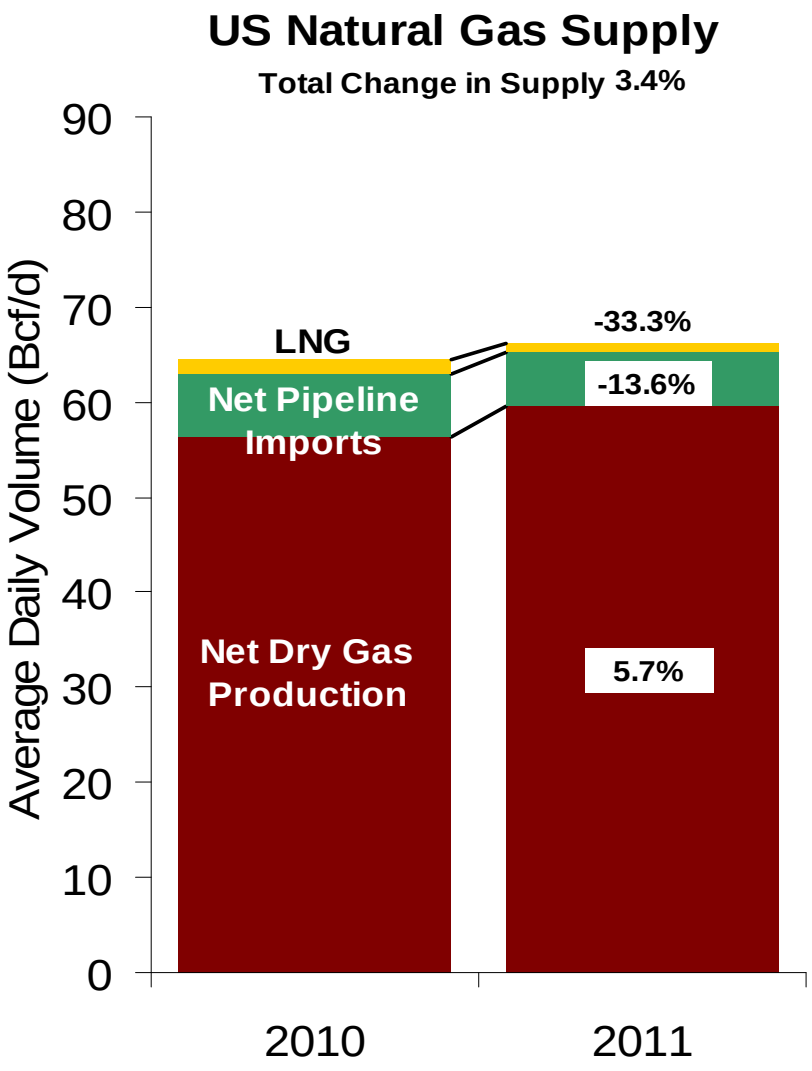
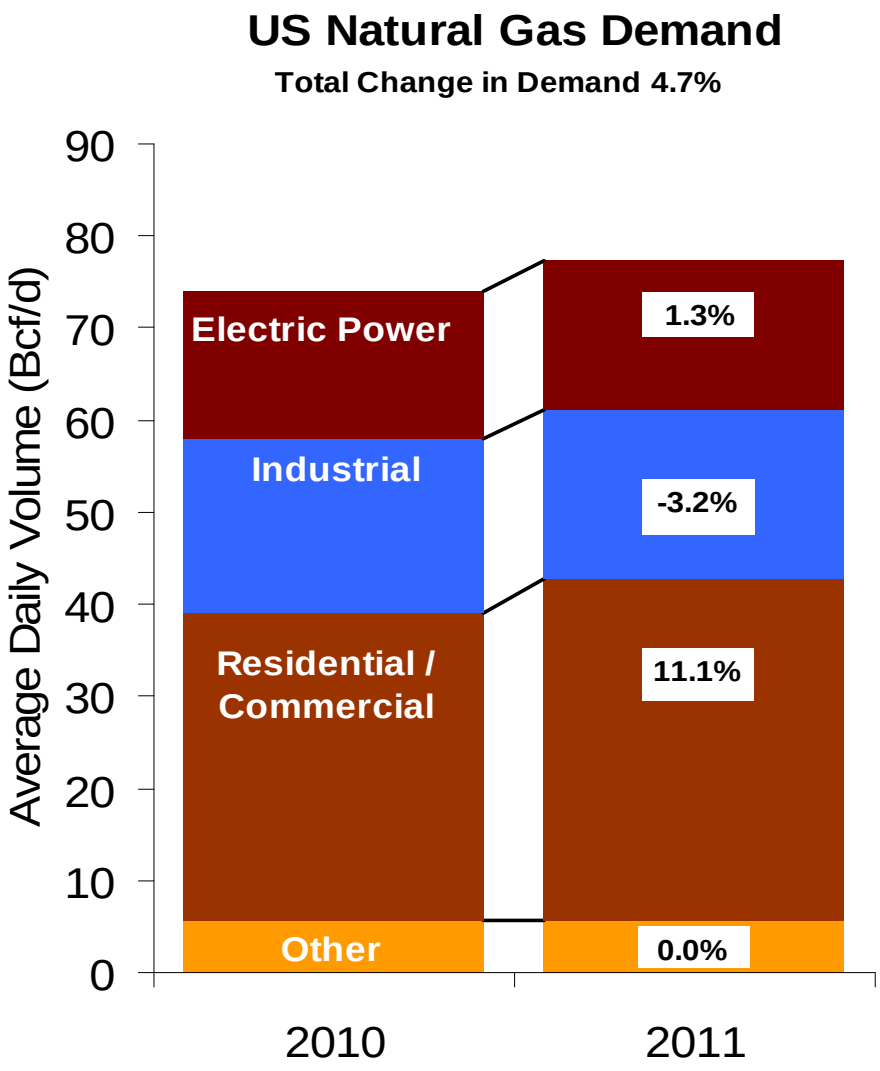
# U.S. Natural Gas Supply and Demand 2010 vs. 2011: January - April




