## OE ENERGY MARKET SNAPSHOT

### Midwest States Version – January 2013 Data

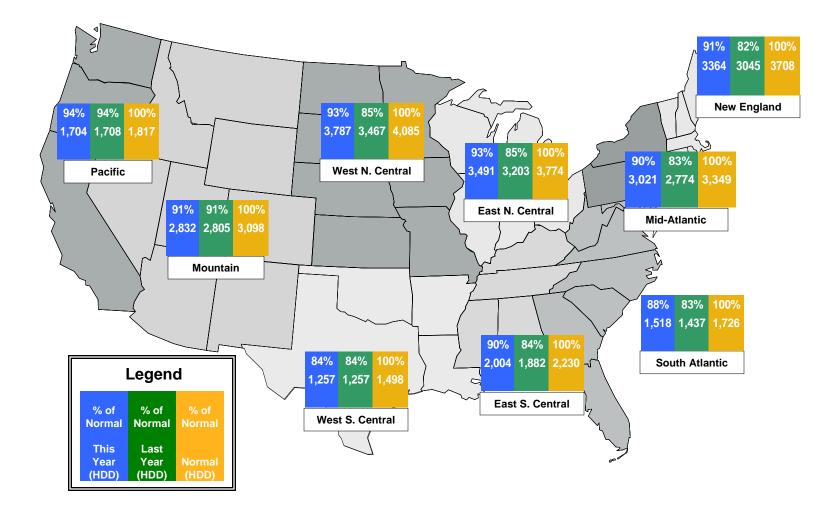
Office of Enforcement Federal Energy Regulatory Commission February 2013

