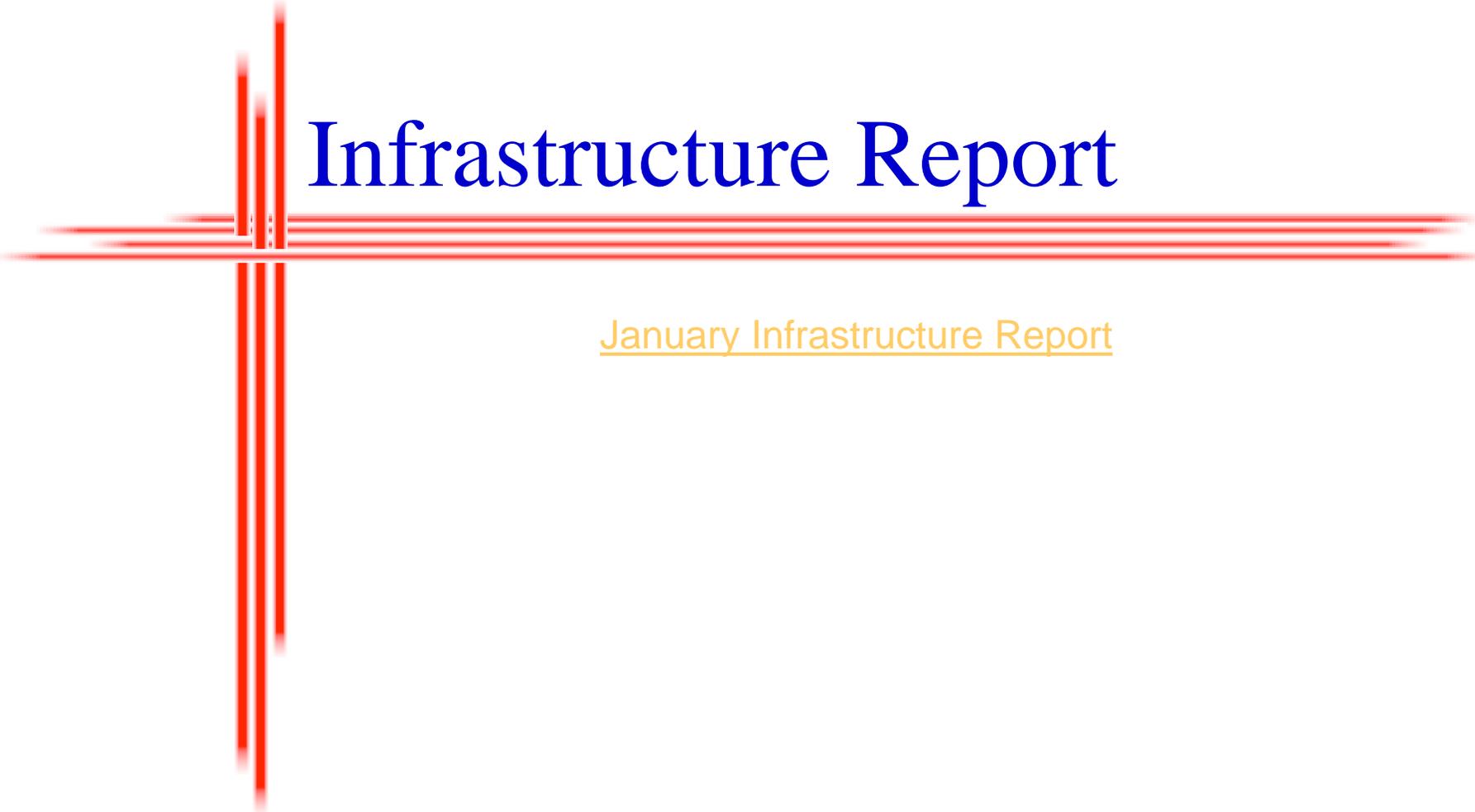


OE ENERGY MARKET SNAPSHOT

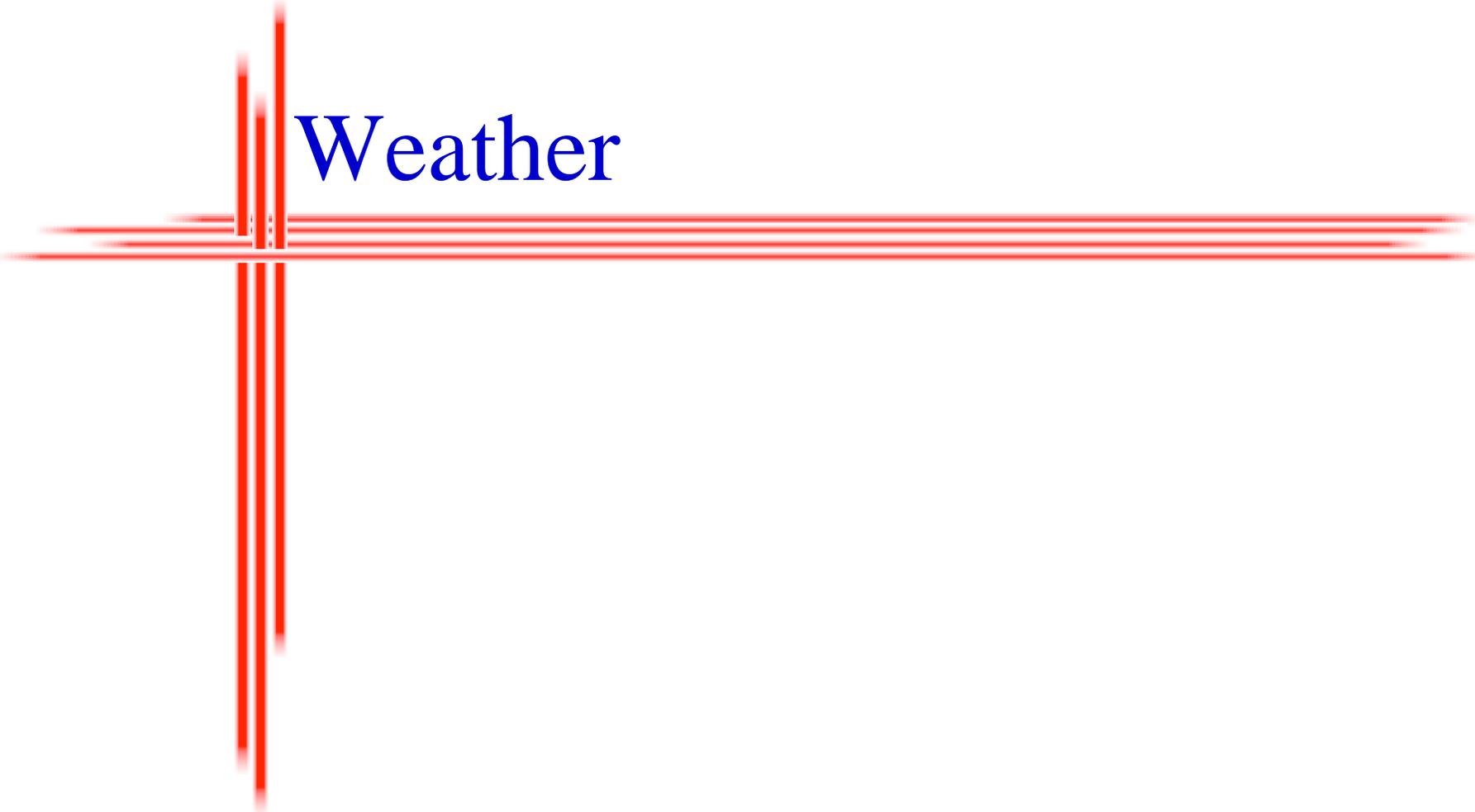
Western States Version – January 2012 Data

Office of Enforcement
Federal Energy Regulatory Commission
February 2012



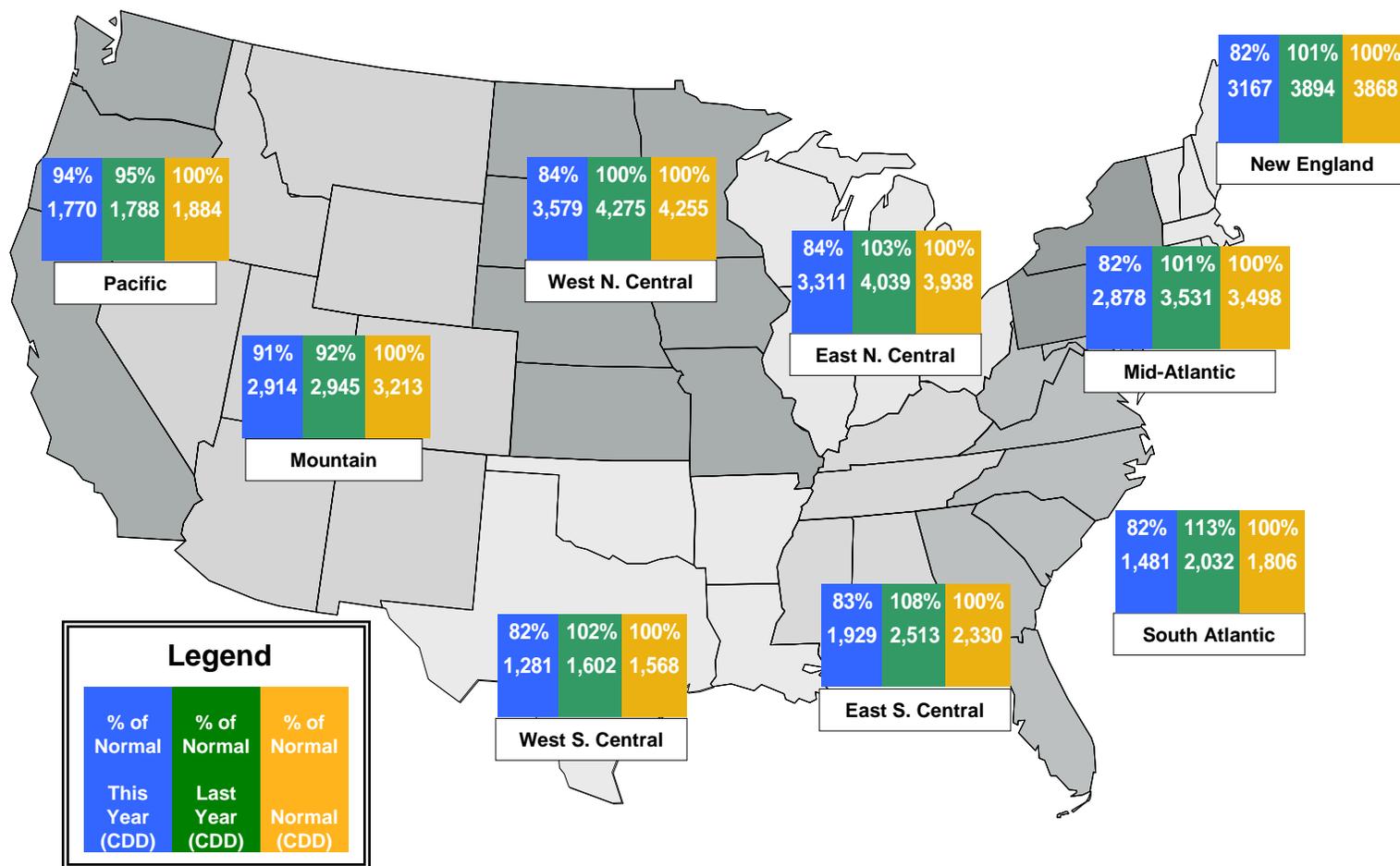
Infrastructure Report

January Infrastructure Report



Weather

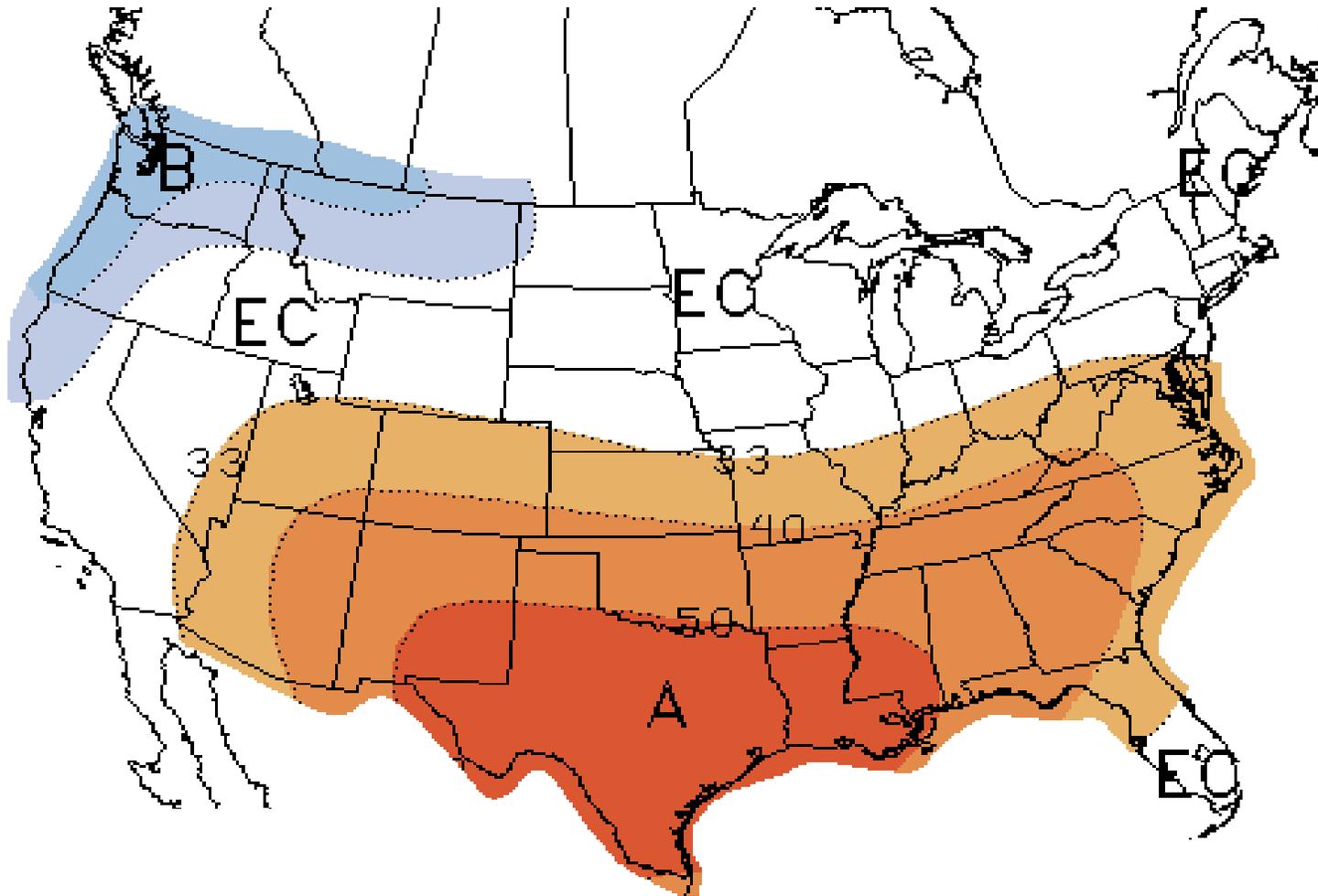
Regional Heating Degree Days – July 2011 to January 2012



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

Updated February 8, 2012

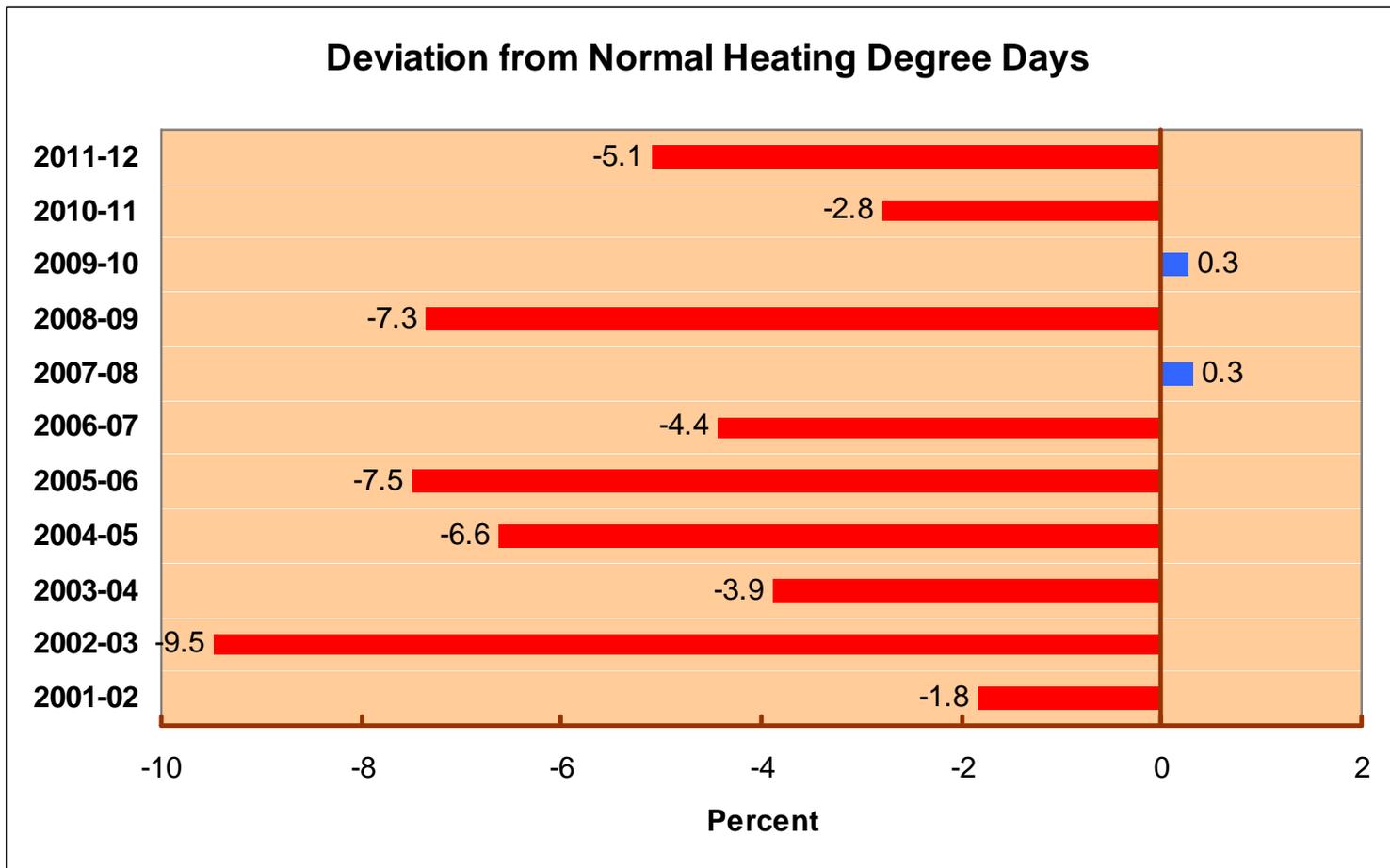
NOAA's 3 Month Temperature Forecast Made January 19, 2012, Valid for February 2012 – April 2012



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: February 8, 2012

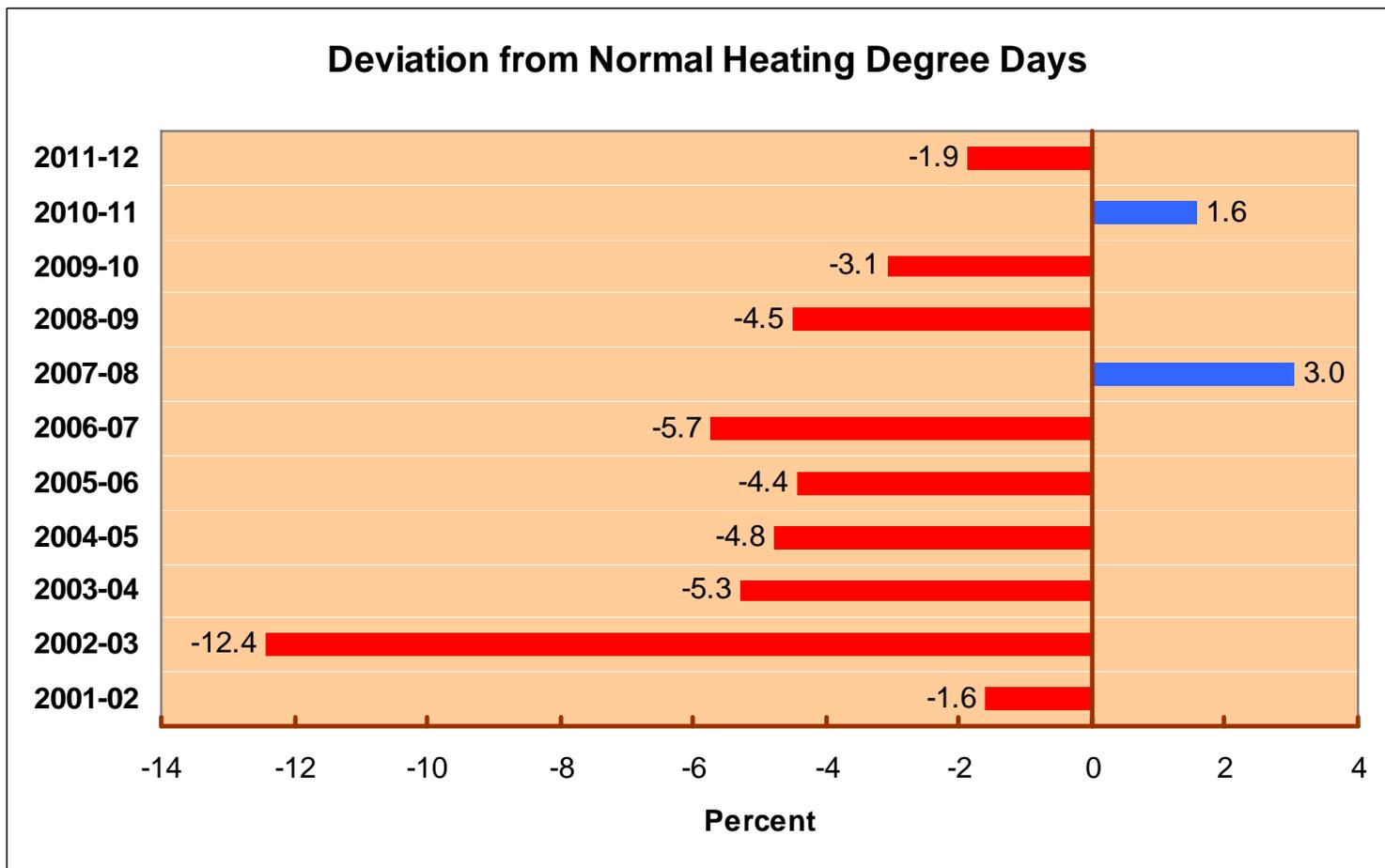
Rockies and SW States Warmer than Average



Source: Derived from NOAA data. Winter is defined as November through March.

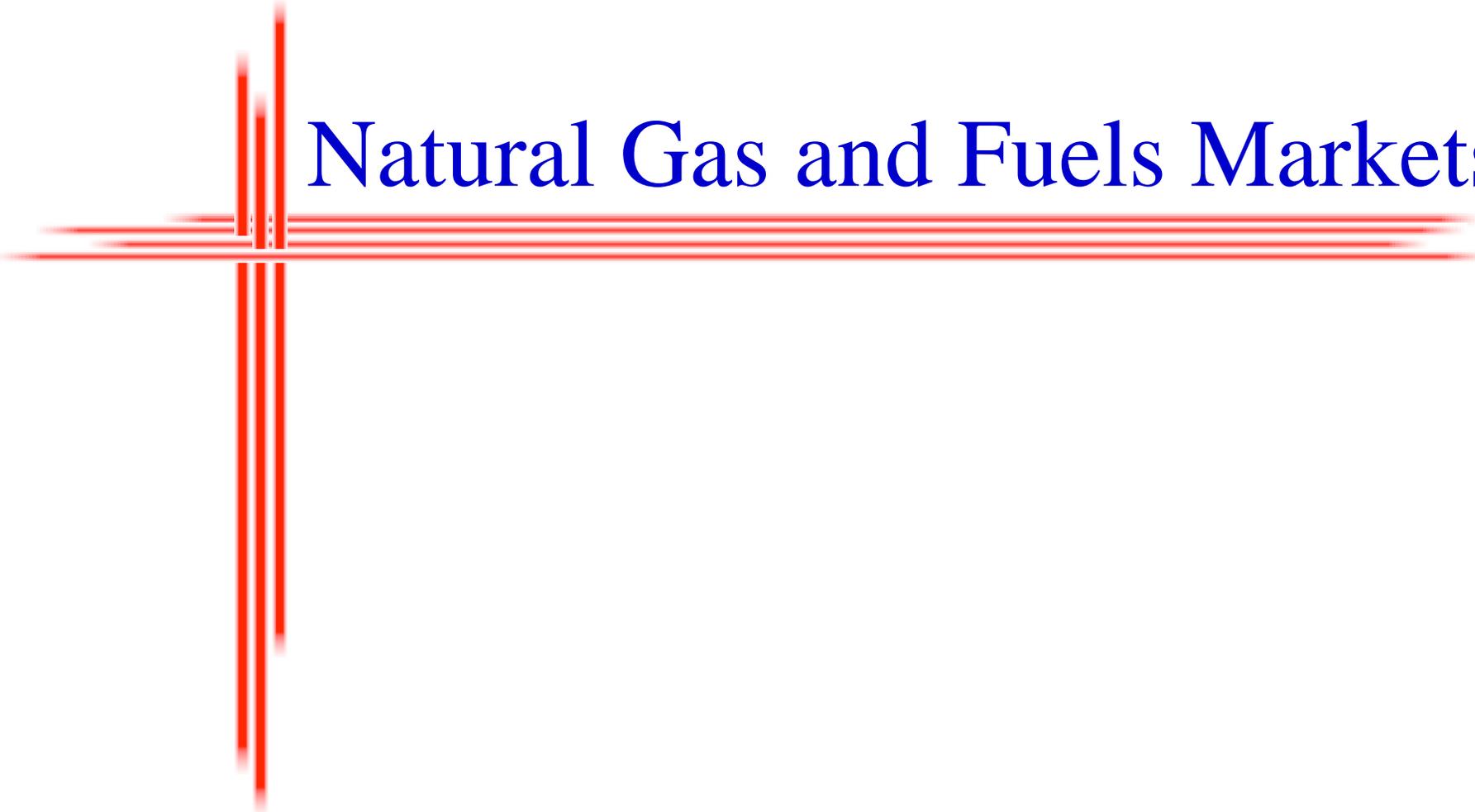
Updated February 16, 2012

Winter Pacific States Slightly Warmer than Average



Source: Derived from NOAA data. Winter is defined as November through March.

