

OE ENERGY MARKET SNAPSHOT

Western States Version – March 2012 Data

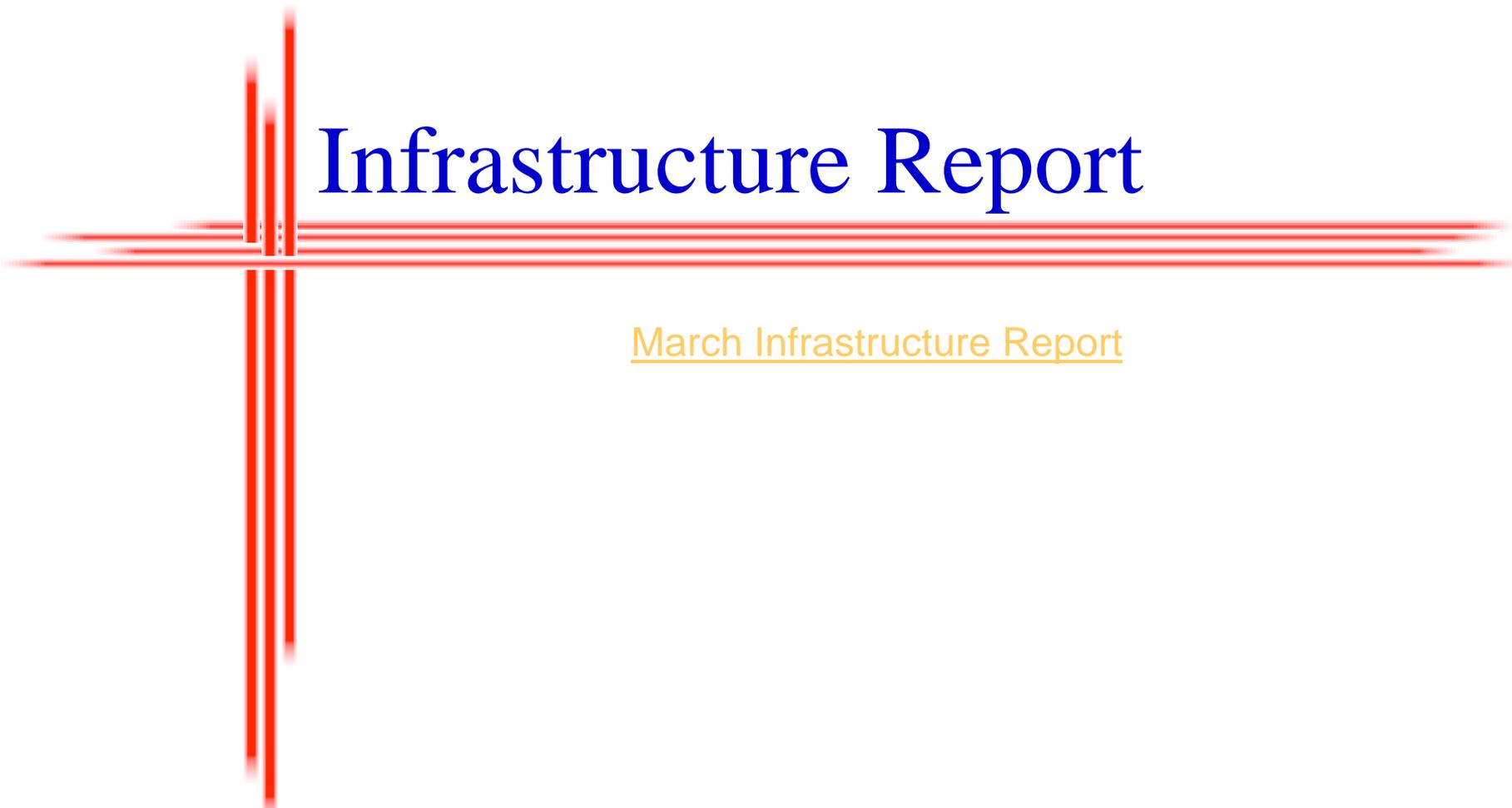
Office of Enforcement
Federal Energy Regulatory Commission
April 2012



2011 State of the Markets

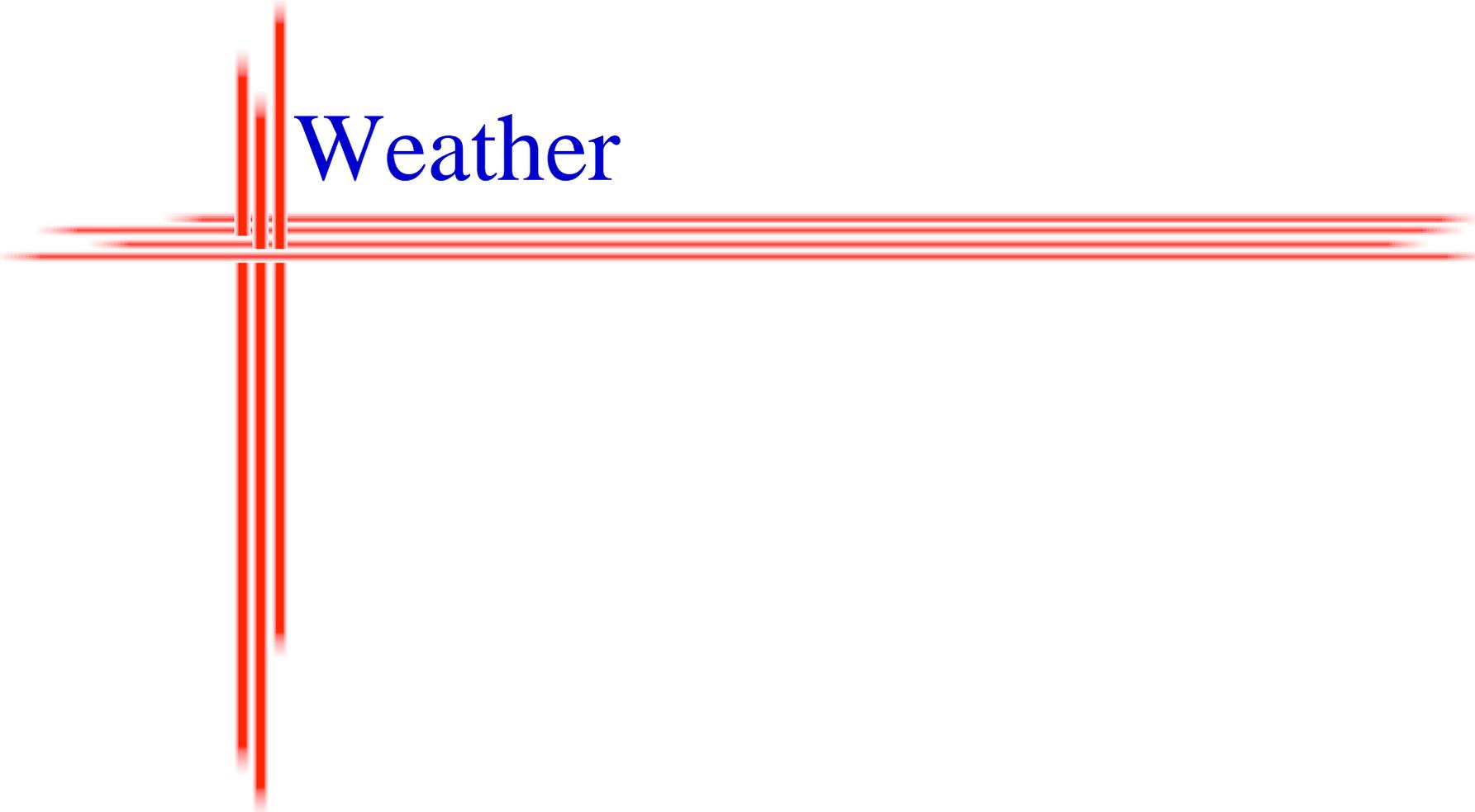
Item No: A-3
April 19, 2012

<http://www.ferc.gov/market-oversight/reports-analyses/st-mkt-ovr/som-rpt-2011.pdf>



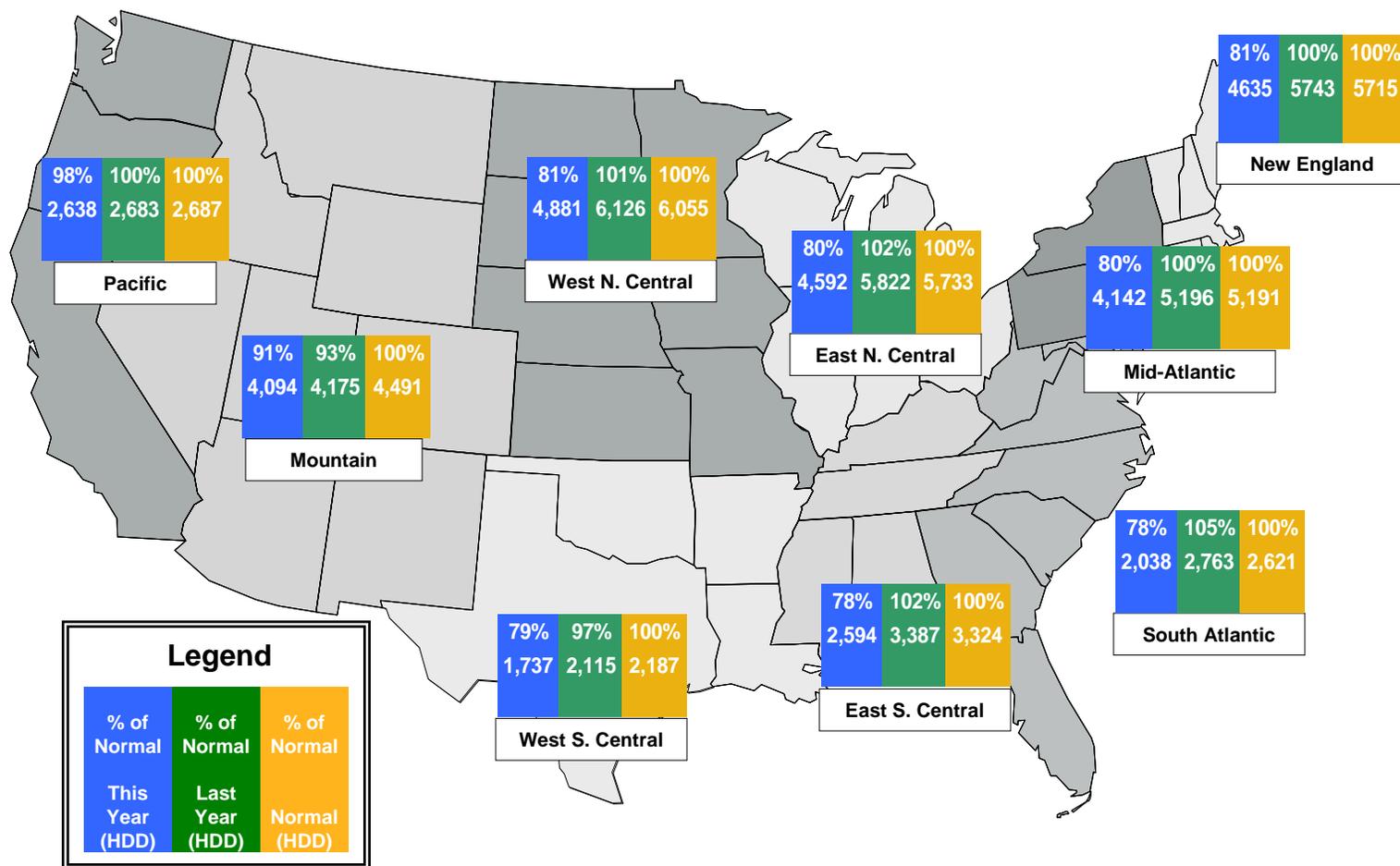
Infrastructure Report

March Infrastructure Report



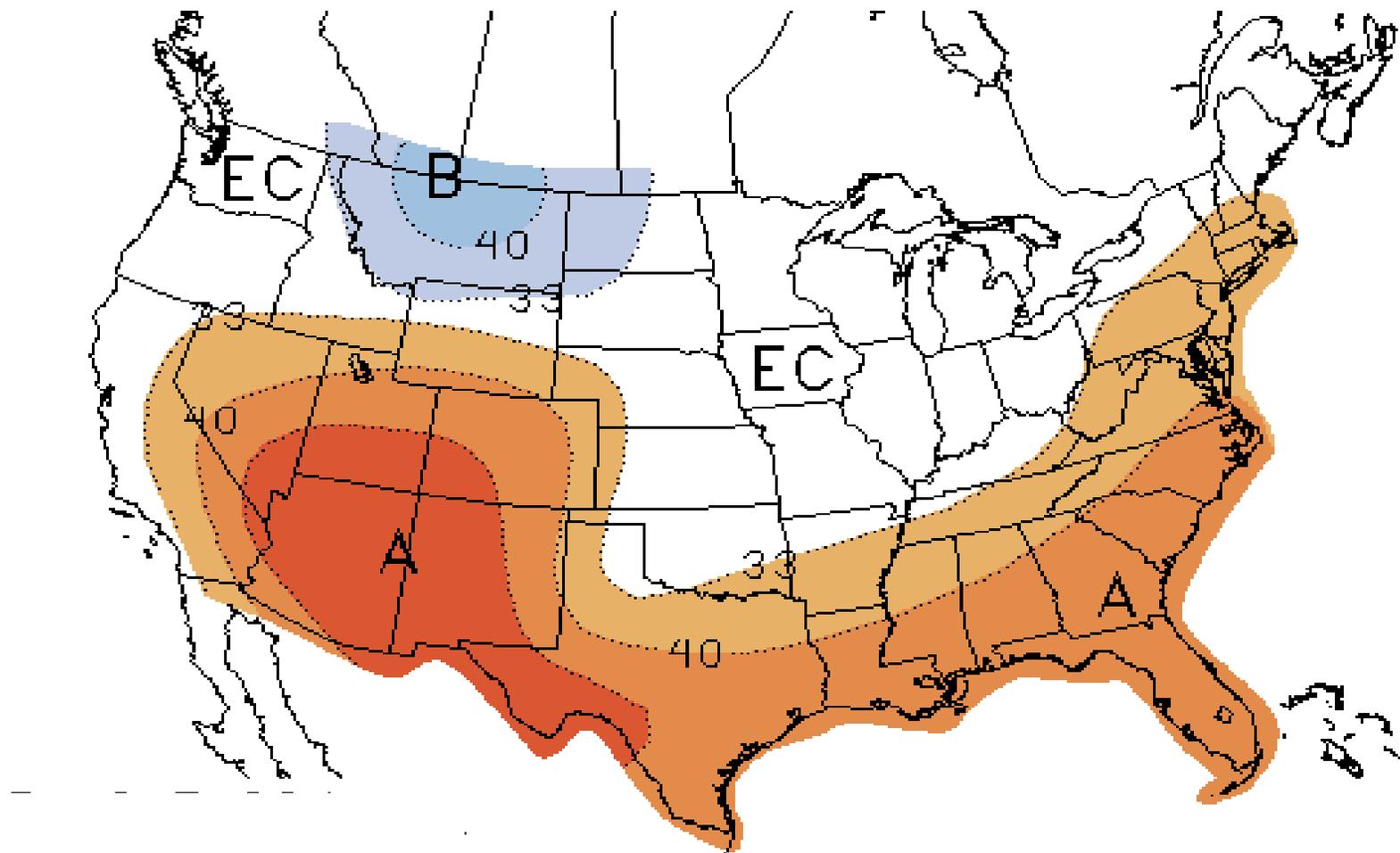
Weather

Regional Heating Degree Days – July 2011 to March 2012



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

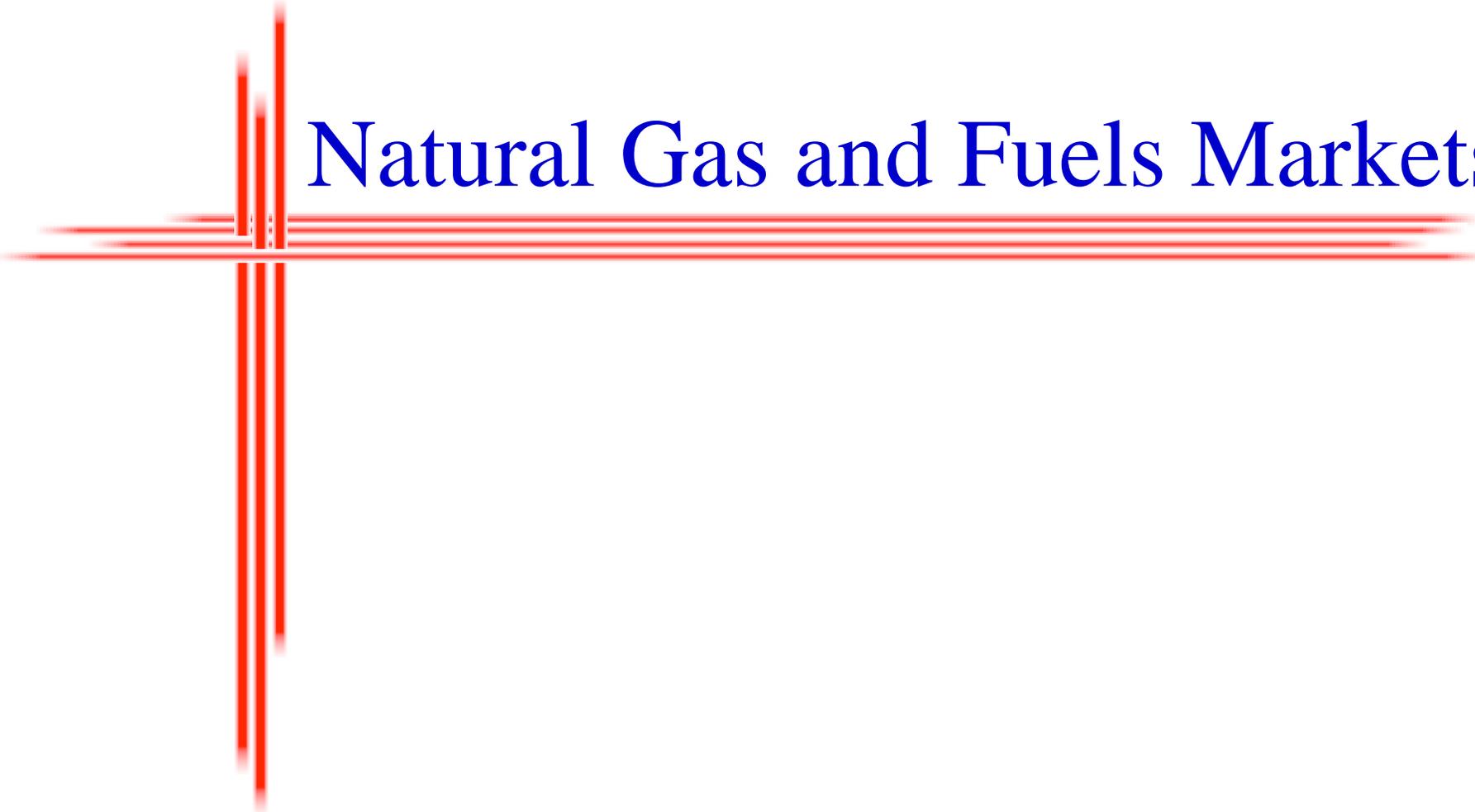
NOAA's 3 Month Temperature Forecast Made April 19, 2012, Valid for May 2012 – July 2012



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.

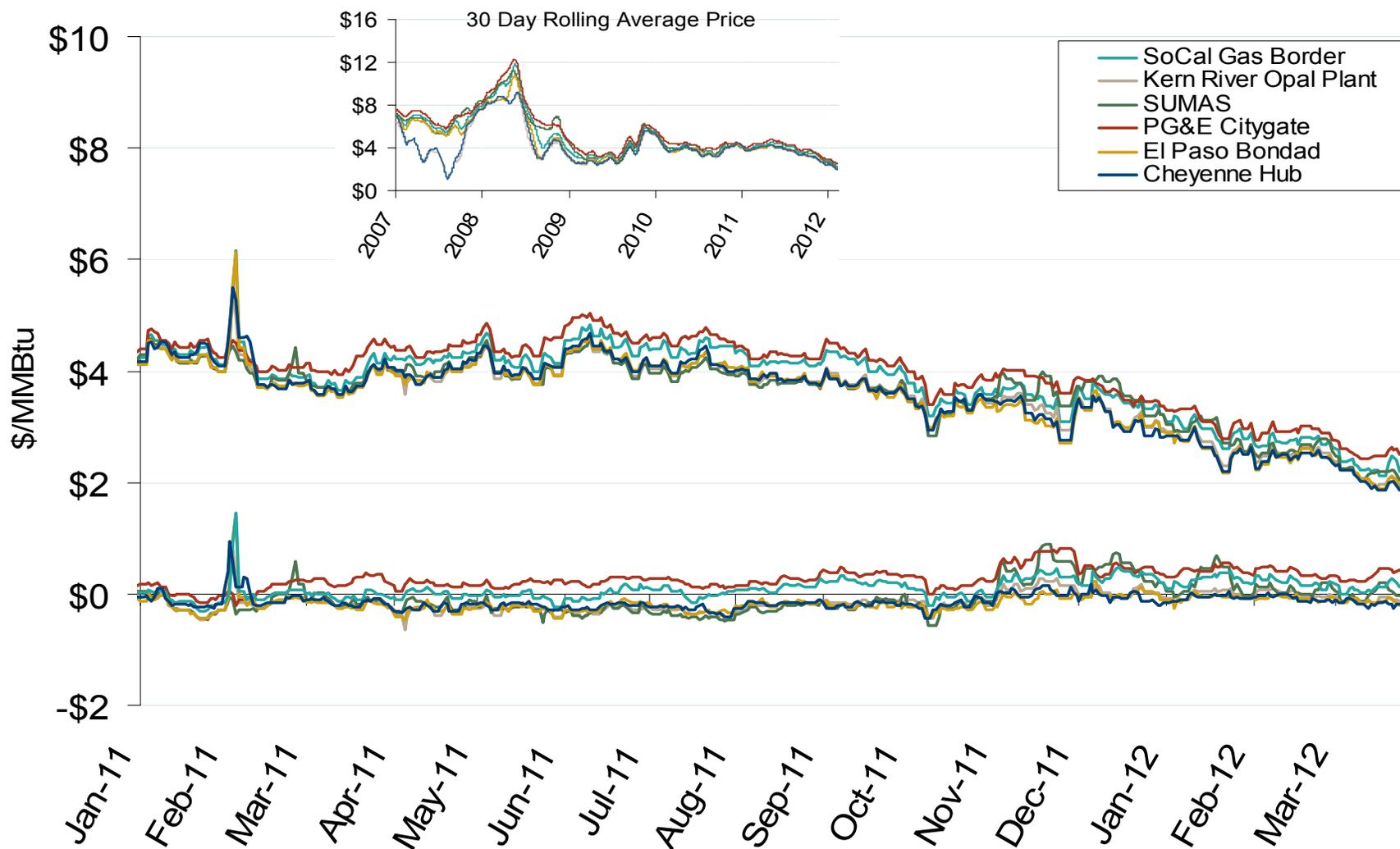
Source: Derived from NOAA data.