## Infrastructure Report

Office of Energy Projects Energy Infrastructure Update

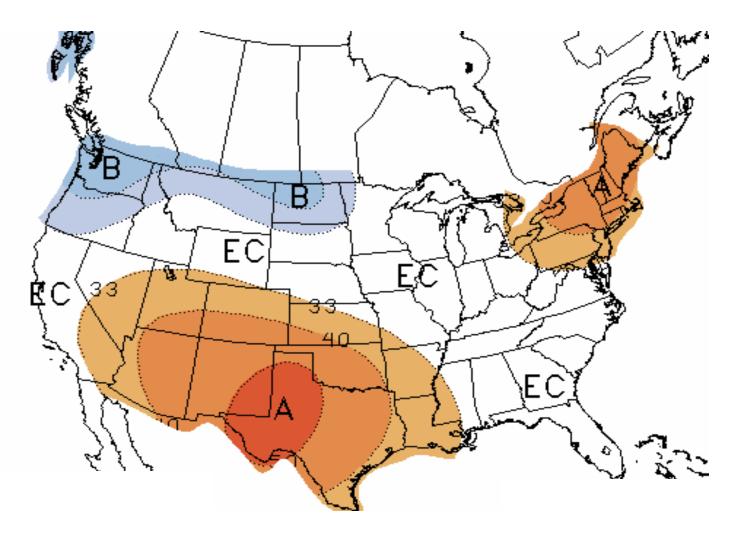


### **Regional Heating Degree Days – July 2012 to January 2013**



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

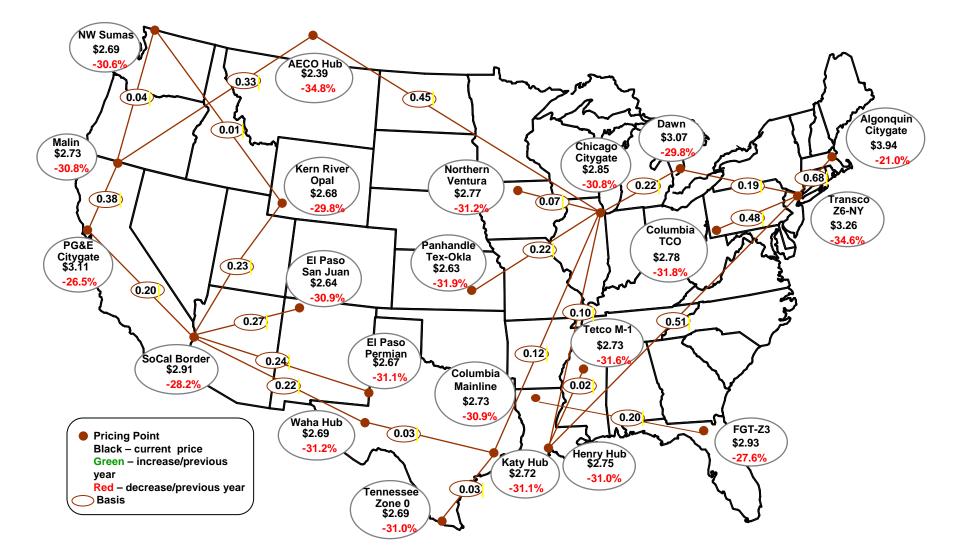
#### NOAA's 3 Month Temperature Forecast Made January 17, 2013, Valid for February 2013 – April 2013



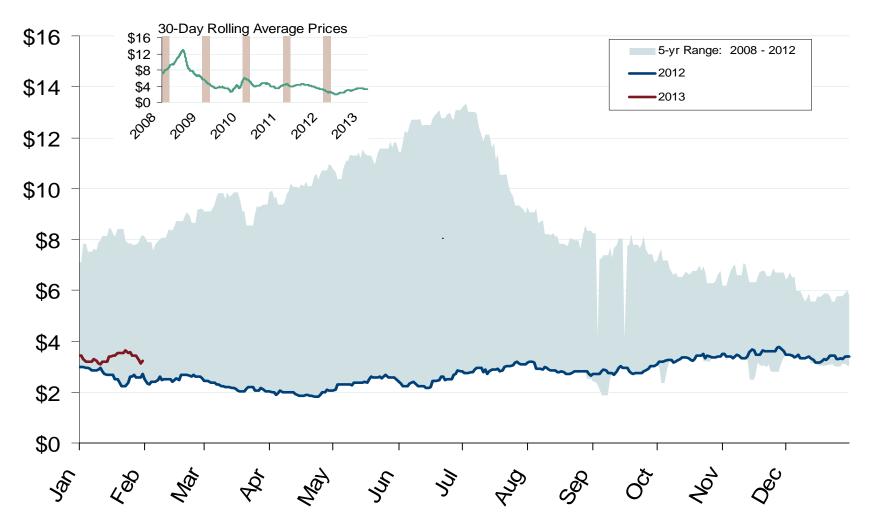
Note: "A" areas are above normal, "B" areas are below normal and "EC" means equal chance. Normal is based on the last 30 years of data. Source: Derived from NOAA data.