Updated February 16, 2012

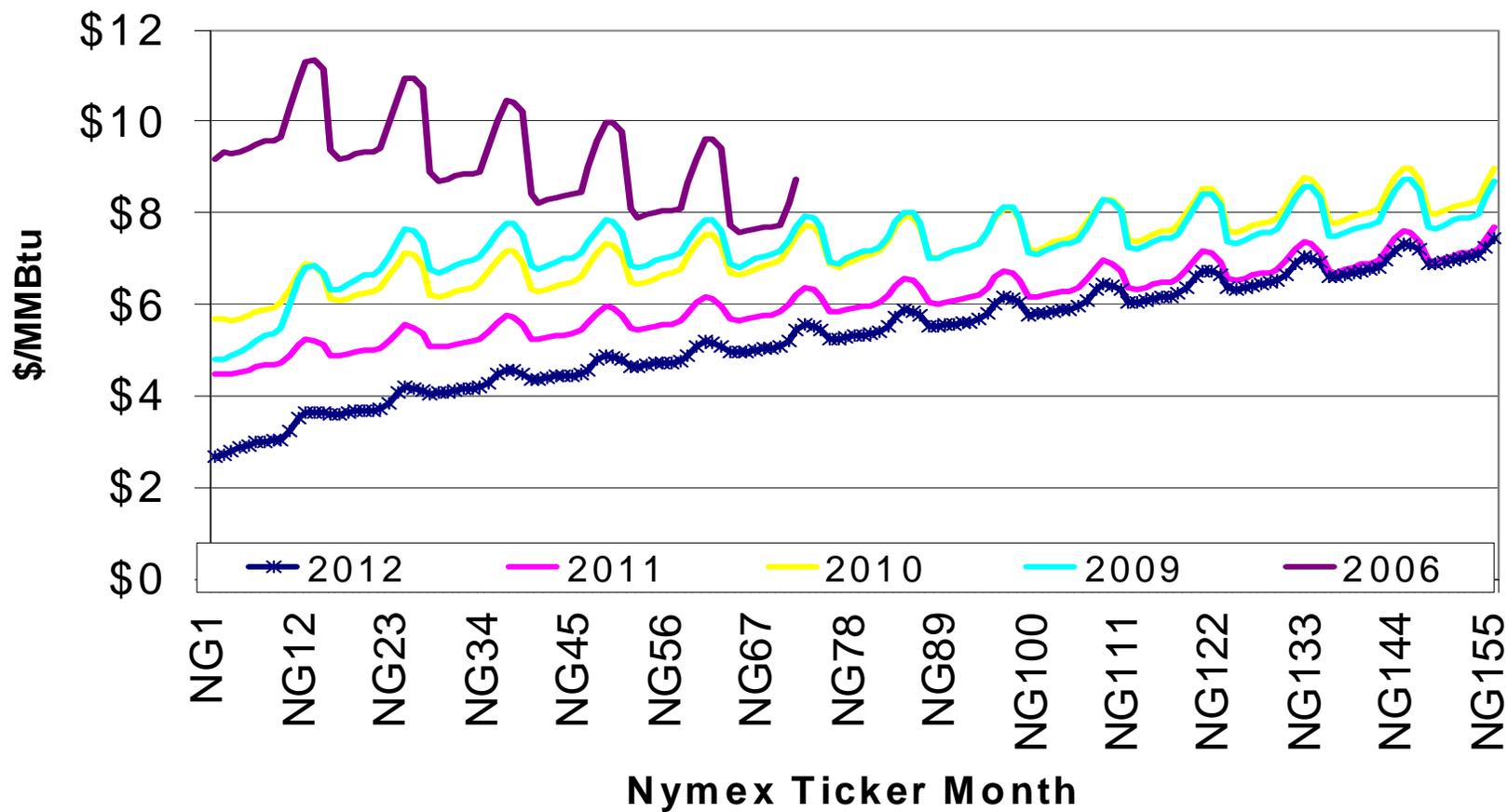


Natural Gas and Fuels Markets

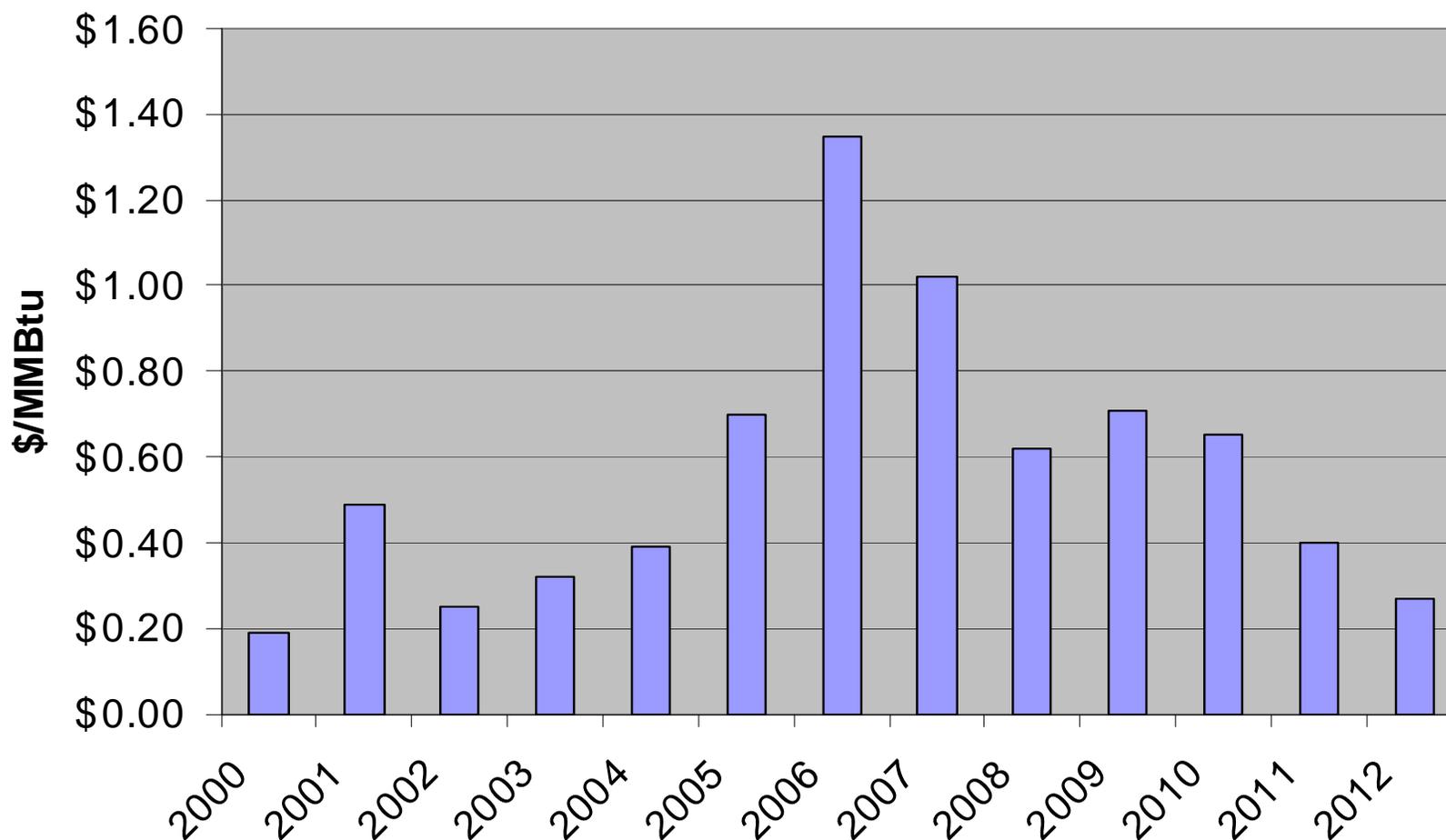
High Value NGL Contribute to Strong Natural Gas Production

Estimated Value Added to 1 Mmbtu of NG based on NGL Content (2011 Avg.)			
	Eagle Ford's Liquids Rich Area 50% NGL Content	At 15% NGL Content	At 10% NGL Content
Natural Gas	3.98	3.98	3.98
Ethane	0.93	0.70	0.47
Propane	0.94	0.70	0.47
Iso-butane	0.42	0.31	0.21
Butane	0.21	0.15	0.10
Natural Gasoline (Condensate)	0.65	0.49	0.33
Natural Gas + NGLs	\$6.48	\$5.85	\$5.23

2012 Nymex forward curve is relatively flat compared to recent years



Current average summer/winter spread of NYMEX forward curve lowest since 2002

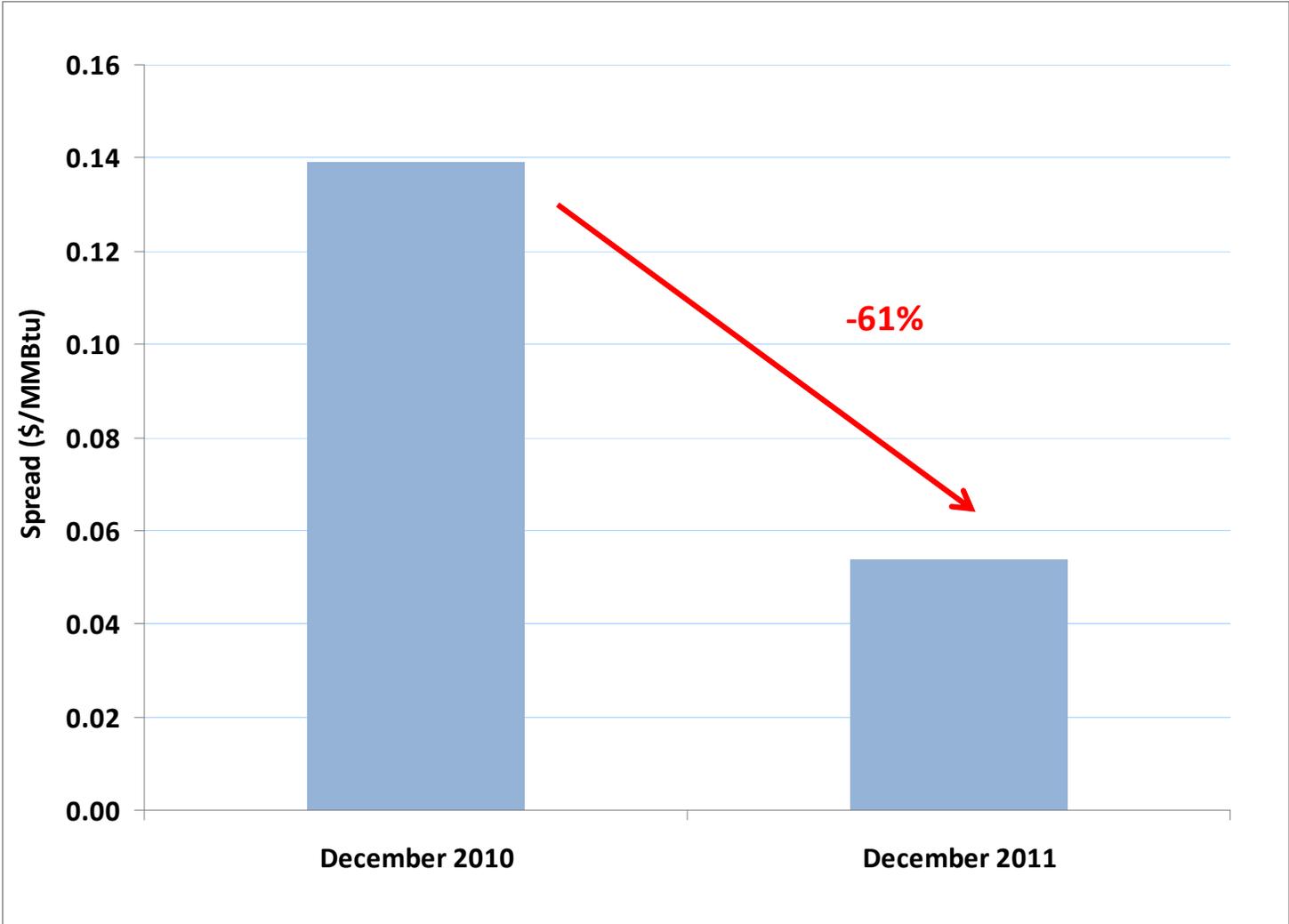


Source: Nymex

Note: The spreads are calculated by looking at forward curve values on January 15th of every year.

Updated February 2012

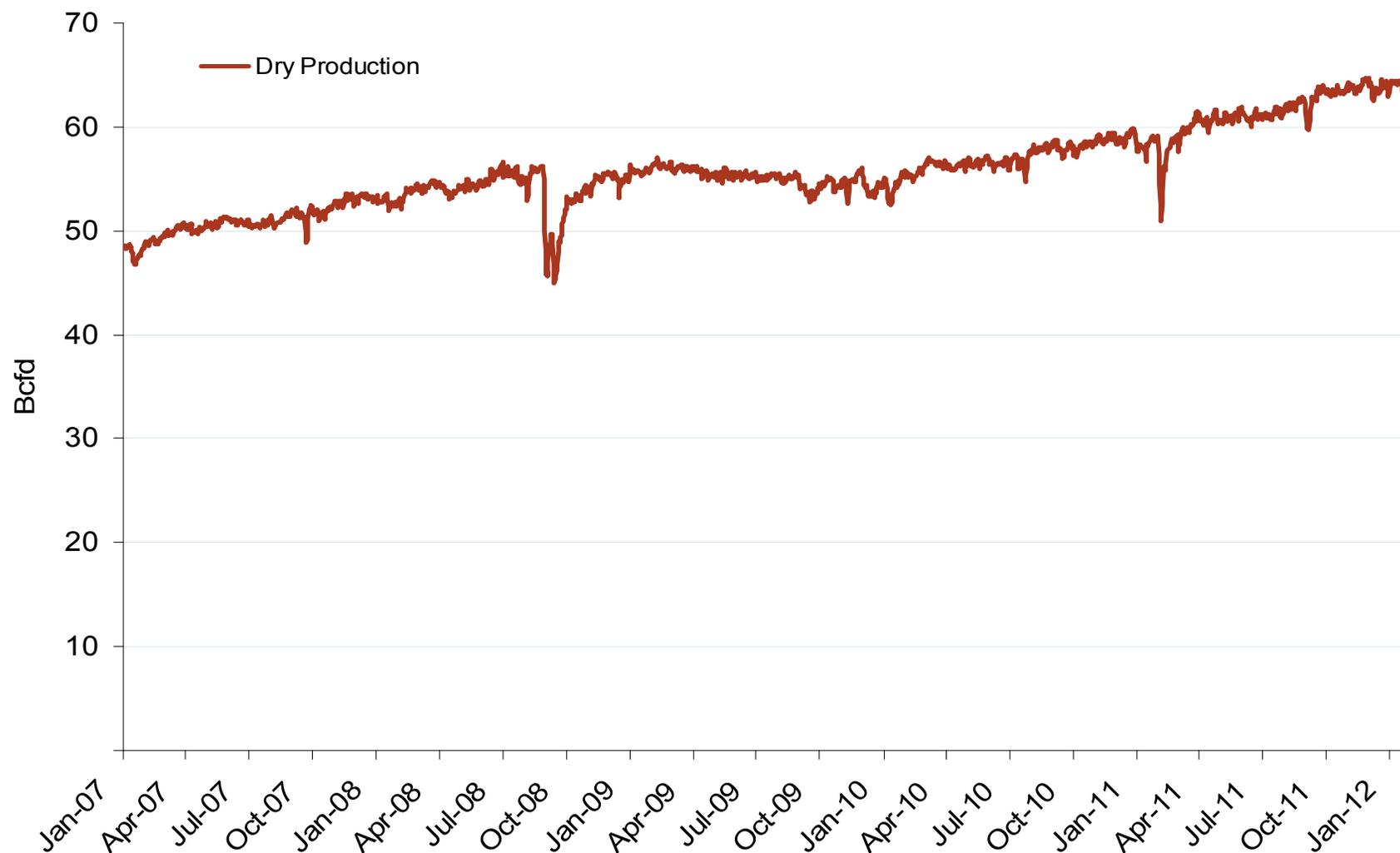
Northern California’s Access to Low-Cost Rockies Gas Narrows Intrastate Price Spread



Source: Derived Bentek Energy data.

Updated January 13, 2012

Natural Gas Markets: Monthly U.S. Dry Gas Production

Federal Energy Regulatory Commission • Market Oversight • www.ferc.gov/oversight**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

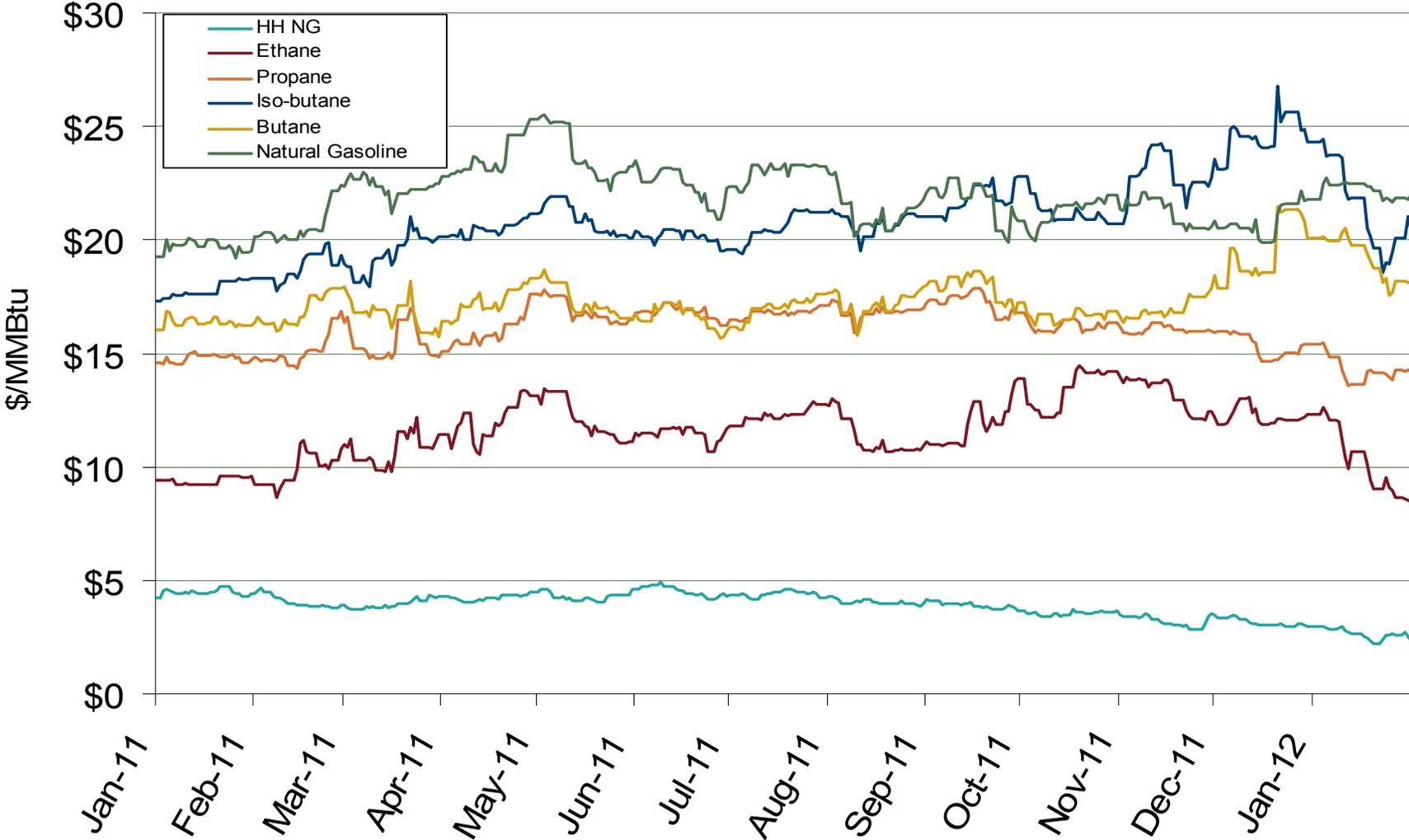
Source: Derived from *Bentek Energy* data

February 2012 Western Snapshot

Updated: February 21, 2012

20021

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



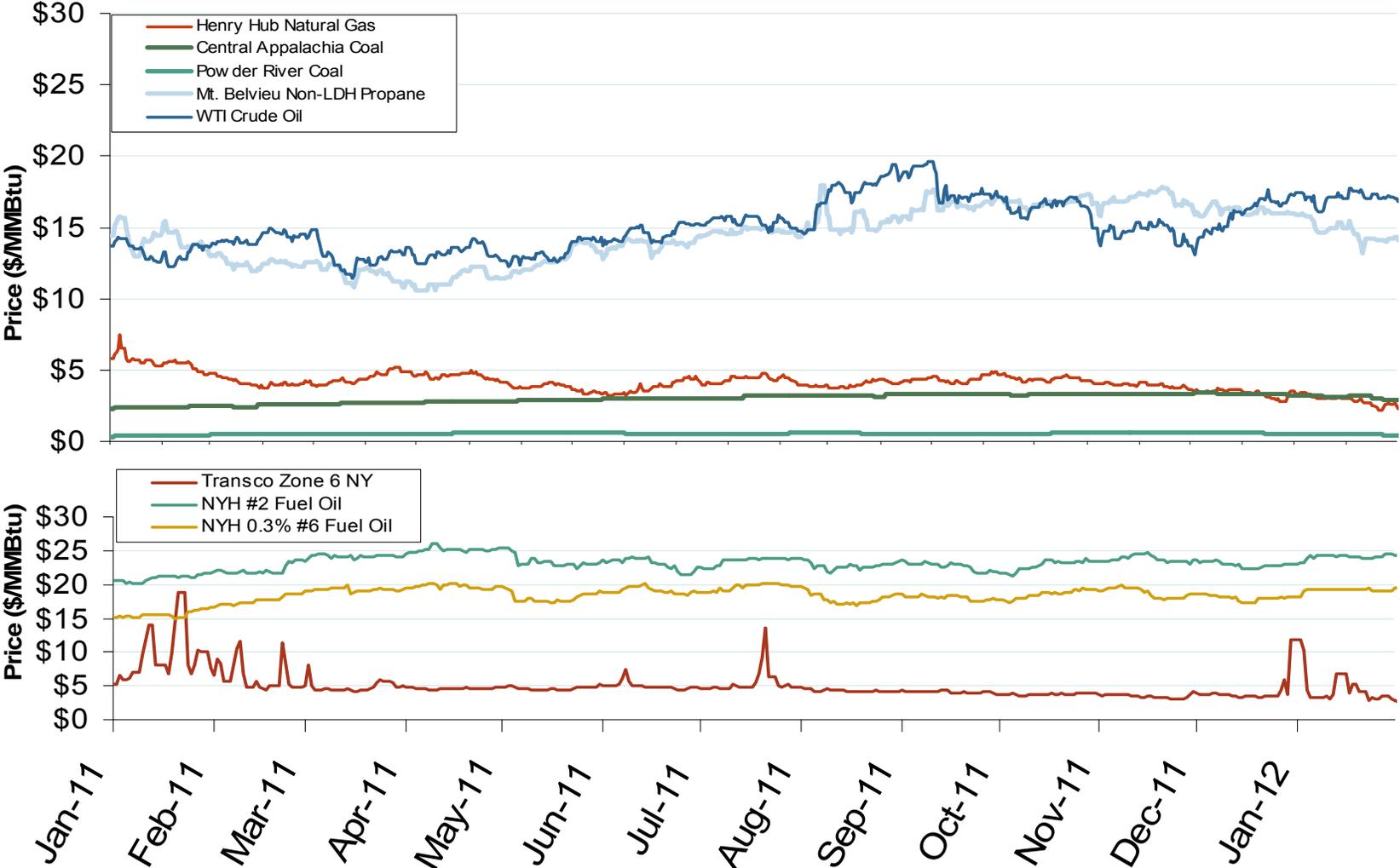
Source: Derived from Bloomberg Data
February 2012 Western Snapshot