Updated: April 19, 2012

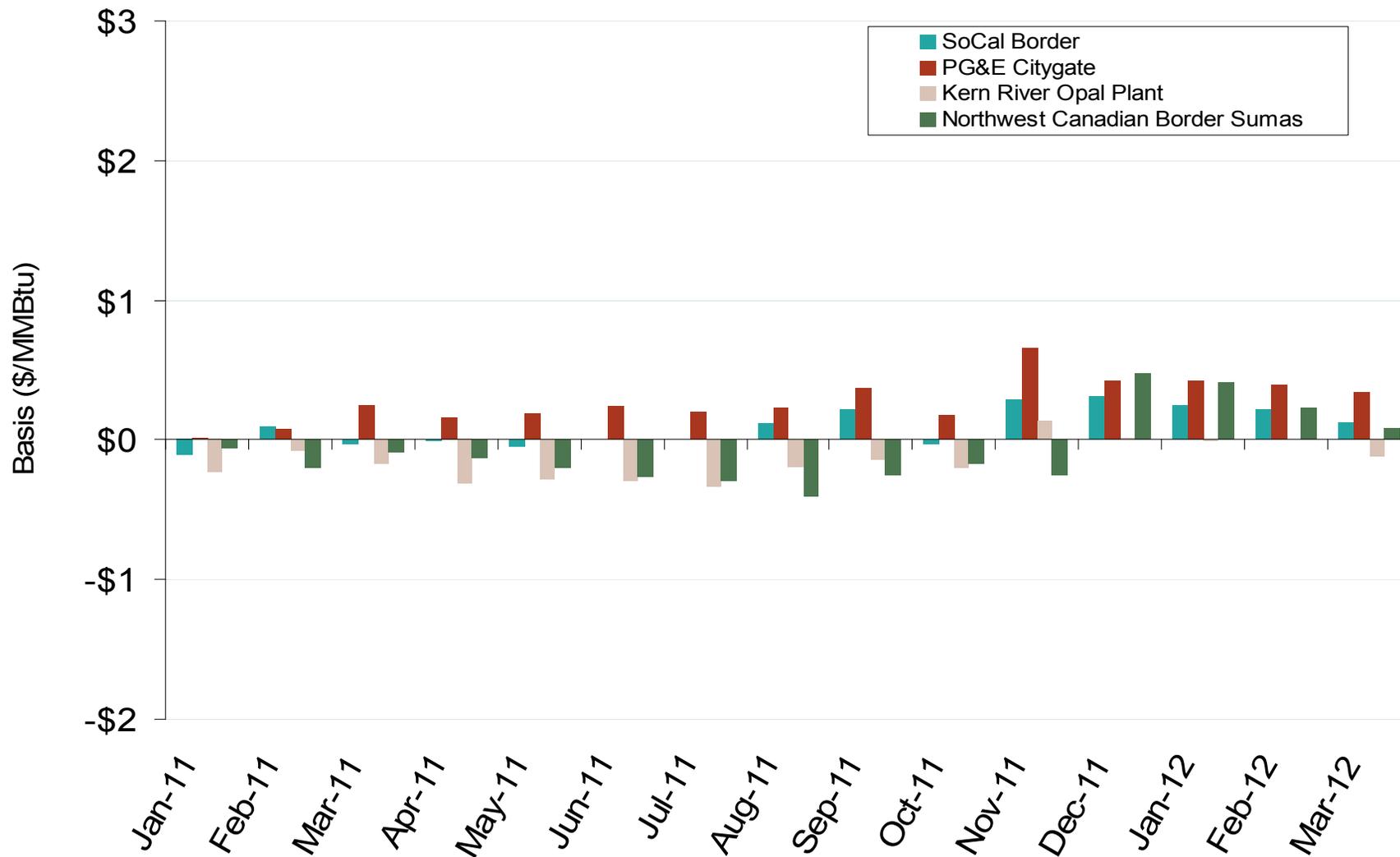


Natural Gas and Fuels Markets

Western Day-Ahead Hub Spot Prices and Basis

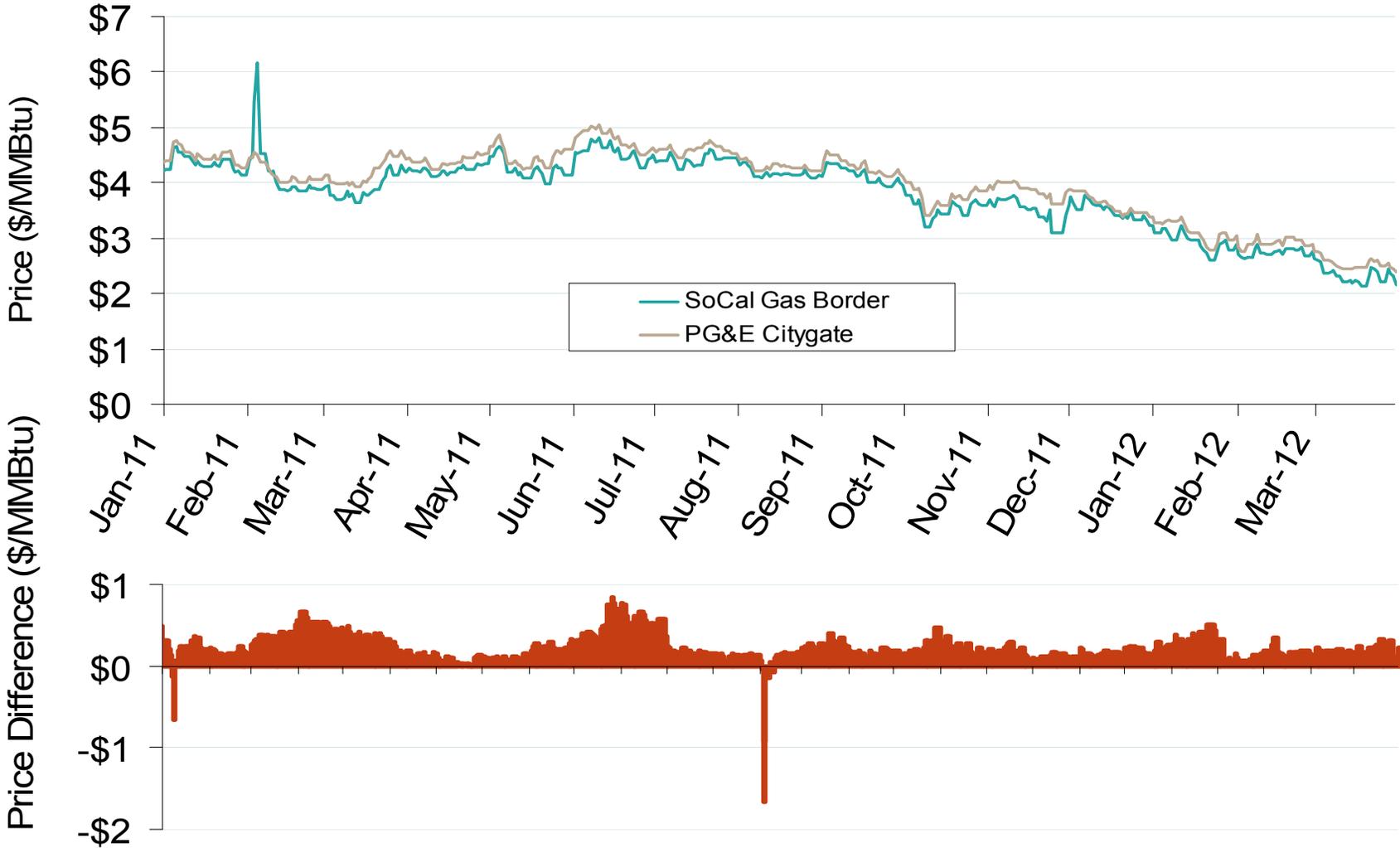


Western Monthly Average Basis Value to Henry Hub



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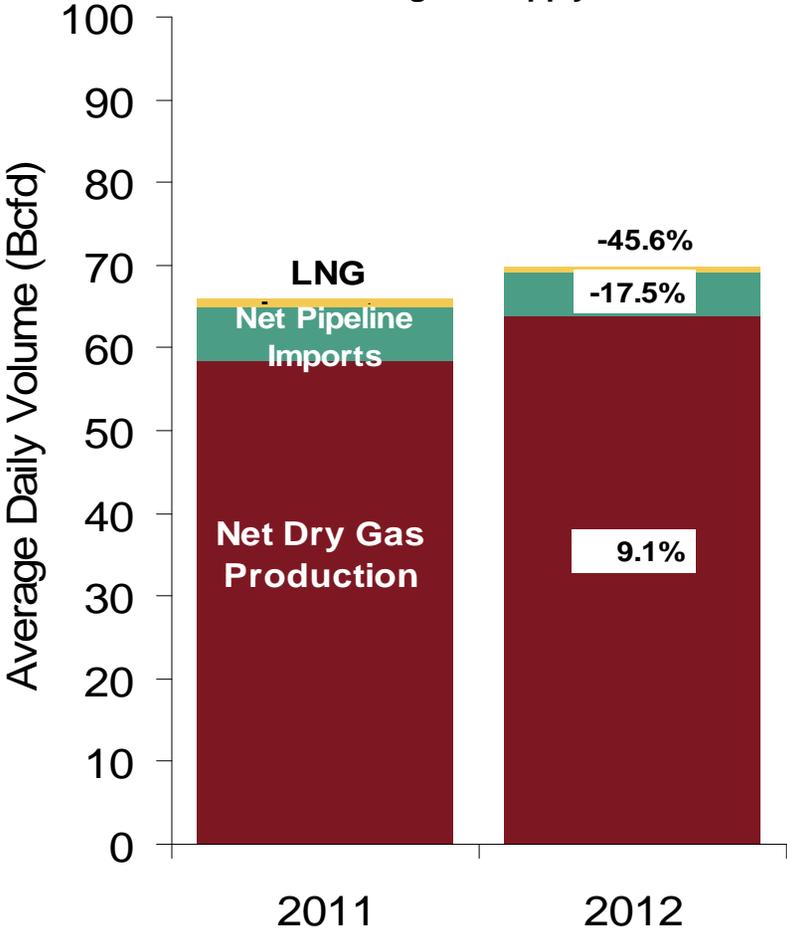
Difference in Northern and Southern California Daily Spot Prices



U.S. NG Supply and Demand 2011 vs. 2012: January - March

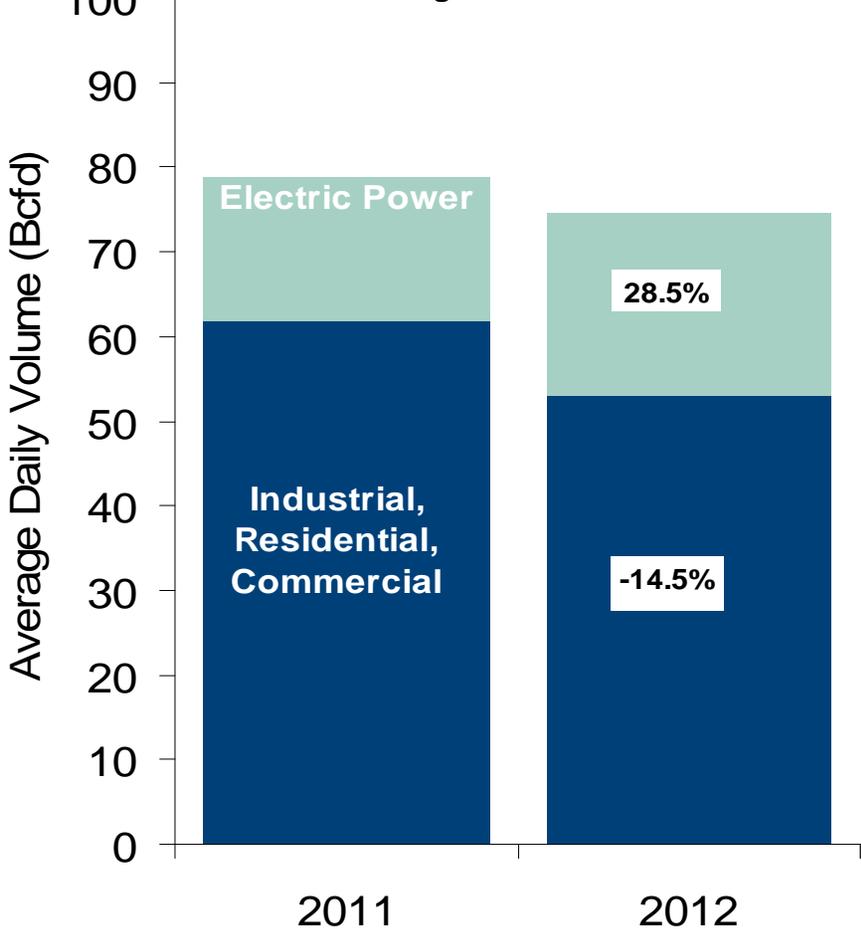
US Natural Gas Supply

Total Change in Supply 5.7%



US Natural Gas Demand

Total Change in Demand -3.1%



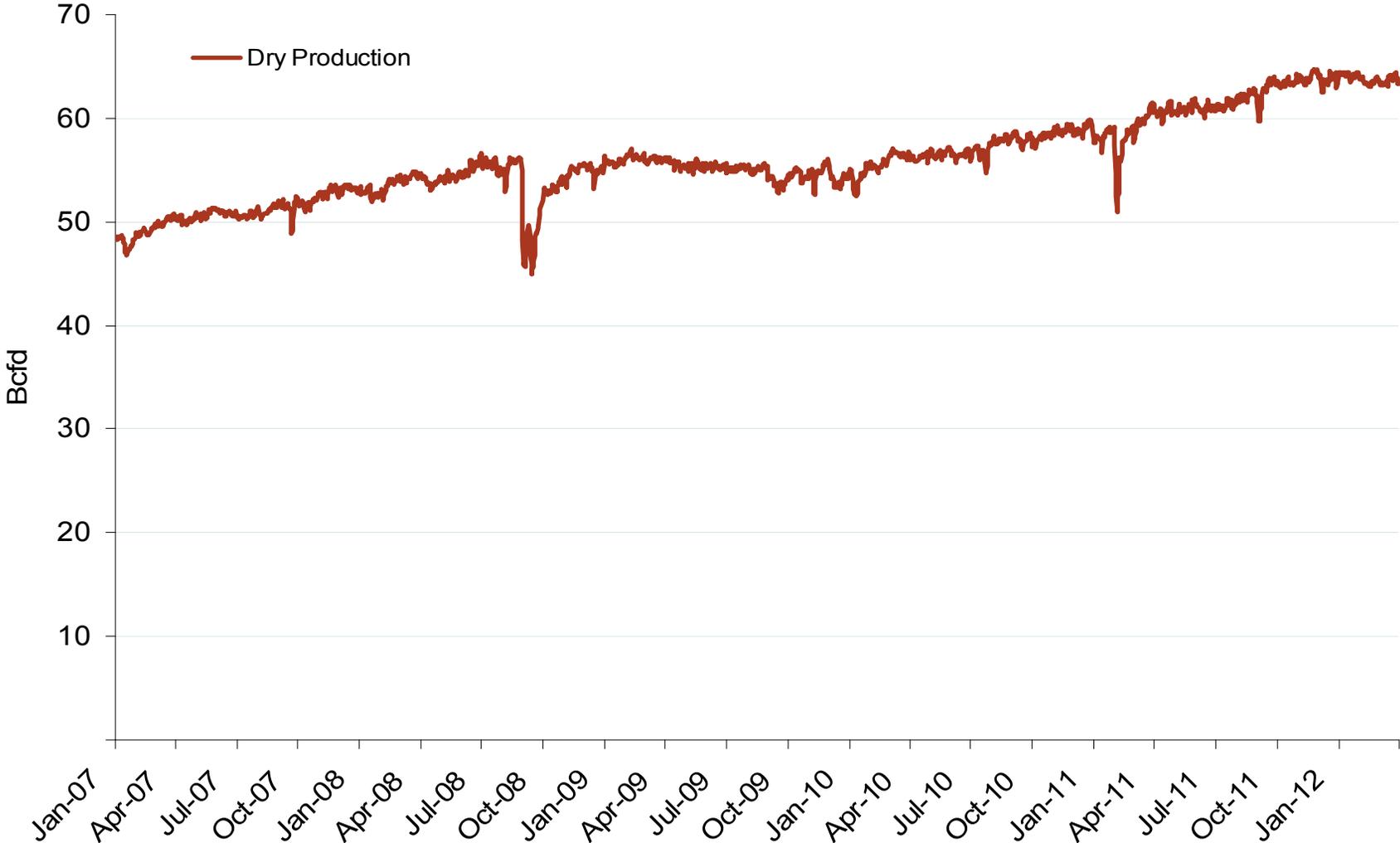
Note: Balance includes all amounts not attributable to other categories.

Source: Derived from Bentek Energy data

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



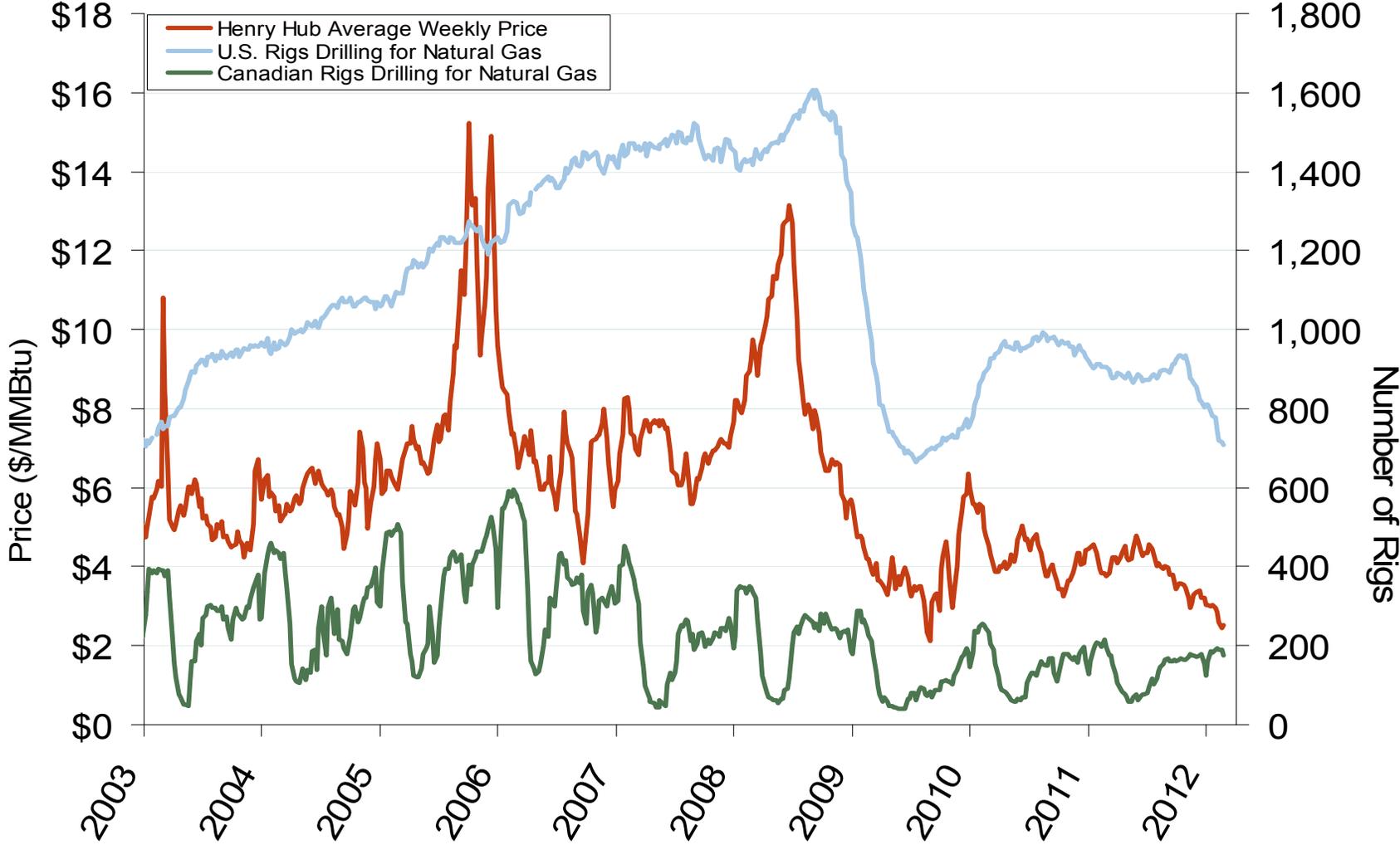
Note: Prior to July 2010, chart was derived from a combination of EIA and Bentek Energy data