Source: Derived from *Bentek* data.

May 2011 National Snapshot Report

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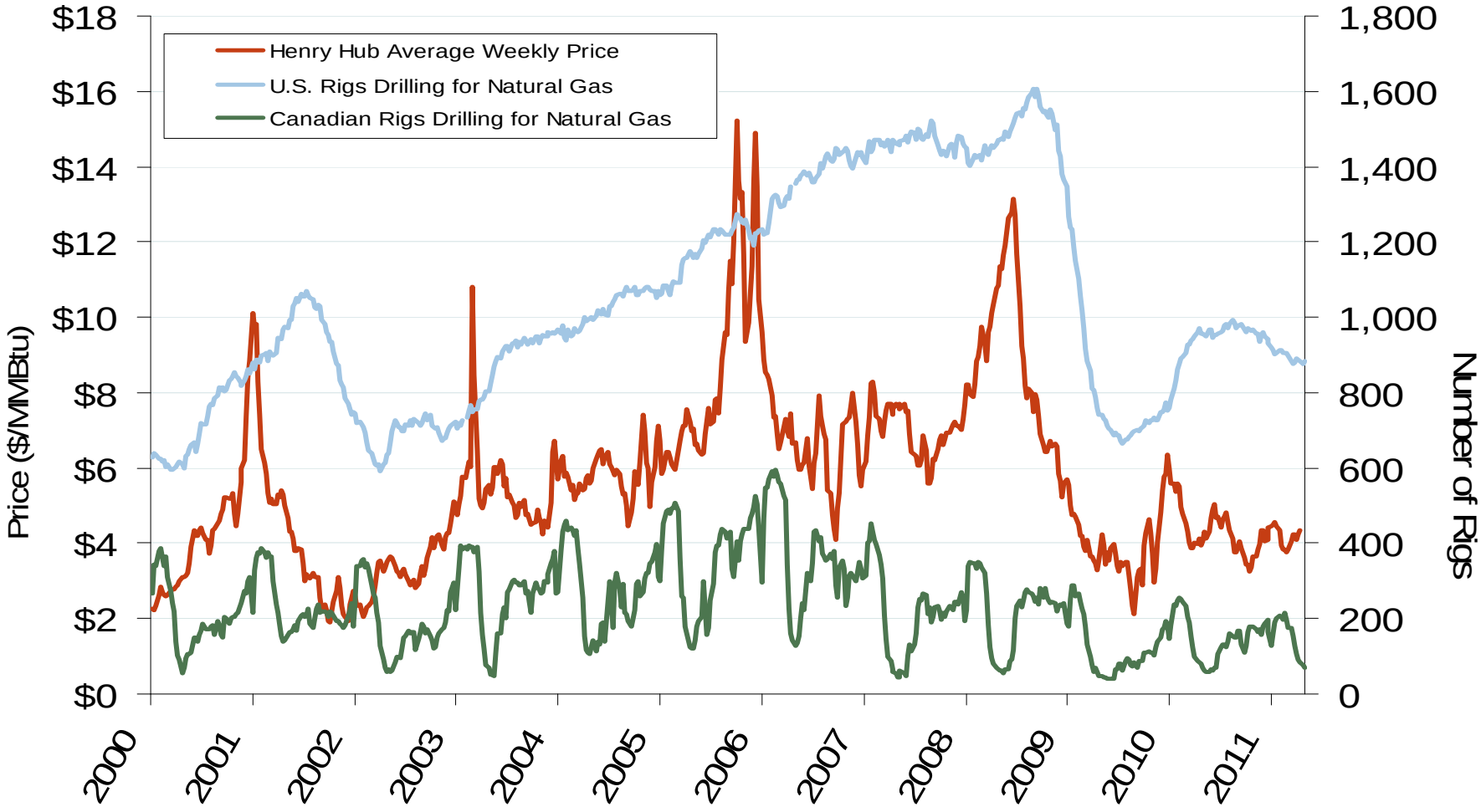
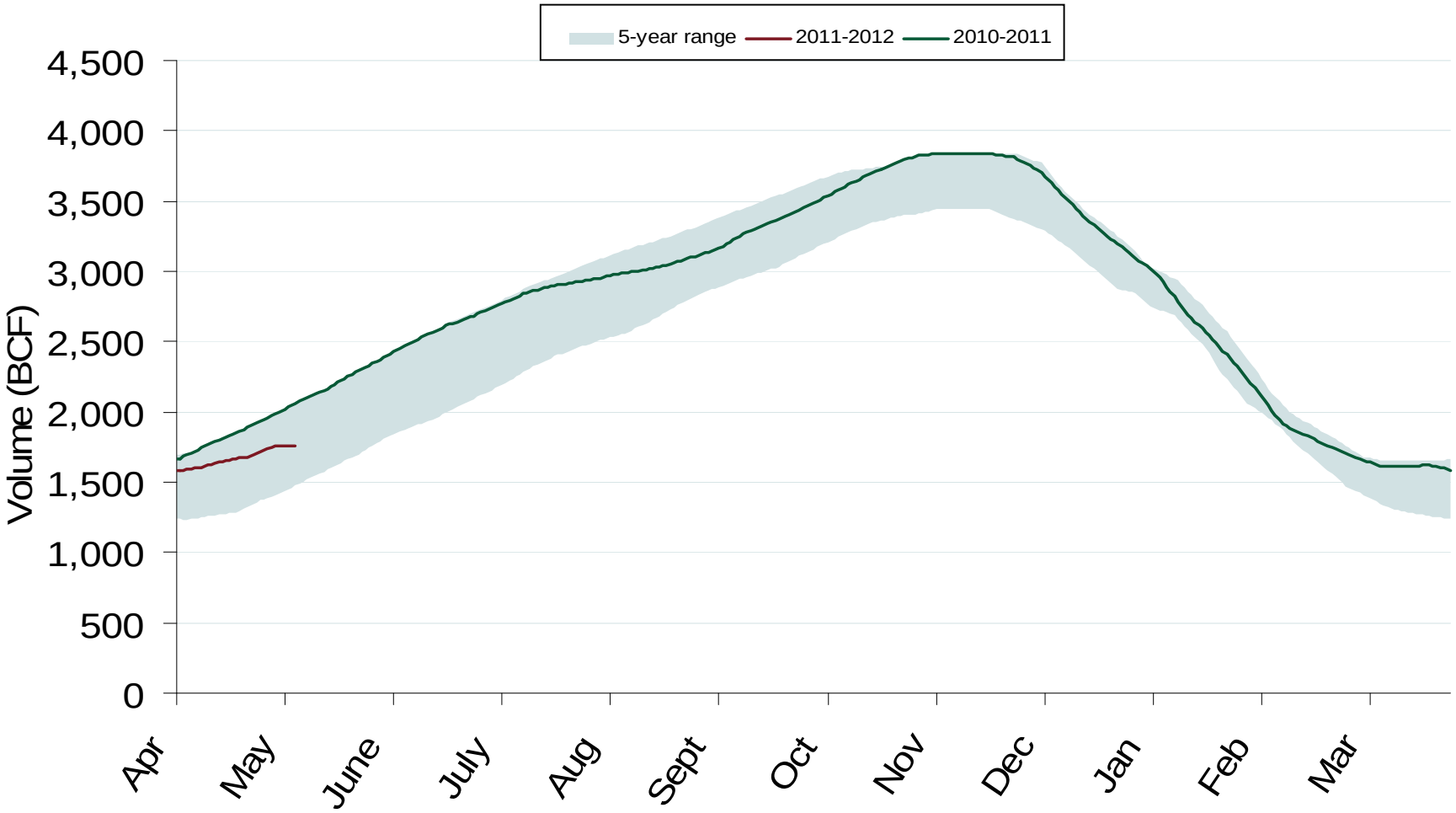
# U.S. and Canadian Natural Gas Drilling Rig Count and Daily Spot Prices




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

Updated May 6, 2011

# Total U.S. Working Gas in Storage




Source: Derived from *EIA* data.