Updated: February 14, 2012

Other Fuels Market: Fossil Fuel Prices

Federal Energy Regulatory Commission • Market Oversight • www.ferc.gov/oversight

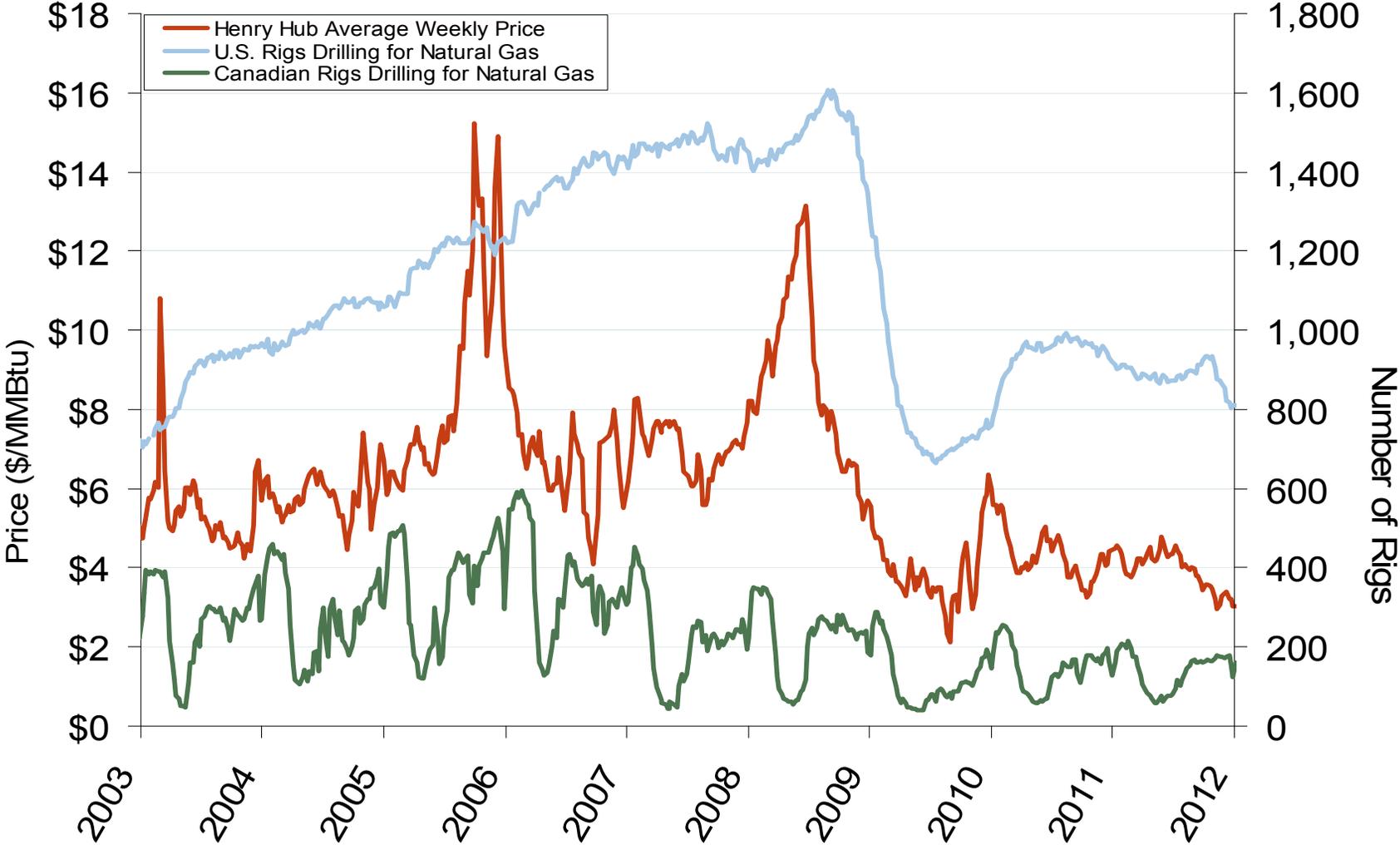
Oil, Coal, Natural Gas and Propane Daily Spot Prices



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

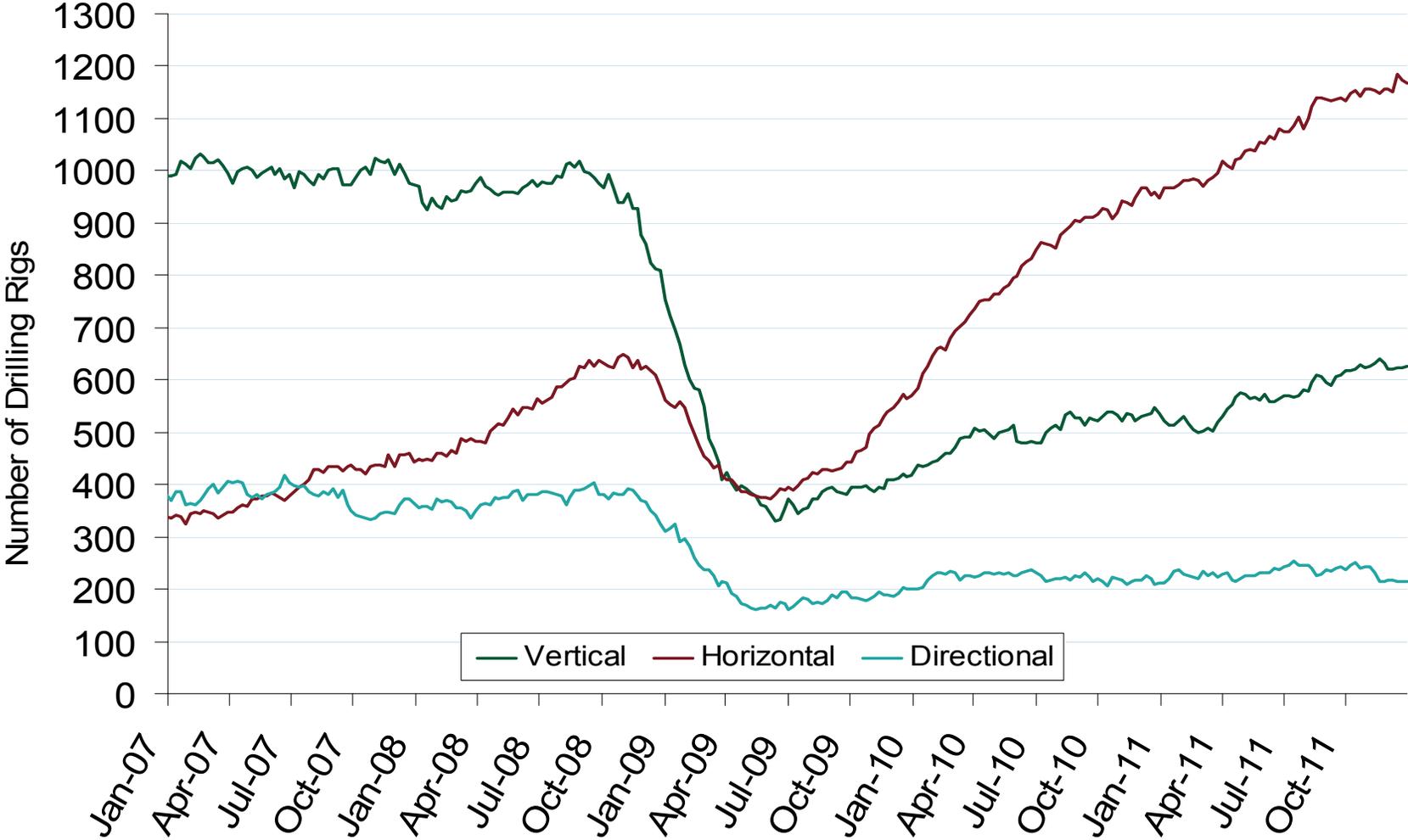
U.S. and Canadian NG Drilling Rig Count and Daily Spot Prices



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

Updated: February 14, 2012

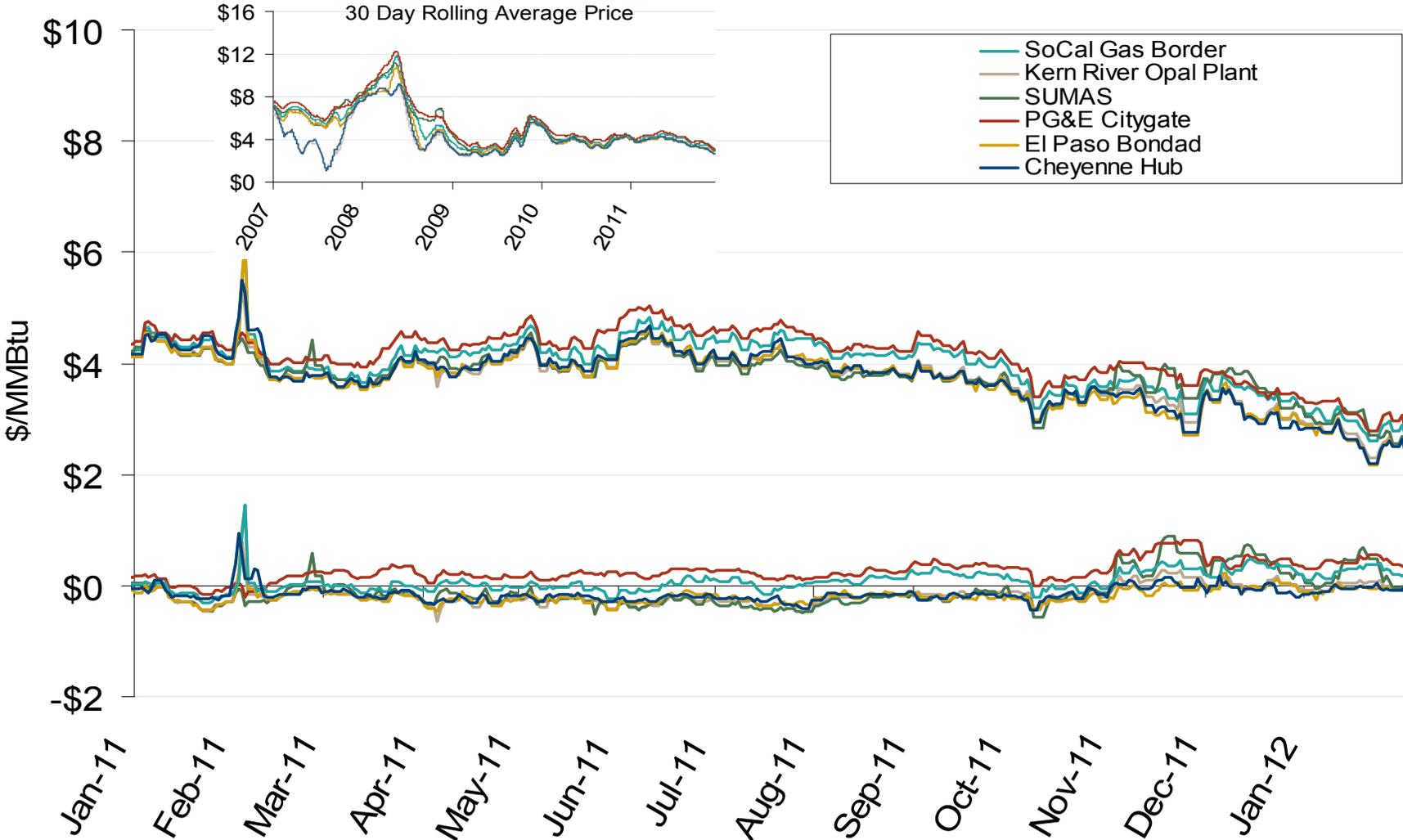
U.S. Oil and Natural Gas Drilling Rig Count by Type



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

Updated: February 14, 2012

Western Day-Ahead Hub Spot Prices and Basis

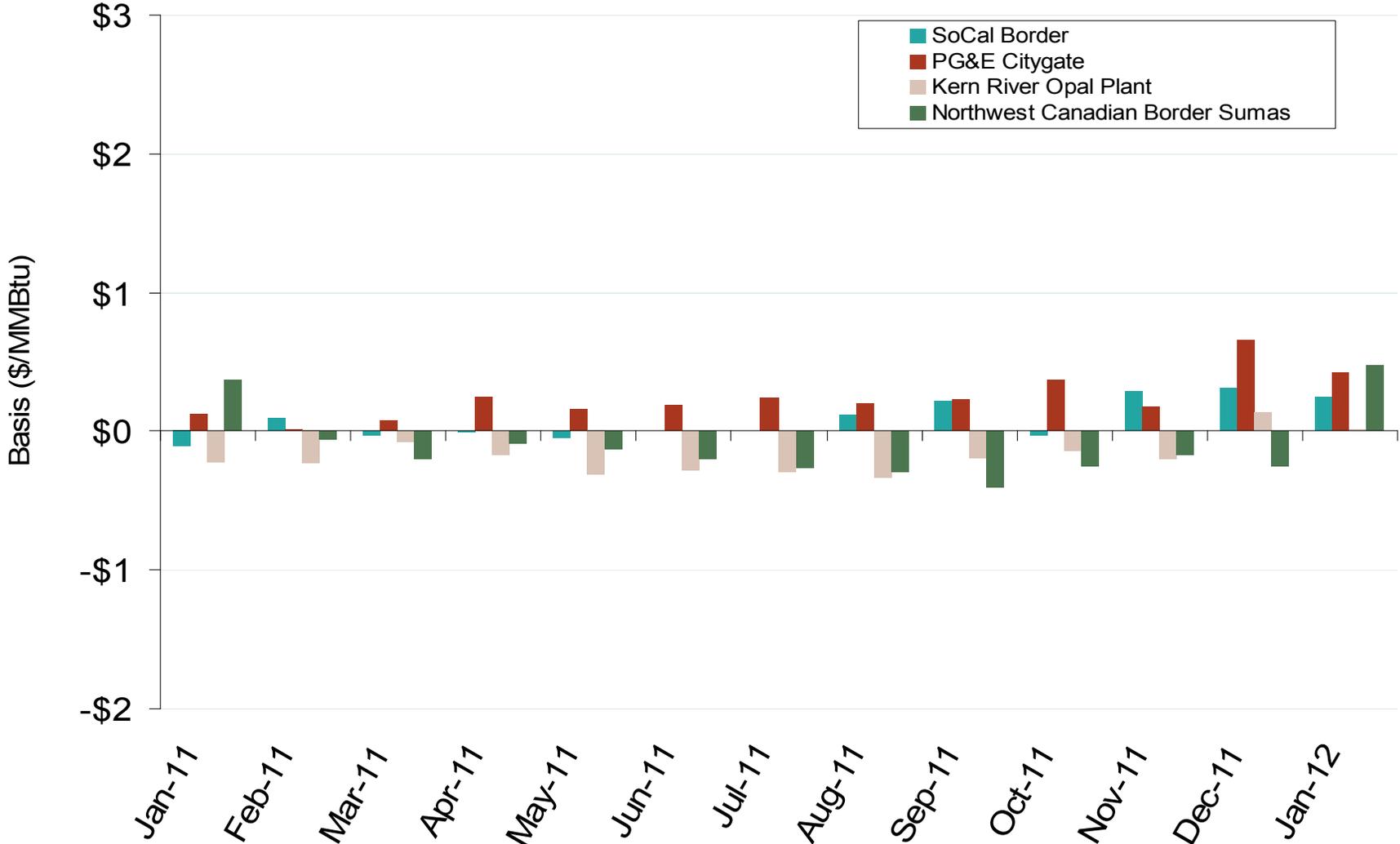


Source: Derived from *Platts* data
February 2012 Western Snapshot

Updated: February 14, 2012

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Western Monthly Average Basis Value to Henry Hub

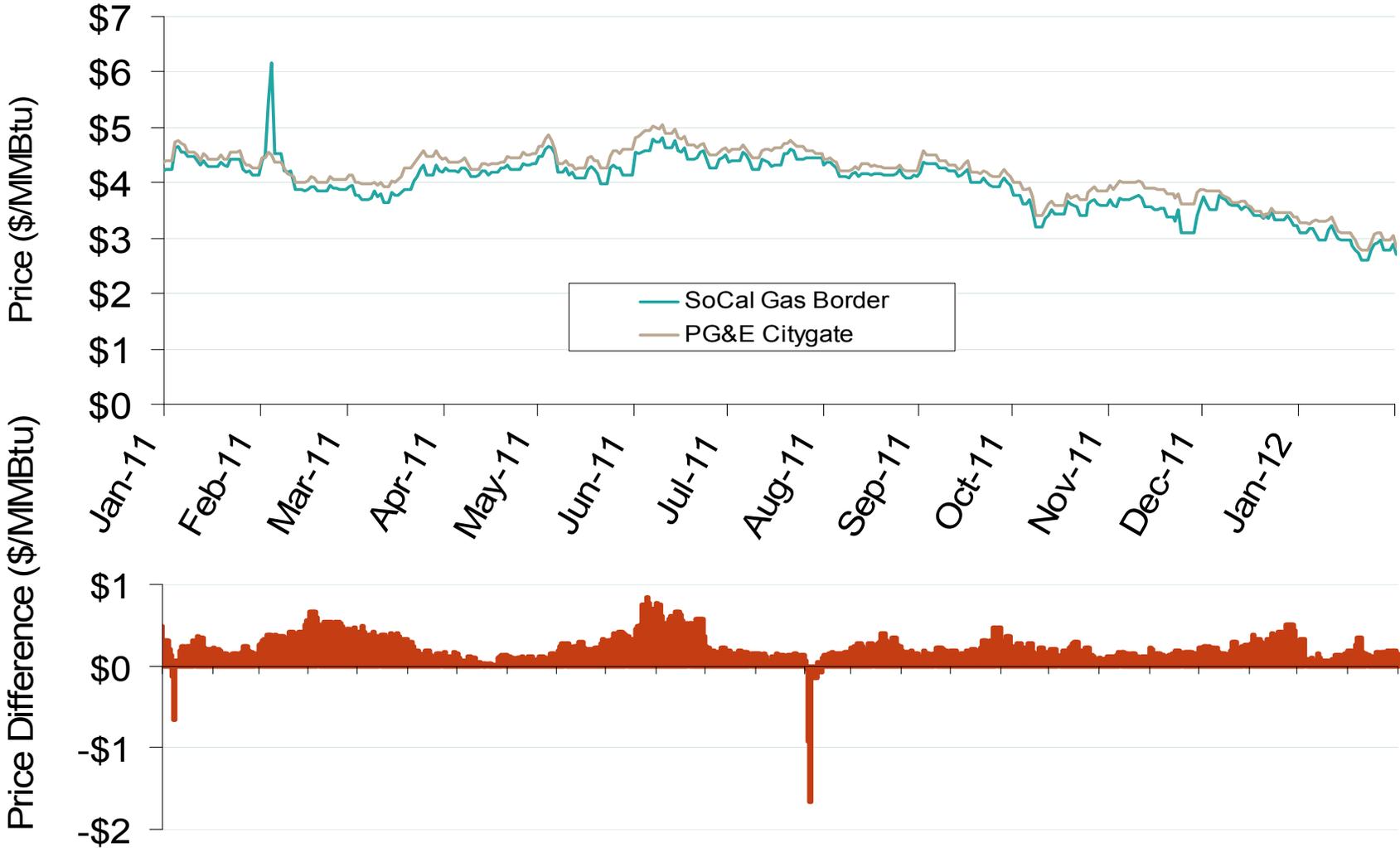


Source: Derived from Platts data
February 2012 Western Snapshot

Updated: February 14, 2012

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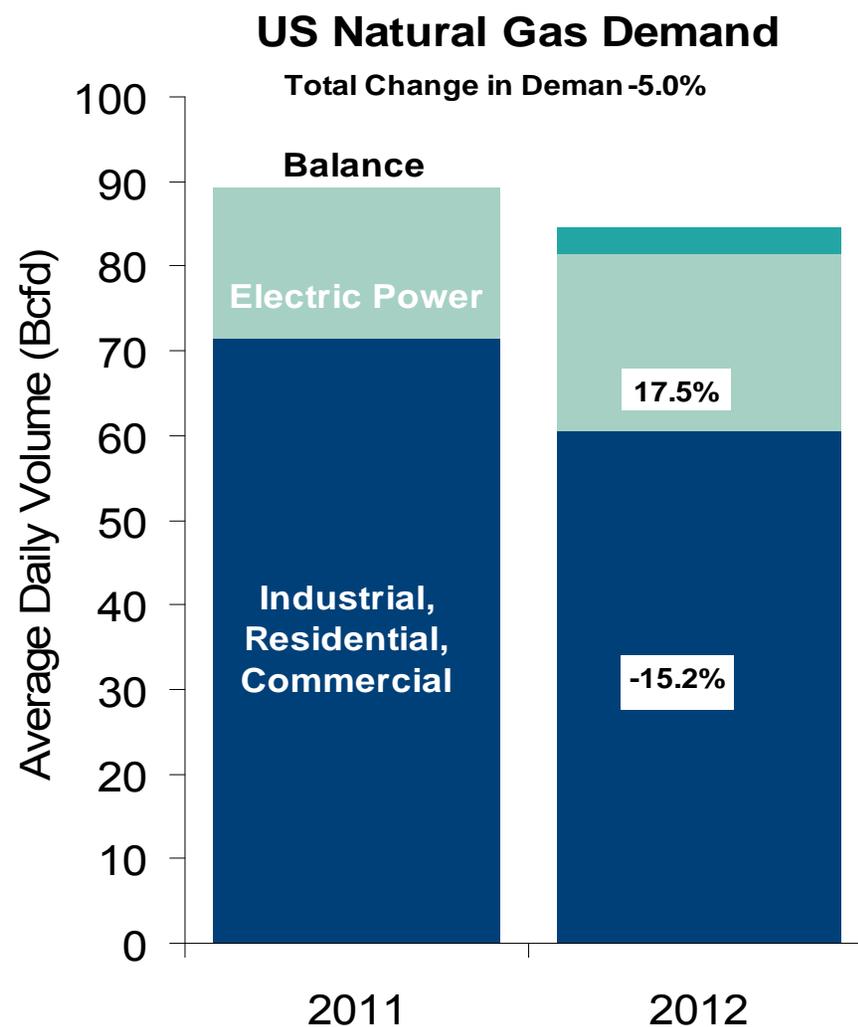
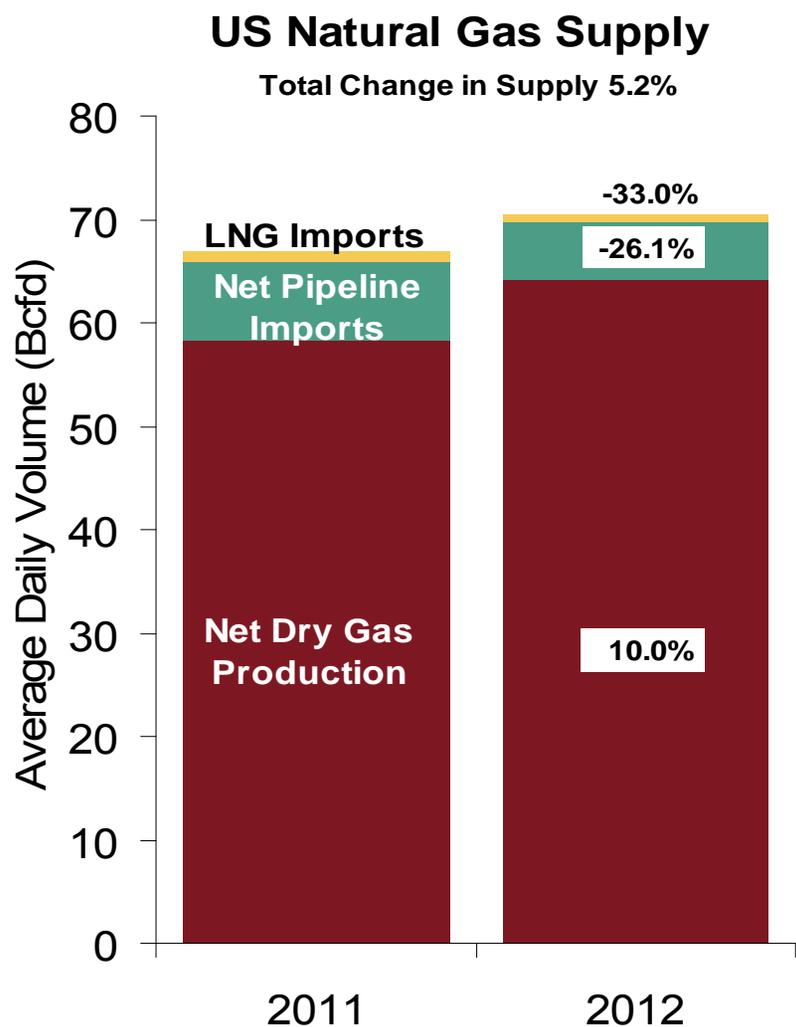
Difference in Northern and Southern California Daily Spot Prices



Source: Derived from Platts data
February 2012 Western Snapshot

Updated: February 14, 2012

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



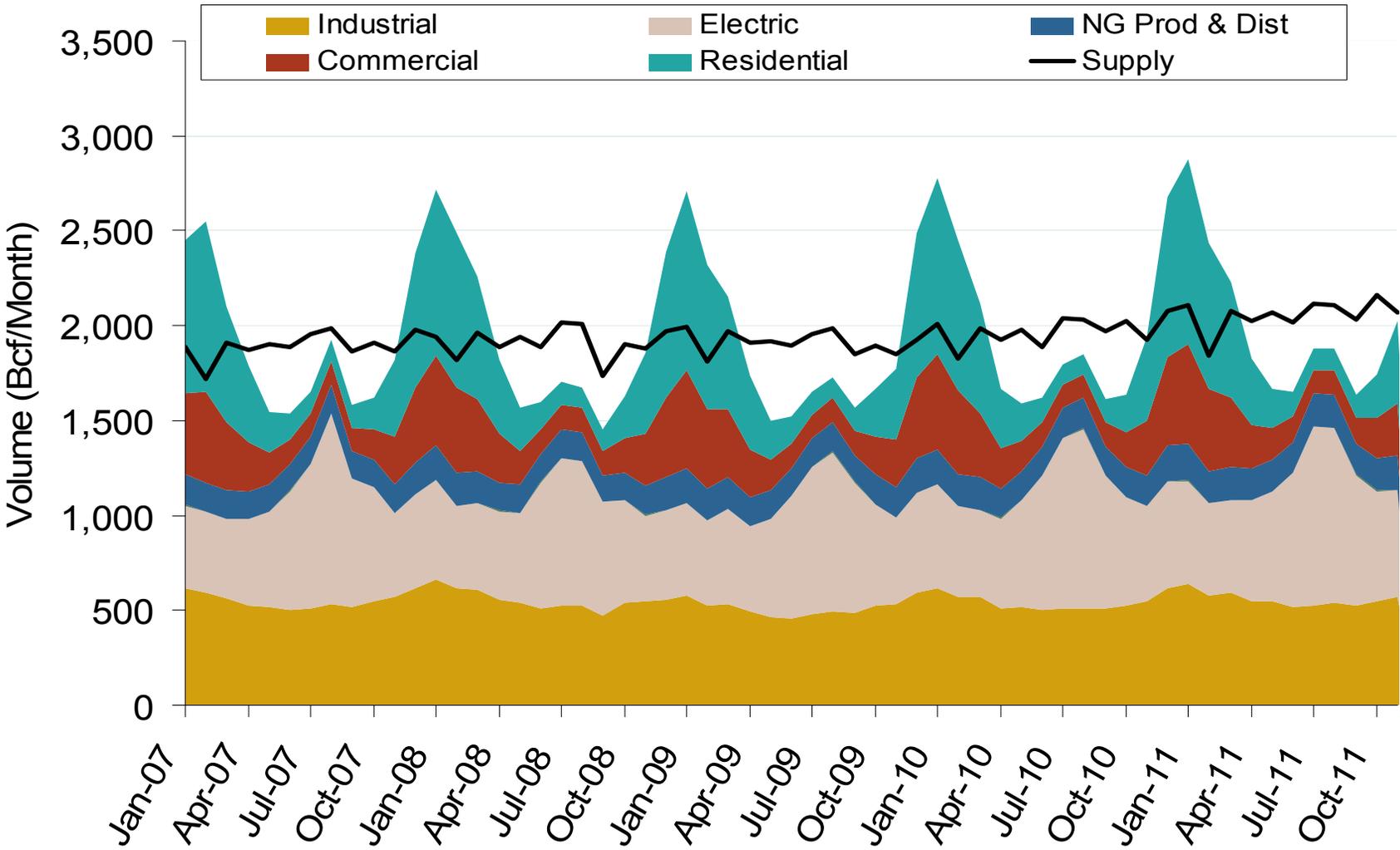
Note: Balance includes all amounts not attributable to other categories.