Source: Derived from Bentek Energy data

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Updated: April 17, 2012

U.S. and Canadian NG Drilling Rig Count and Daily Spot Prices

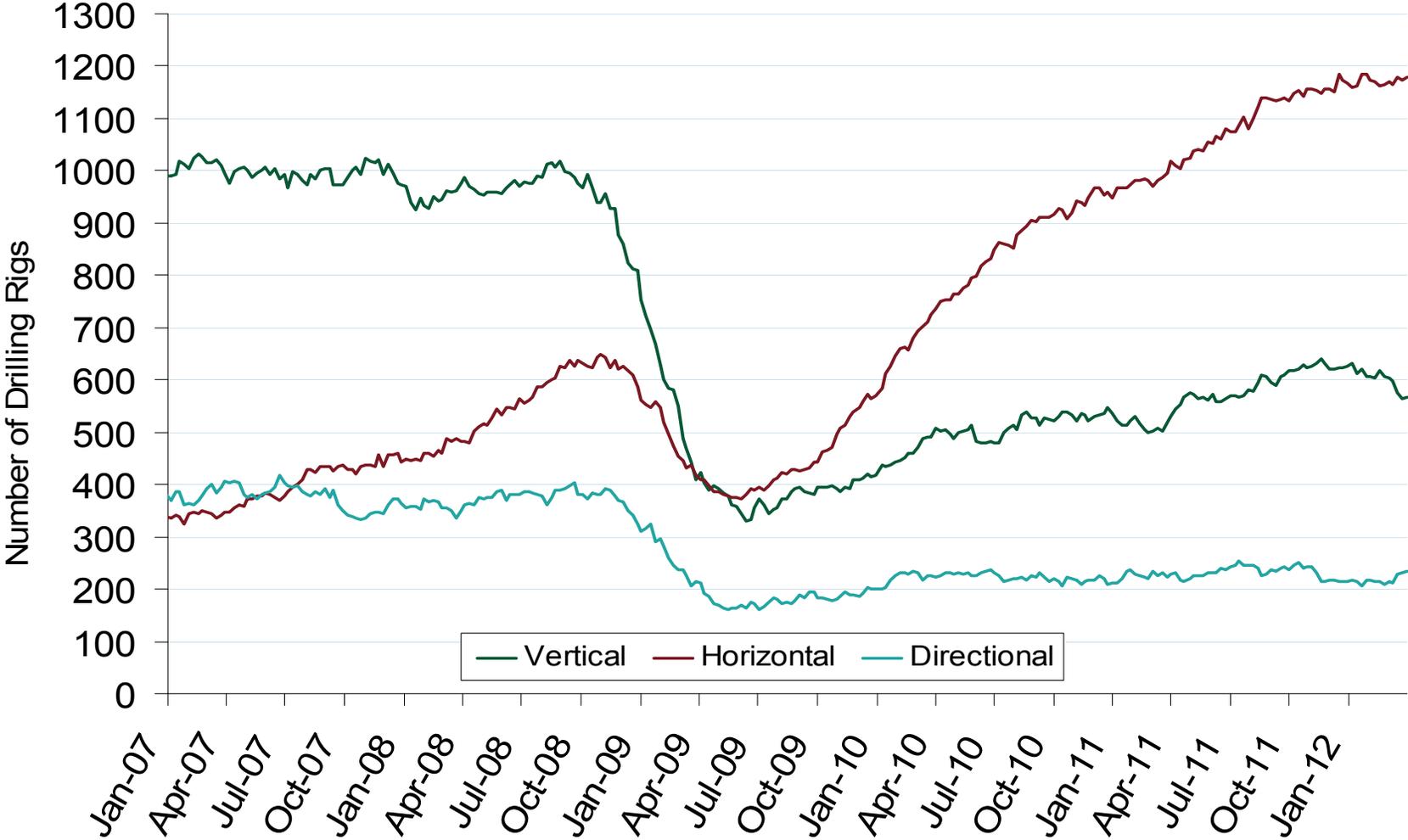


Source: Derived from *Platts* and *Baker Hughes* data
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Updated: April 06, 2012

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U.S. Oil and Natural Gas Drilling Rig Count by Type



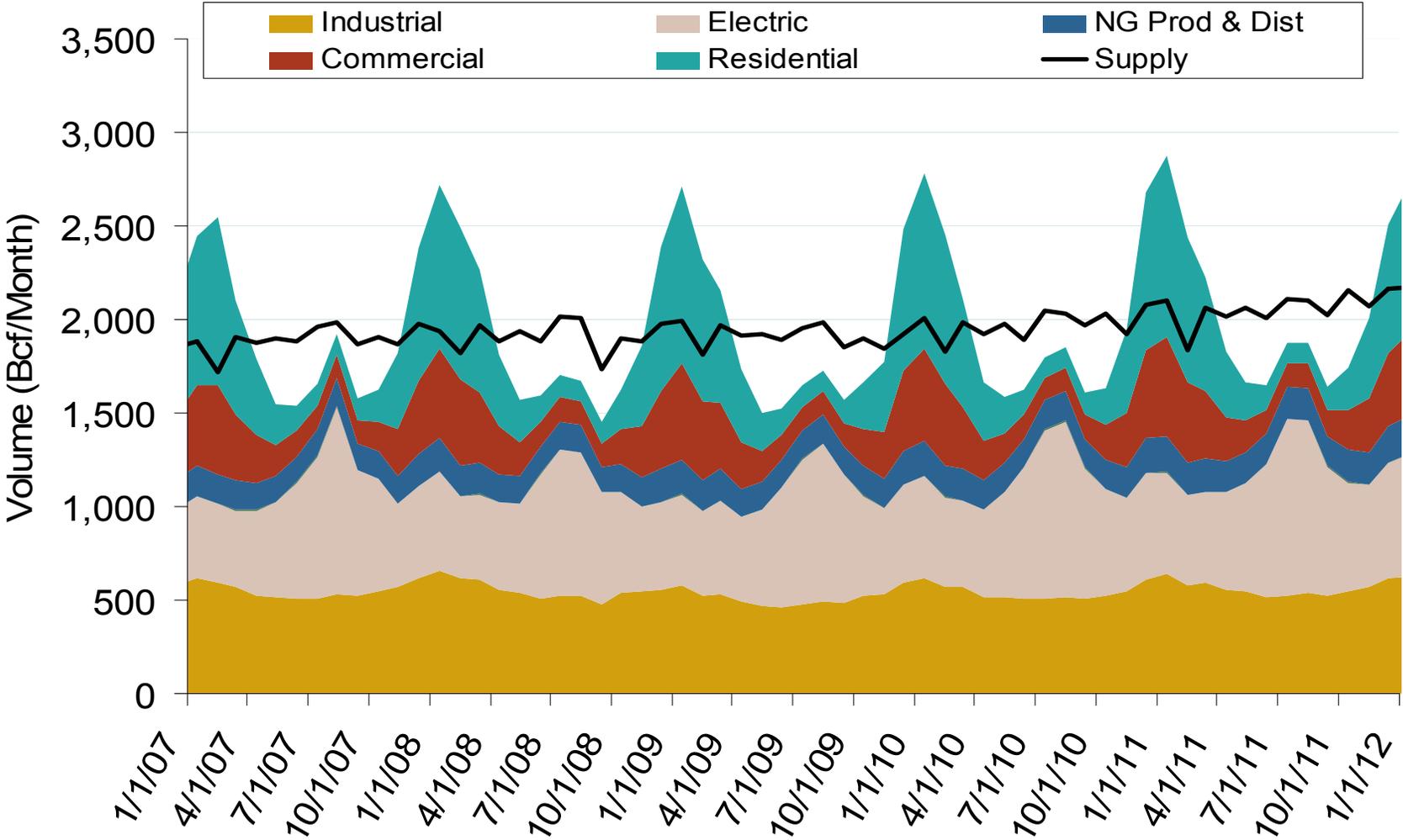
Source: Derived from *Platts* and *Baker Hughes* data
April 2012 Western Snapshot Report

Updated: April 18, 2012

Examples of Drill Bits Used in Shale Gas Production



Annual U.S. Natural Gas Consumption by Sector



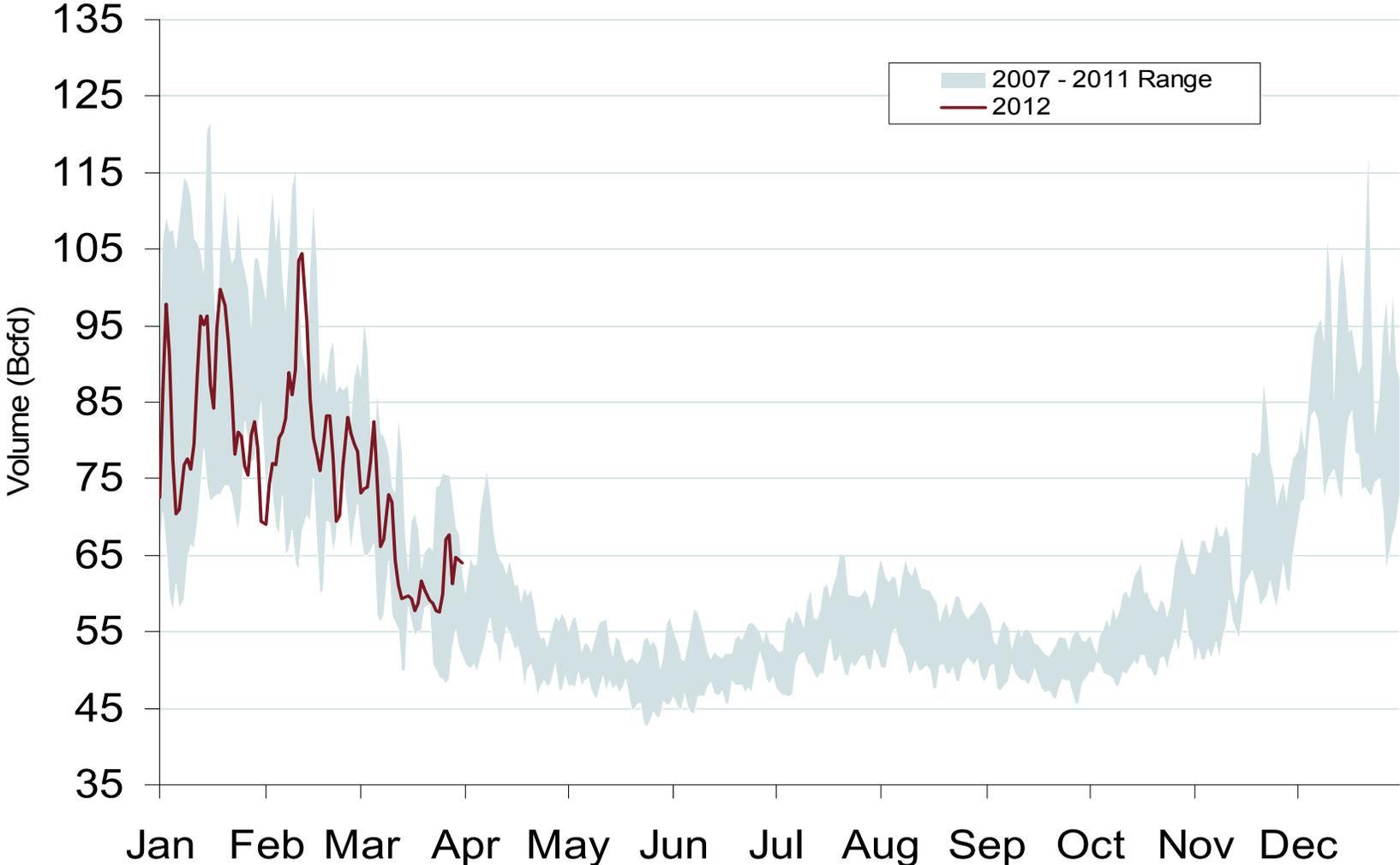
Notes: Supply includes lower 48 state production, net pipeline imports, and LNG imports

Source: Derived from EIA data

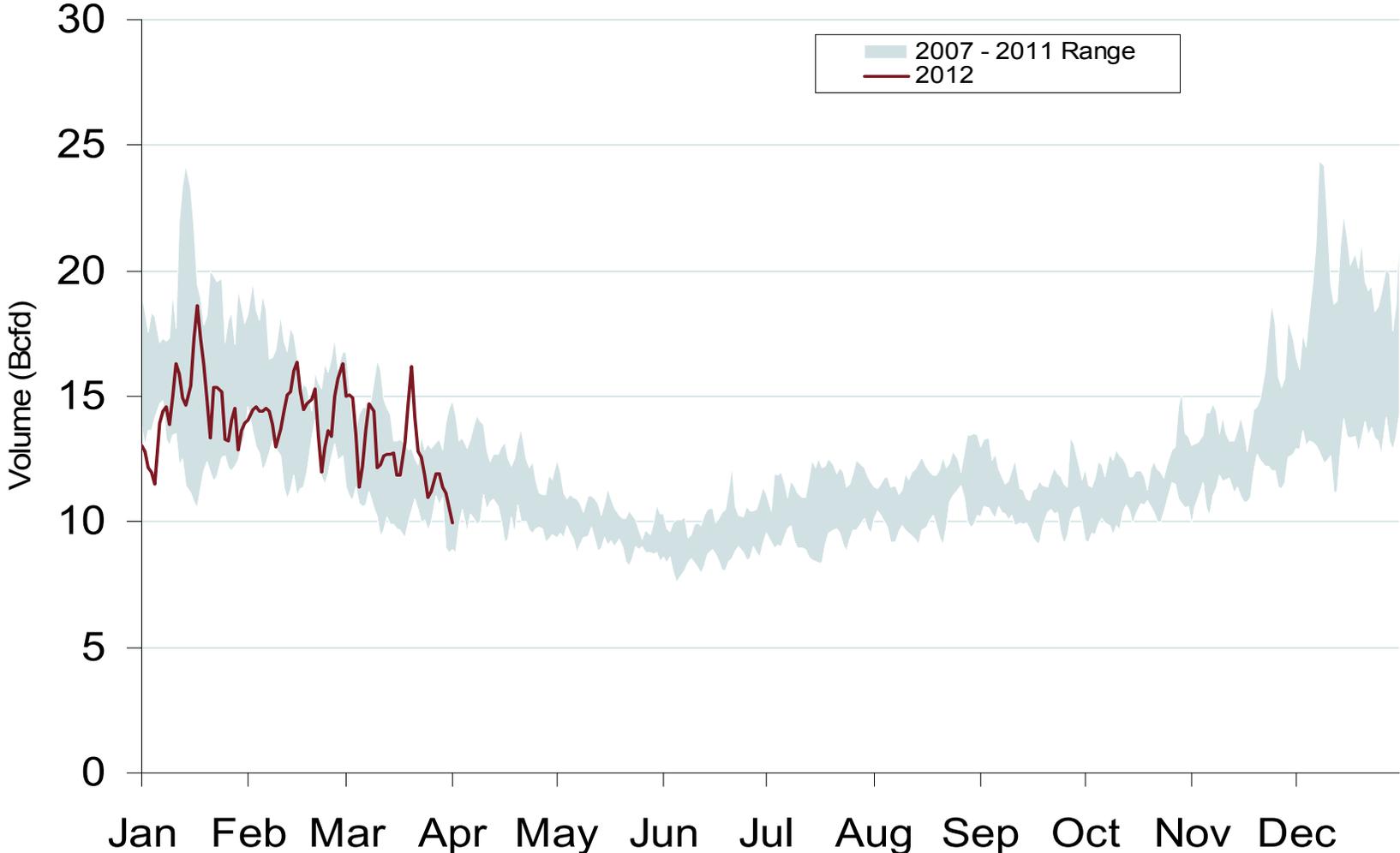
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Total U.S. Natural Gas Demand All Sectors



Daily Western Natural Gas Demand All Sectors

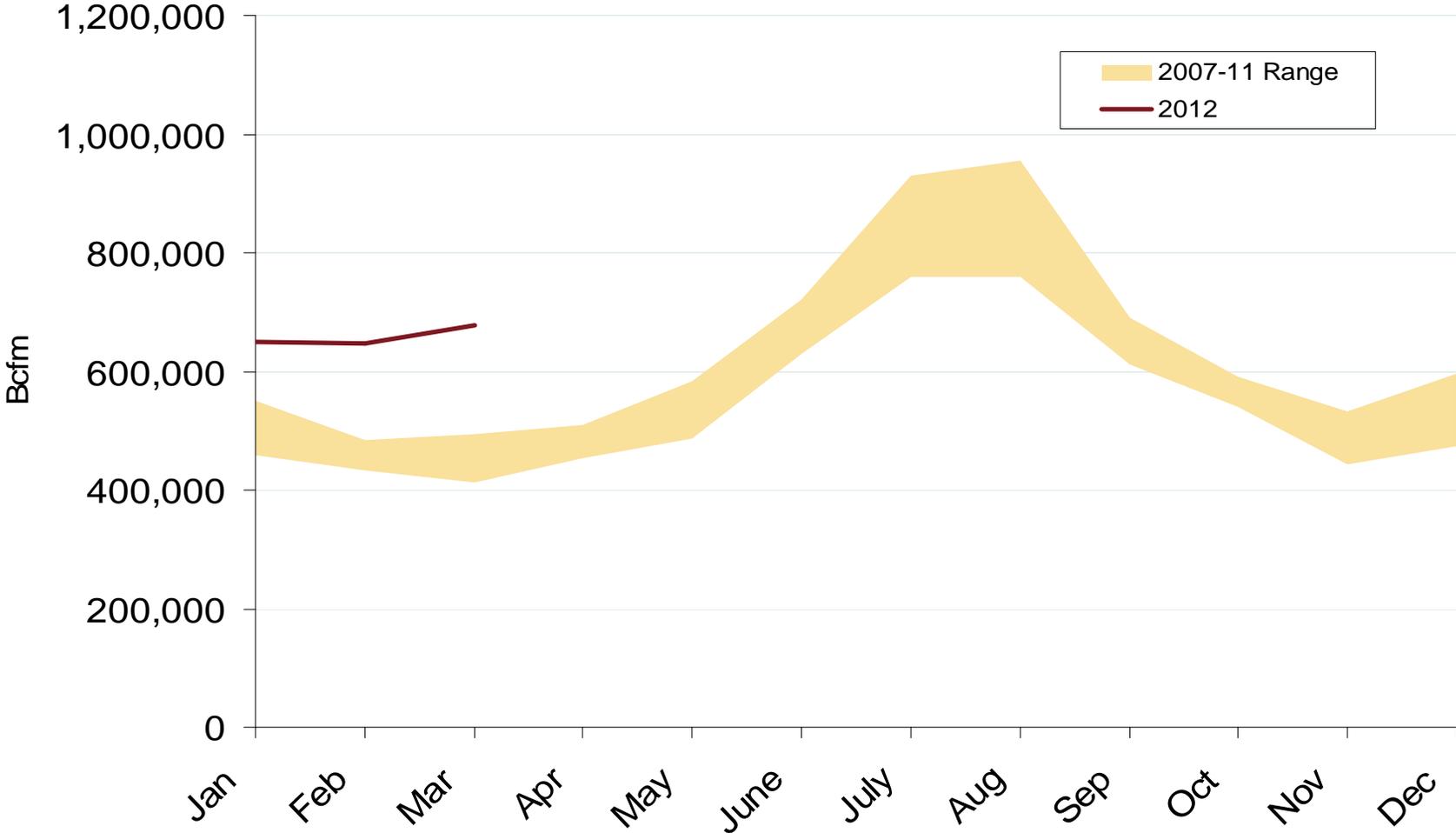


Source: Derived from *Bentek Energy* data
April 2012 Western Snapshot Report

Updated: April 19, 2012

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U.S. Natural Gas Consumption for Power Generation

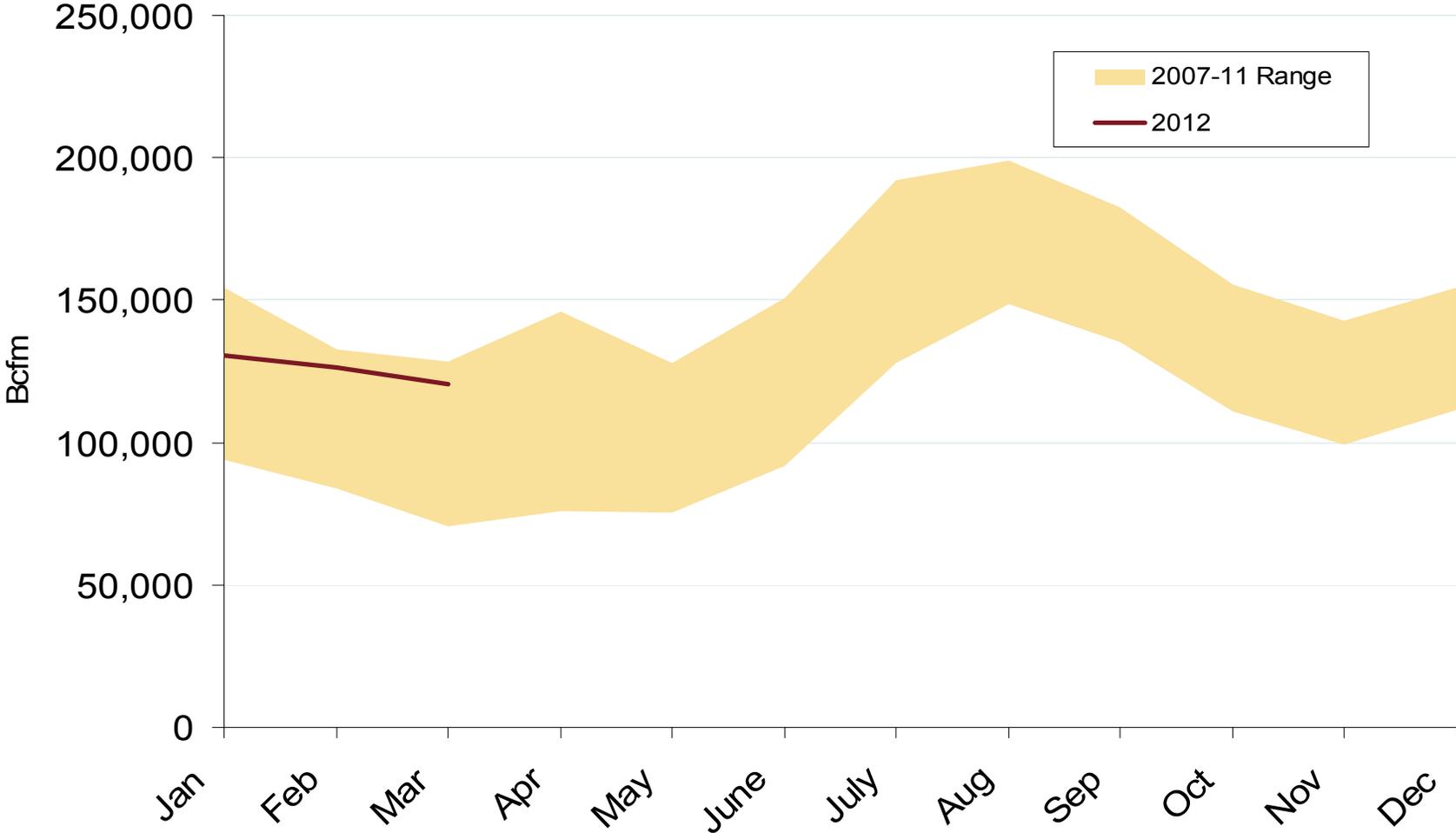


Source: Derived from *Bentek Energy* data
April 2012 Western Snapshot Report

Updated: April 30, 2012

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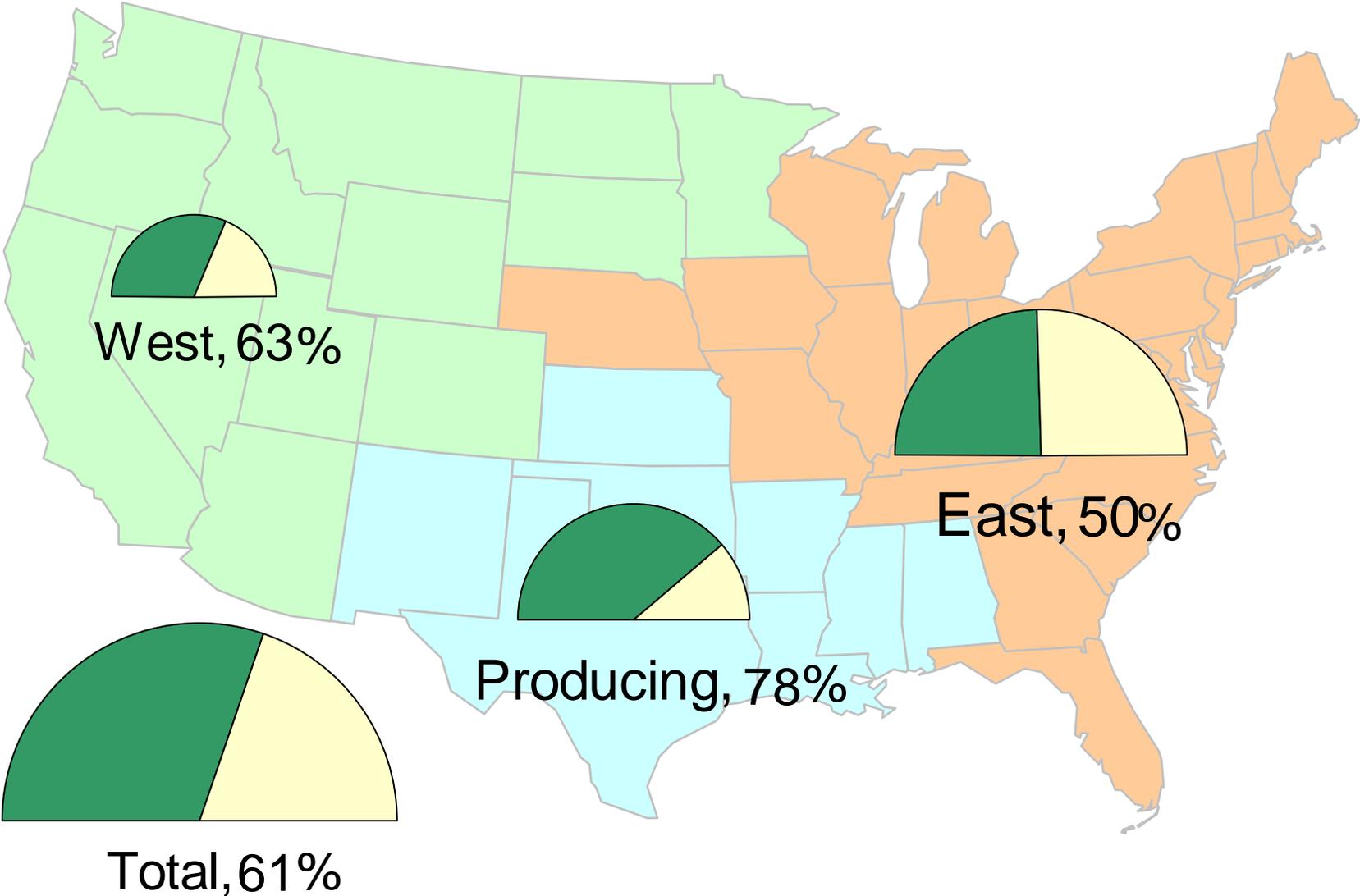
Western Natural Gas Consumption for Power Generation