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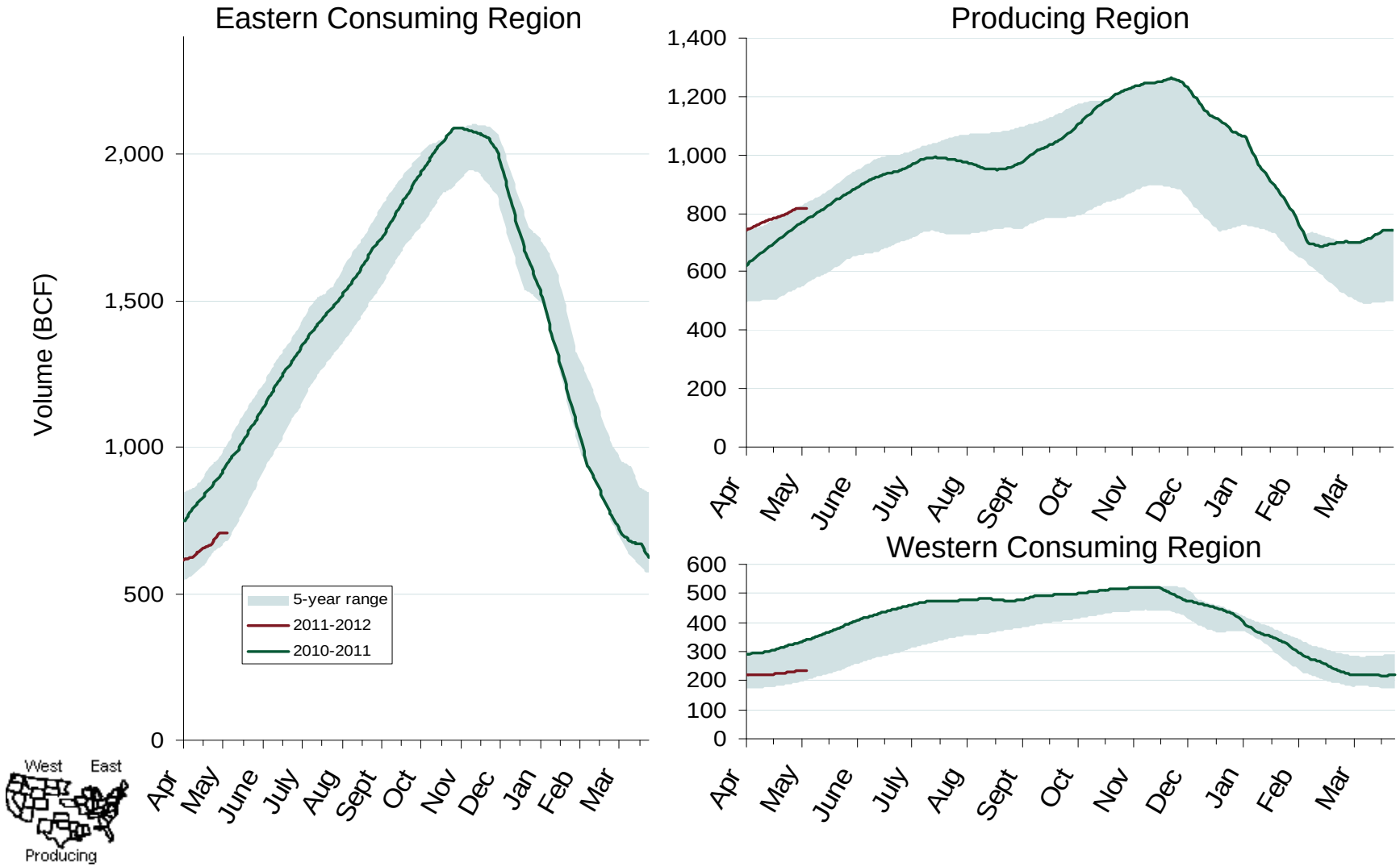
# Regional Totals of Working Gas in Storage