# Natural Gas and Fuels Markets

## Average Spot Gas Prices, 2012 (\$MMBtu)



#### Henry Hub Natural Gas Daily Spot Prices

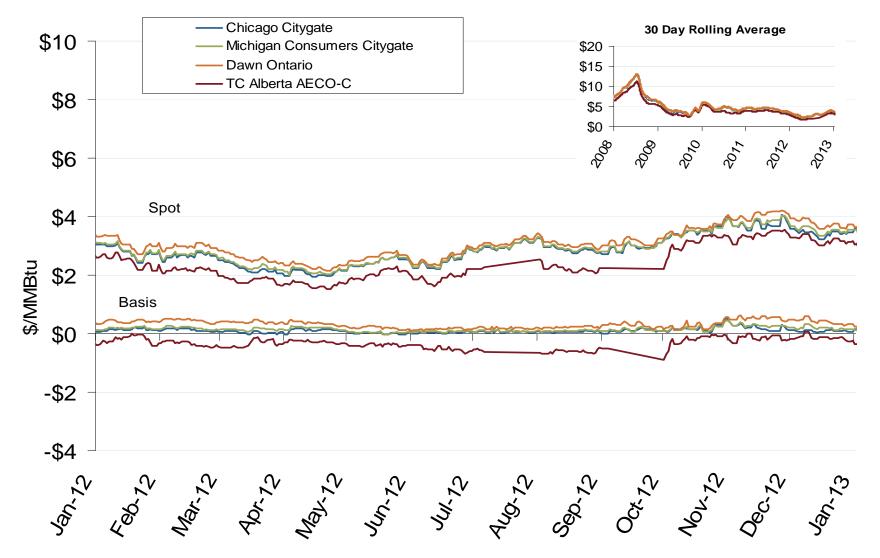


2085

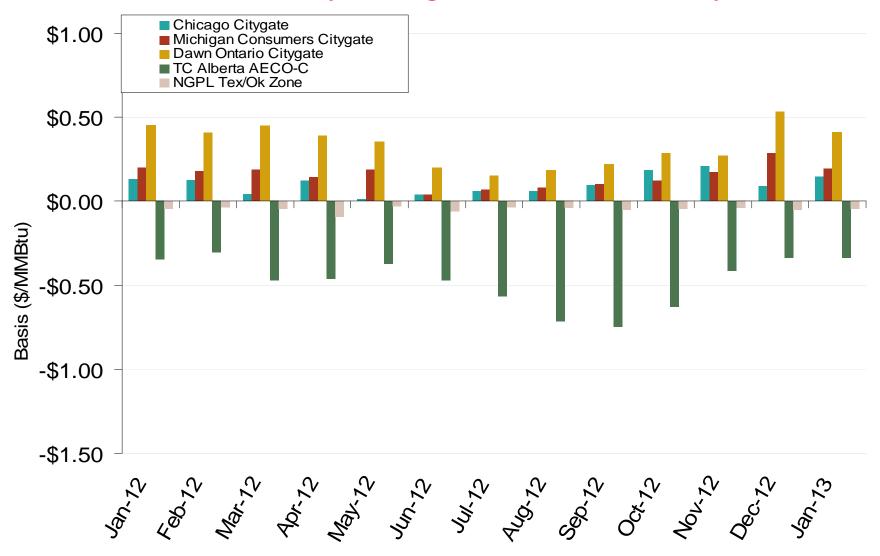
## **Midwest Annual Average Spot Hub Prices**

Annual Average Day Ahead Prices (\$/M						
	2008	2009	2010	2011	2012	5-Year Avg
Chicago Citygate	\$8.79	\$3.92	\$4.46	\$4.11	\$2.85	\$4.82
Dawn	\$9.12	\$4.24	\$4.74	\$4.37	\$3.07	\$5.11
MichCon Citygate	\$9.02	\$4.09	\$4.54	\$4.20	\$2.90	\$4.95
AECO	\$7.76	\$3.48	\$3.88	\$3.67	\$2.39	\$4.24
Northern Ventura	\$8.28	\$3.86	\$4.38	\$4.03	\$2.77	\$4.66

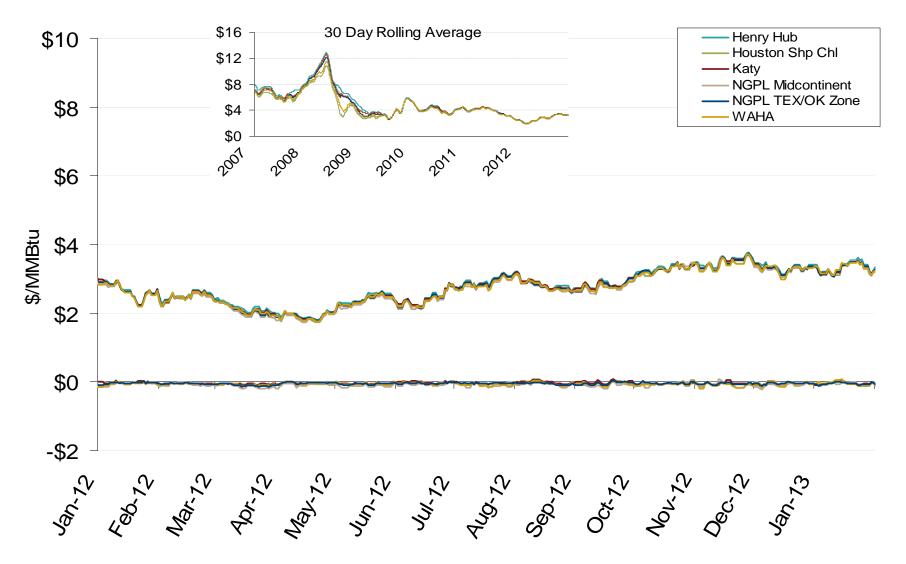
#### **Midwestern Day-Ahead Hub Spot Prices and Basis**