Source: Derived from *Bentek Energy* data

February 2012 Western Snapshot

Updated: February 21, 2012

Annual U.S. Natural Gas Consumption by Sector



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

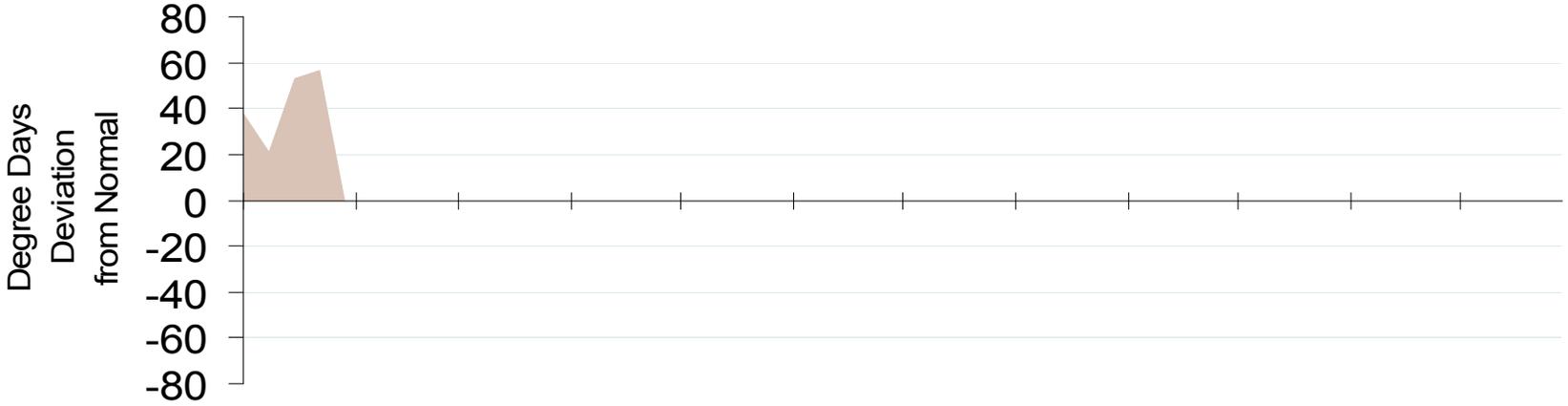
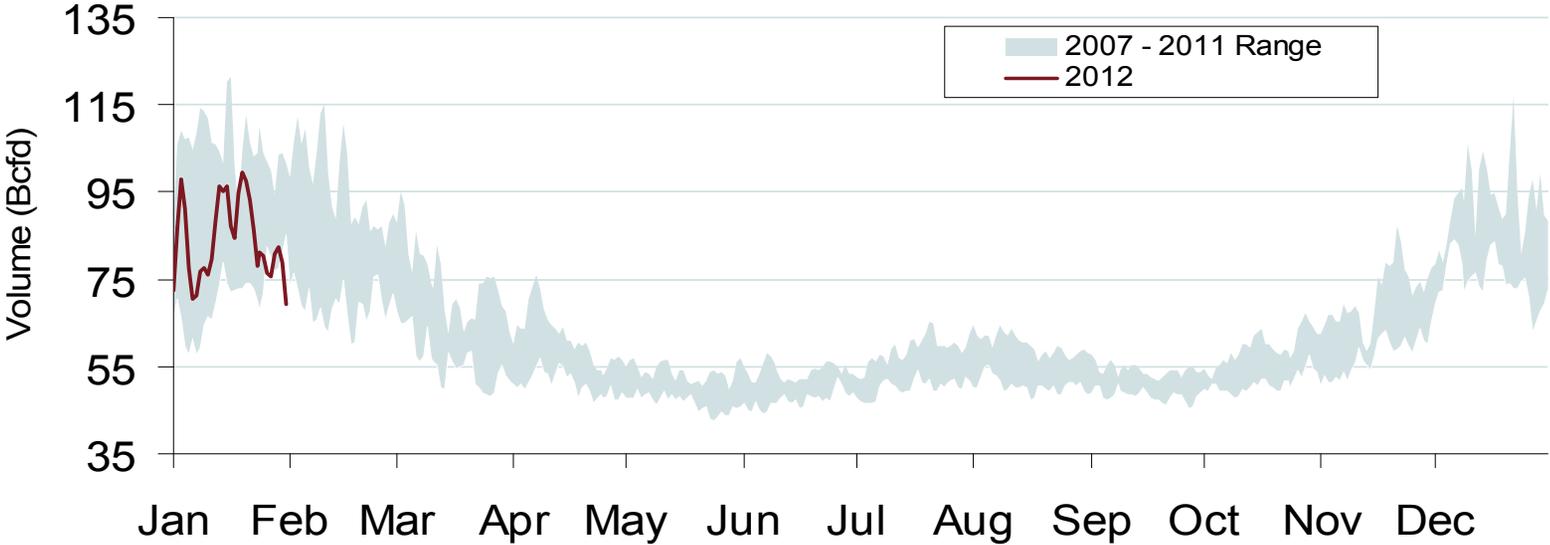
Source: Derived from EIA data

February 2012 Western Snapshot

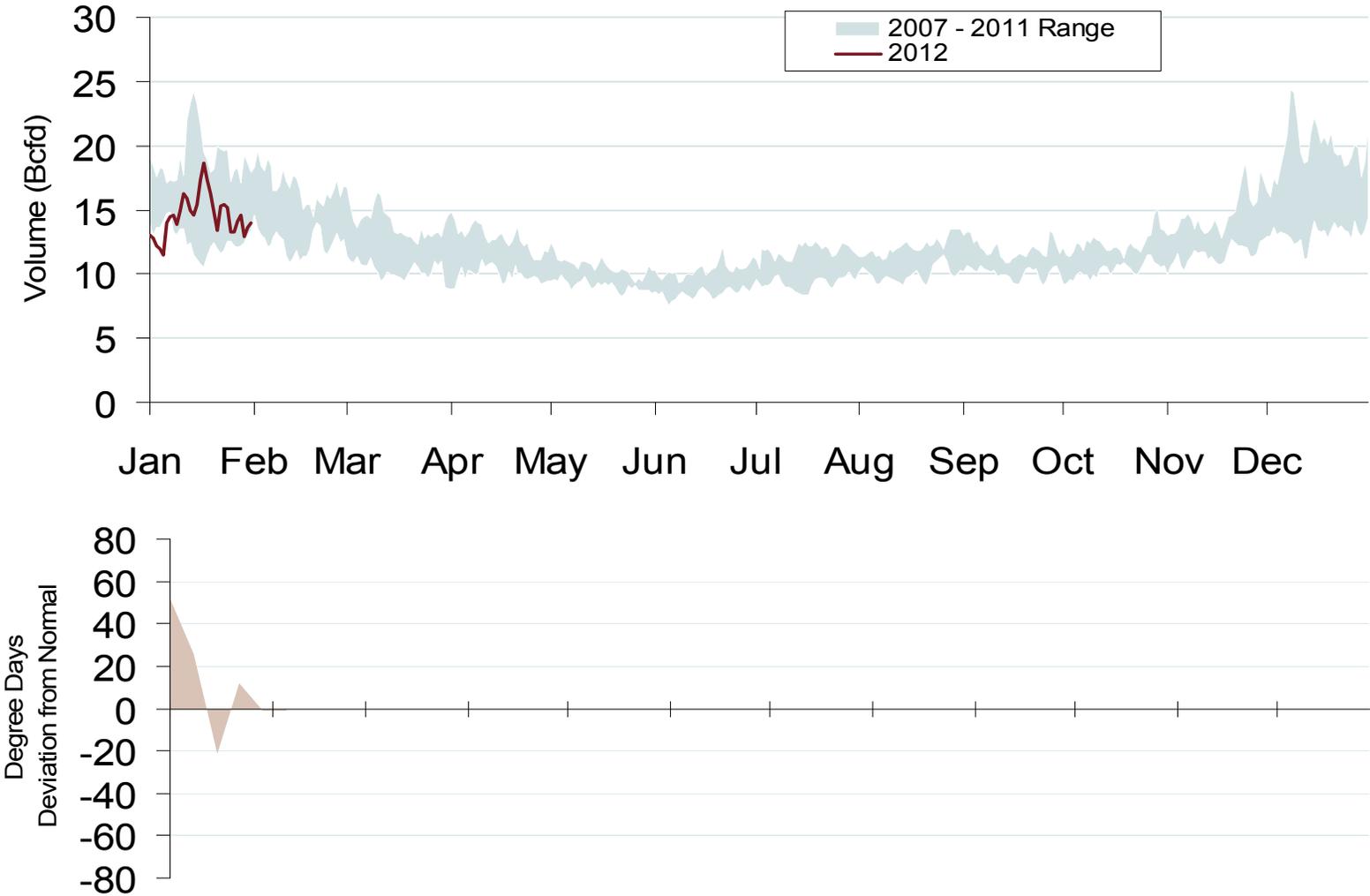
Updated: February 14, 2012

20013

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



Daily Western Natural Gas Demand - All Sectors

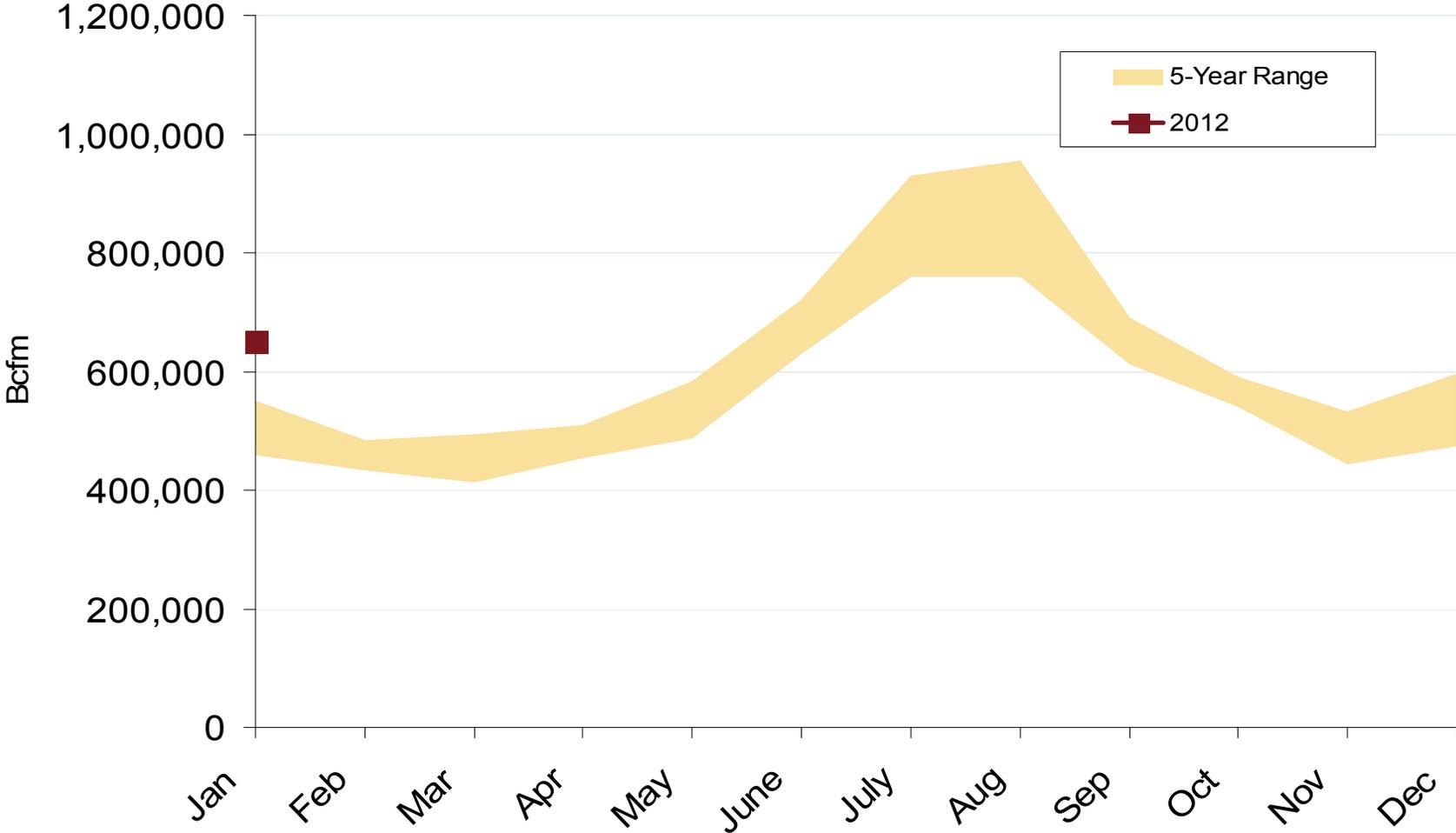


Source: Derived from *Bentek Energy* and Weekly NOAA data
February 2012 Western Snapshot

Updated: February 21, 2012

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U.S. Natural Gas Consumption for Power Generation

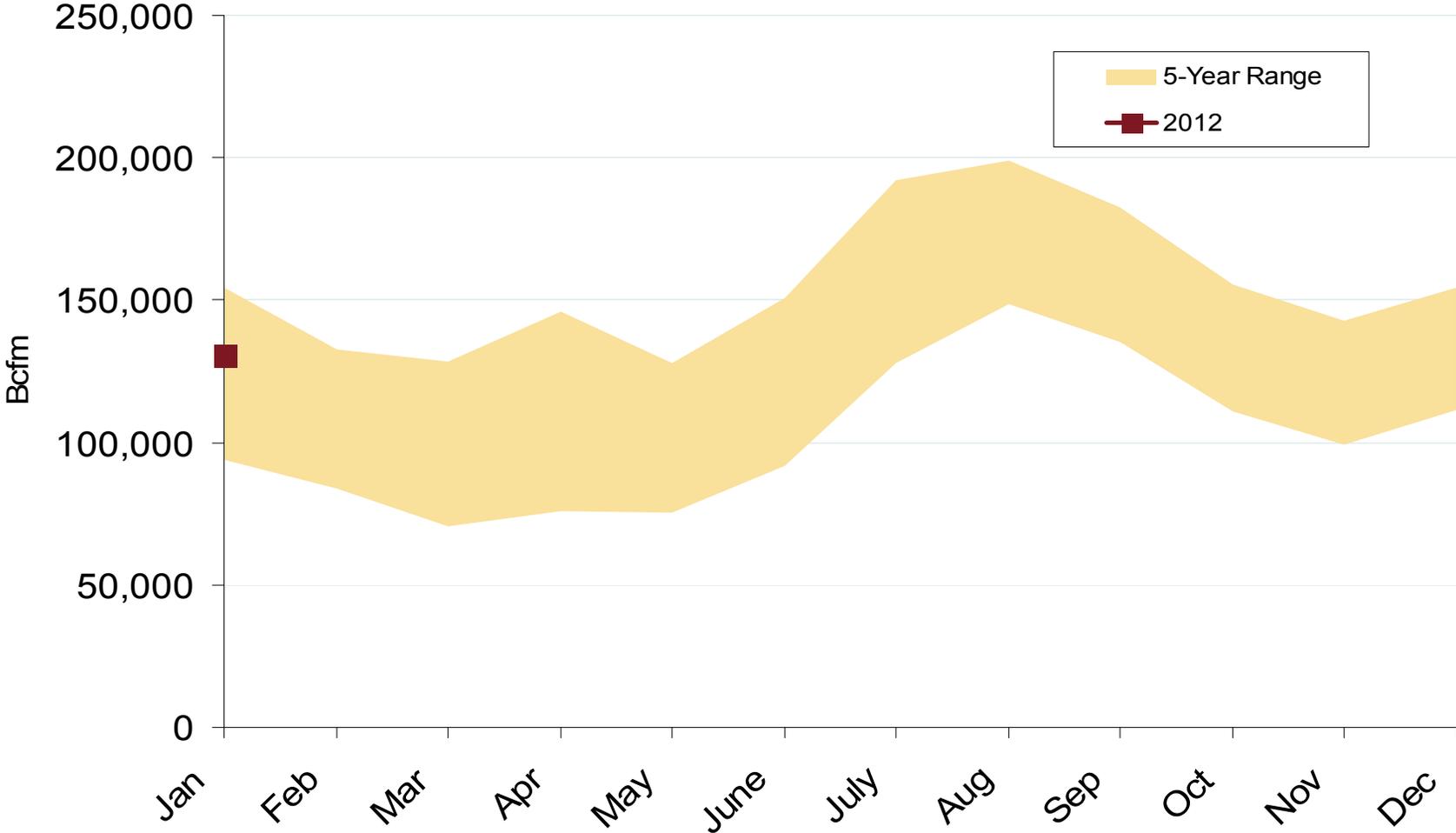


Source: Derived from *Bentek Energy* data
February 2012 Western Snapshot

Updated: February 21, 2012

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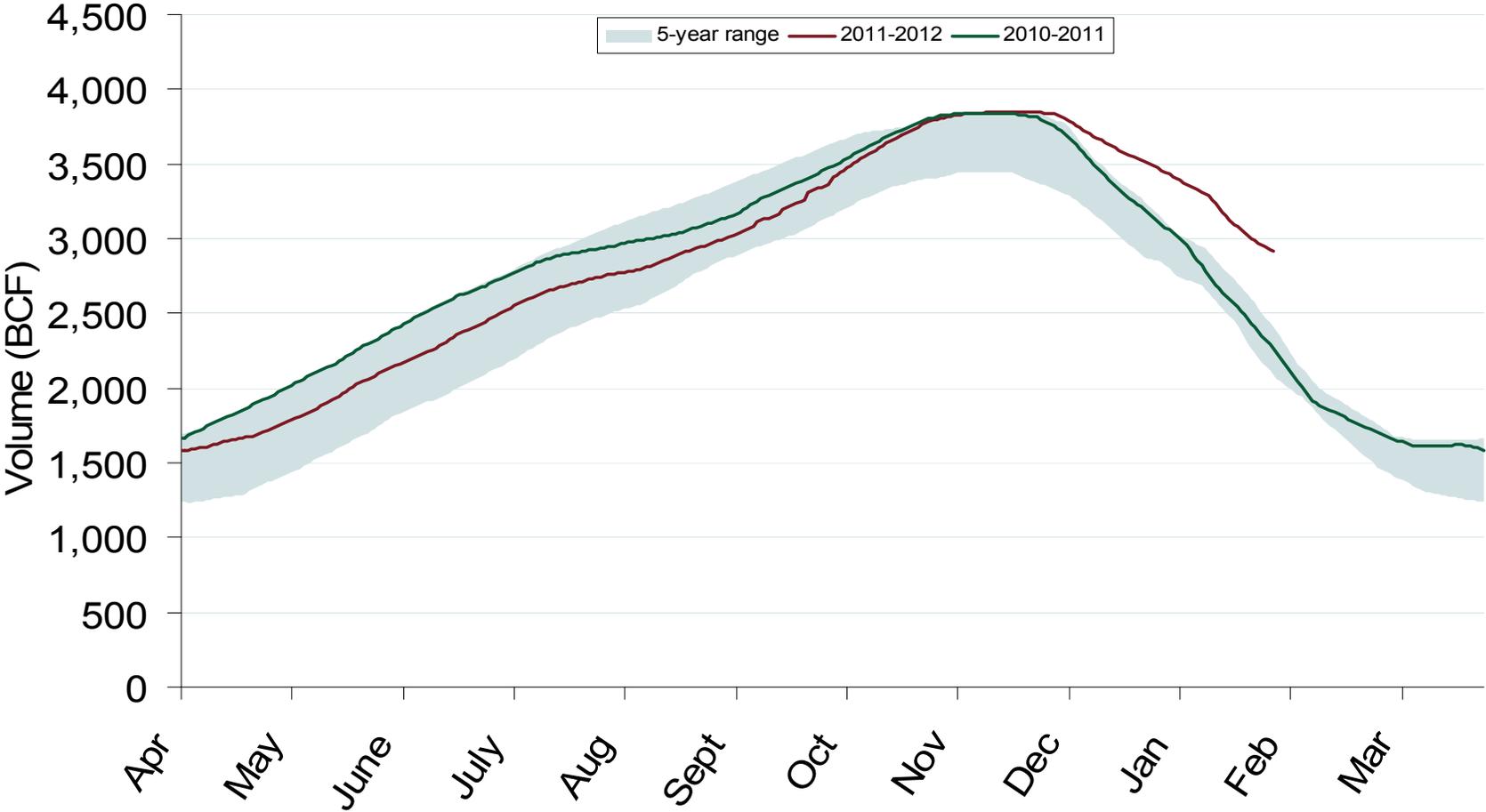
Western Natural Gas Consumption for Power Generation



Source: Derived from *Bentek Energy* data
February 2012 Western Snapshot

Updated: February 21, 2012

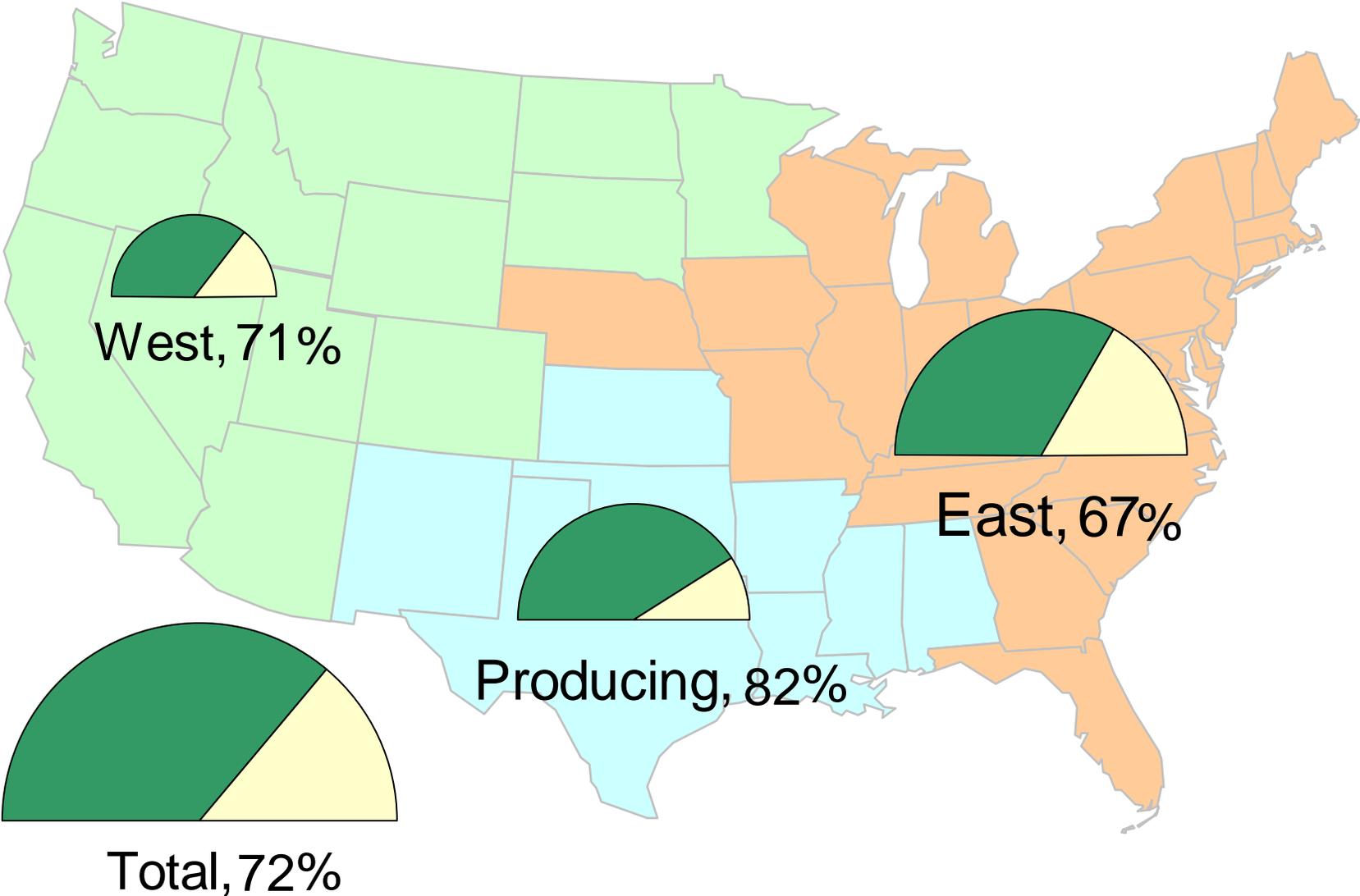
Total U.S. Working Gas in Storage



Source: Derived from EIA data
February 2012 Western Snapshot

Updated: February 14, 2012

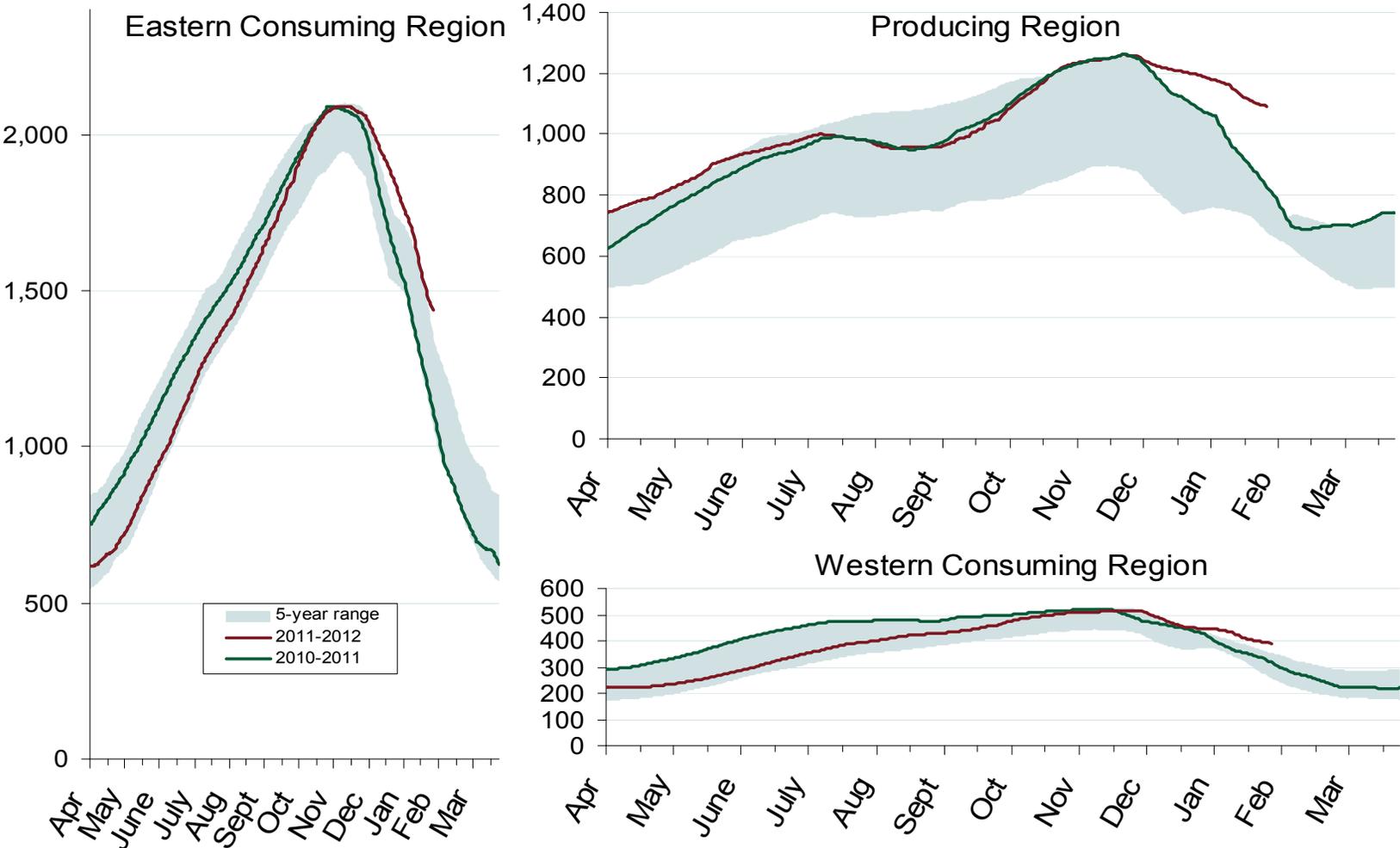
Natural Gas Storage Inventories – February 3, 2012