Source: Derived from *Bentek Energy* data
April 2012 Western Snapshot Report

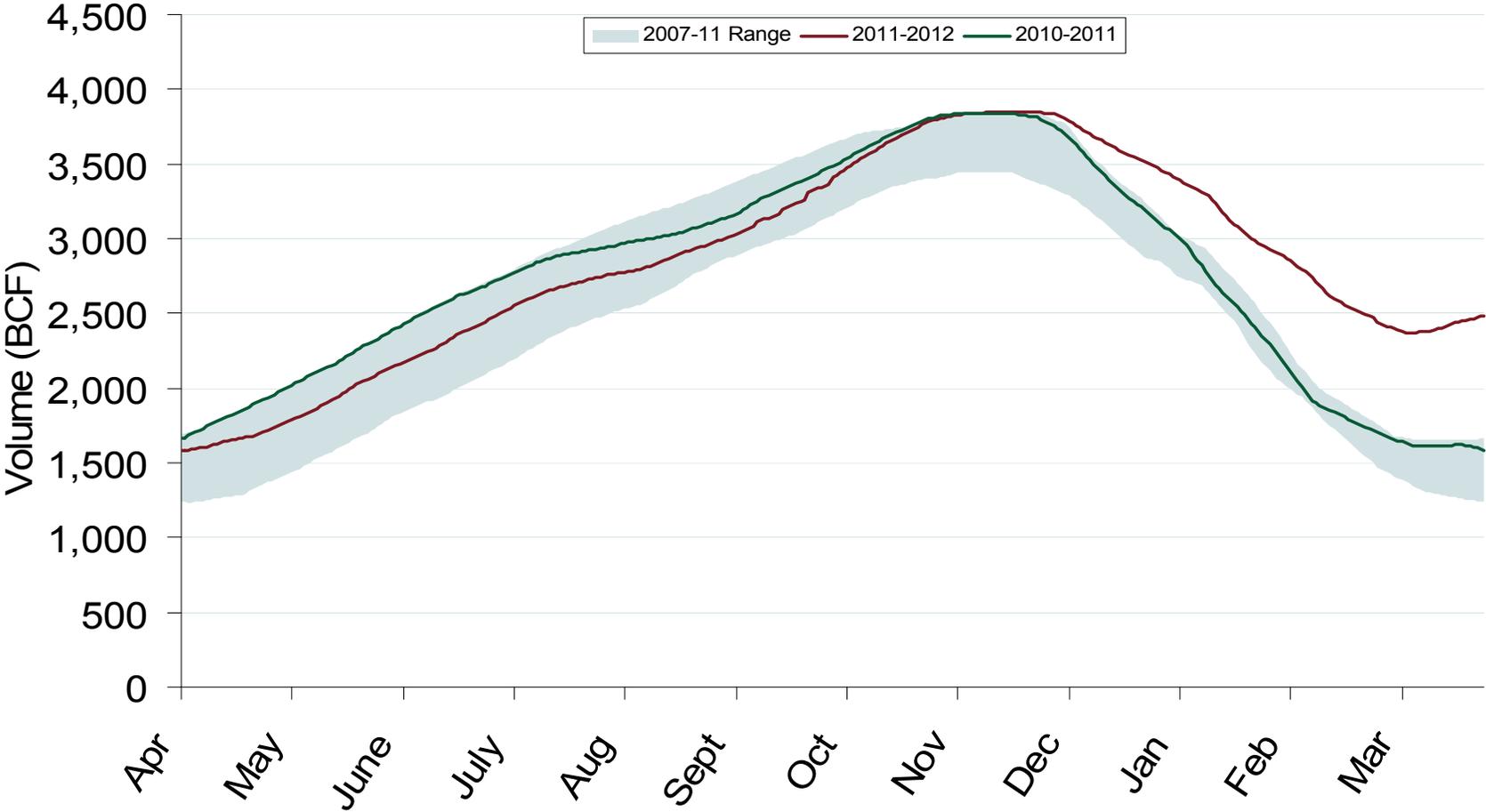
Updated: April 17, 2012

Natural Gas Storage Inventories – April 6, 2012



Source: Derived from EIA Storage and Estimated Working Gas Capacity data
April 2012 Western Snapshot Report

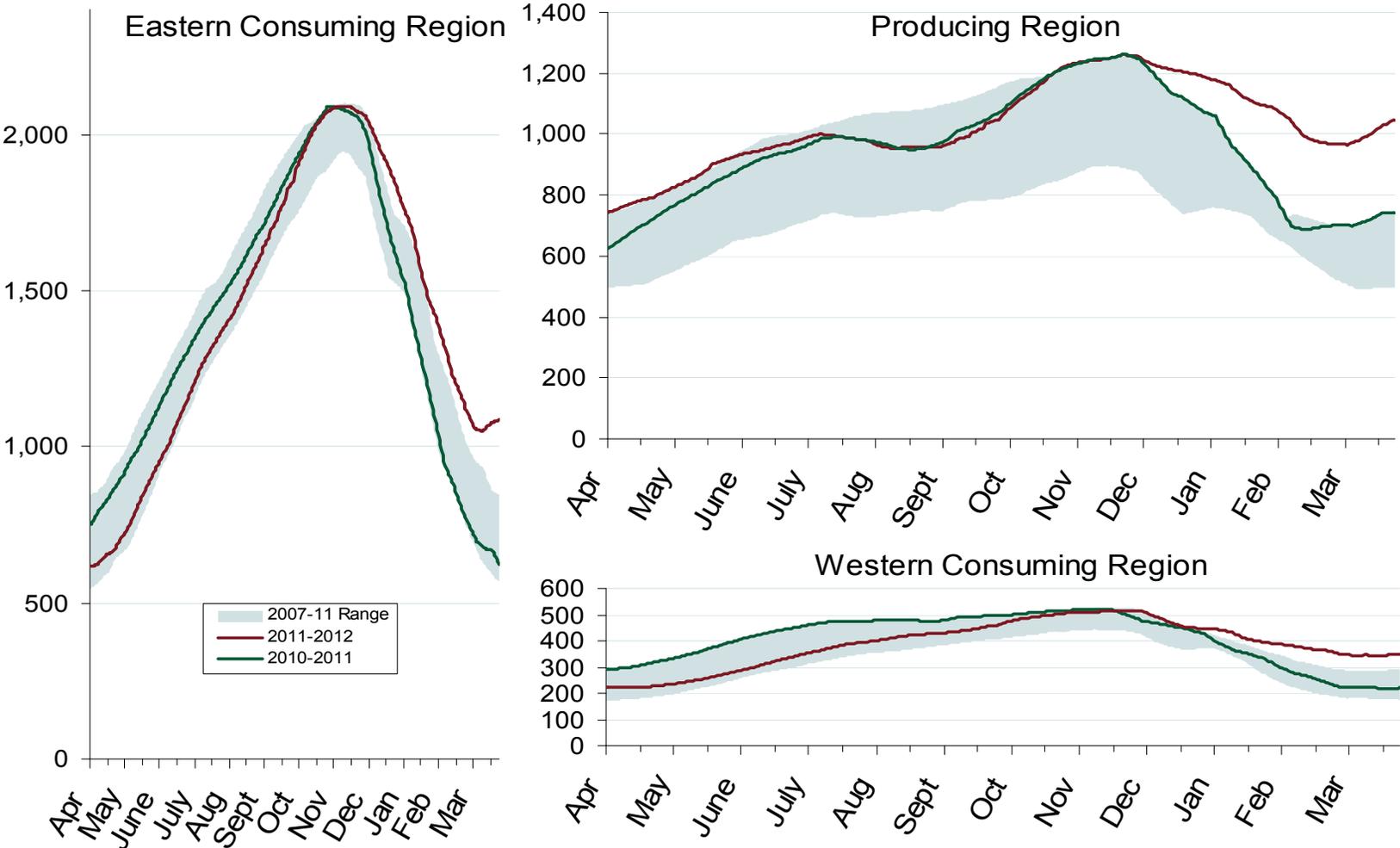
Total U.S. Working Gas in Storage



Source: Derived from EIA data
April 2012 Western Snapshot Report

Updated: April 17, 2012

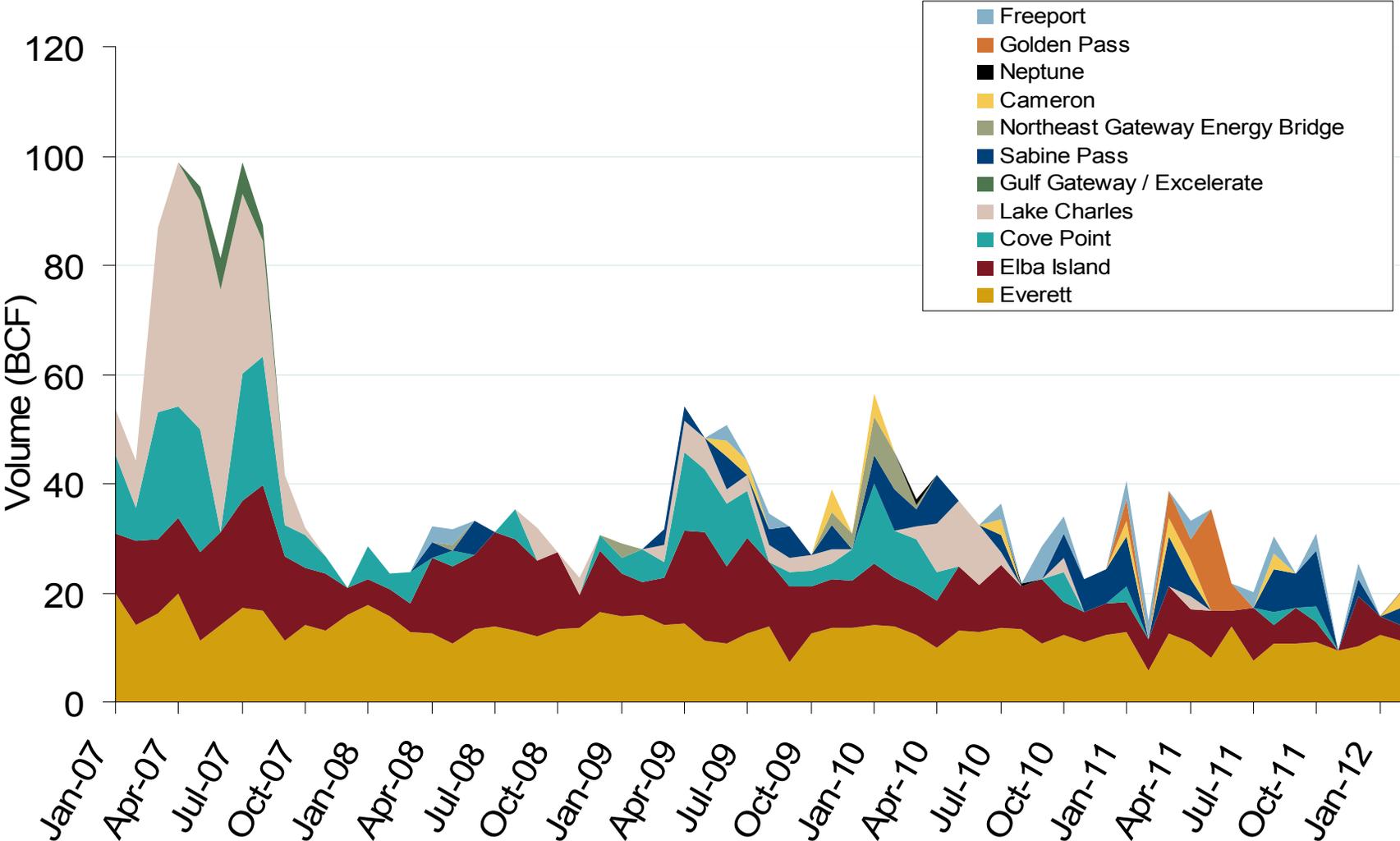
Regional Totals of Working Gas in Storage



Source: Derived from EIA data
April 2012 Western Snapshot Report

Updated: April 17, 2012

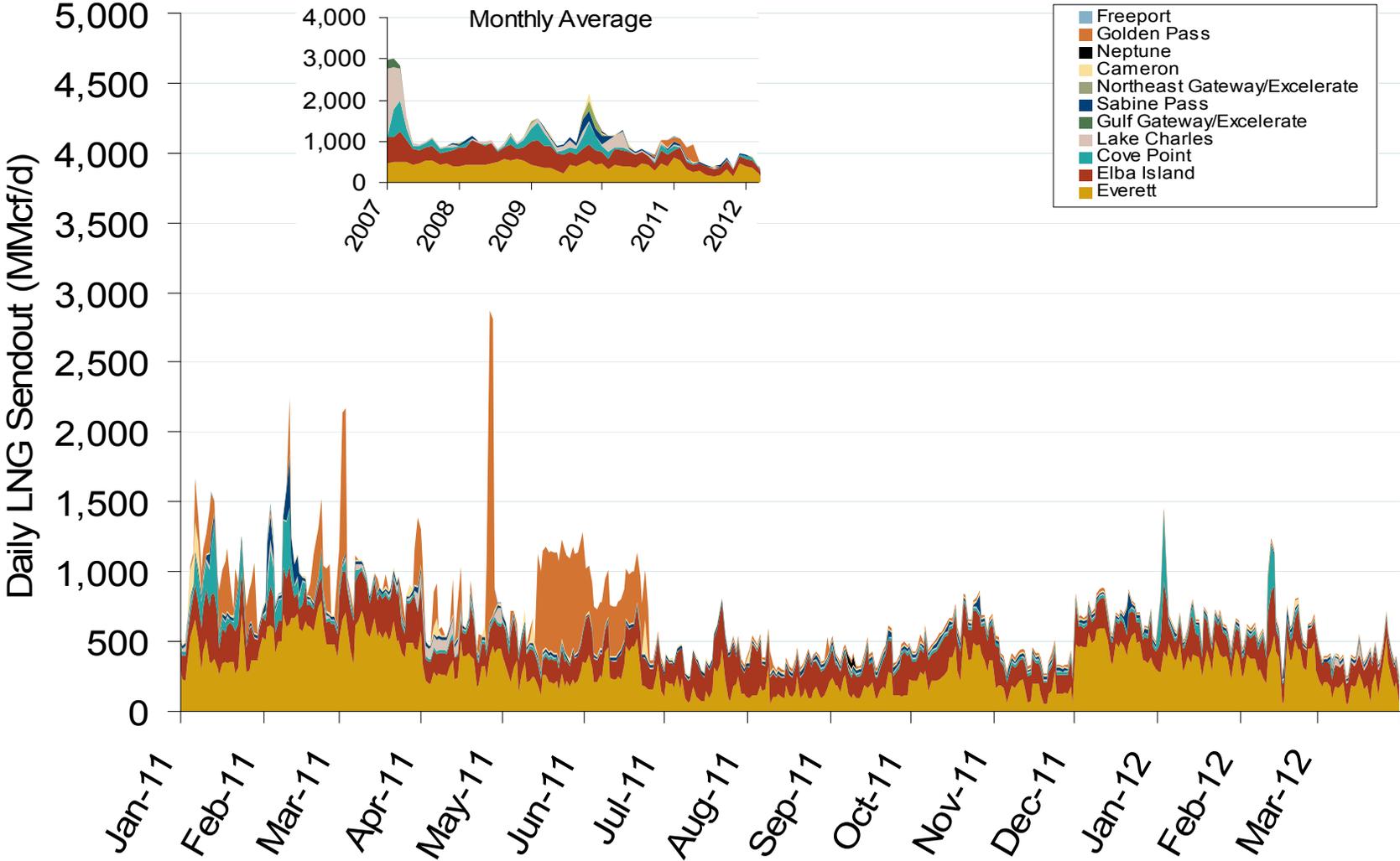
Monthly Gas Imports at Existing U.S. LNG Facilities



Source: Derived from DOE Office of Fossil Energy data
April 2012 Western Snapshot Report

Updated: April 17, 2012

Daily Gas Sendout from Existing U.S. LNG Facilities



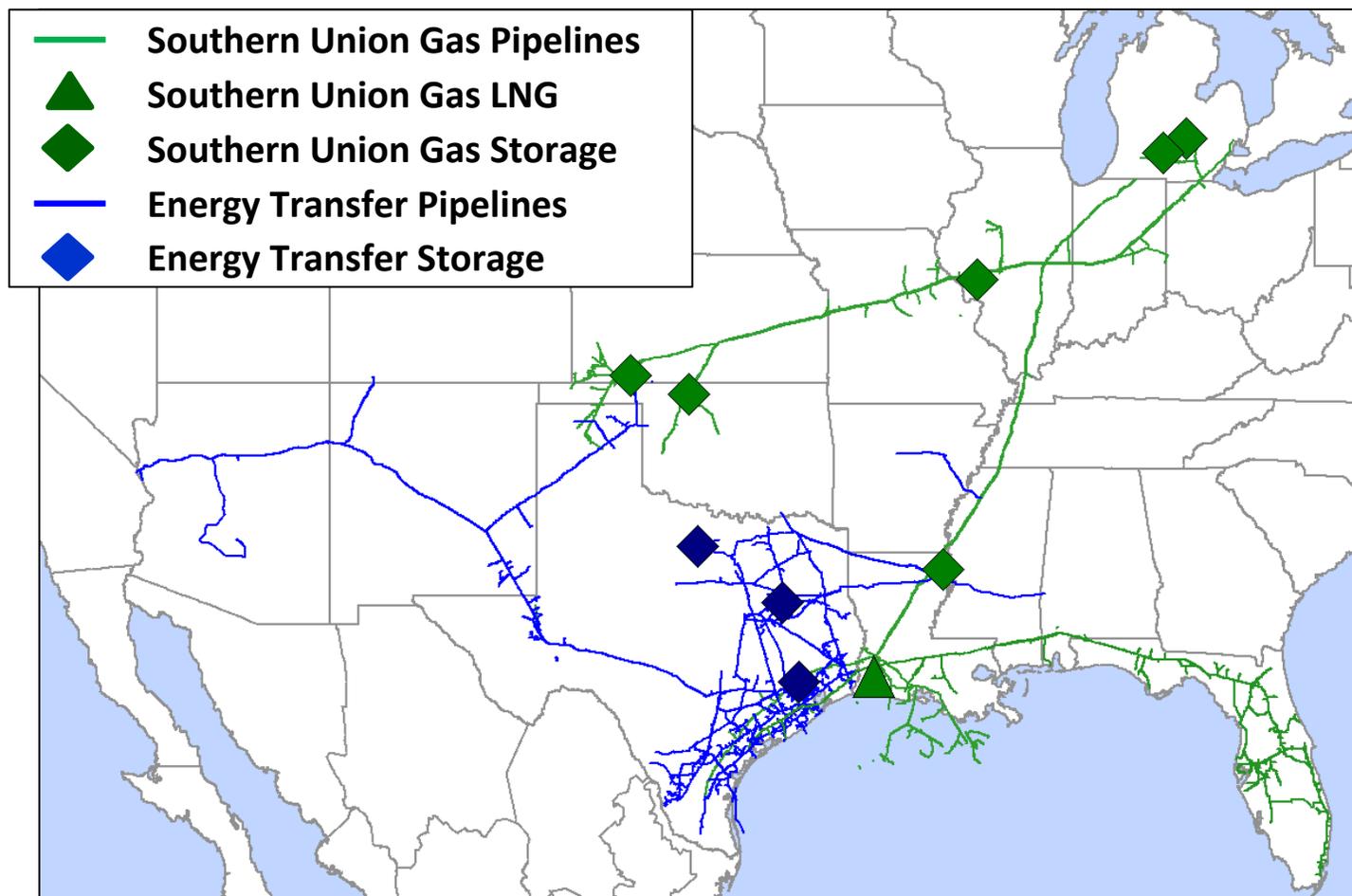
Notes: Everett data includes flows onto the AGT and TGP interstate lines, plus estimates of flows to the Mystic 7 power plant, Keyspan Boston Gas, and LNG trucked out of the terminal. Excludes Freeport LNG which flows via intrastate pipelines