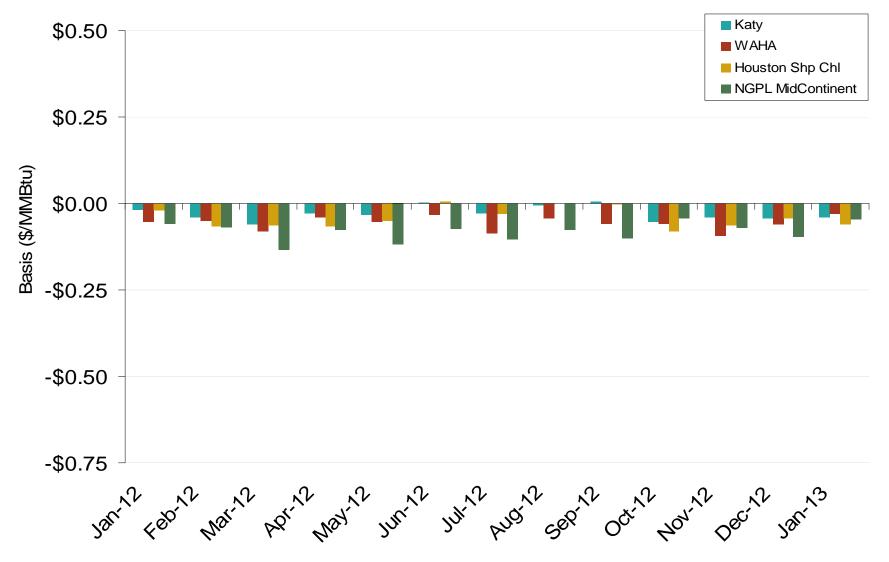
#### **Midwestern Monthly Average Basis Value to Henry Hub**



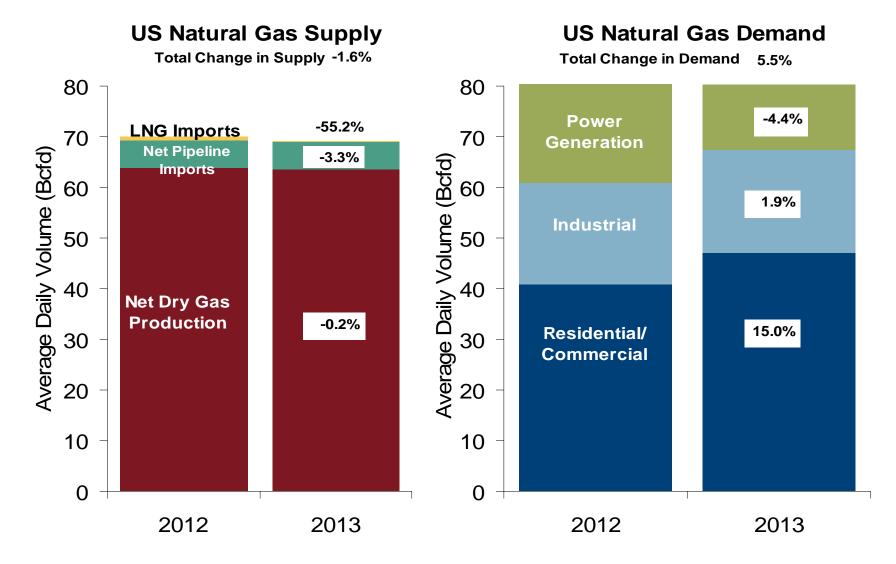
#### **Gulf Day-Ahead Hub Spot Prices and Basis**