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

Updated February 8, 2012

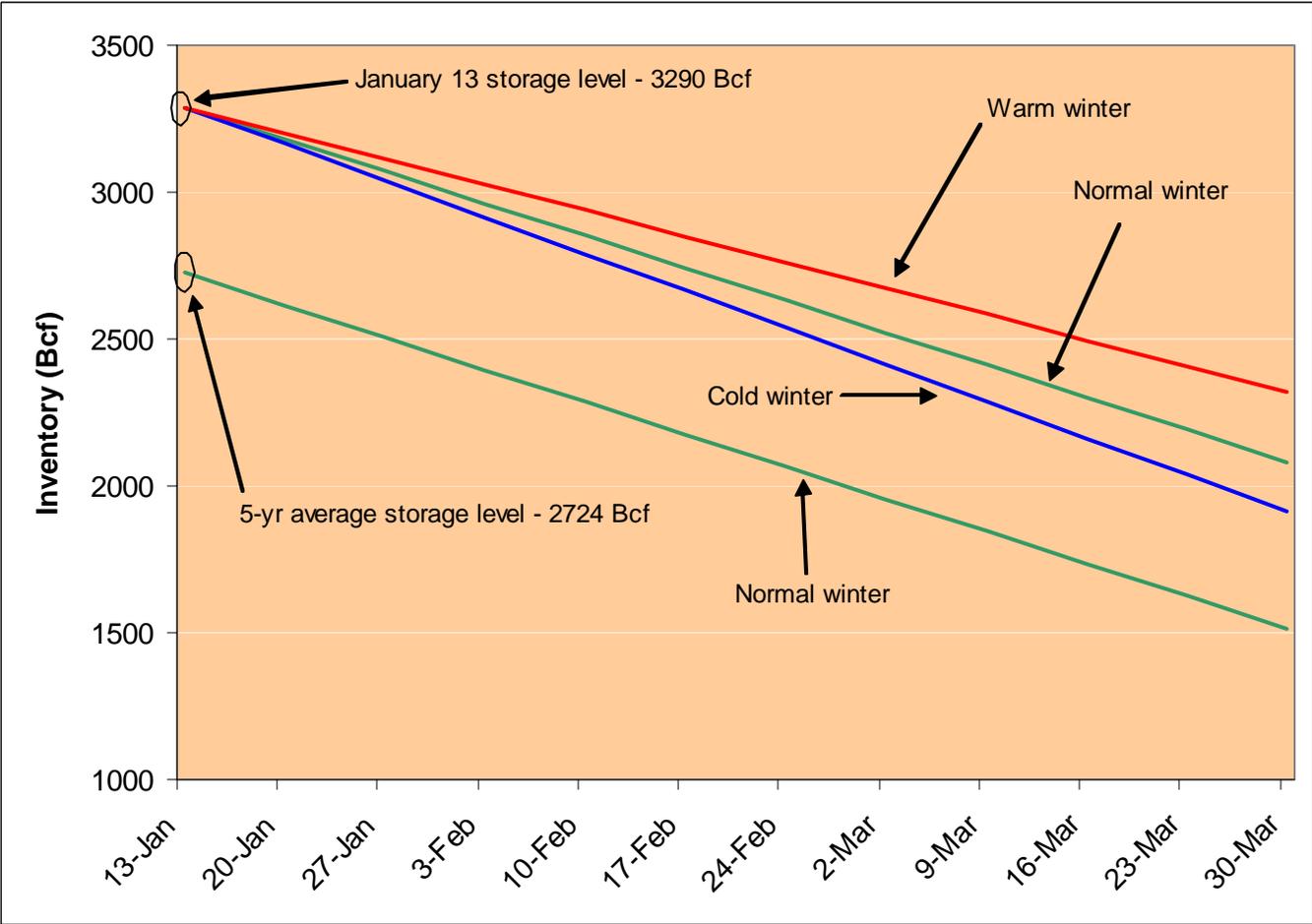
Regional Totals of Working Gas in Storage



Source: Derived from EIA data
February 2012 Western Snapshot

Updated: February 14, 2012

Storage Inventory Could Set a Record

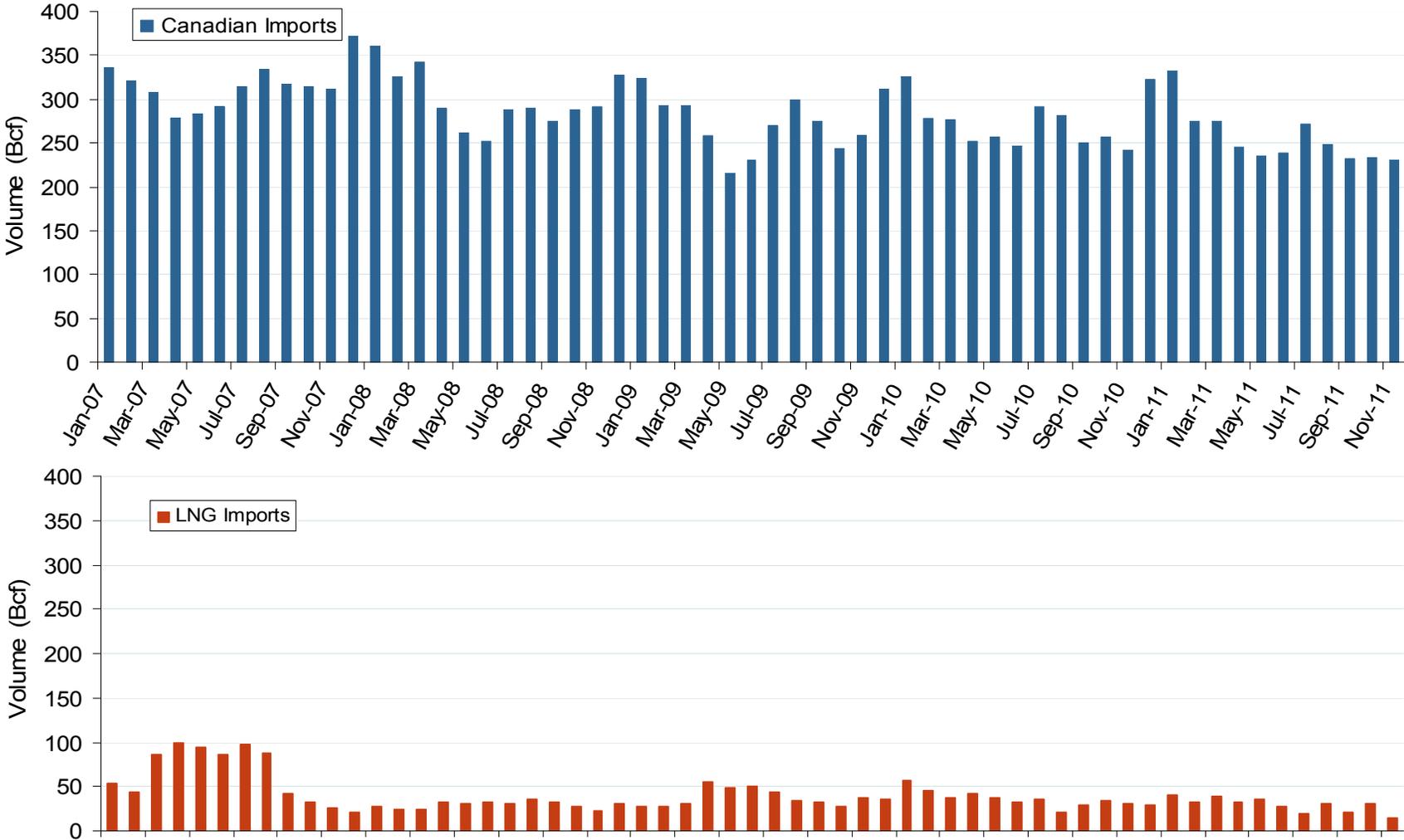


Source: Derived from EIA Weekly Natural Gas Storage Report data.

Updated March 5, 2010

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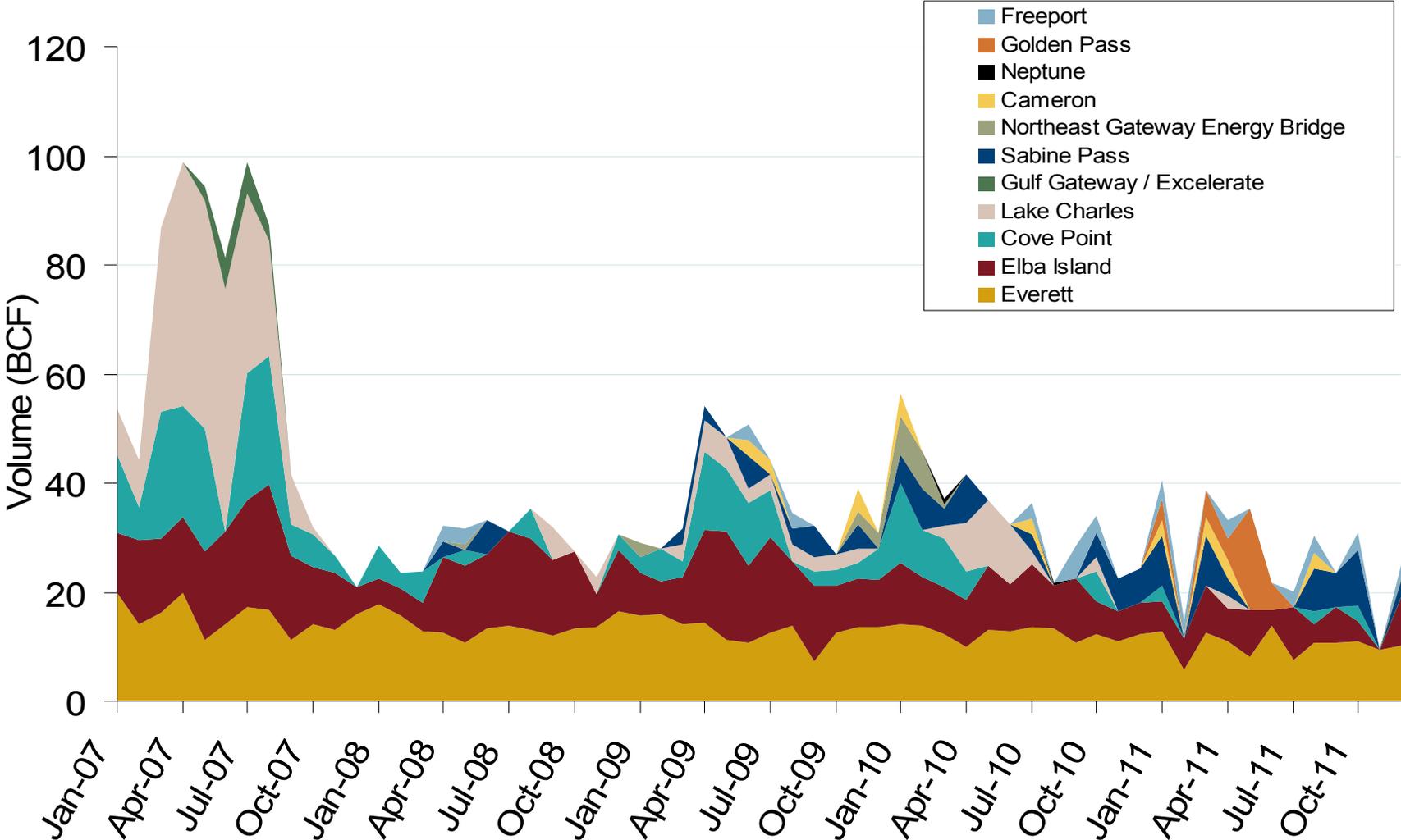
Canadian and LNG Natural Gas Imports Into the U.S.



Source: EIA Natural Gas Monthly
February 2012 Western Snapshot

Updated: February 14, 2012

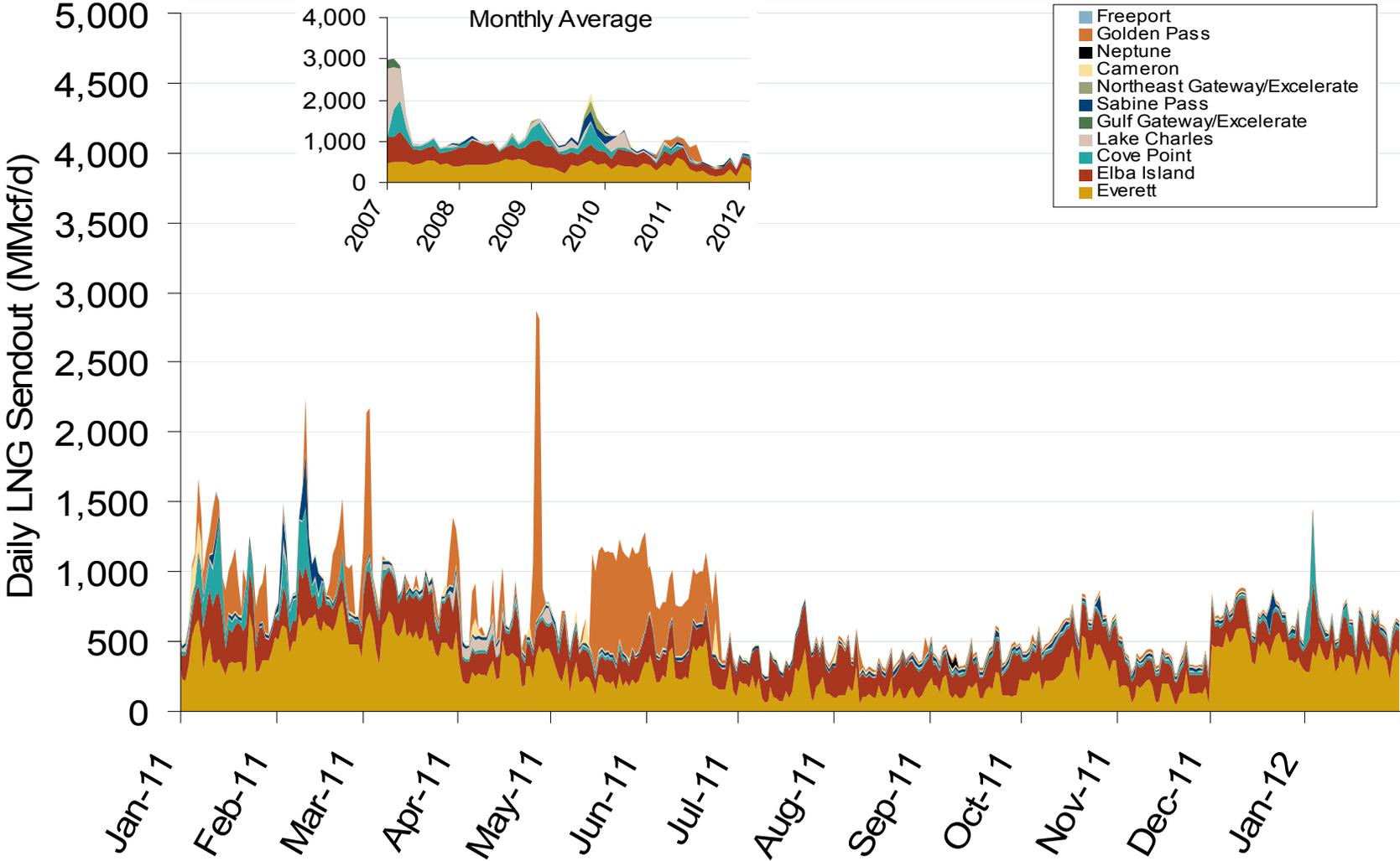
Monthly Gas Imports at Existing U.S. LNG Facilities



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

Updated: February 06, 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

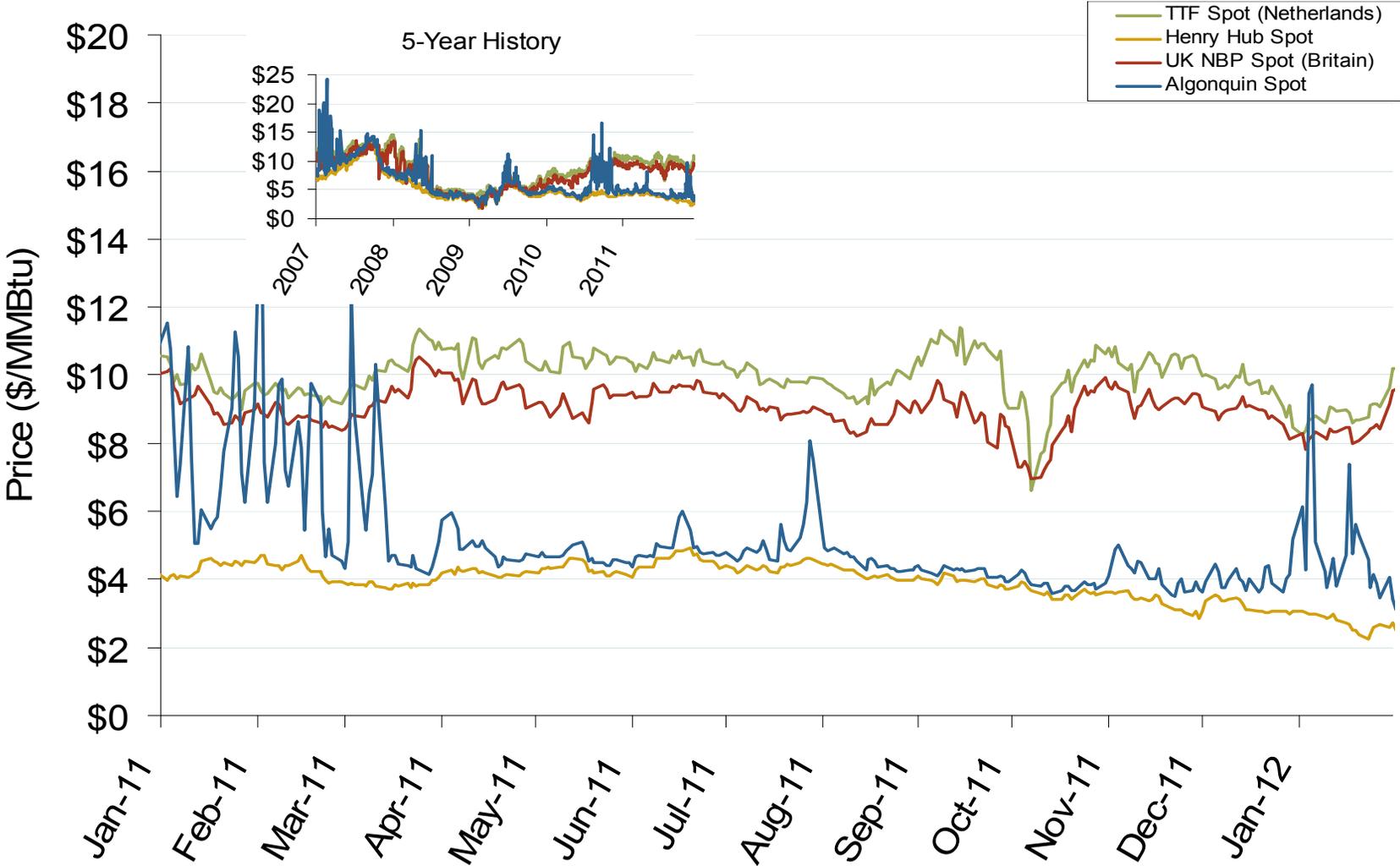
February 2012 Western Snapshot

Updated: February 21, 2012

World LNG Estimated March 2012 Landed Prices



Atlantic Basin European and US Spot Natural Gas Prices



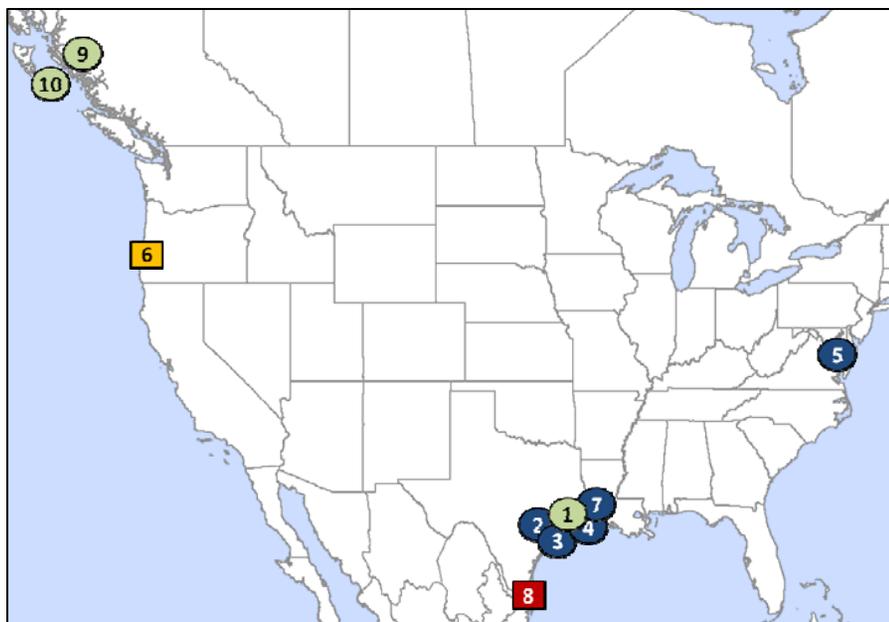
Source: Derived from *Bloomberg* and *ICE* data
February 2012 Western Snapshot

Updated: February 14, 2012

North America: LNG Export Projects

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Advances in LNG Exports Continue – Sabine Pass Still Ahead



		Quantity (Bcfd)	DOE FTA Approval	DOE Non-FTA Approval	FERC Approval
1	Sabine Pass LNG	2.2	Approved	Approved	Filed
2	Freeport LNG	1.2	Approved	Under Review	na
3	Freeport LNG Exp.	1.2	na	Under Review	na
4	Lake Charles LNG	2	Approved	Under Review	na
5	Cove Point LNG	1	Approved	Under Review	na
6	Jordan Cove LNG	1.2	Approved	na	na
7	Cameron LNG	1.7	Approved	Under Review	na
8	Gulf Coast LNG	2.8	Under Review	Under Review	na
TOTAL		13.3			
		Quantity (Bcfd)	NEB FTA Approval	NEB Non-FTA Approval	
9	Kitimat LNG	1.2	Approved	Approved	
10	BC LNG	0.25	Approved	Approved	
TOTAL		1.45			