Source: Derived from Bentek Energy data

April 2012 Western Snapshot Report

Updated: April 17, 2012

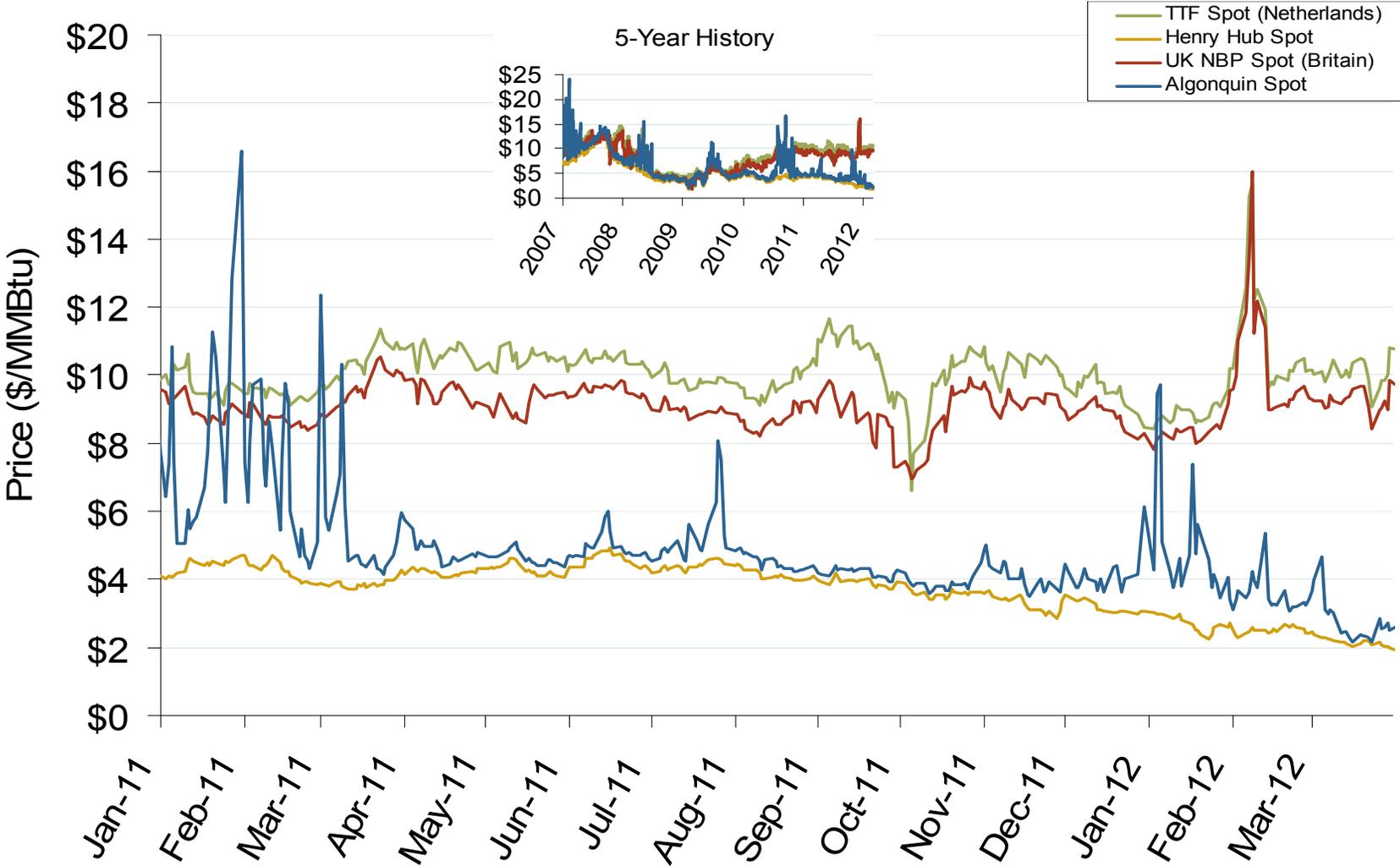
Energy Transfer and Southern Union Merger Creates One of the Largest Midstream Companies



World LNG Estimated May 2012 Landed Prices



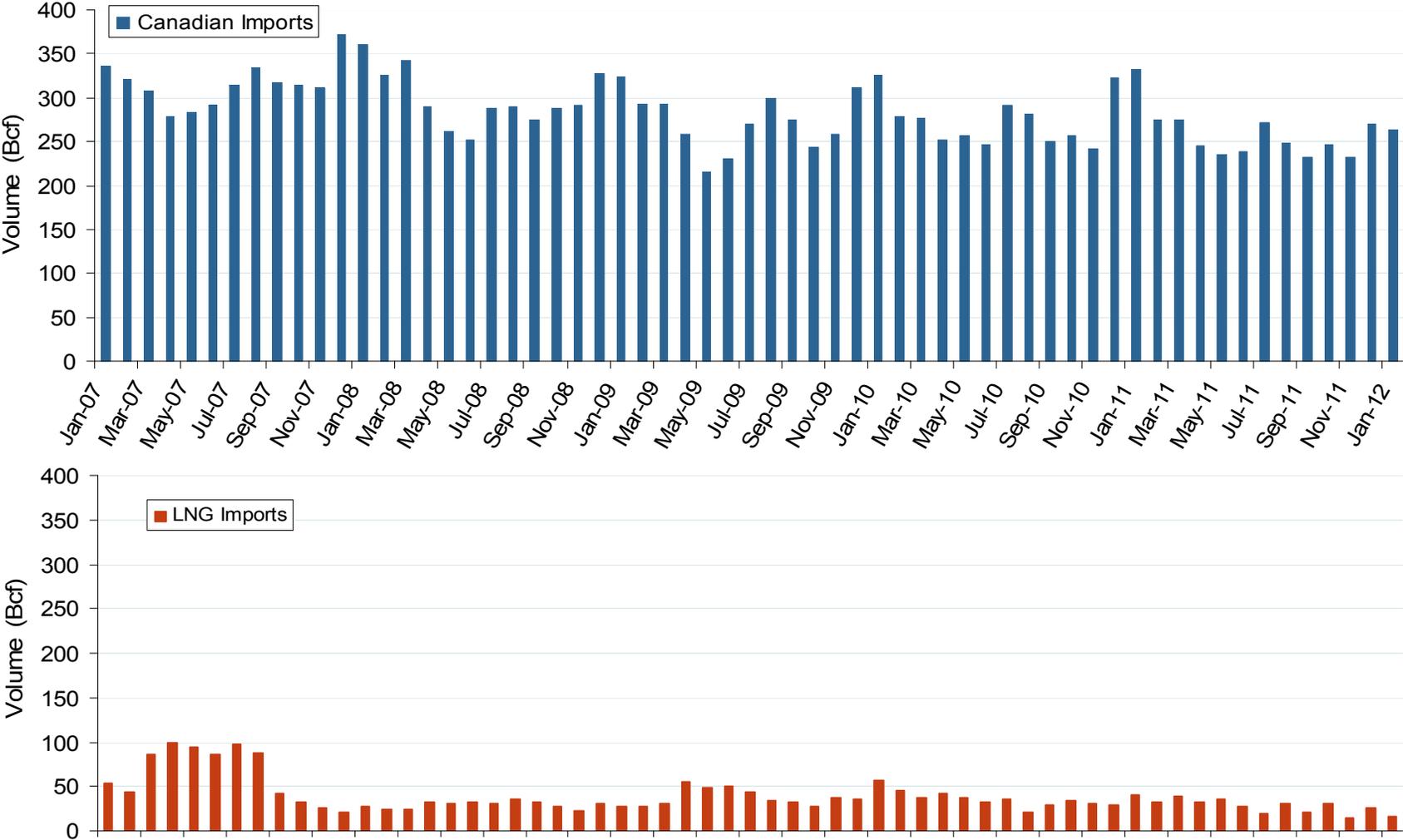
Atlantic Basin European and US Spot Natural Gas Prices



Source: Derived from *Bloomberg* and *ICE* data
April 2012 Western Snapshot Report

Updated: April 18, 2012

Canadian and LNG Natural Gas Imports Into the U.S.

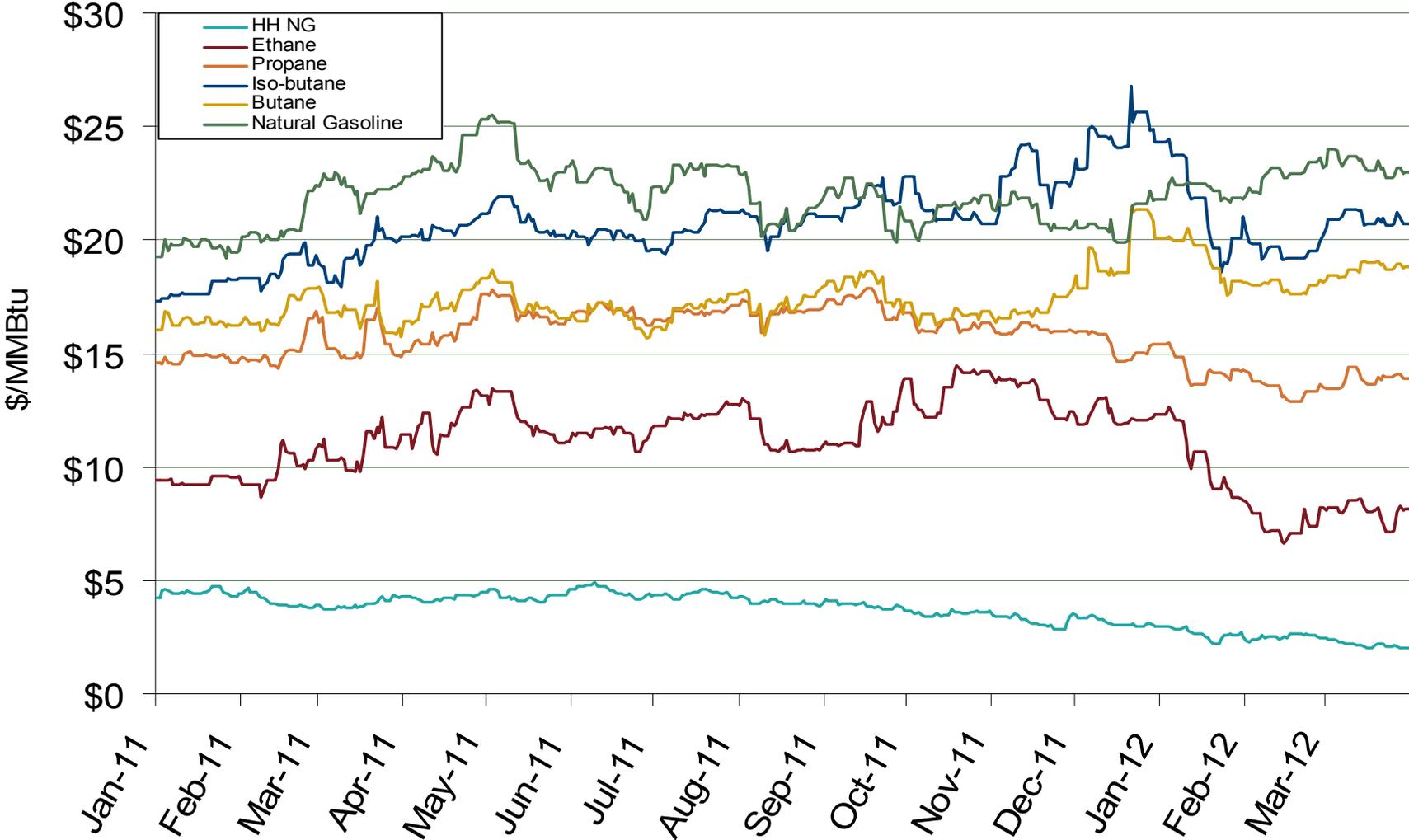


Source: EIA Natural Gas Monthly
April 2012 Western Snapshot Report

Updated: April 17, 2012

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U.S. Natural Gas vs. Natural Gas Liquids (NGL) Prices



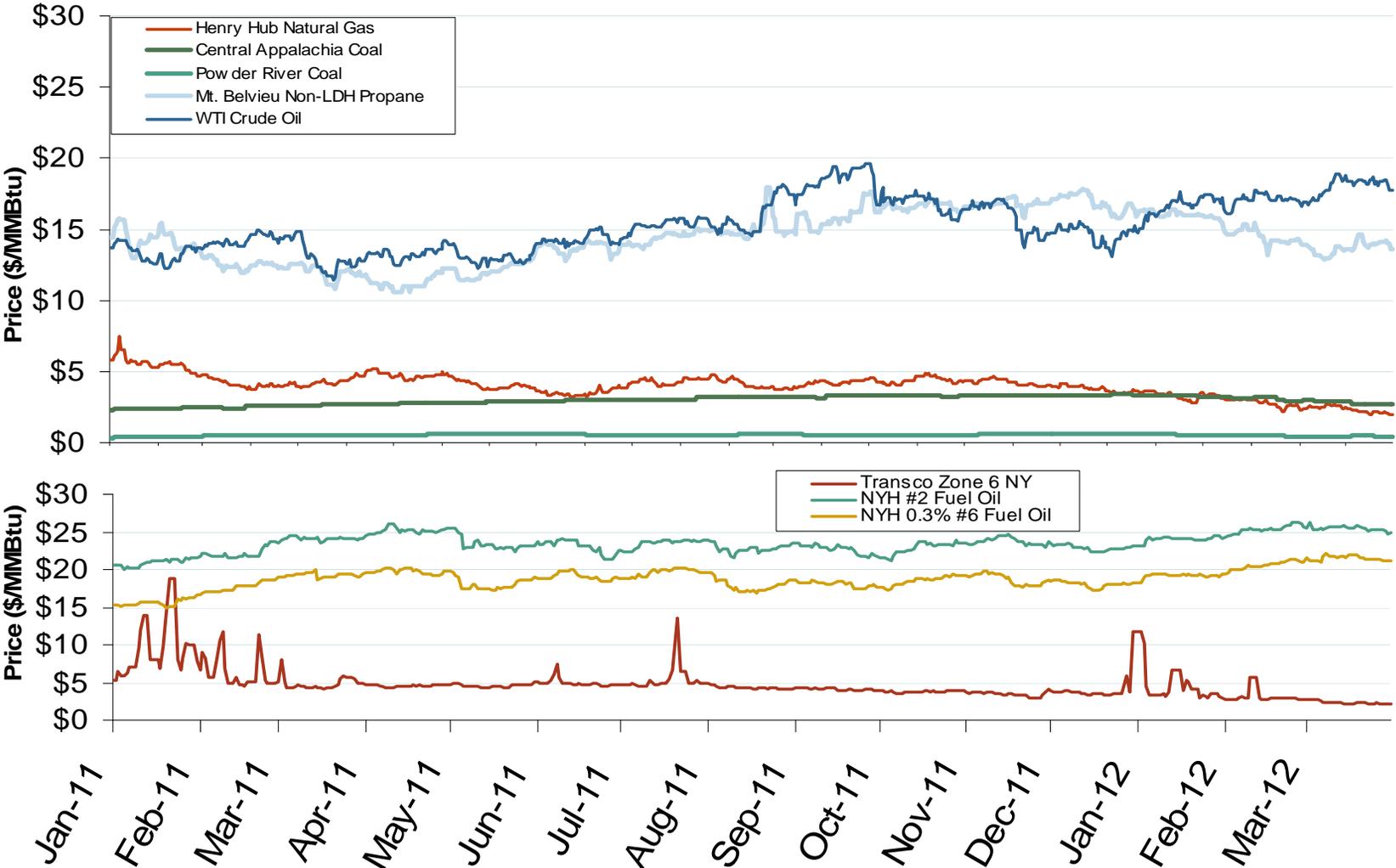
Source: Derived from *Bloomberg* Data
April 2012 Western Snapshot Report

Updated: April 18, 2012

Other Fuels Market: Fossil Fuel Prices

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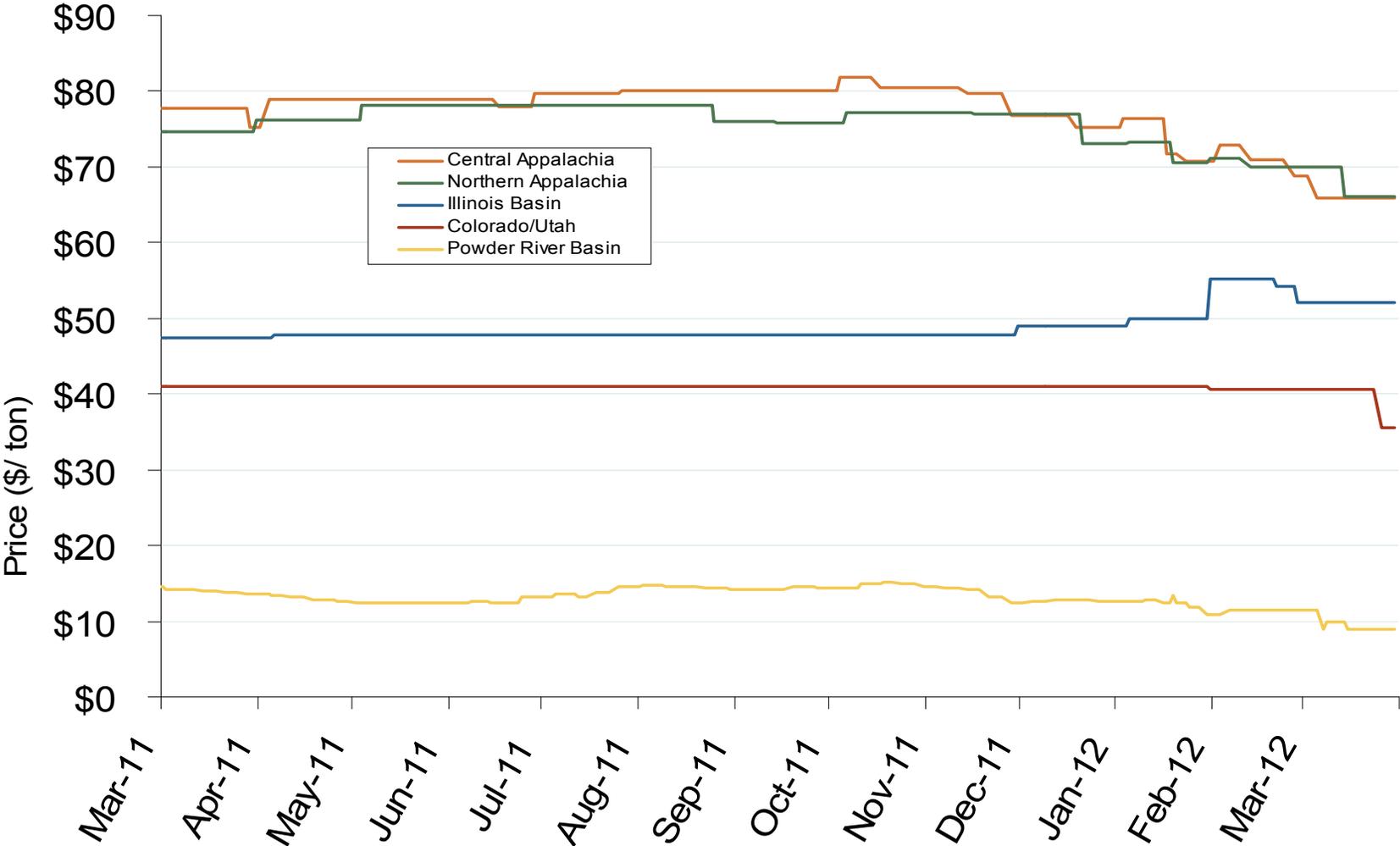
Oil, Coal, Natural Gas and Propane Daily Spot Prices