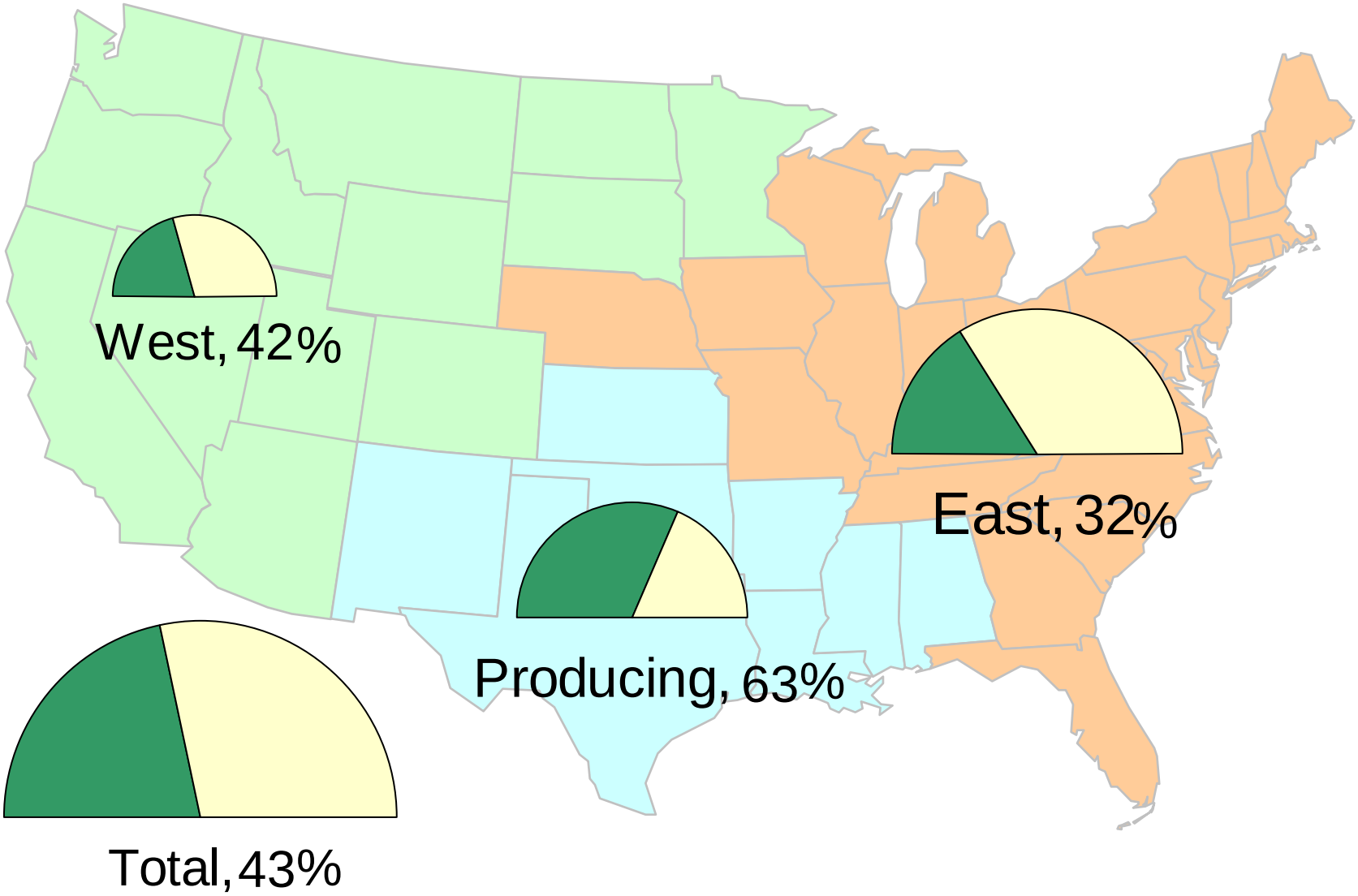



Source: Derived from *EIA* data.

May 2011 National Snapshot Report

Updated May 6, 2011

# Natural Gas Storage Inventories – April 29, 2011




Source: Derived from *EIA Storage* and *Estimated Working Gas Capacity* data.