Cheniere Energy Export Deals for Sabine Pass LNG Capacity

	BG	BG	Gas Natural	GAIL	KOGAS
Contracted Capacity	460 MMcfd	263 MMcfd	460 MMcfd	460 MMcfd + 30 MMcfd	460 MMcfd
Contract Term	20 yrs	20 yrs	20 yrs	20 yrs	20 yrs
Reservation Fee	\$2.25/MMBtu	\$3.00/MMBtu	\$2.49/MMBtu	\$3.00/MMBtu	\$3.00/MMBtu
Gas Price	100% of HH	100% of HH	100% of HH	100% of HH	100% of HH
Liquefaction Cost	15% of HH	15% of HH	15% of HH	15% of HH	15% of HH

Sources: DOE, NEB, SEC

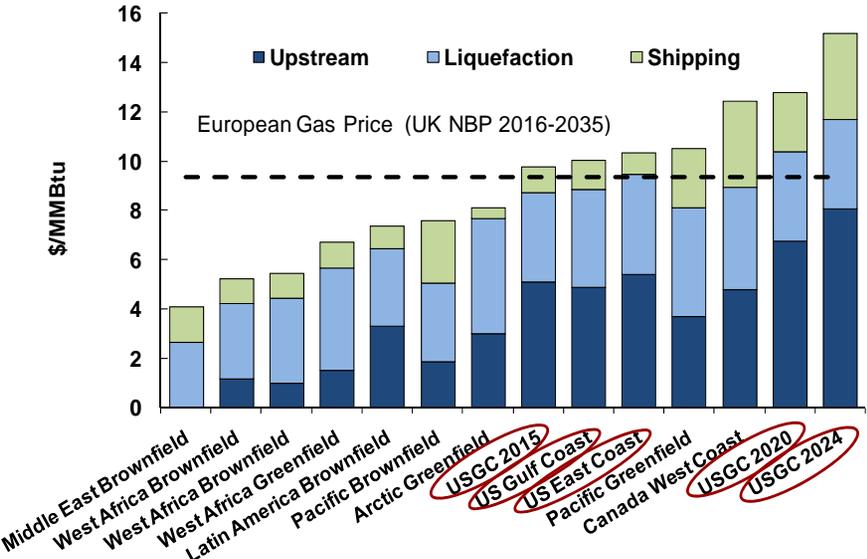
February 2012 Western Snapshot

Updated February 2012

U.S. LNG Exports – The Most Expensive

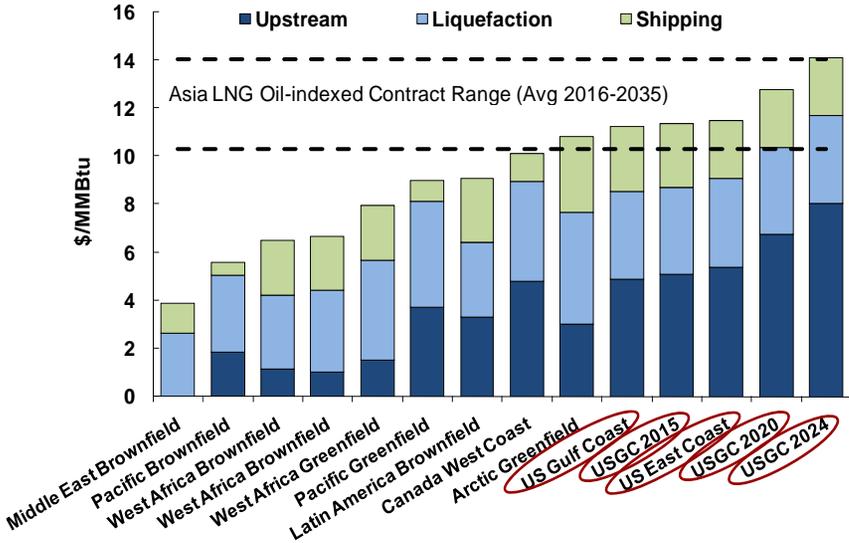
EIA Study					
LNG Export Scenario	Base	I	II	III	IV
Total Export Capacity		6 Bcfd	6 Bcfd	12 Bcfd	12 Bcfd
Rate per year		1 Bcfd	3 Bcfd	1 Bcfd	3 Bcfd
Henry Hub Price	5.17	5.69	5.83	5.91	6.51
Navigant Study					
LNG Export Scenario	Base	I	II	III	IV
Total Export Capacity	2 Bcfd				
Henry Hub Price	3.29	3.49	3.64	4.5	5.02
Deloitte Study					
LNG Export Scenario	Base				
Total Export Capacity	6 Bcfd				
Price Effect	+22¢				
Nymex 2015 avg (1/23/12)	4.13				
Henry Hub Price	4.35				

LNG Shipped to Europe



Sources: IHS CERA, Company websites
February 2012 Western Snapshot

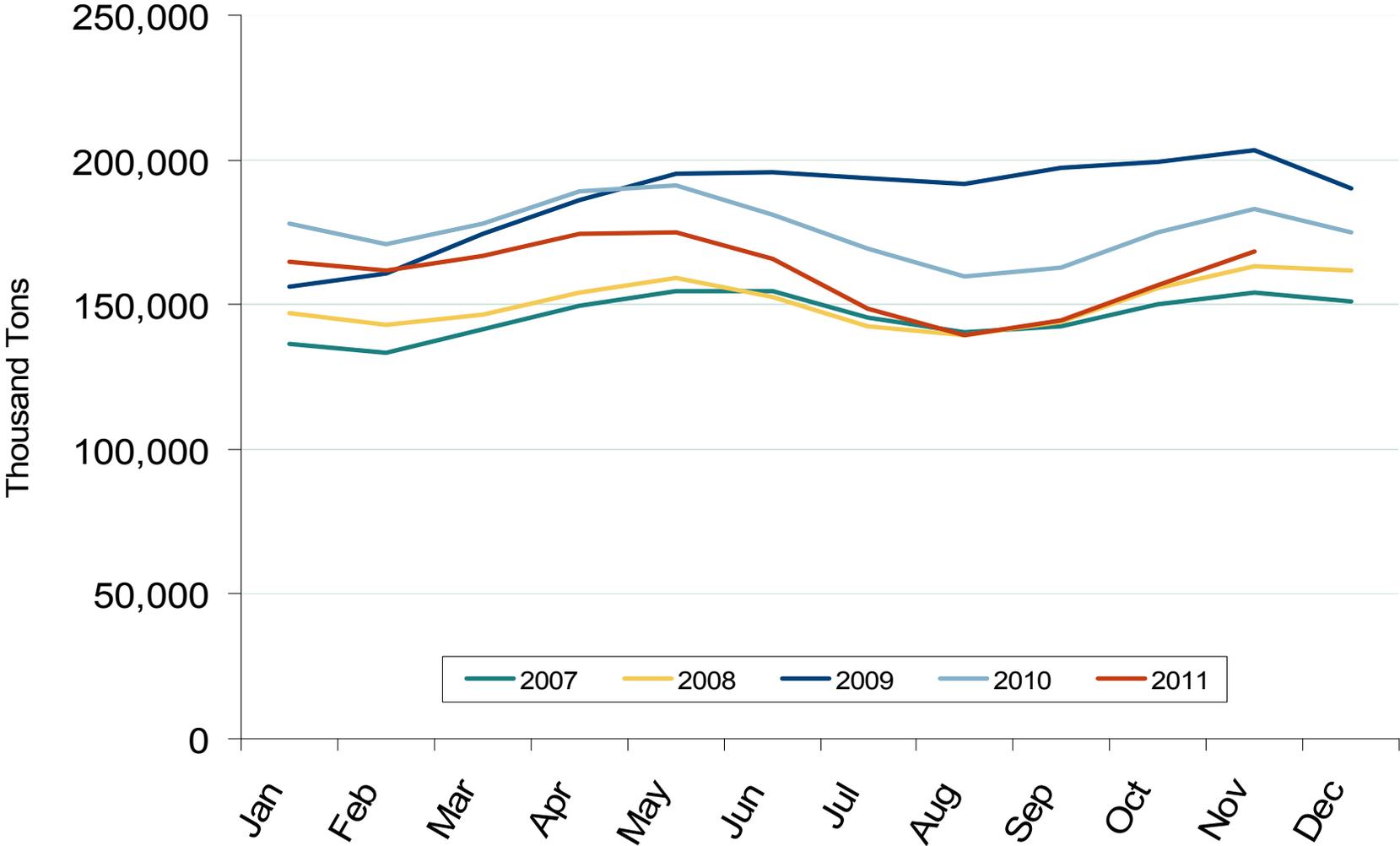
LNG Shipped to Asia



Updated February 2012

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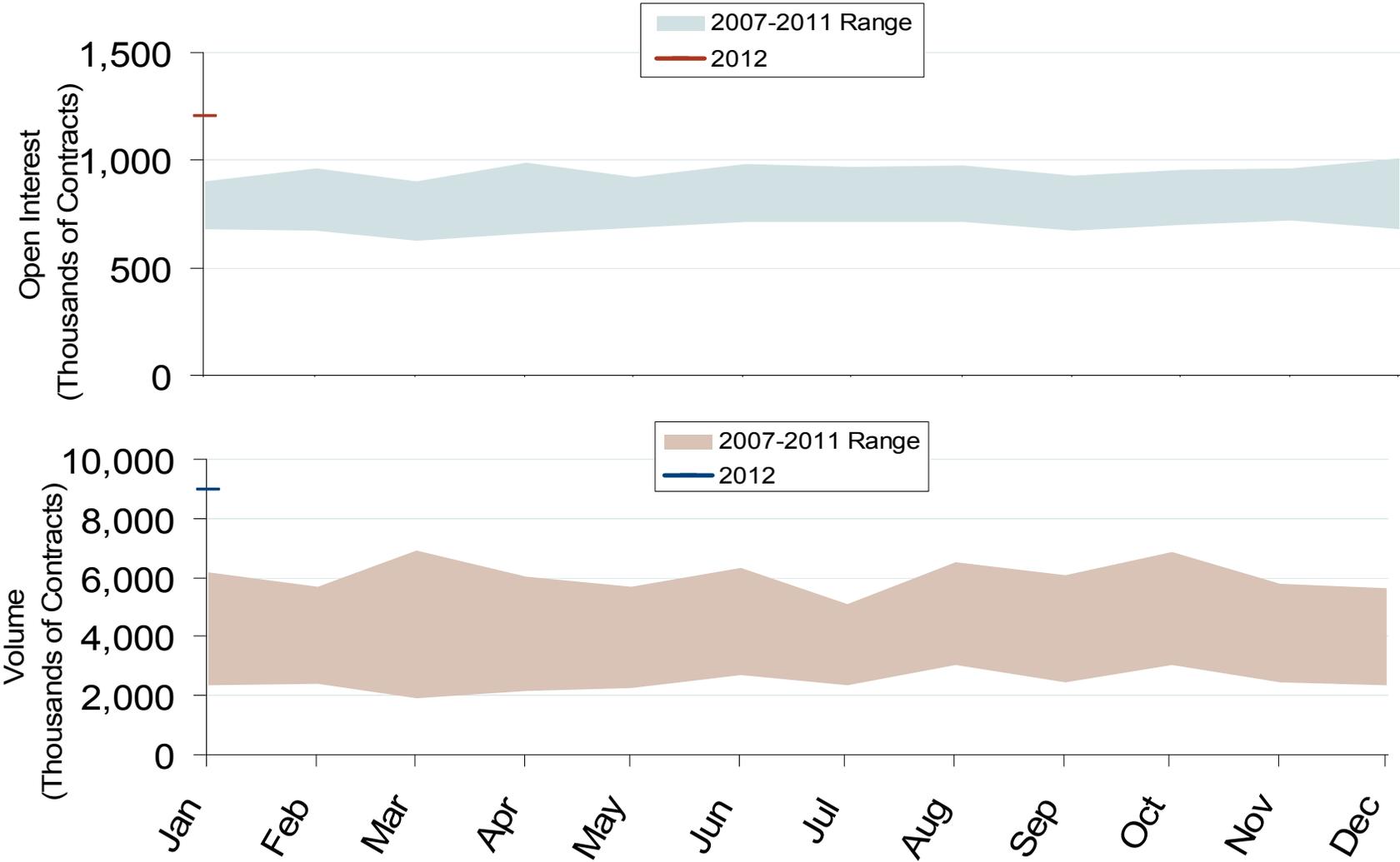
U.S. Coal Stockpiles at Electric Power Generating Facilities



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

Updated: February 08, 2012

Nymex NG Futures Month-End Open Interest and Monthly Volume

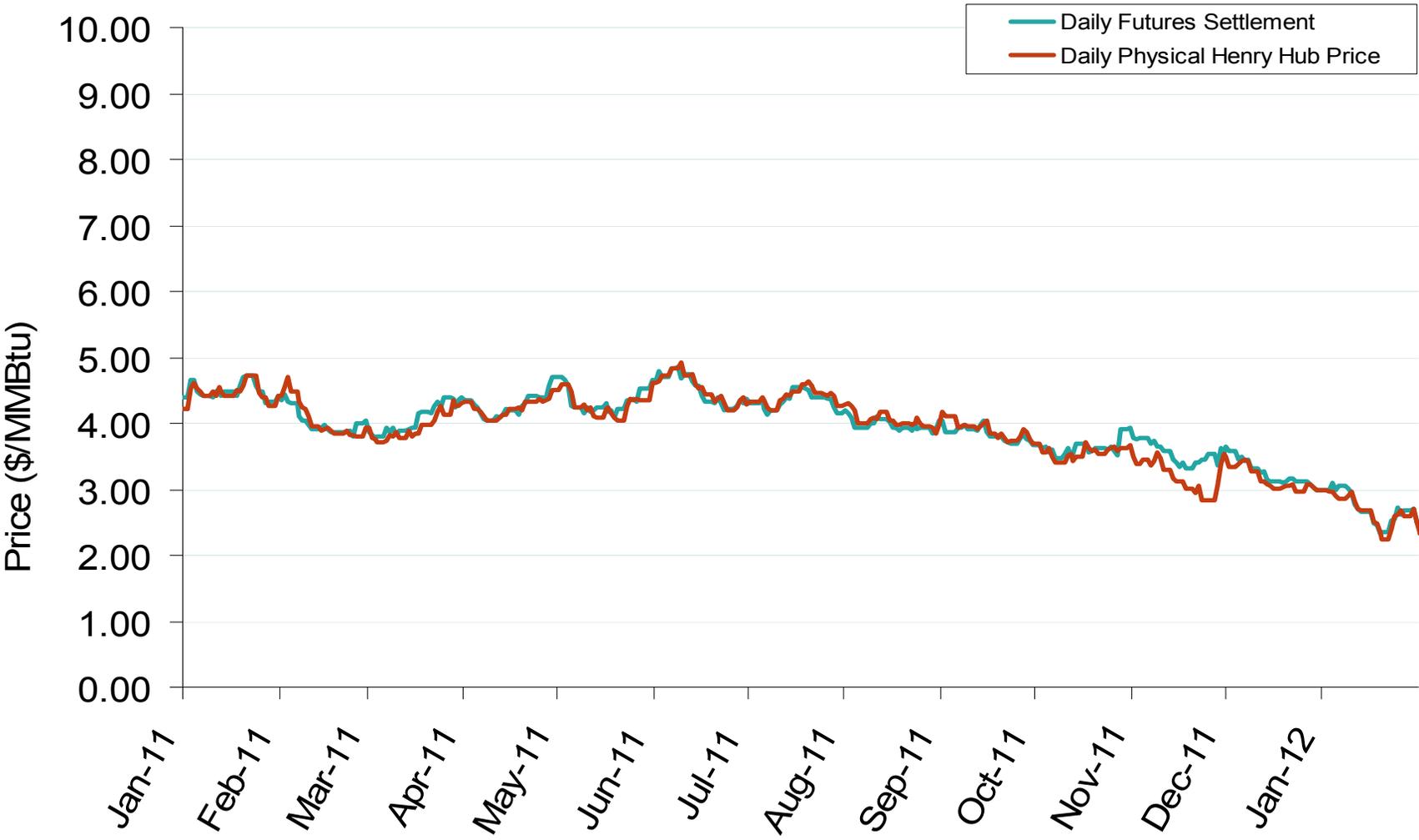


Source: Derived from Nymex data
February 2012 Western Snapshot

Updated: February 08, 2012

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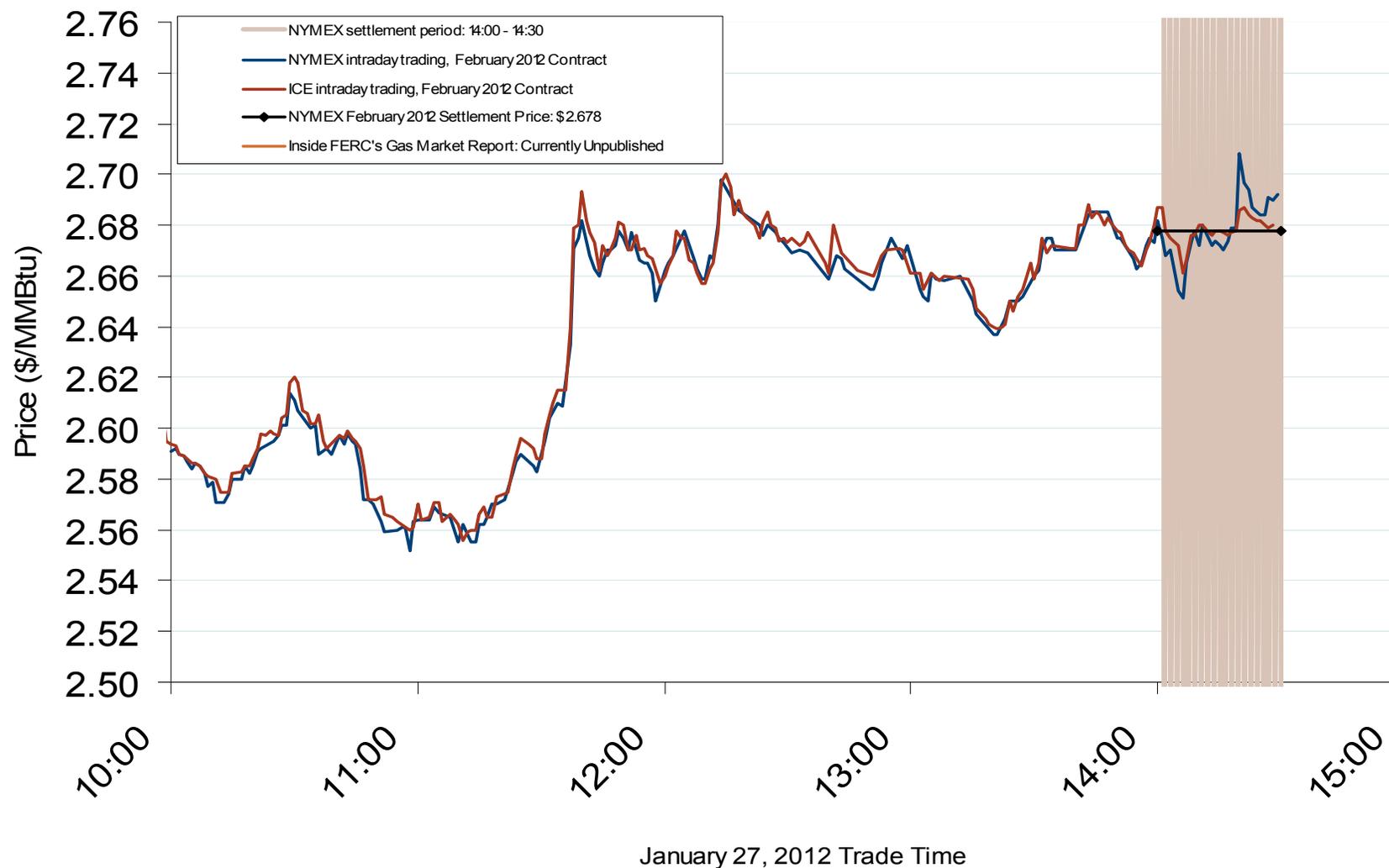
Daily Physical Index Price & Daily Futures Settlement Price



Source: Derived from *Bloomberg* data
February 2012 Western Snapshot

Updated: February 14, 2012

Nymex and ICE Contract Final Settlement - February 2012



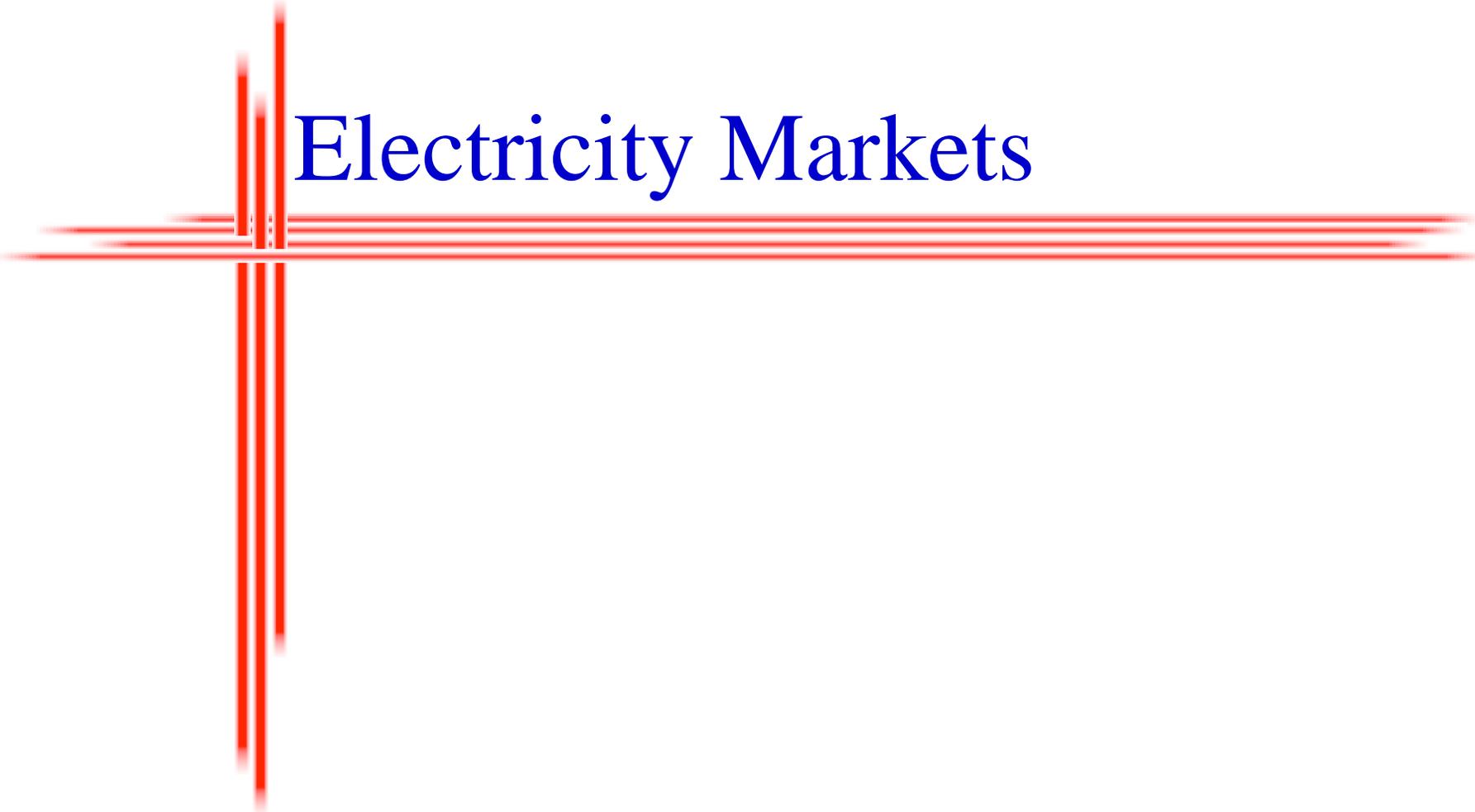
Notes: The final settlement day for this Nymex contract is three business days before the start of the contract term (which is the 1st day of the month)

Source: Derived from *Nymex* and *ICE* data

February 2012 Western Snapshot

Updated: February 06, 2012

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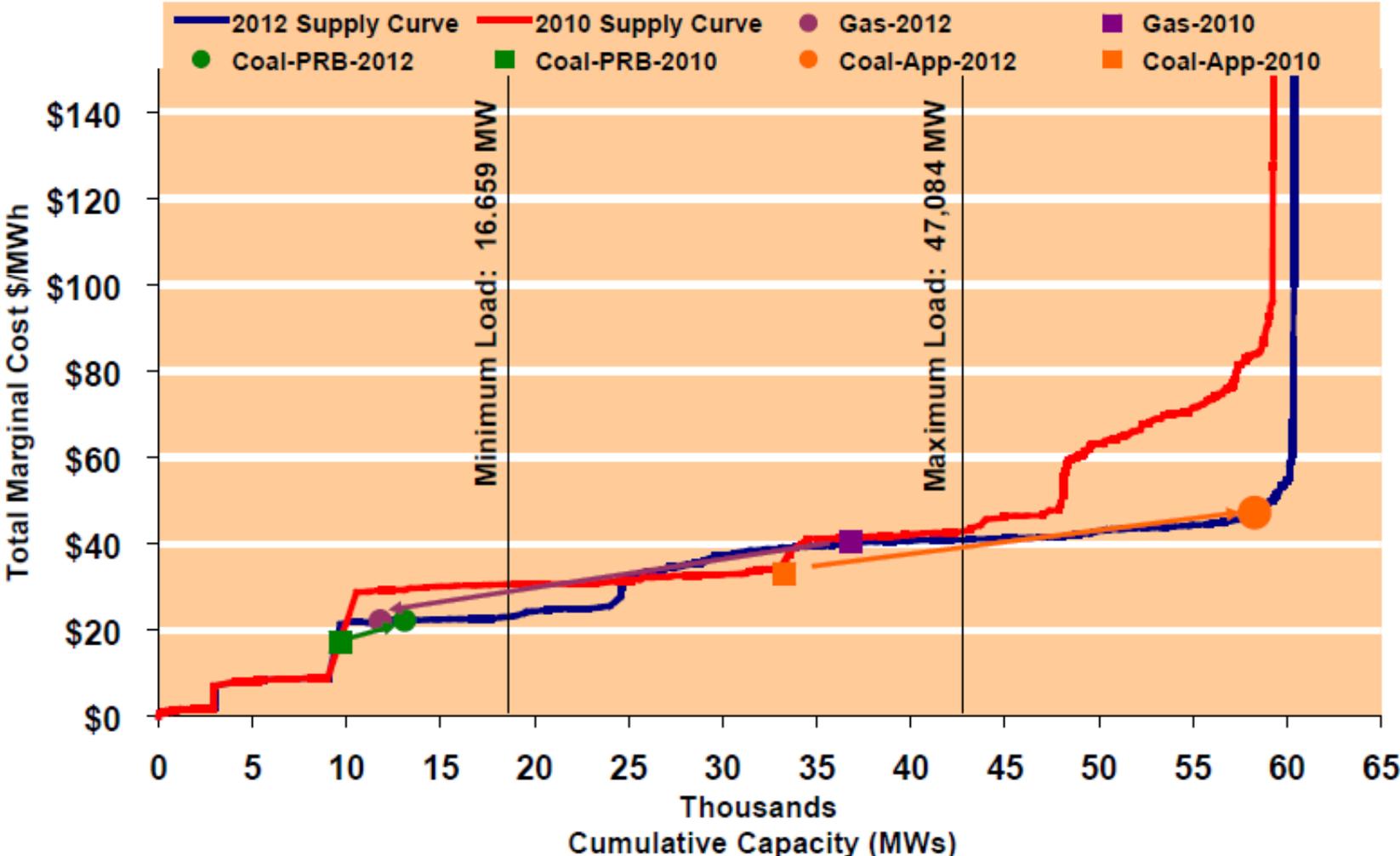
Electricity Markets

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 (2/3/11) (% of historical average)	Current (2/6/12) (% of historical average)	% Change from One Year Ago
Washington	21,500	0	81%	93%	+12%
Oregon	9,100	0	81%	68%	-13%
California	10,400	0	127%	40%	-87%
Idaho	2,700	19,700	97%	77%	-20%
Montana	2,700	16,200	109%	93%	-16%
British Columbia	10,000	16,200	85%	112%	+27%

- 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).