#### **Gulf Monthly Average Basis Value to Henry Hub**



#### U.S. NG Supply and Demand 2012 vs. 2013: January - January



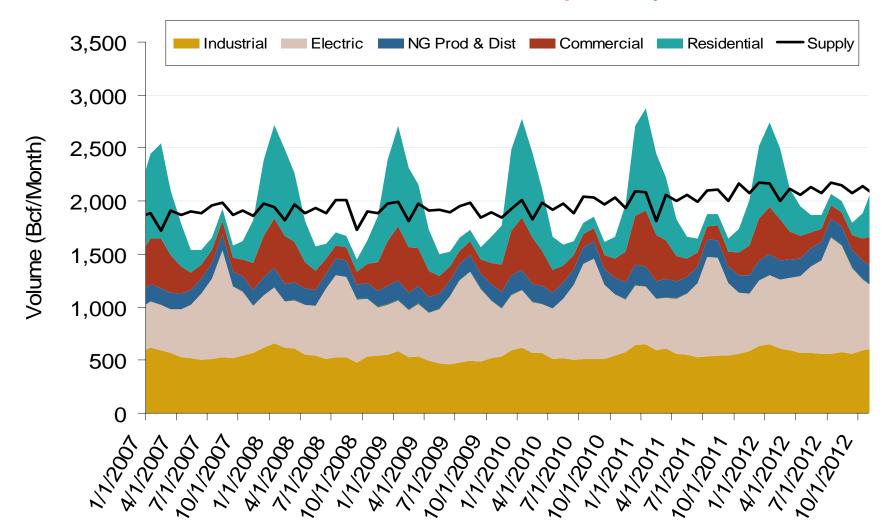
Note: Balance includes all amounts not attributable to other categories.

Source: Derived from Bentek Energy data

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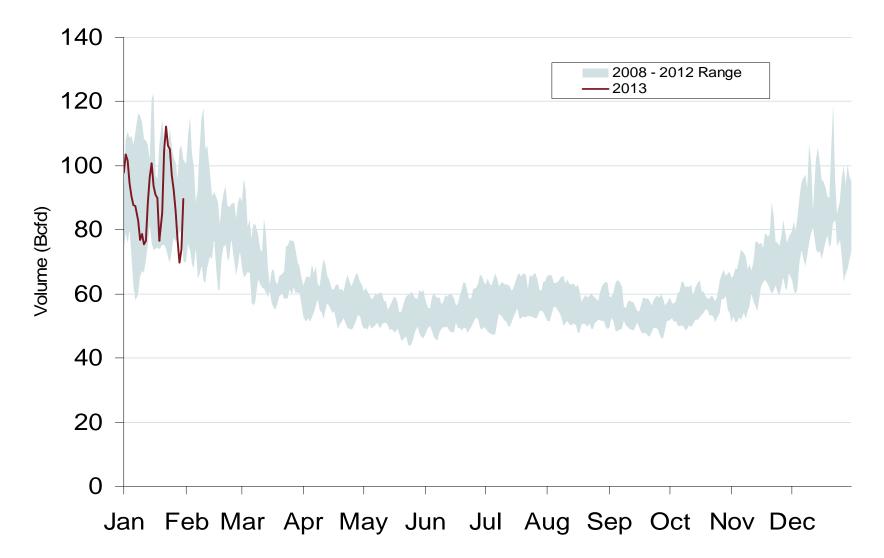
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#### Annual U.S. Natural Gas Consumption by Sector