May 2011 National Snapshot Report

Updated May 6, 2011

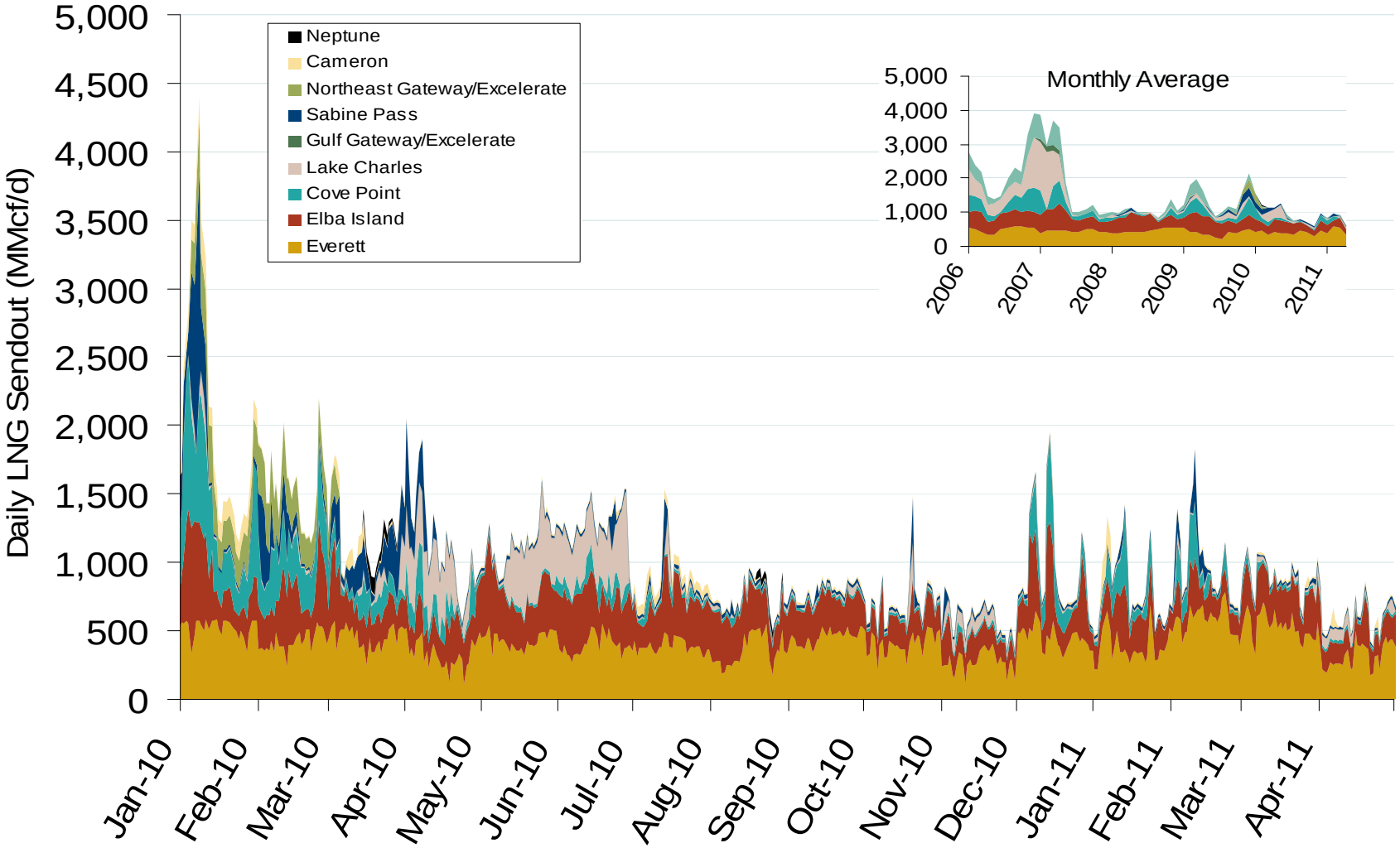
# World LNG Estimated June 2011 Landed Prices

Source: *Waterborne Energy, Inc*. Data in $US/MMBtu.

May 2011 National Snapshot Report