2010 vs. 2012 Coal & Gas Unit Supply Stack Movements in the Southeast



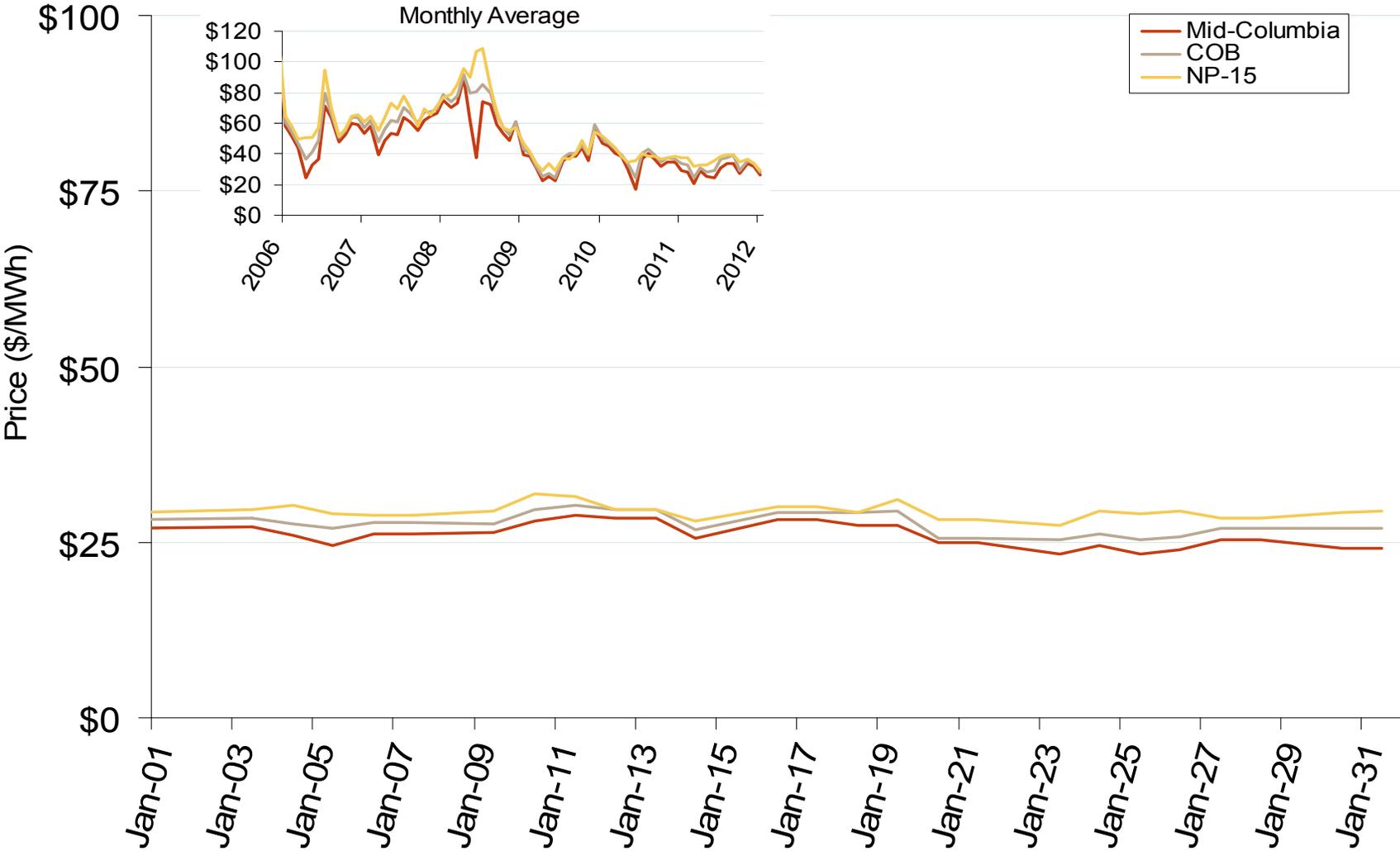
Source: Derived from Ventyx data
February 2012 Western Snapshot

Updated February 10, 2012

Northwest Electric Market: Last Month's Northwestern Index Prices

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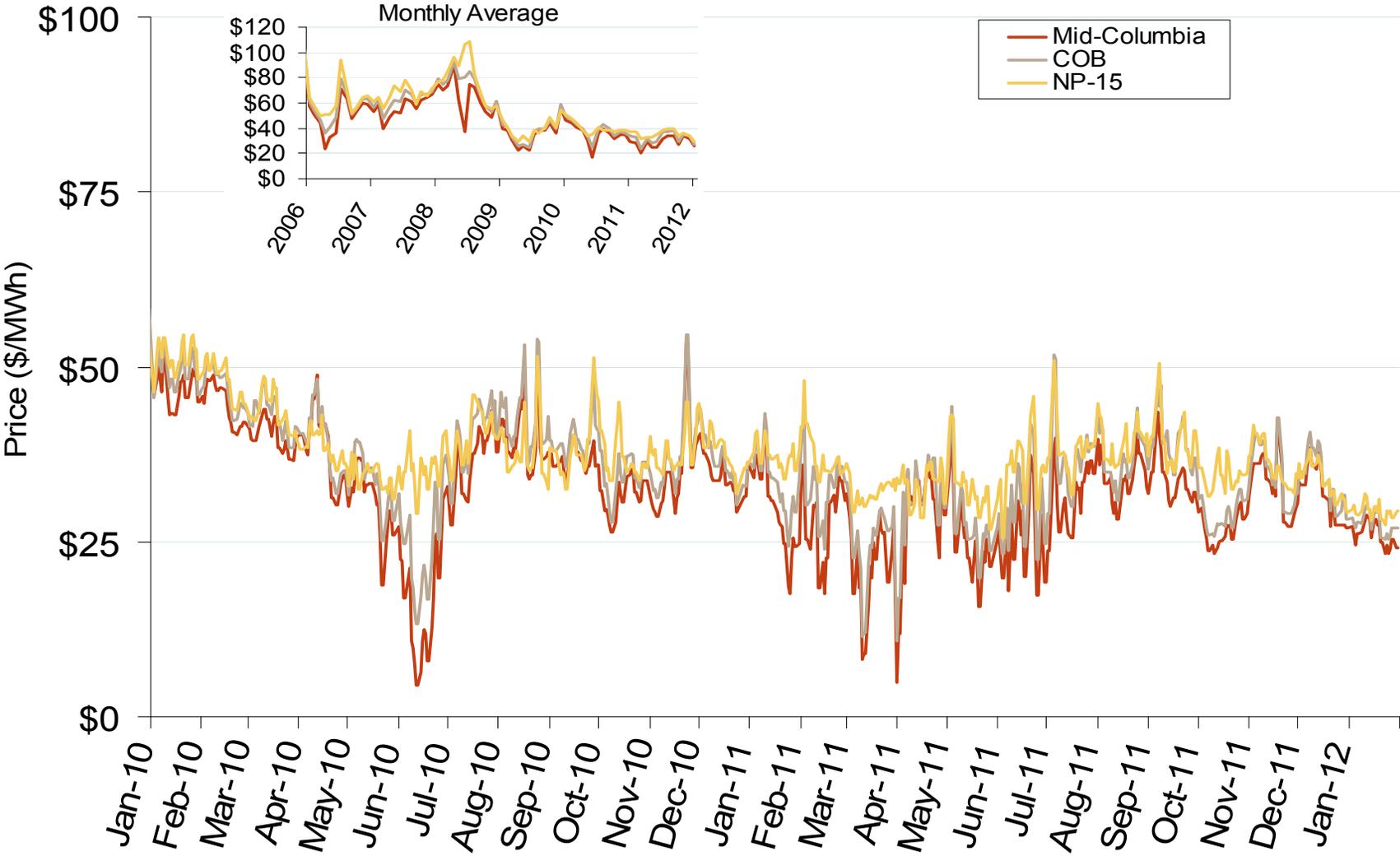
Northwestern Daily Index Day-Ahead On-Peak Prices



Source: Derived from Platts data
February 2012 Western Snapshot

Updated: February 09, 2012

Northwestern Daily Index Day-Ahead On-Peak Prices

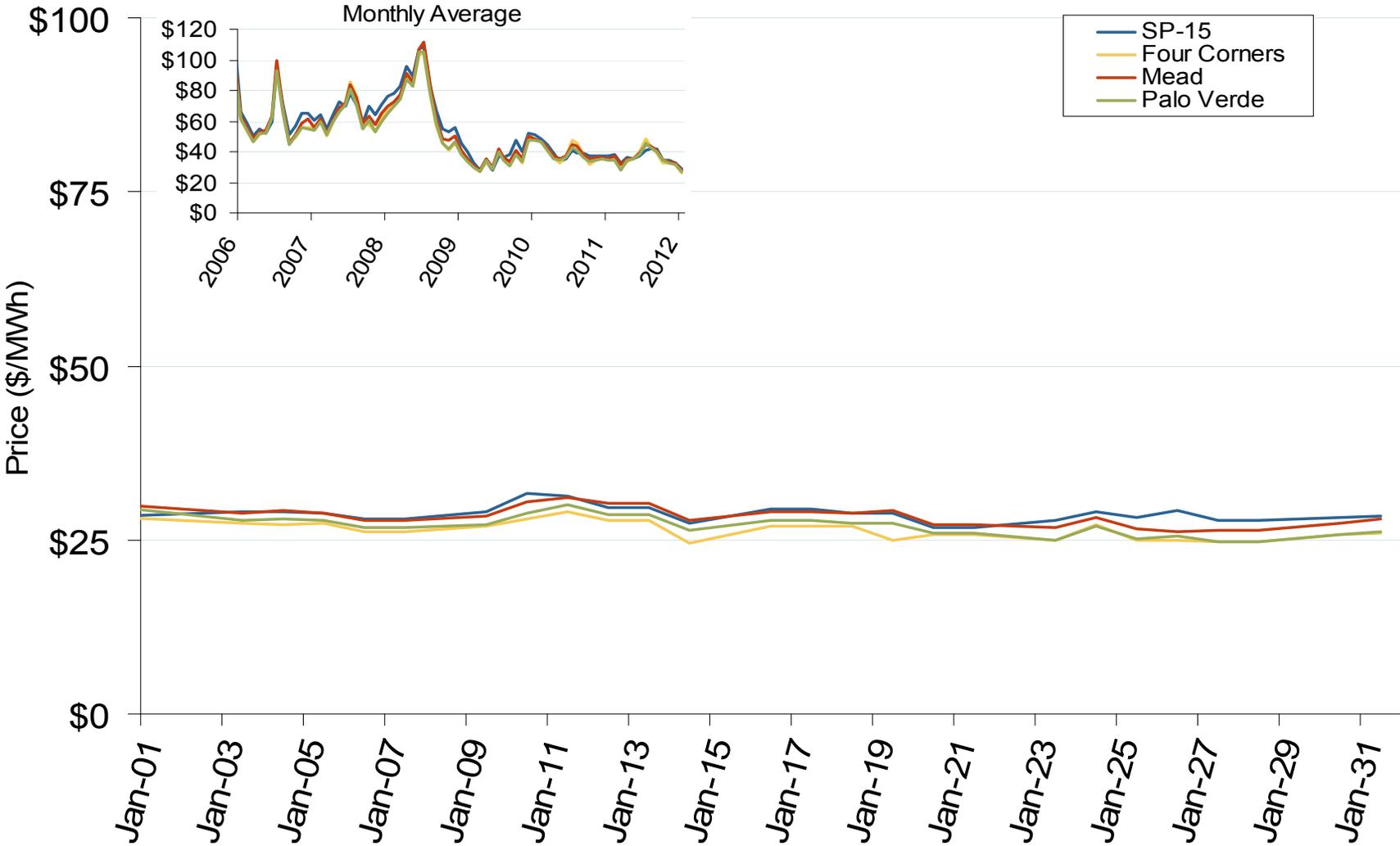


Source: Derived from Platts data
February 2012 Western Snapshot

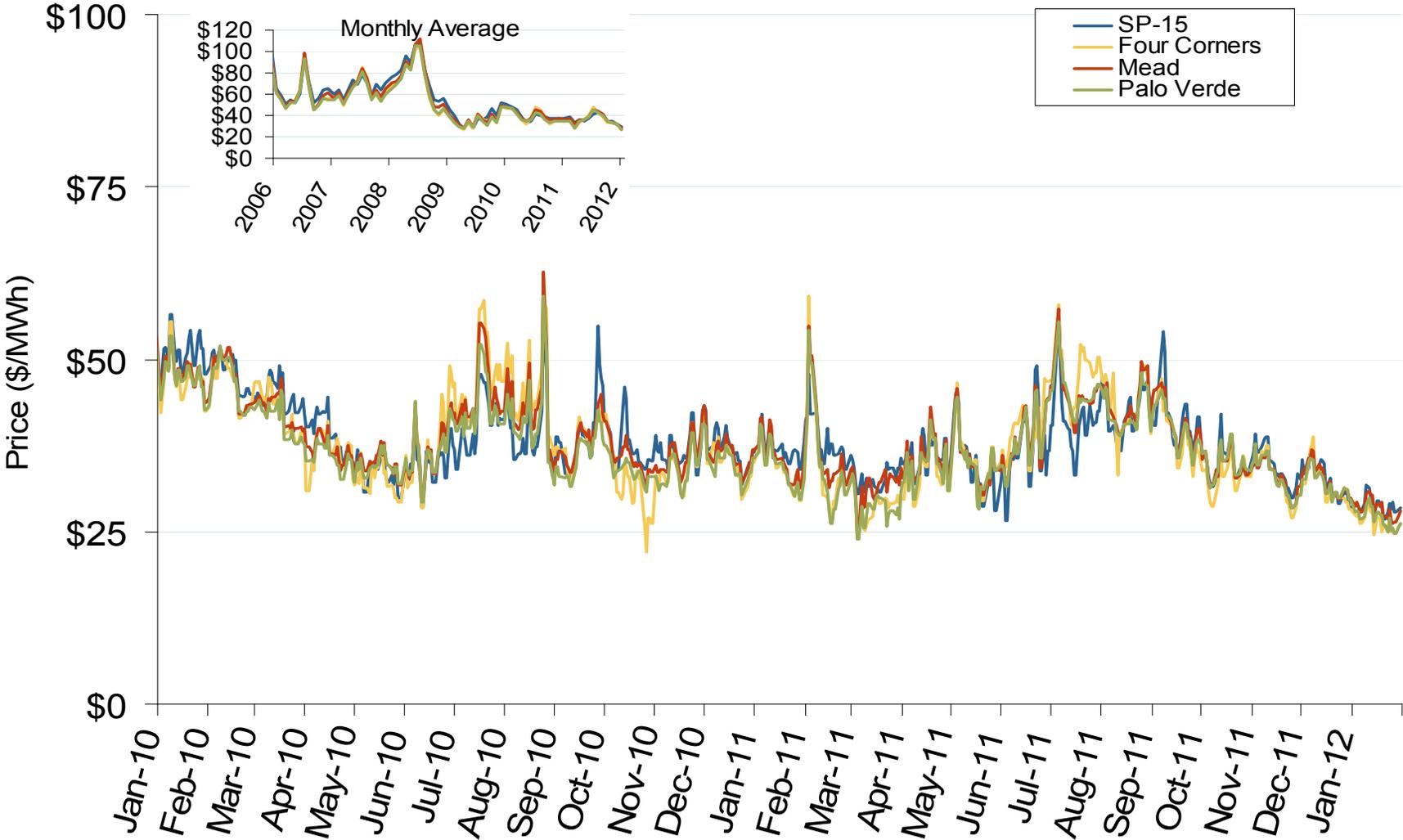
Updated: February 09, 2012

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Southwestern Daily Index Day-Ahead On-Peak Prices



Southwestern Daily Index Day-Ahead On-Peak Prices



Source: Derived from *Platts* data
February 2012 Western Snapshot

Updated: February 09, 2012

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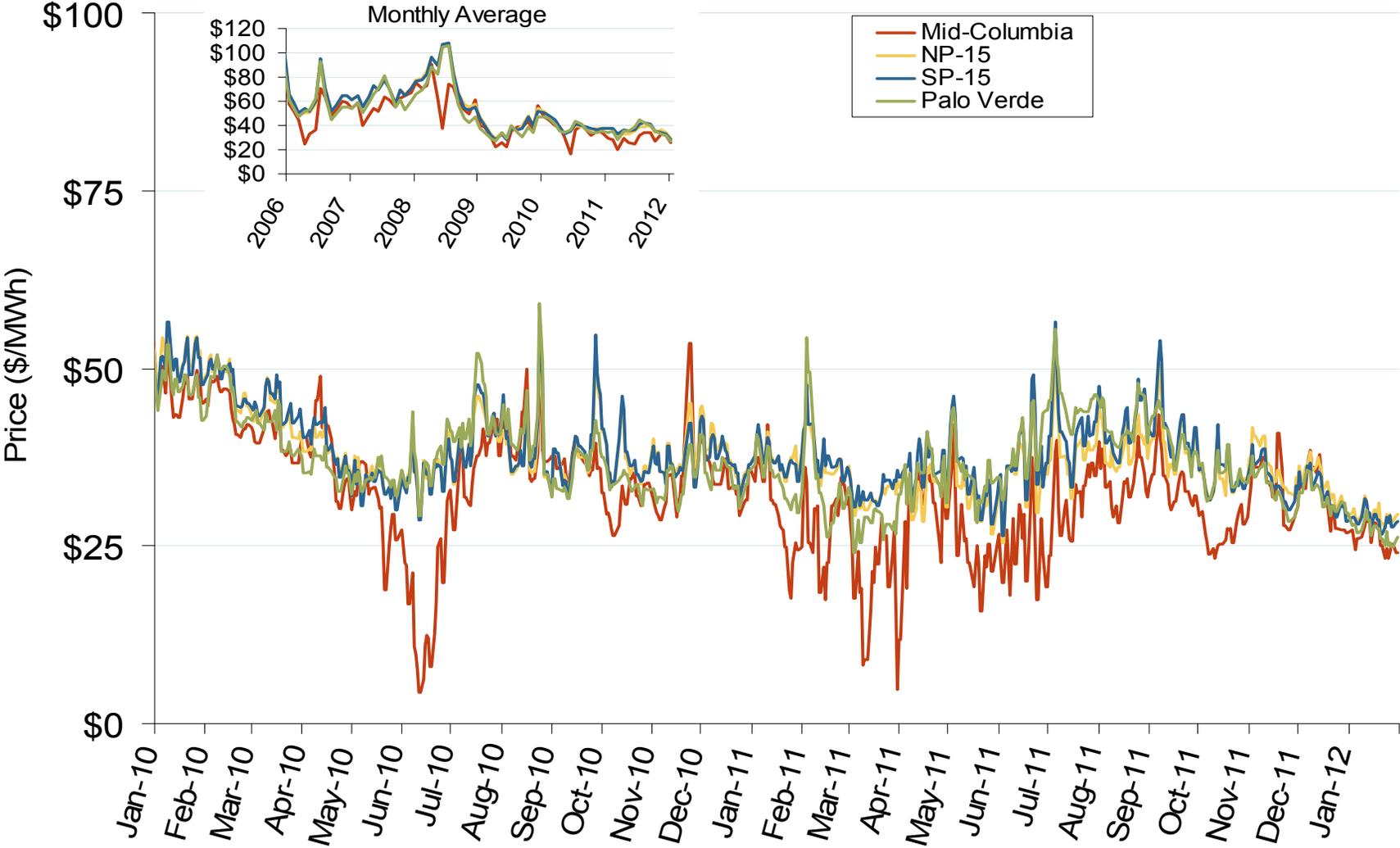
Western Daily Index Day-Ahead On-Peak Prices



Source: Derived from Platts data
February 2012 Western Snapshot

Updated: February 09, 2012

Western Daily Index Day-Ahead On-Peak Prices

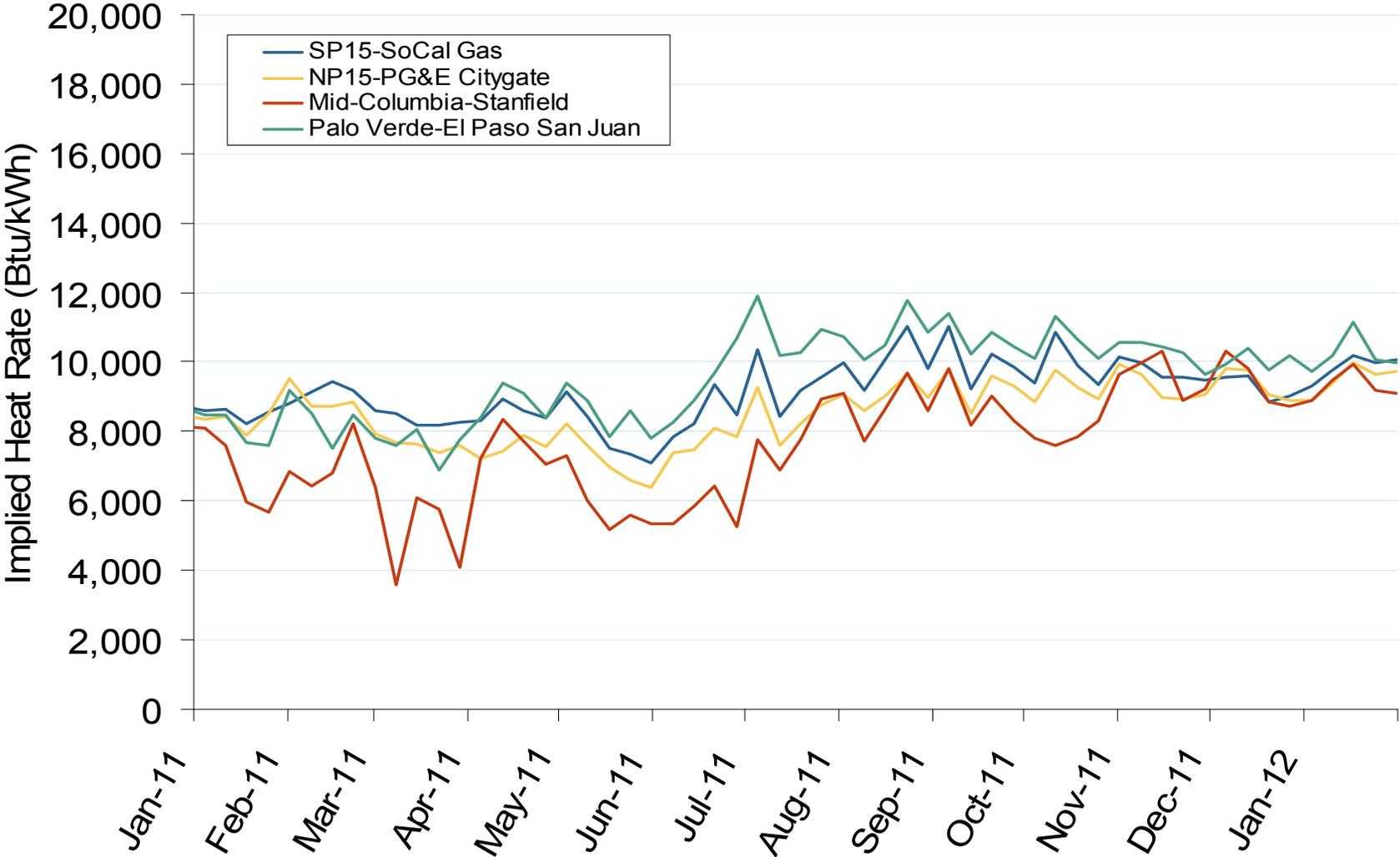


Source: Derived from *Platts* data
February 2012 Western Snapshot

Updated: February 09, 2012

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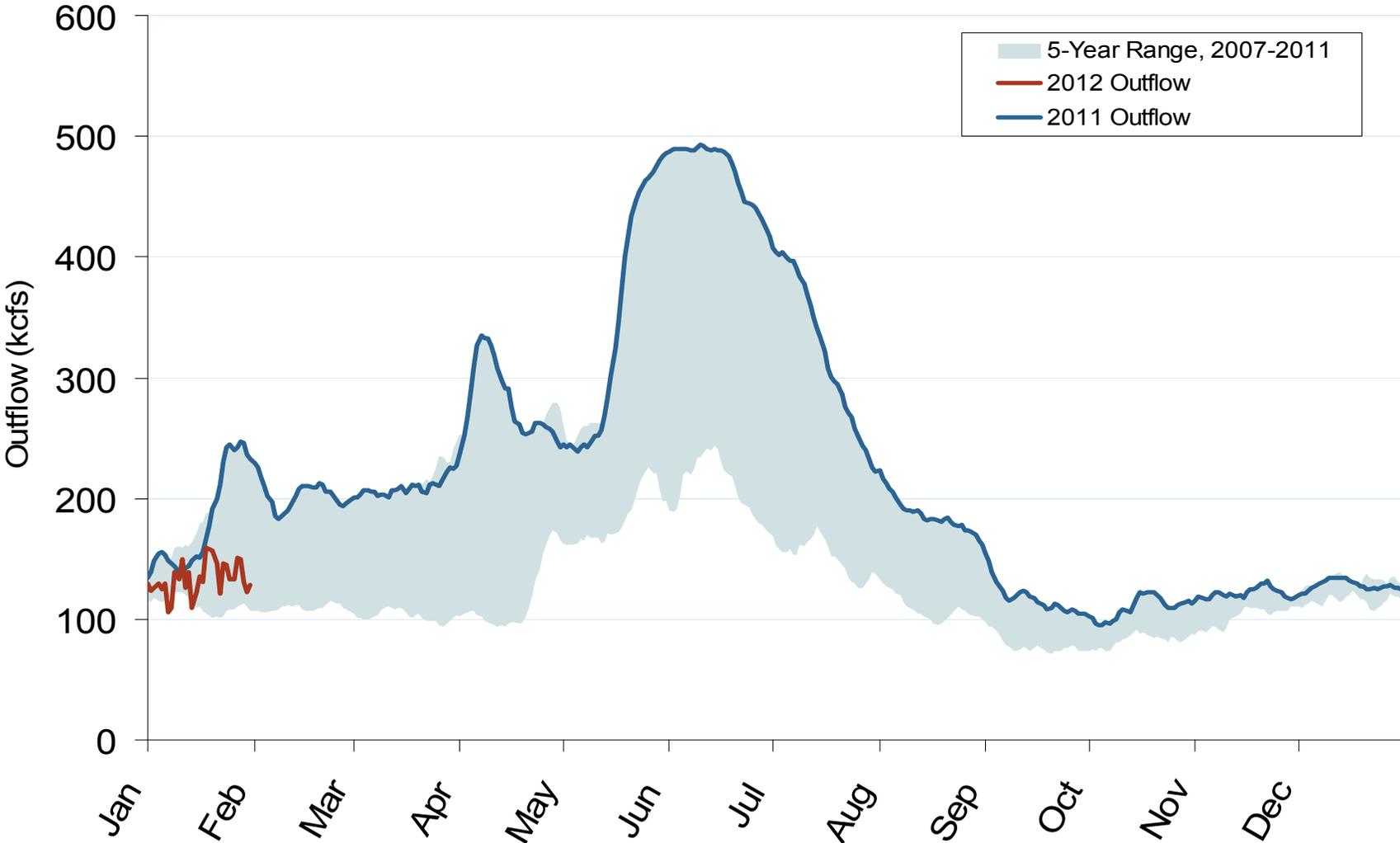
Implied Heat Rates at Western Trading Points - Weekly Avgs.