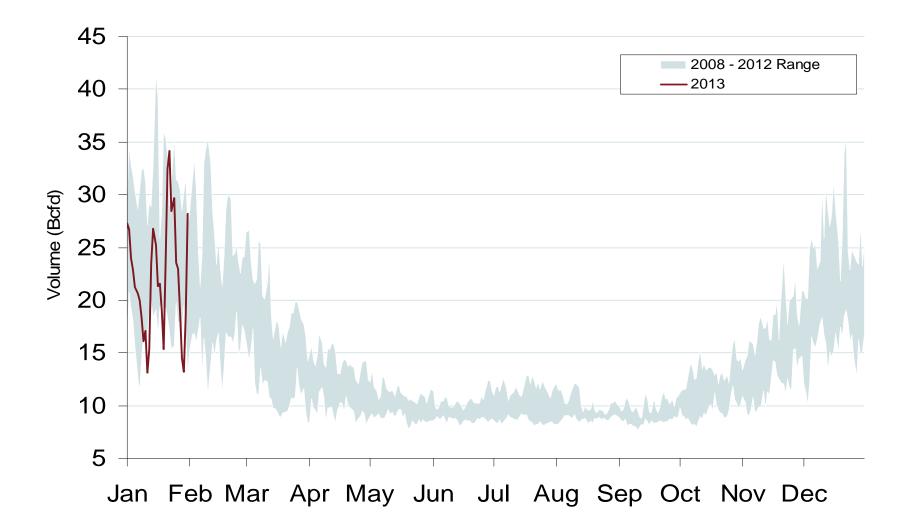


Notes: Supply includes lower 48 state production, net pipeline imports, and LNG imports Source: Derived from *EIA* data

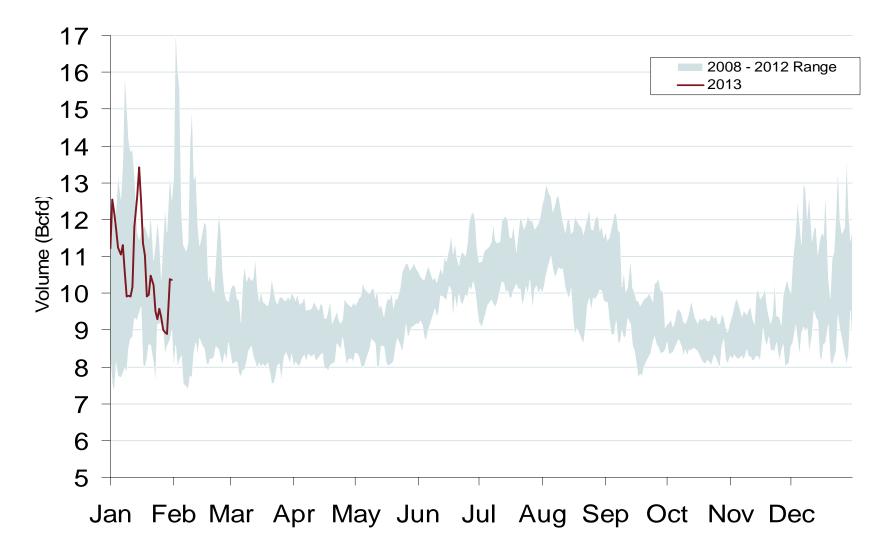
#### **Total U.S. Natural Gas Demand All Sectors**



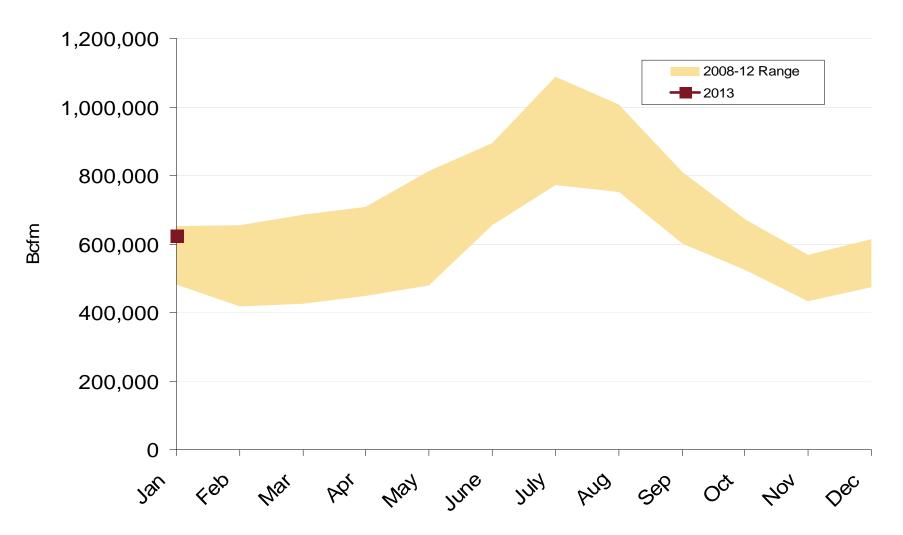
#### **Daily Midwest Natural Gas Demand All Sectors**