Updated May 6, 2011

# 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.

Updated May 6, 2011

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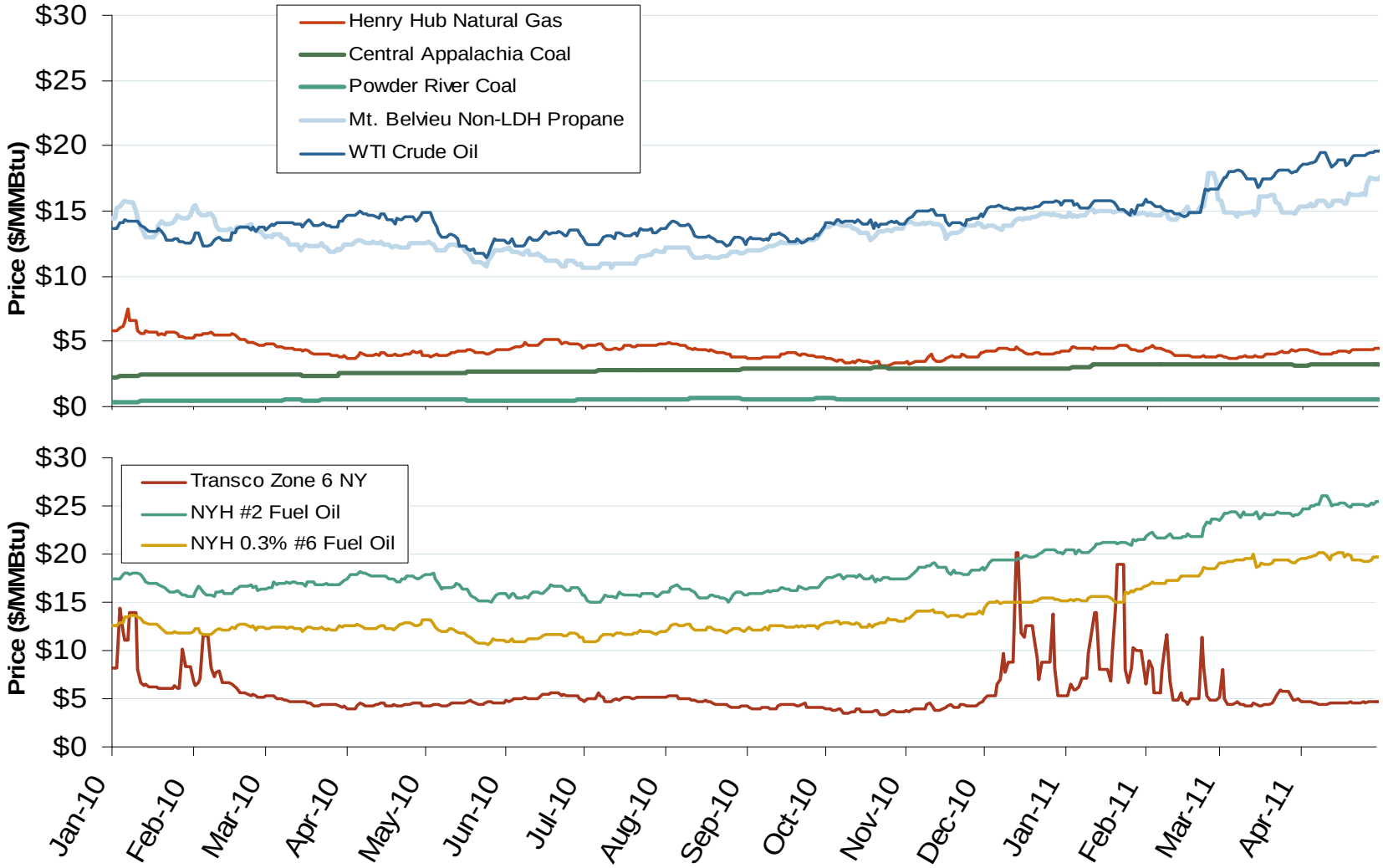
# Oil, Coal, Natural Gas and Propane Daily Spot Prices