Notes: 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

Source: Derived from ICE and Bloomberg data

Central Appalachian and Powder River Basin Coal Prices



Notes: 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

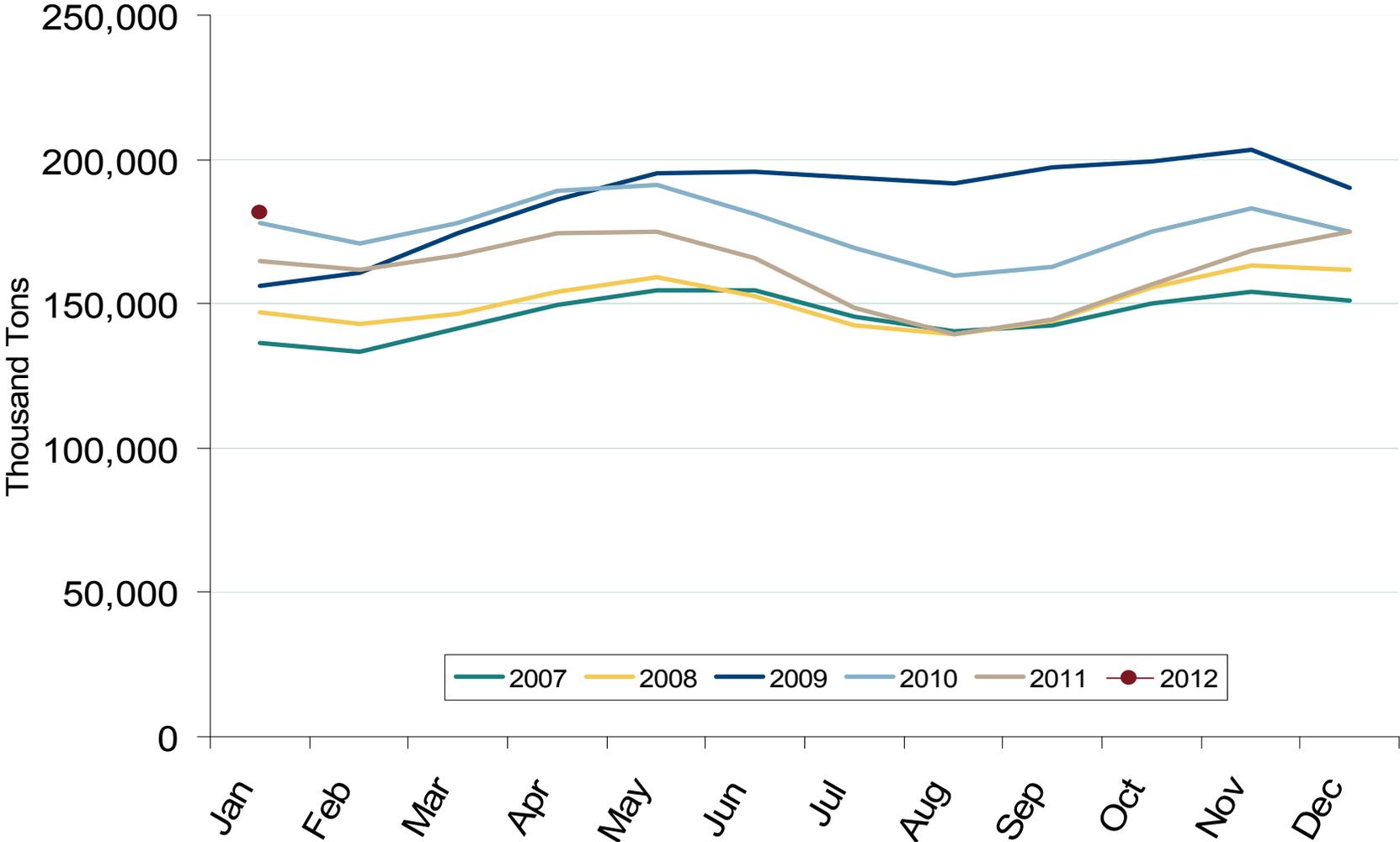
Source: Derived from Bloomberg data

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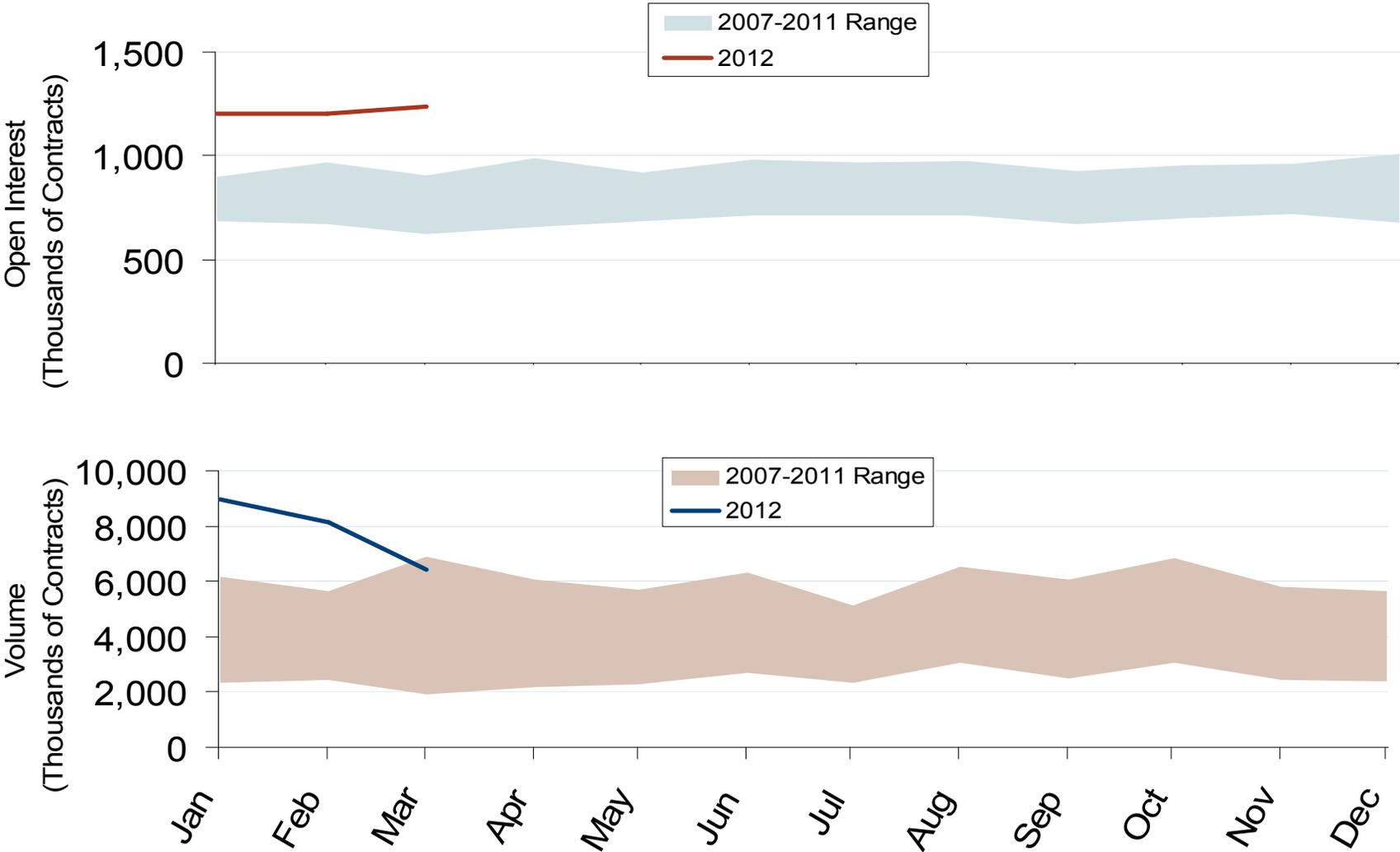
U.S. Coal Stockpiles at Electric Power Generating Facilities



Source: Derived from EIA data. Excludes Industrial and Commercial Plants
April 2012 Western Snapshot Report

Updated: April 17, 2012

Nymex NG Futures Month-End Open Interest and Monthly Volume

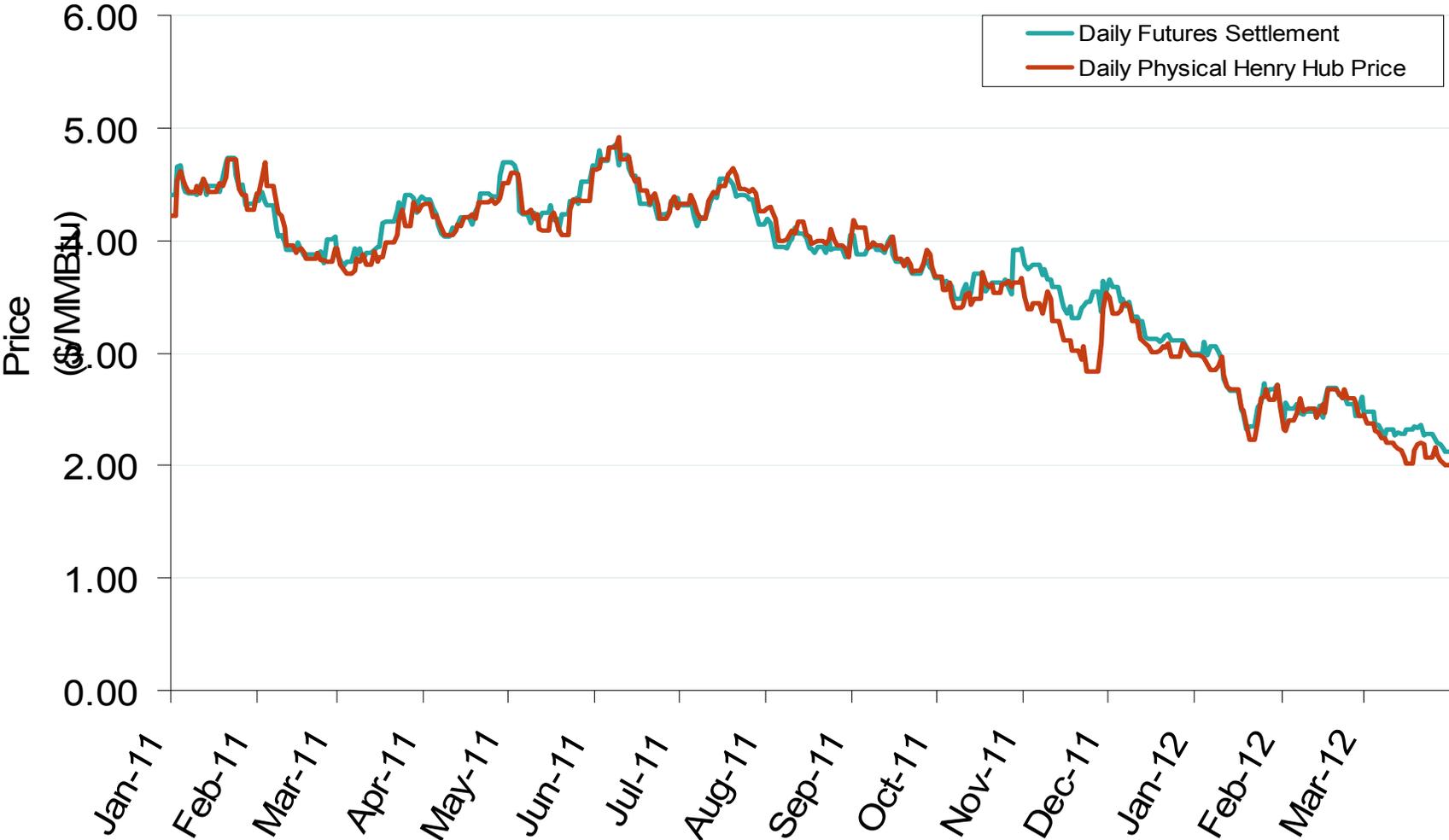


Source: Derived from Nymex data
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Daily Physical Index Price & Daily Futures Settlement Price

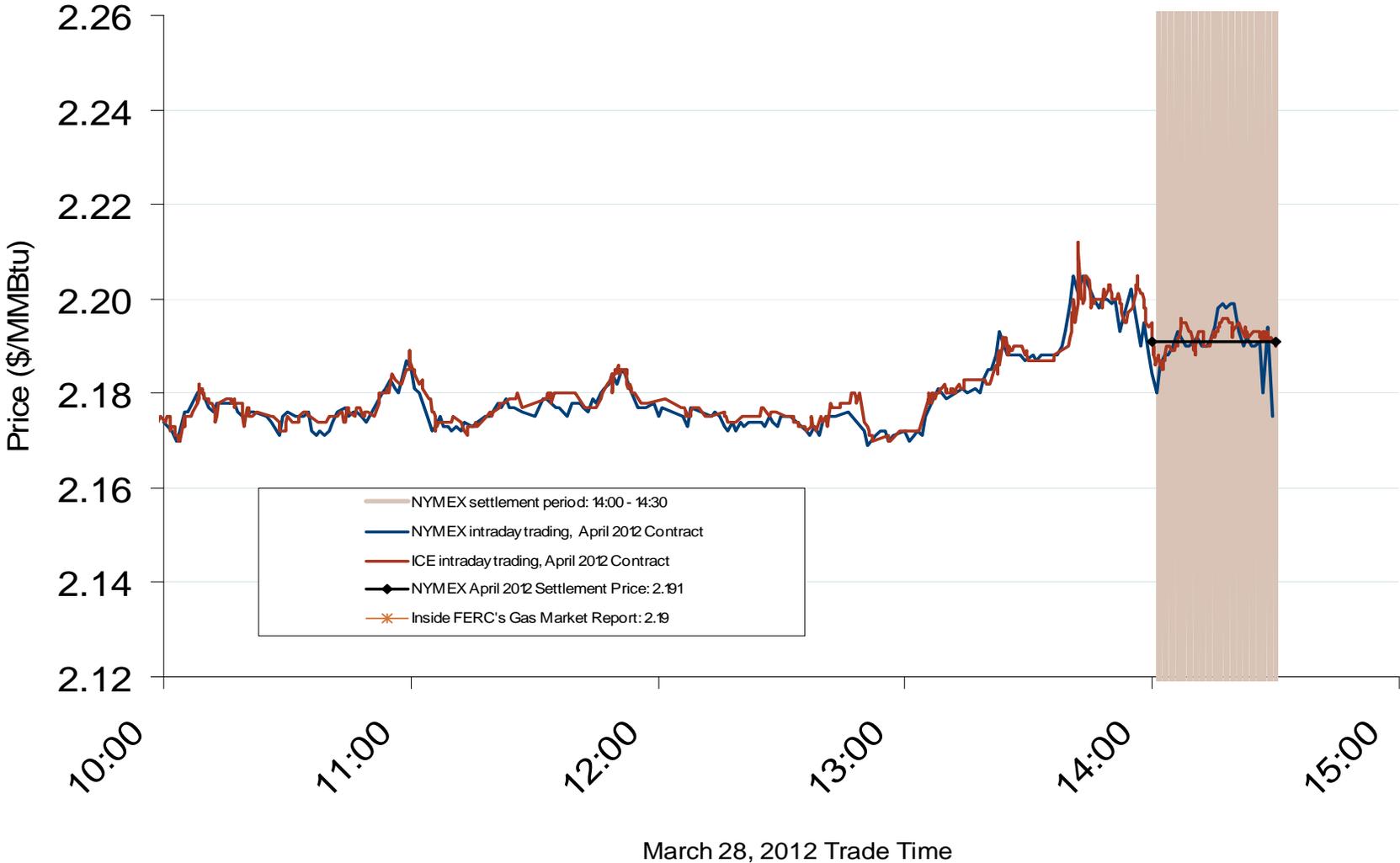


Source: Derived from *Bloomberg* data
April 2012 Western Snapshot Report

Updated: April 18, 2012

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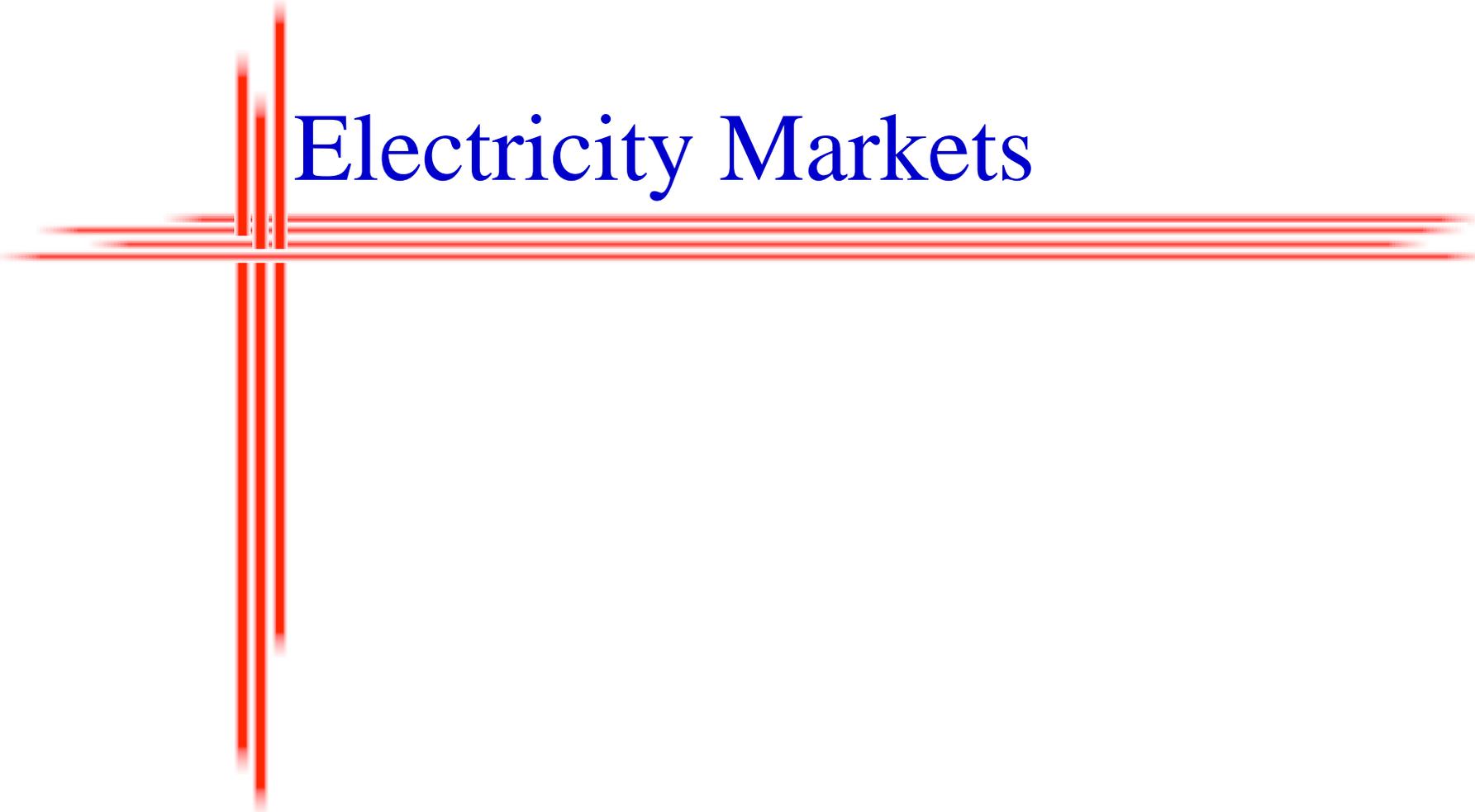
Nymex and ICE Contract Final Settlement - April 2012



Notes: The final settlement day for this Nymex contract is three business days before the start of the contract term (which is the 1st day of the month)

Source: Derived from *Nymex* and *ICE* data
April 2012 Western Snapshot Report

Updated: April 19, 2012

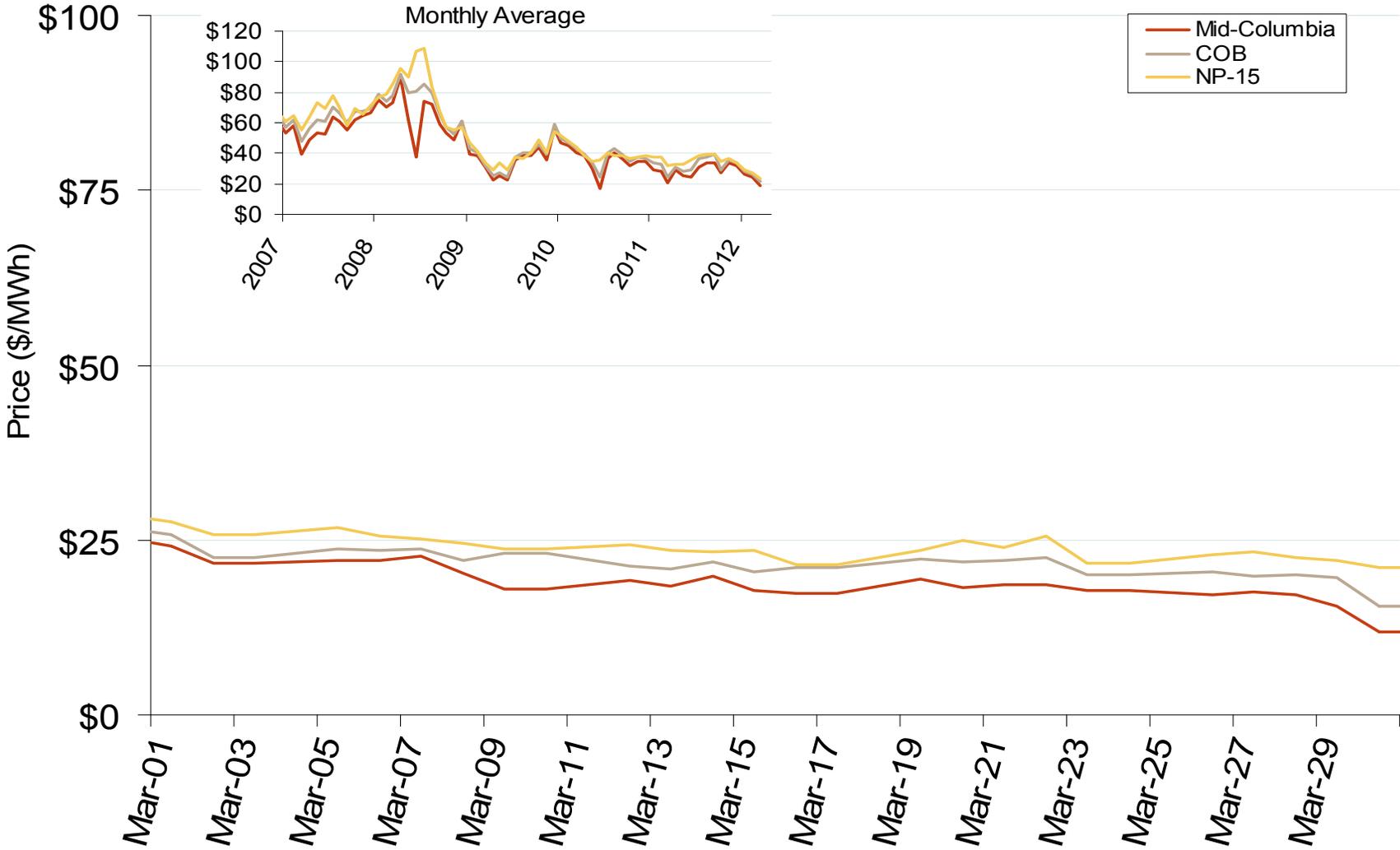


Electricity Markets

Northwest Electric Market: Last Month's Northwestern Index Prices

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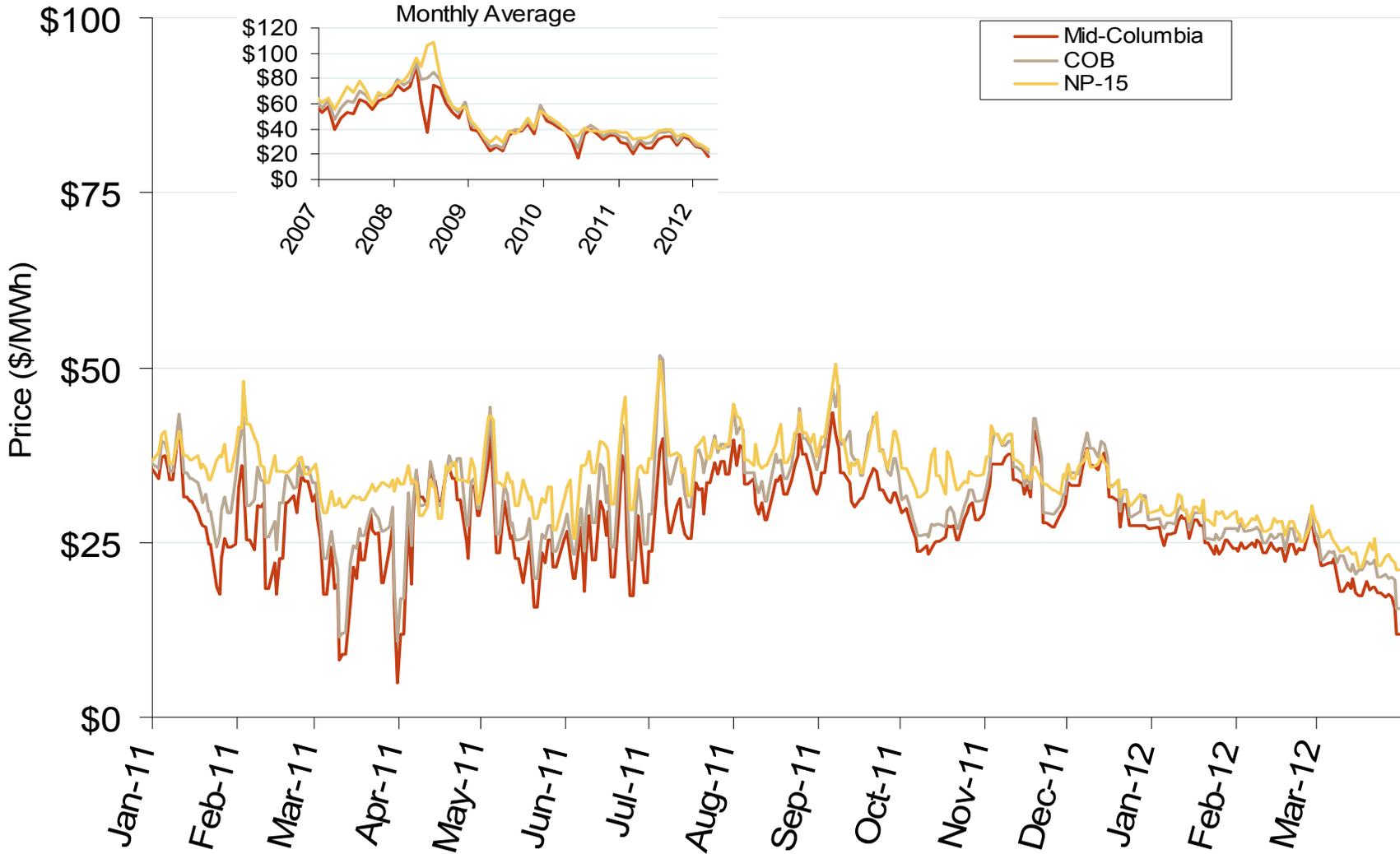
Northwestern Daily Index Day-Ahead On-Peak Prices