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

Updated: February 14, 2012

Stream Flows at the Dalles Dam



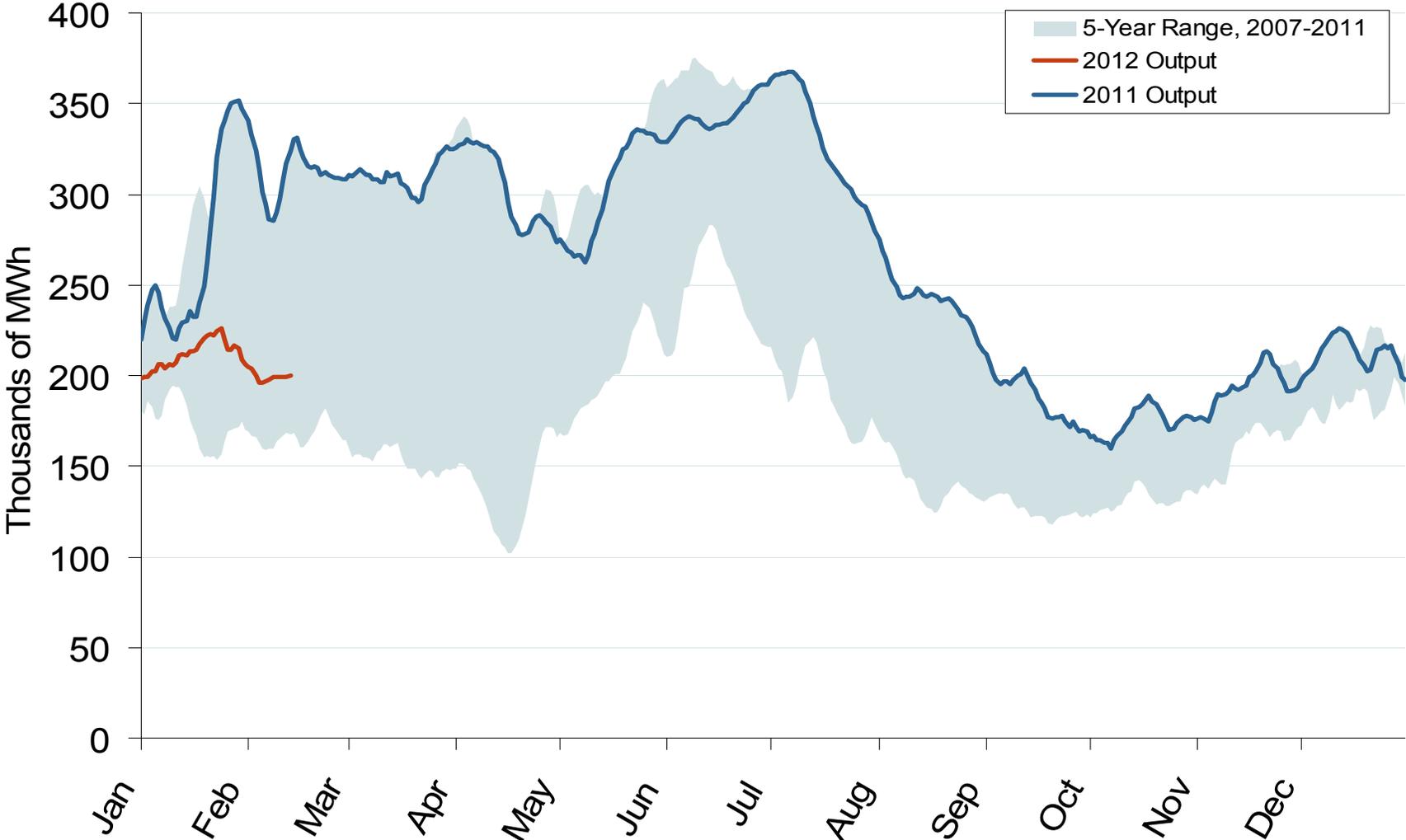
Notes: Trend lines are 7-day moving averages

Source: Derived from USACE data

February 2012 Western Snapshot

Updated: February 21, 2012

Pacific Northwest Hydroelectric Production



Notes: Trend lines are 7-day moving averages

Source: Derived from USACE data reflecting the output of the 24 largest facilities

February 2012 Western Snapshot

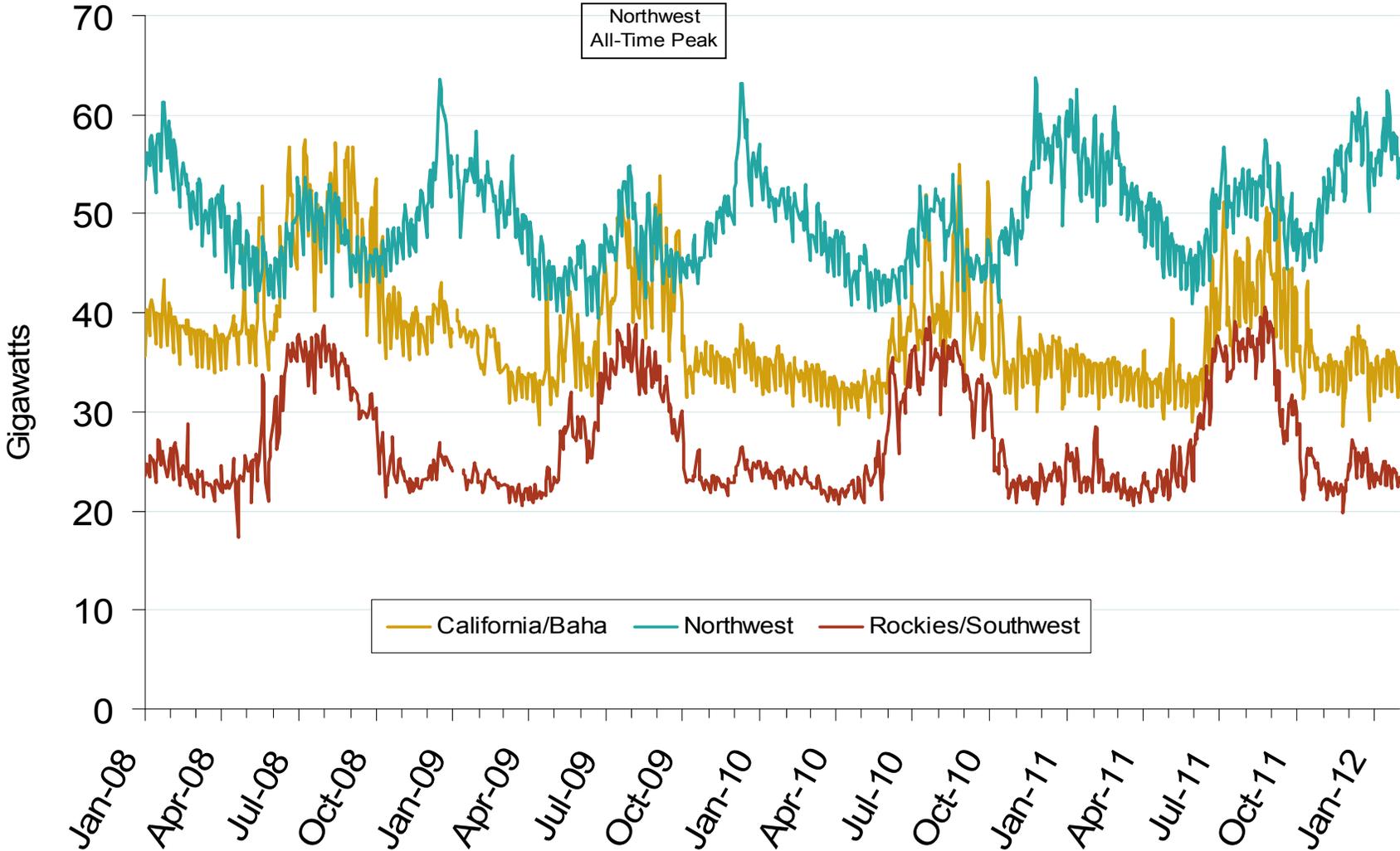
Updated: February 21, 2012

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 (2/3/11) (% of historical average)	Current (2/6/12) (% of historical average)	% Change from One Year Ago
Washington	21,500	0	81%	93%	+12%
Oregon	9,100	0	81%	68%	-13%
California	10,400	0	127%	40%	-87%
Idaho	2,700	19,700	97%	77%	-20%
Montana	2,700	16,200	109%	93%	-16%
British Columbia	10,000	16,200	85%	112%	+27%

- 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).

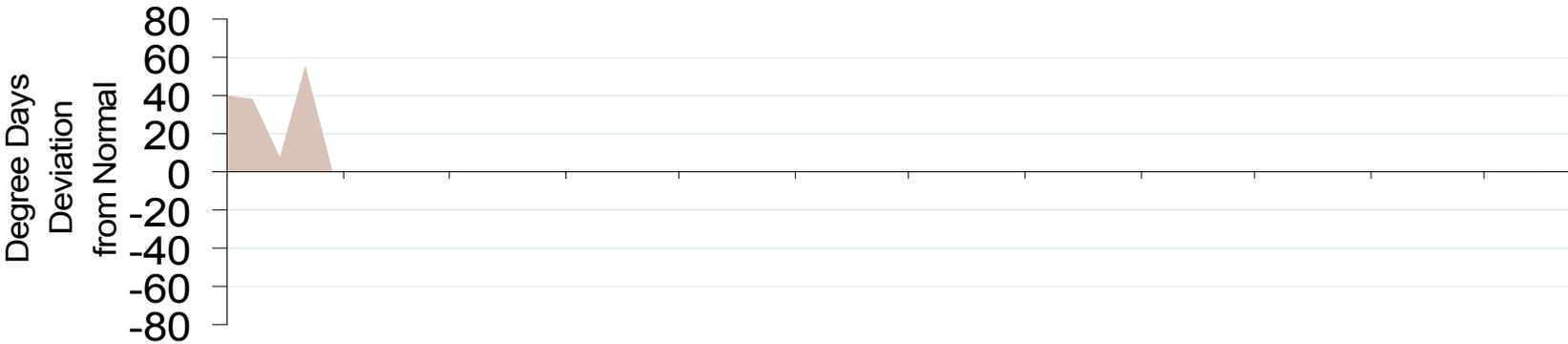
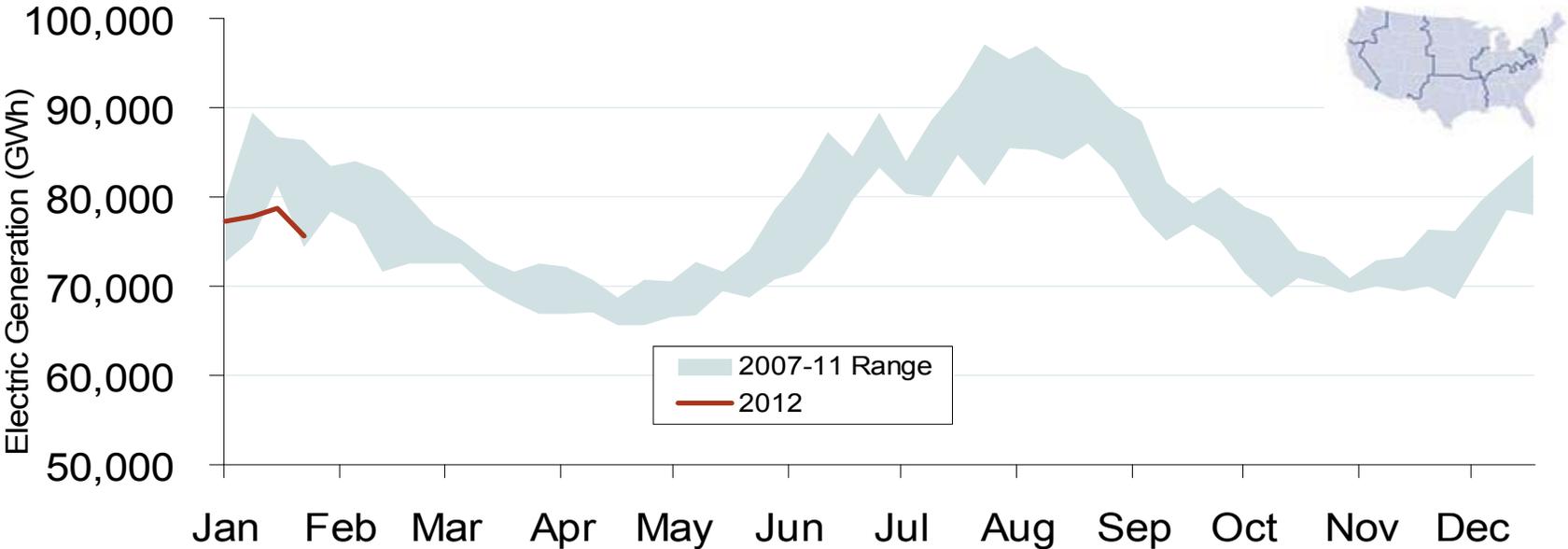
Western Daily Actual Peak Demand



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

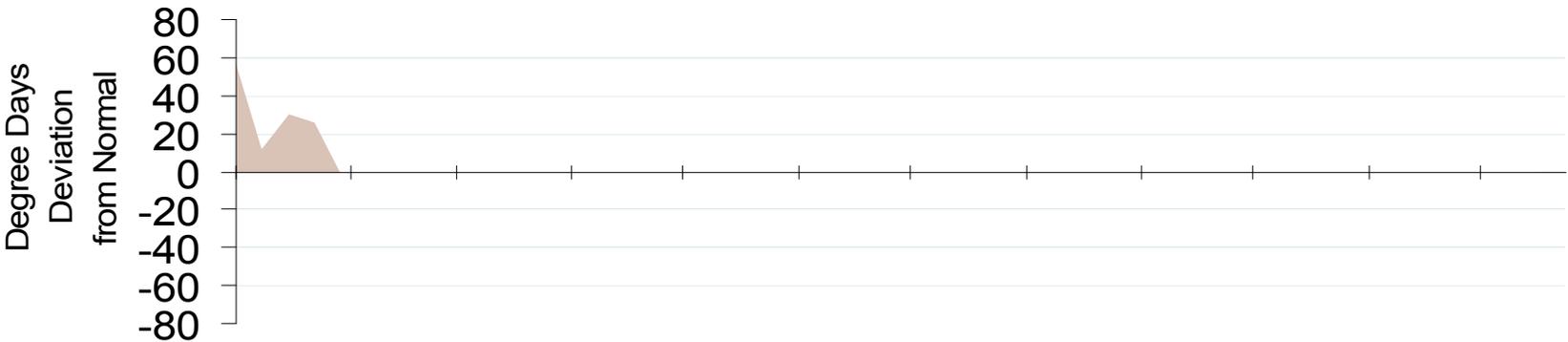
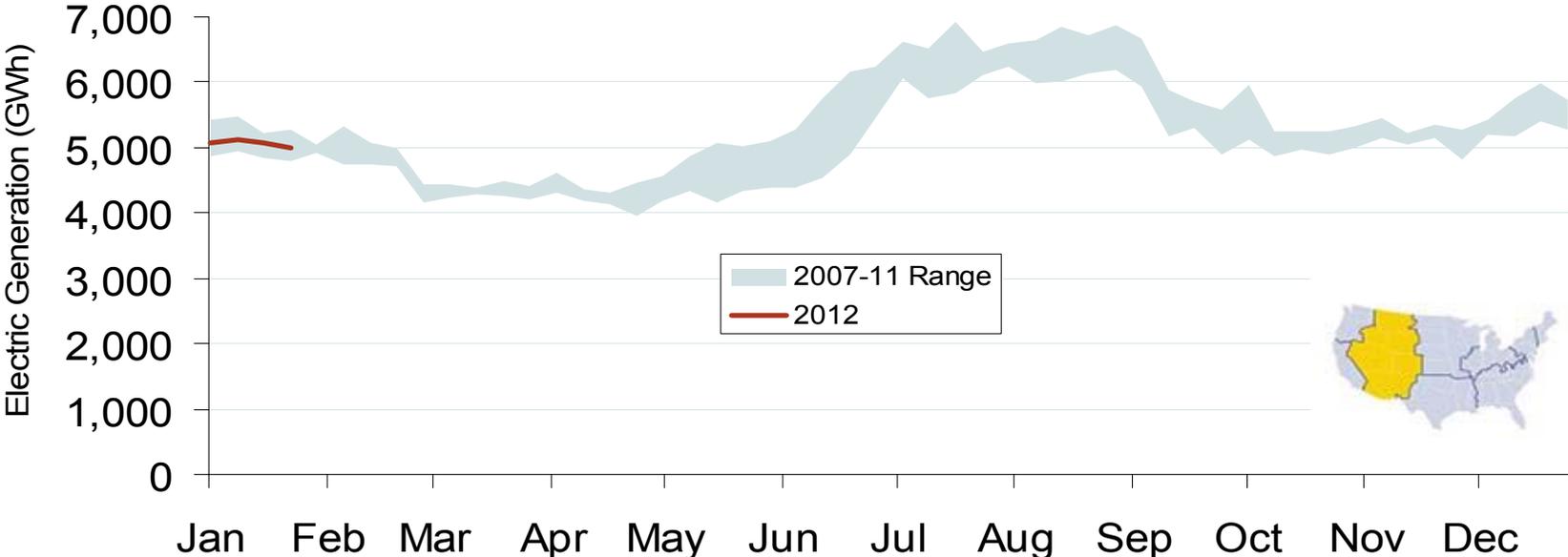
Source: Derived from WECC Daily Report data available at <http://wecc.biz>

Weekly U.S. Electric Generation Output and Temperatures



Federal Energy Regulatory Commission • Market Oversight • www.ferc.gov/oversight

Weekly Power Generation & Temps. - Rocky Mountains

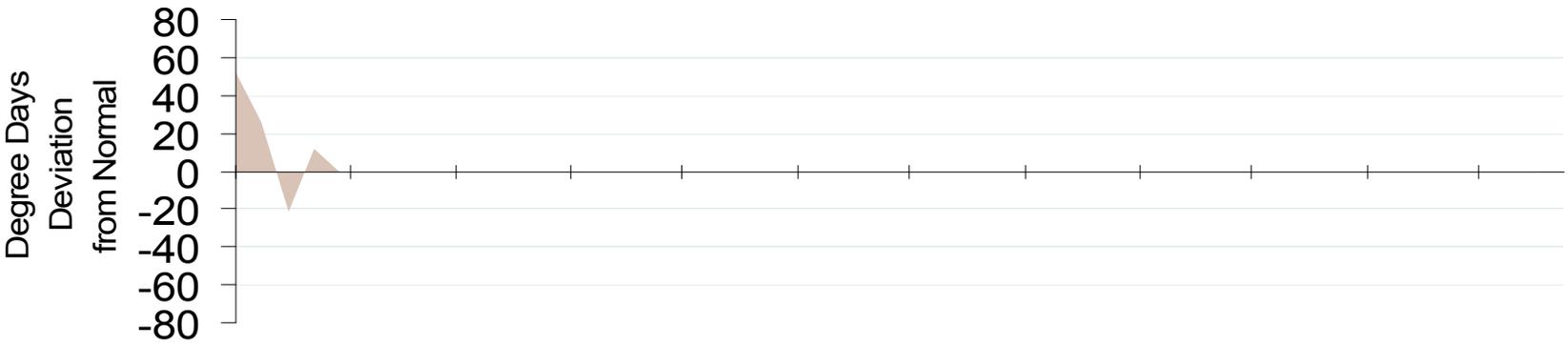
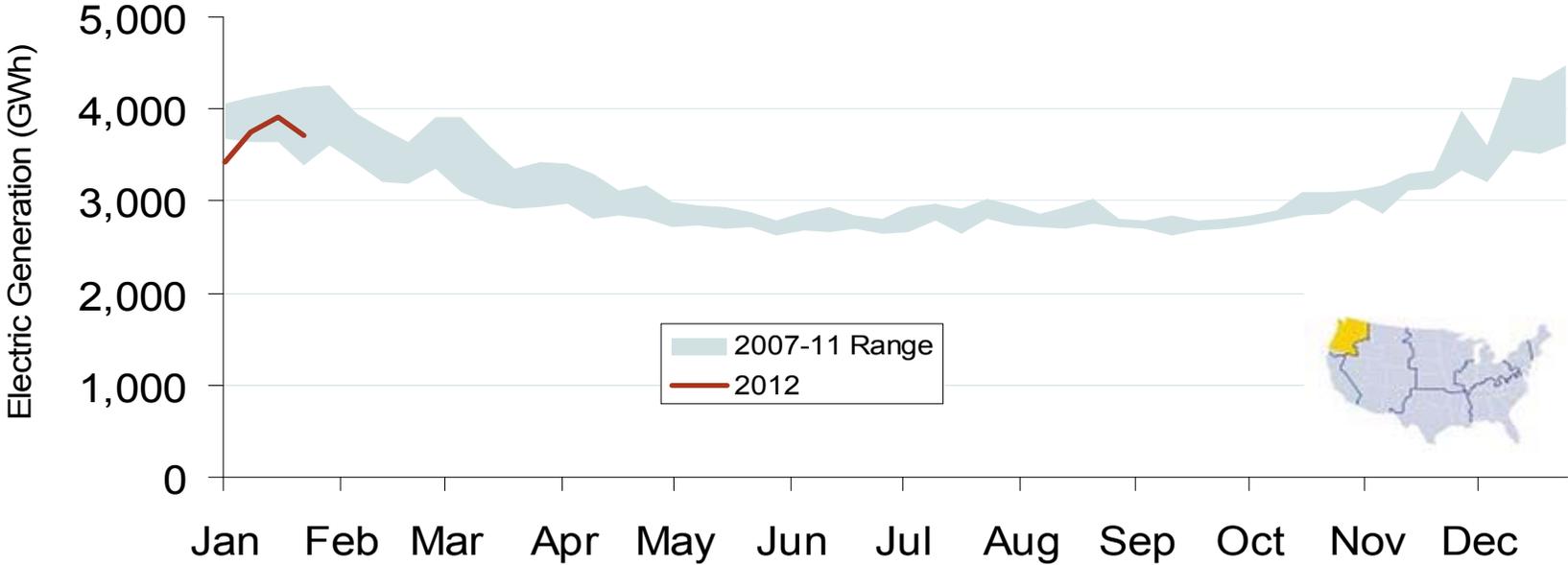


Source: Derived from EEI and NOAA data
February 2012 Western Snapshot

Updated: February 06, 2012

Federal Energy Regulatory Commission • Market Oversight • www.ferc.gov/oversight

Weekly Power Generation & Temps. - Pacific Northwest



Source: Derived from EEI and NOAA data
February 2012 Western Snapshot

Updated: February 06, 2012

Weekly Power Generation & Temps. - California