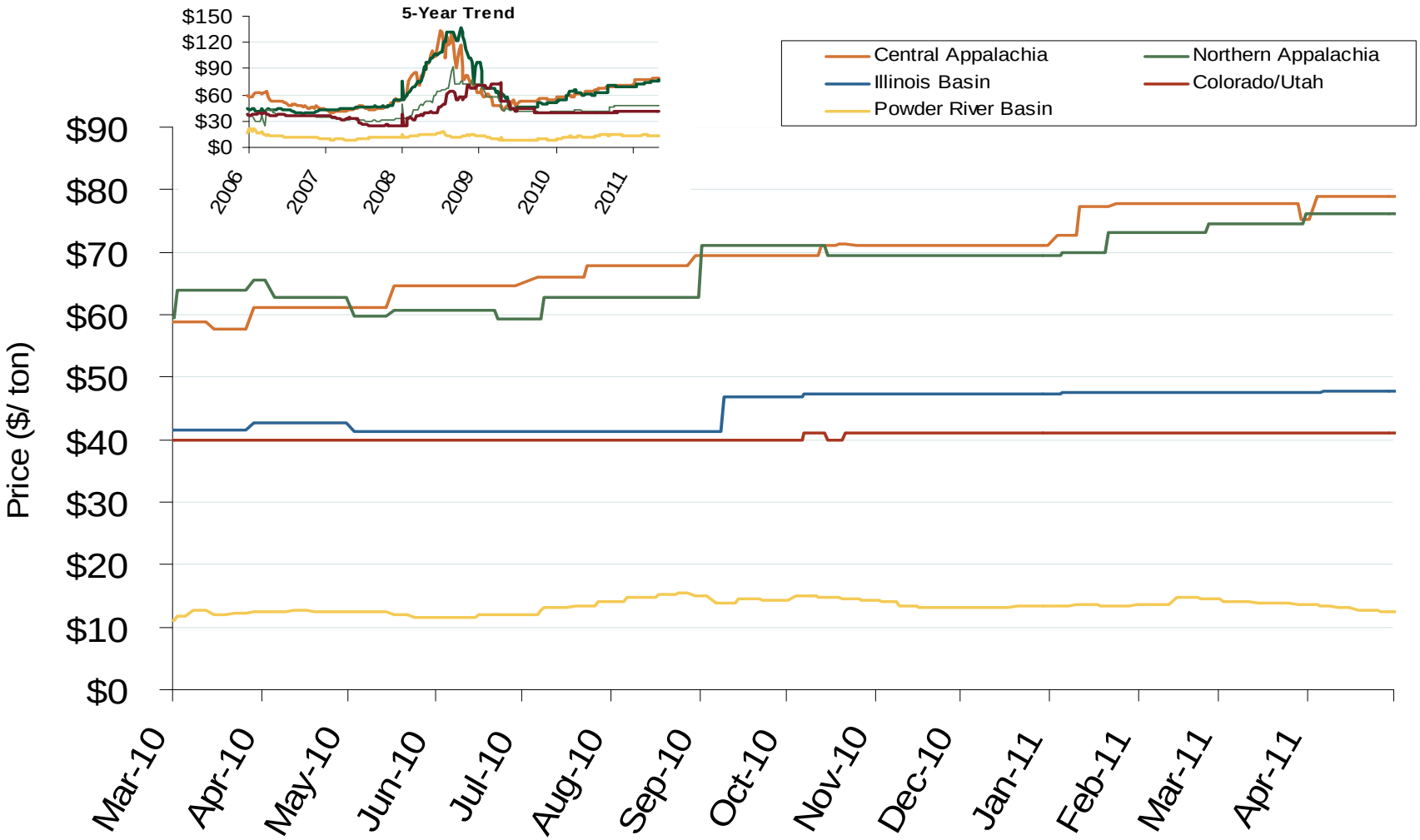



Source: Derived from *ICE and Bloomberg data.*

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.