Source: Derived from *Platts* data
April 2012 Western Snapshot Report

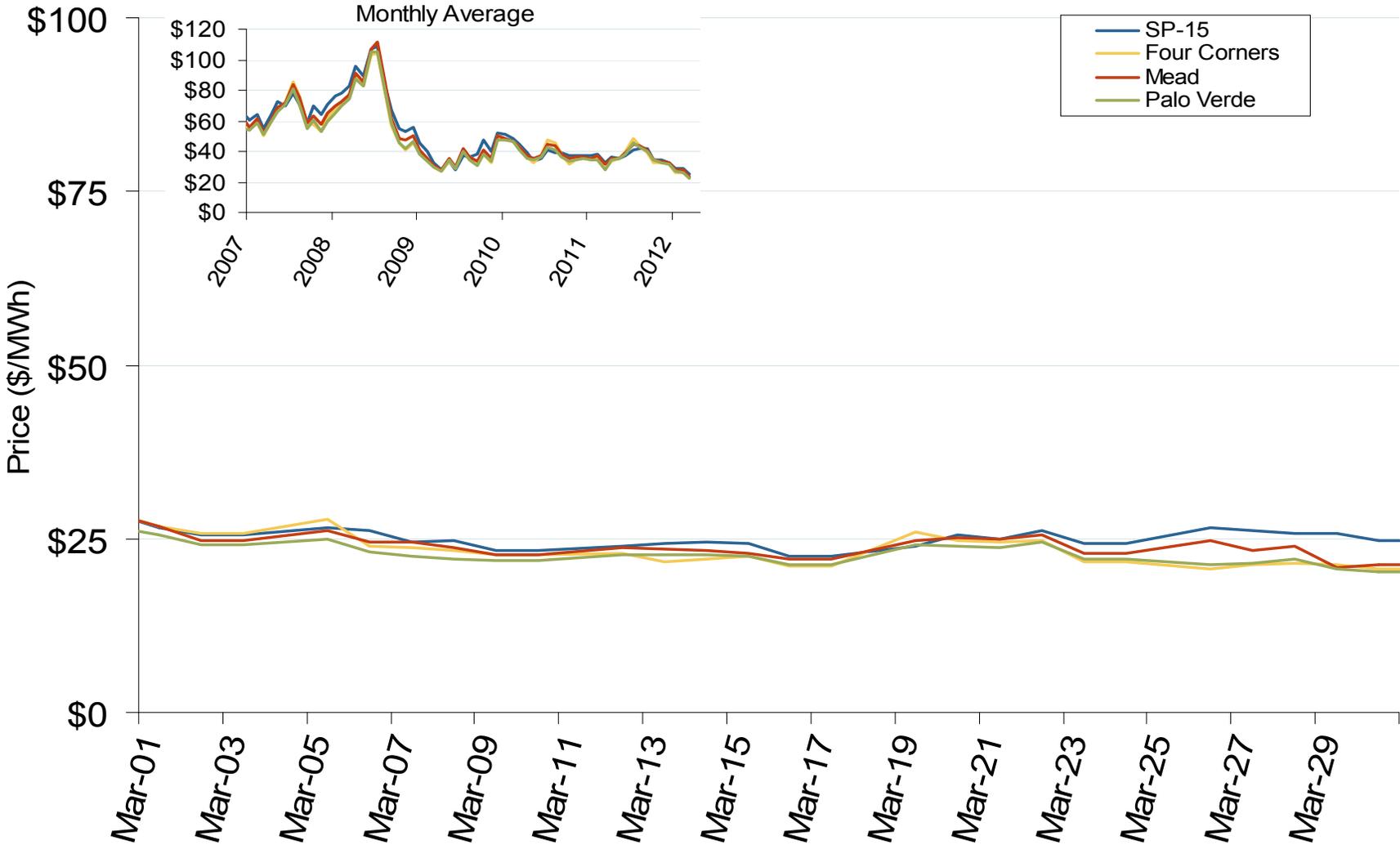
Updated: April 06, 2012

Northwestern Daily Index Day-Ahead On-Peak Prices



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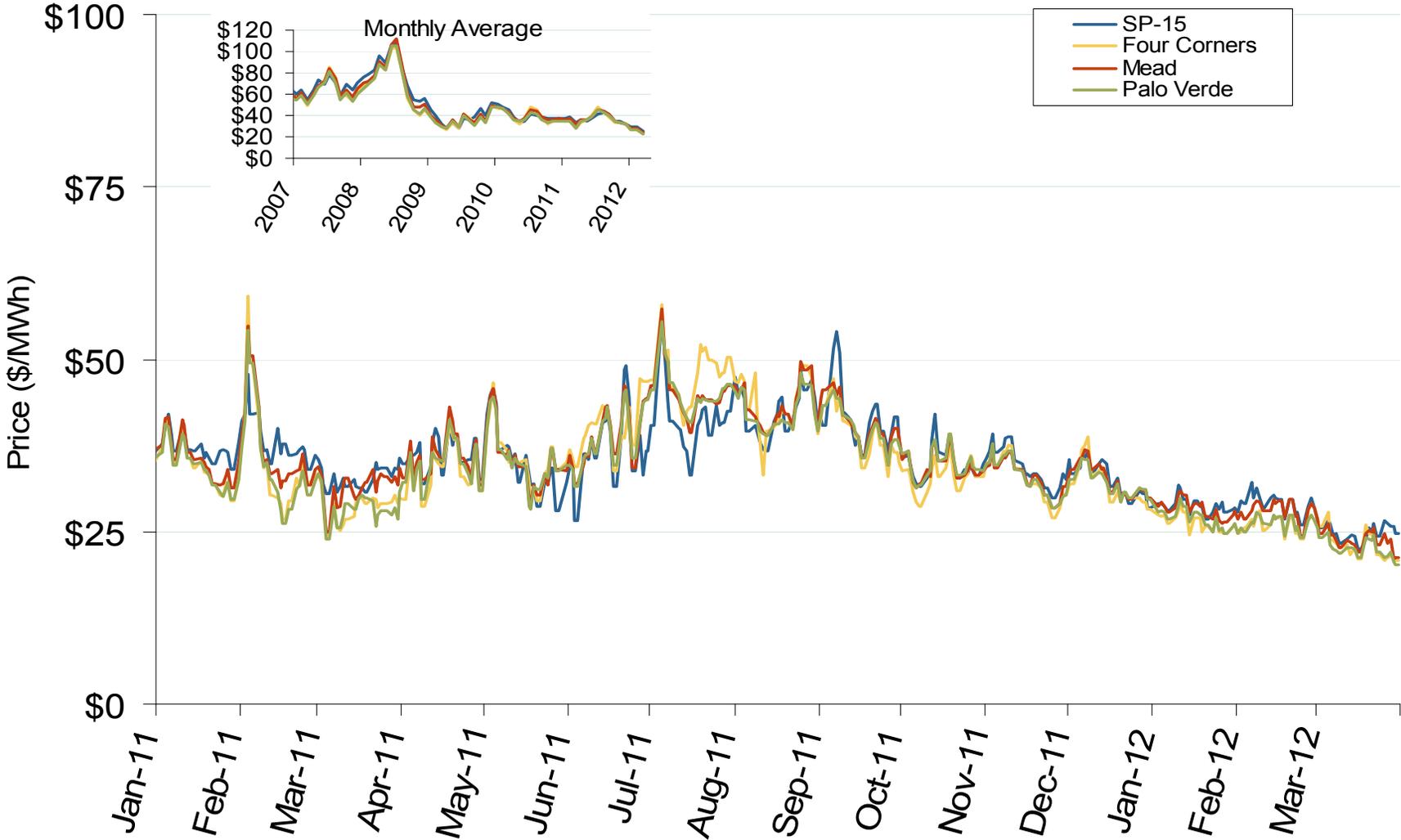
Southwestern Daily Index Day-Ahead On-Peak Prices



Source: Derived from *Platts* data
April 2012 Western Snapshot Report

Updated: April 06, 2012

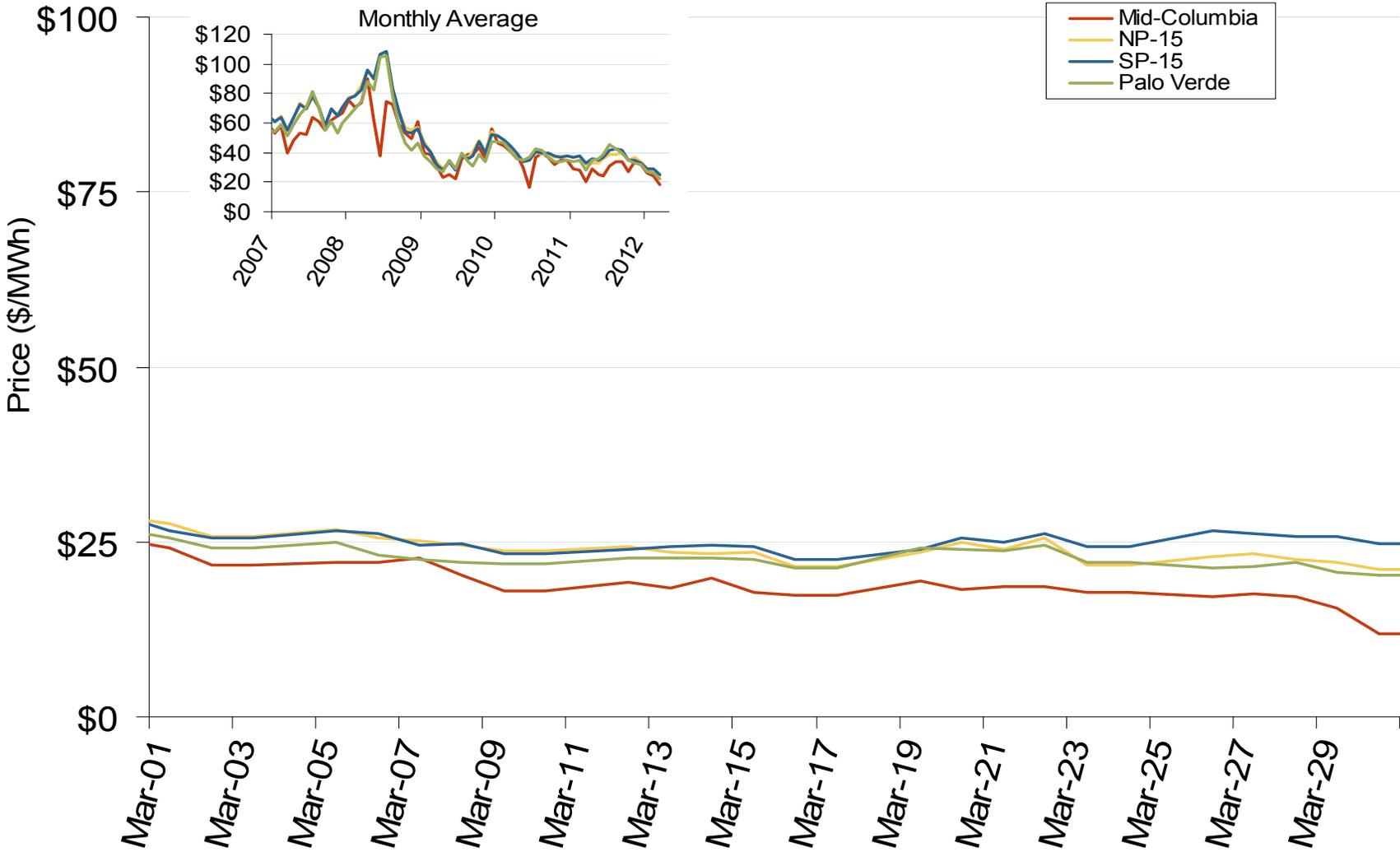
Southwestern Daily Index Day-Ahead On-Peak Prices



Source: Derived from *Platts* data
April 2012 Western Snapshot Report

Updated: April 06, 2012

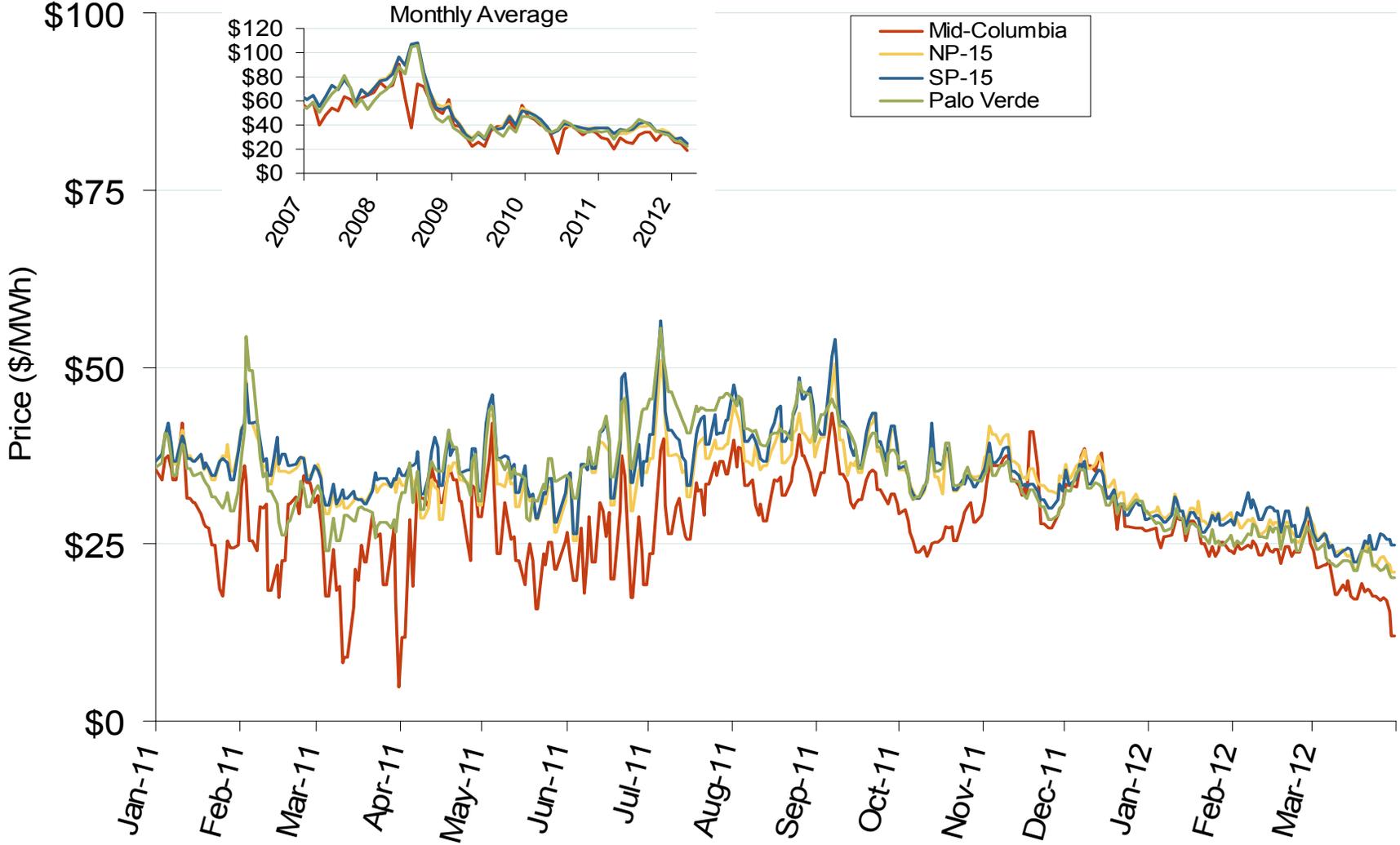
Western Daily Index Day-Ahead On-Peak Prices



Source: Derived from *Platts* data
April 2012 Western Snapshot Report

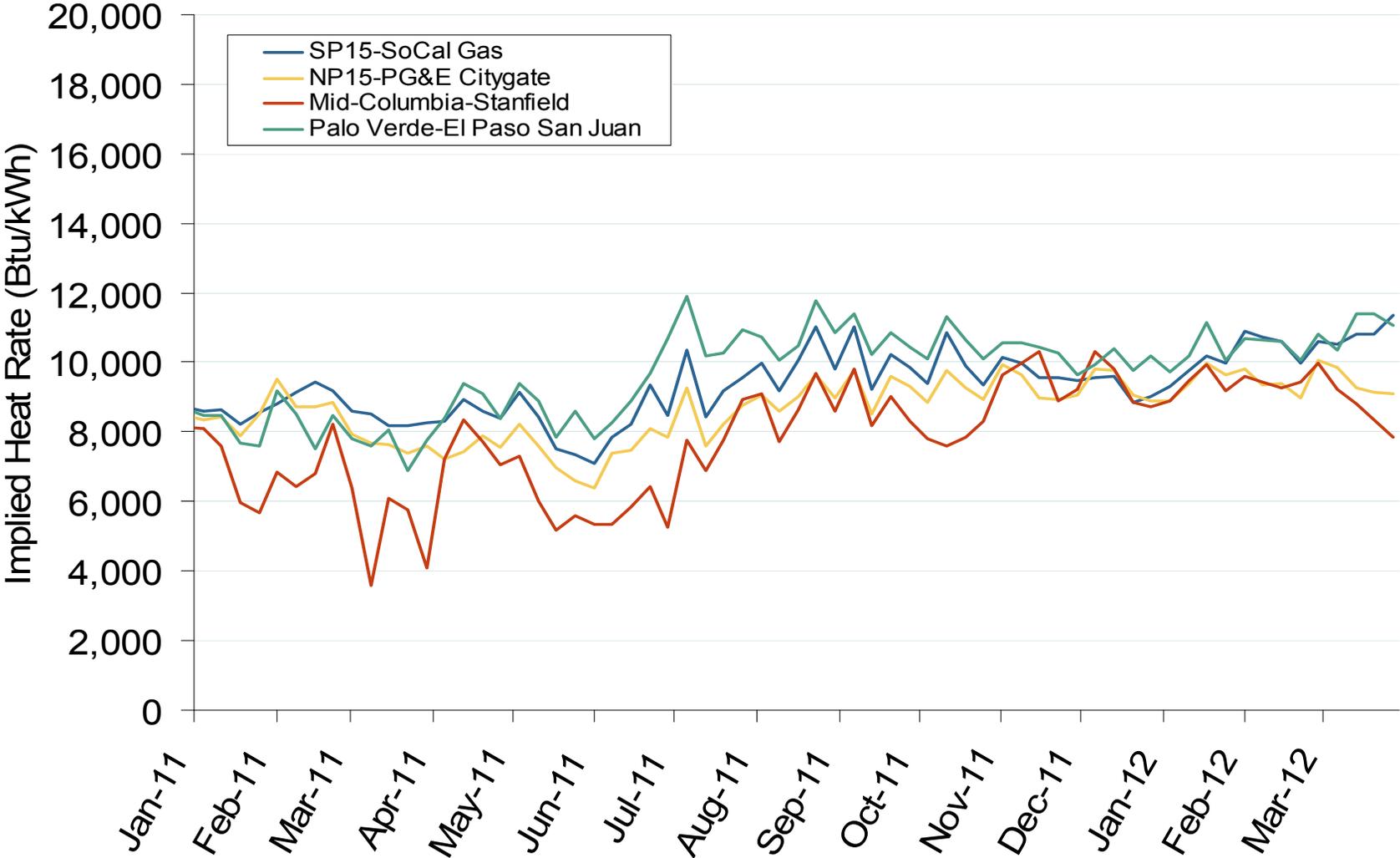
Updated: April 06, 2012

Western Daily Index Day-Ahead On-Peak Prices



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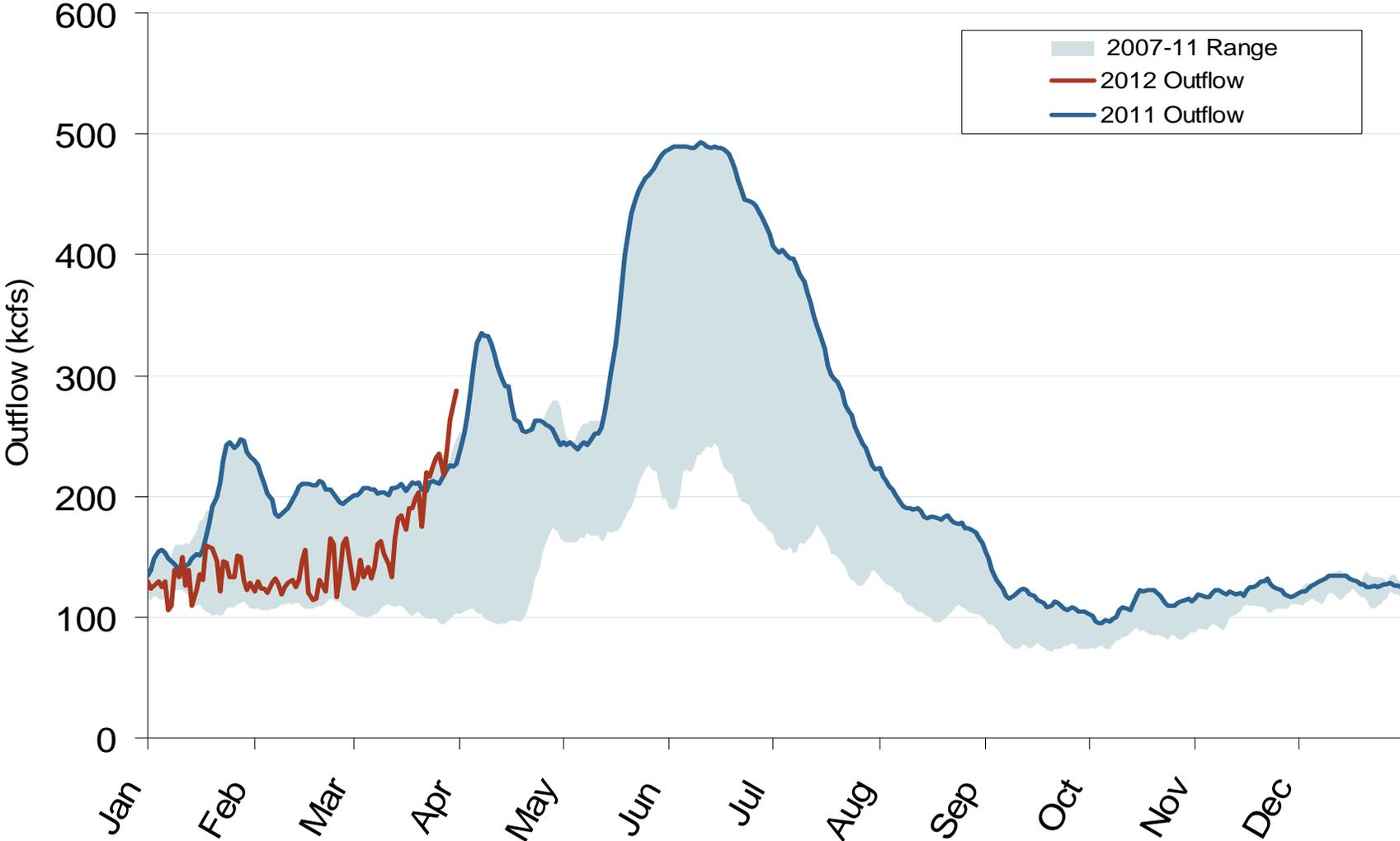
Implied Heat Rates at Western Trading Points - Weekly Avgs.



Source: Derived from *Platts* on-peak electric and natural gas price data
April 2012 Western Snapshot Report

Updated: April 06, 2012

Stream Flows at the Dalles Dam



Notes: Trend lines are 7-day moving averages

Source: Derived from USACE data

April 2012 Western Snapshot Report

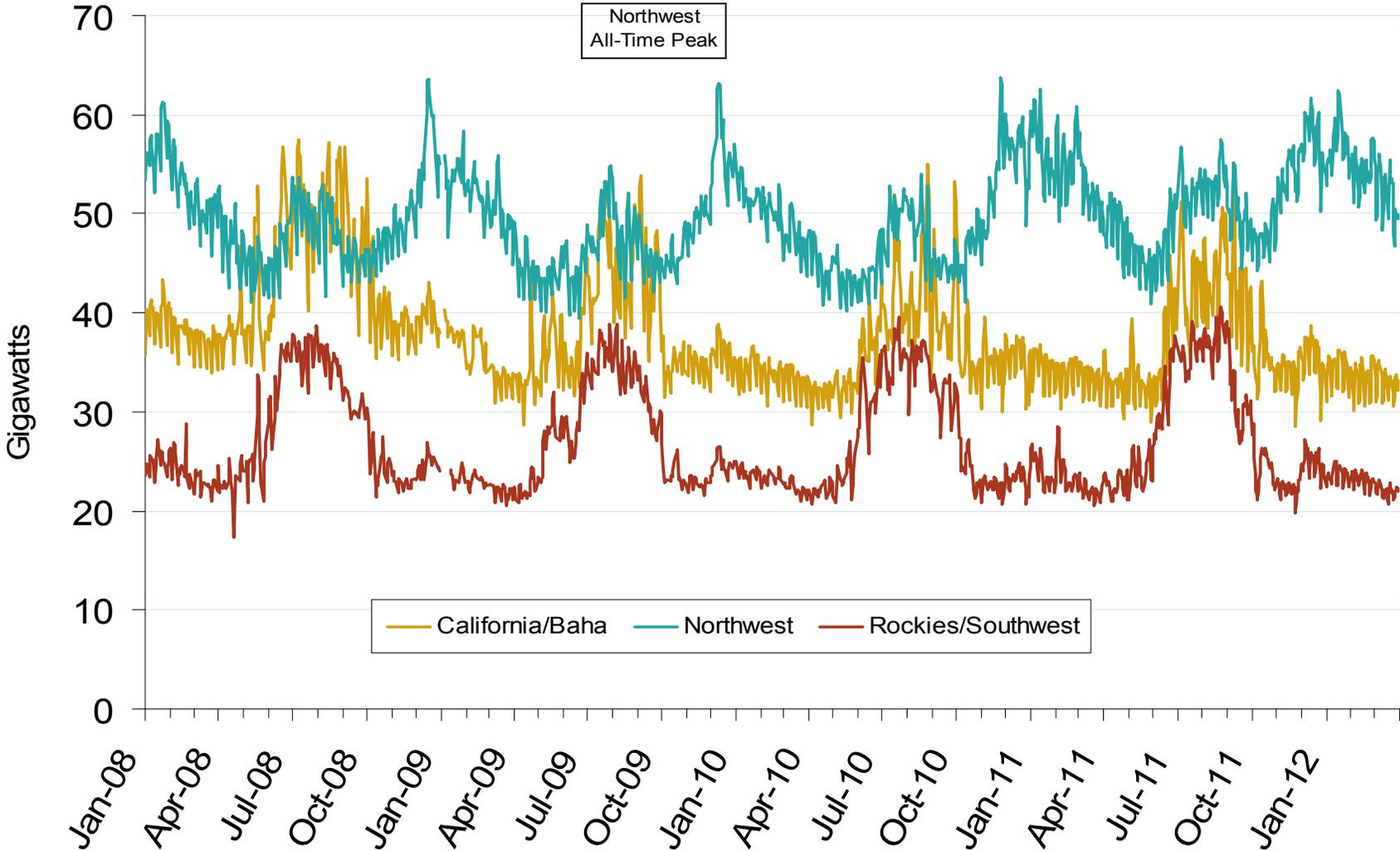
Updated: April 12, 2012

Pacific/Northwest Hydro and Snowpack Levels

	Hydro Generation		Snow Water Equivalent ³		
	In-State Capacity (MW ¹)	Additional Capacity Created Downstream (MW ²)	One Year Ago (3/30/11) (% of historical average)	Current (4/2/2012) (% of historical average)	% Change from One Year Ago
Washington	21,500	0	112%	122%	9%
Oregon	9,100	0	130%	86%	-34%
California	10,400	0	166%	59%	-64%
Idaho	2,700	19,700	116%	86%	-26%
Montana	2,700	16,200	119%	98%	-21%
British Columbia	10,000	16,200	106%	117%	11%

- ¹ Net summer capacity in megawatts by state (EIA).
- ² Approximate electric capacity created by water flow through the downstream states (EIA and BPA). The capacity estimates reflect the water flow pattern of the series of hydro facilities on the Snake and Columbia Rivers.
- ³ Snow Water Equivalent, in percent of the historical average for the same date, is the ratio of current snow water daily data (collected by the Natural Resources Conservation Services' Snowtel Telemetry sites) compared to the average snow water for the same day between 1961-1990. Total Hydro Capacity figures by state do not tie precisely to Snow Water Equivalent data due to such factors as snow basin terrain and complex distribution of run-off to neighboring state hydroelectric dams or shared facilities (e.g., Columbia River hydroelectric dams on the border of Washington and Oregon) (Bloomberg, California Dept. of Water Resource and Government of British Columbia Ministry of Environment).

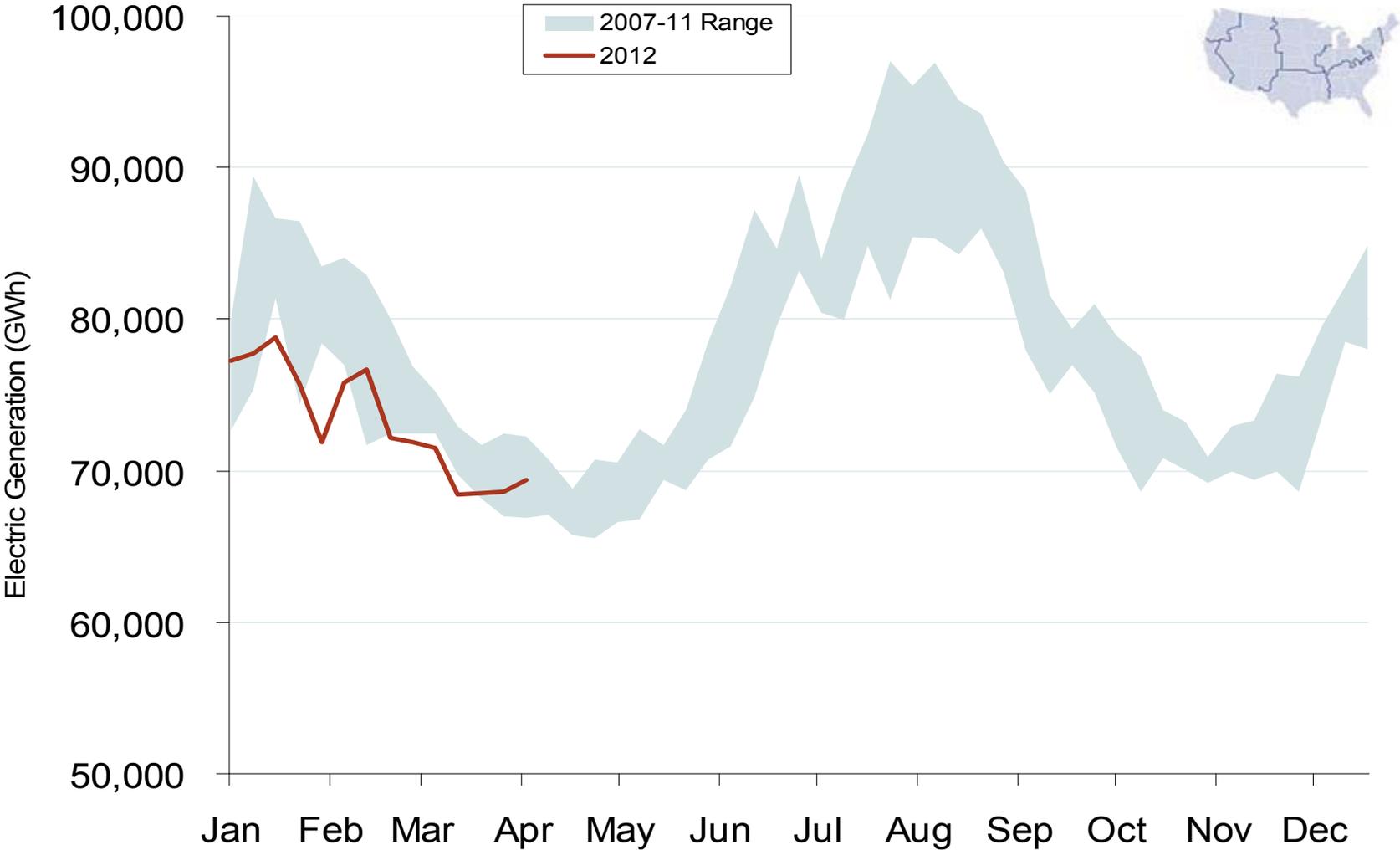
Western Daily Actual Peak Demand



Notes: Data prior to 9/14/2010 does not include weekends and holidays. Some data for 12/31/2008 – 1/9/2009 are not available from WECC

Source: Derived from WECC Daily Report data available at <http://wecc.biz>

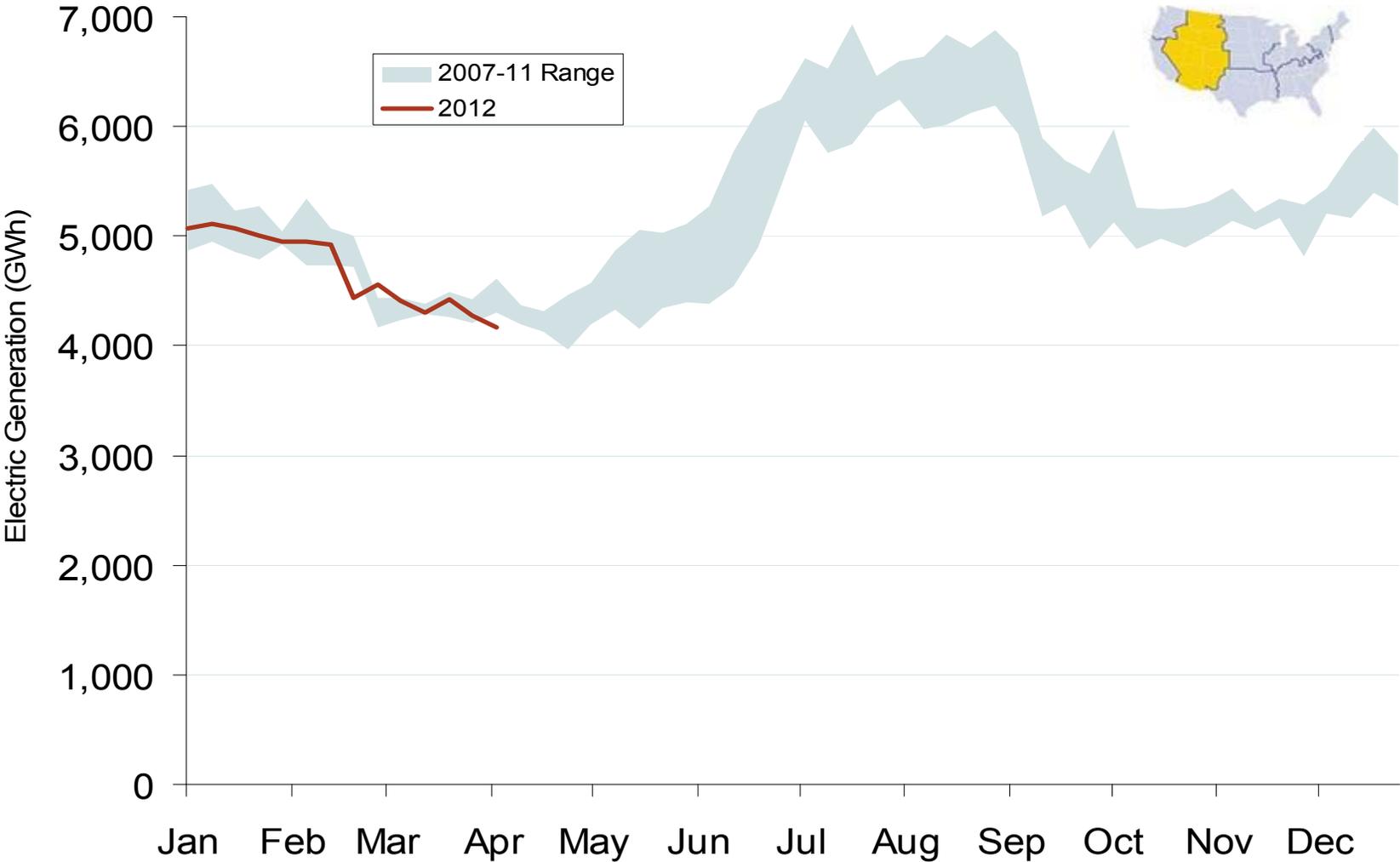
Weekly U.S. Electric Generation Output



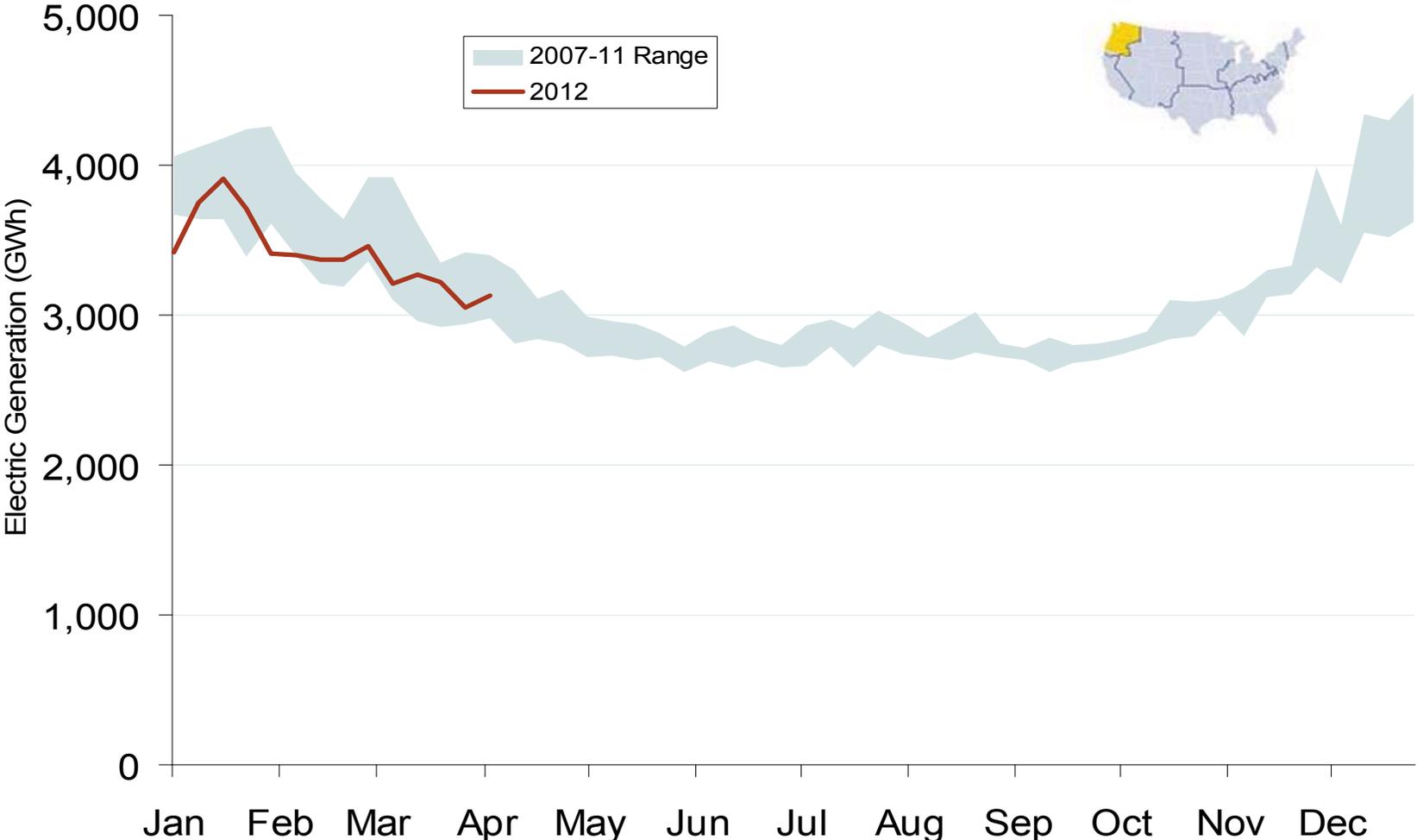
Source: Derived from *EEI* data
April 2012 Western Snapshot Report

Updated: April 19, 2012

Weekly Generation Output - Rocky Mountains



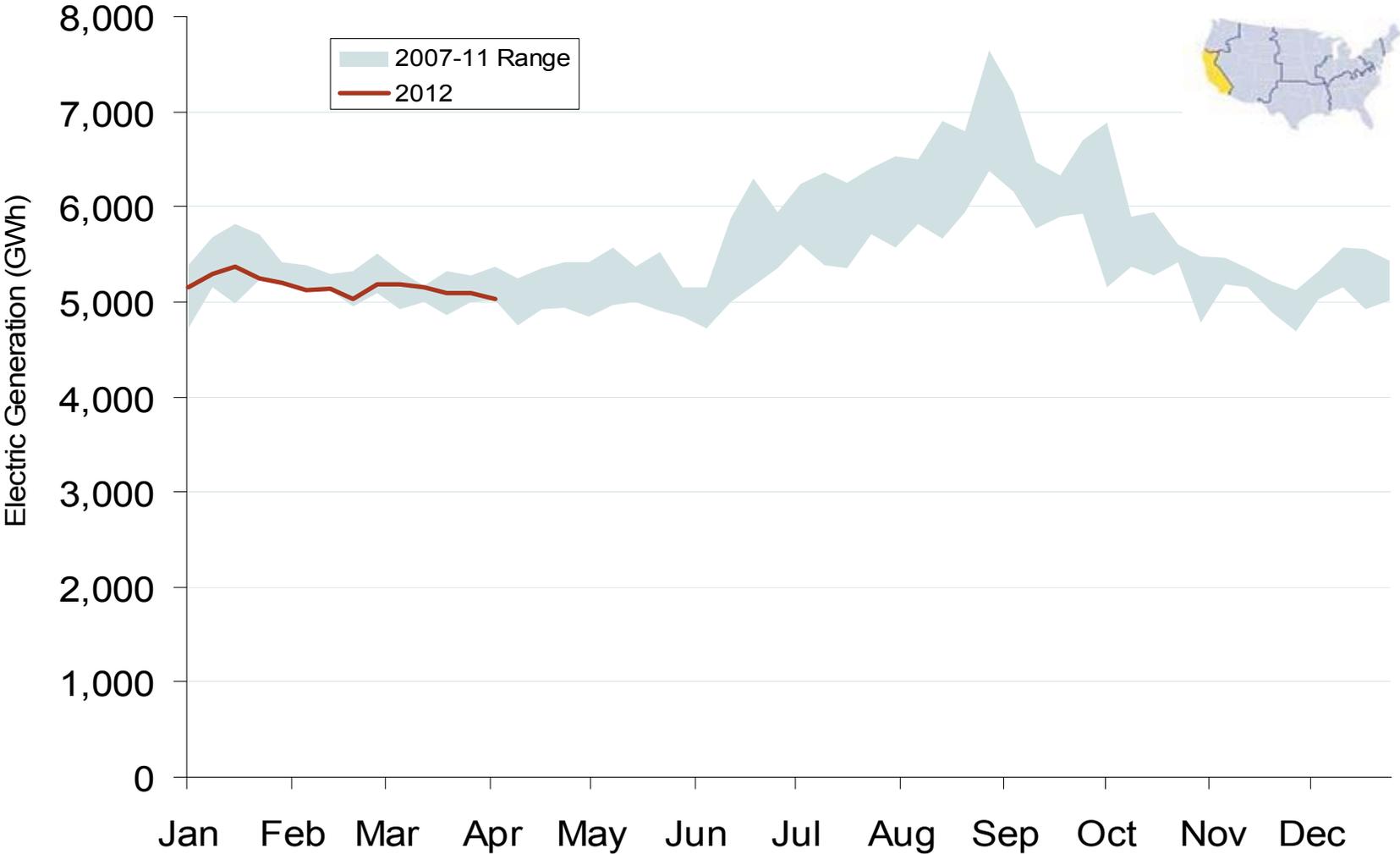
Weekly Generation Output - Pacific Northwest



Source: Derived from *EEI* data
April 2012 Western Snapshot Report

Updated: April 19, 2012

Weekly Generation Output - California



Source: Derived from *EEI* data
April 2012 Western Snapshot Report

Updated: April 19, 2012

New Grid-connected PV Capacity Doubles Again in 2011