Updated May 6, 2011

# 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.

Updated May 6, 2011

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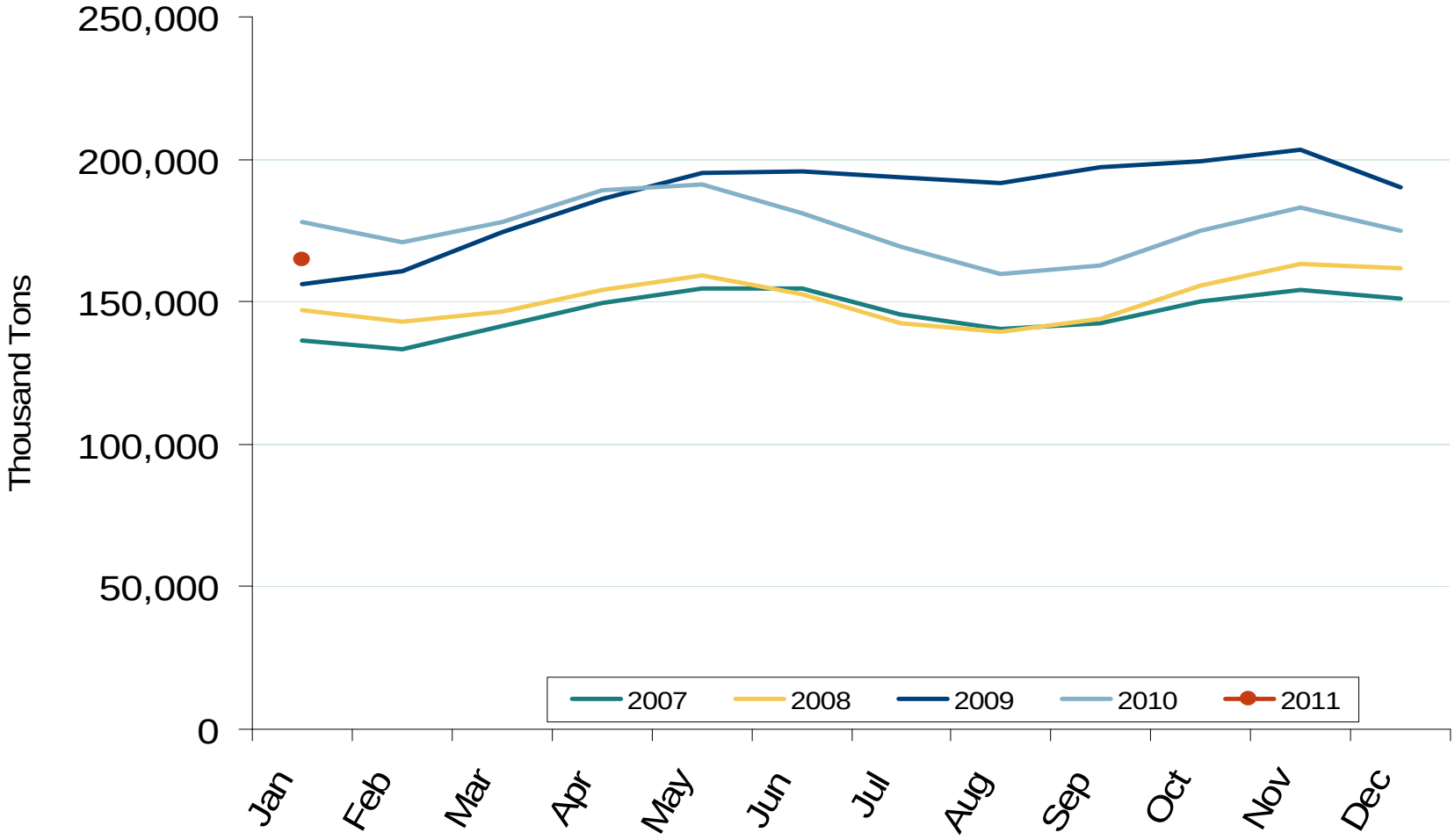
# U.S. Coal Stockpiles at Electric Power Generating Facilities




Source: Derived from *Energy Information Administration*. Excludes Industrial and Commercial Plants.

Updated May 6, 2011