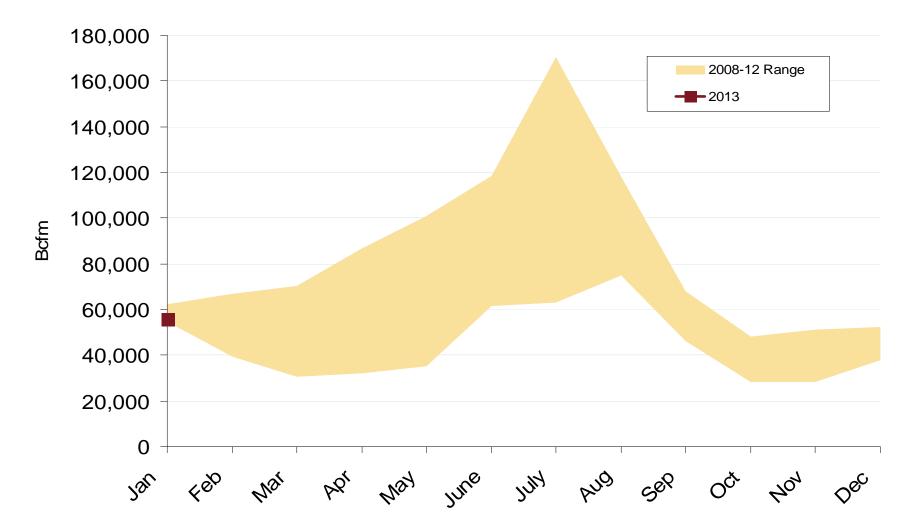
#### Daily Gulf Natural Gas Demand All Sectors



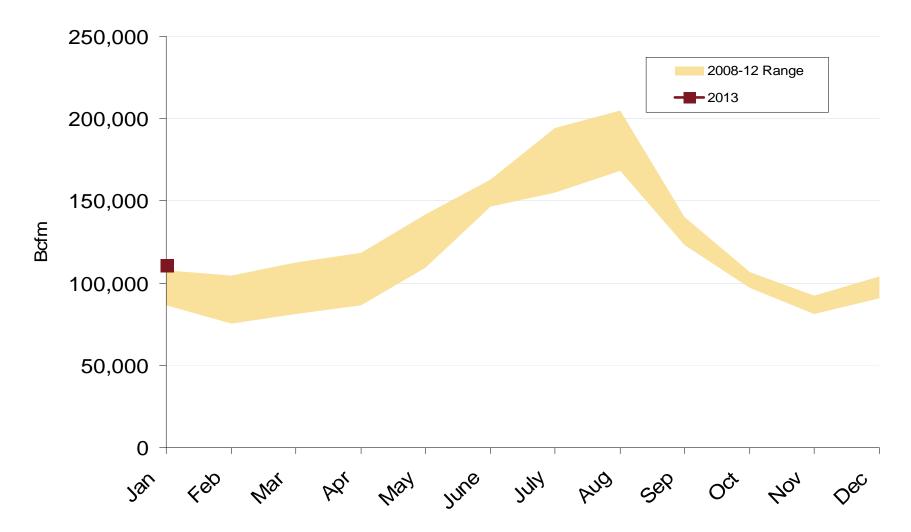
#### **U.S. Natural Gas Consumption for Power Generation**



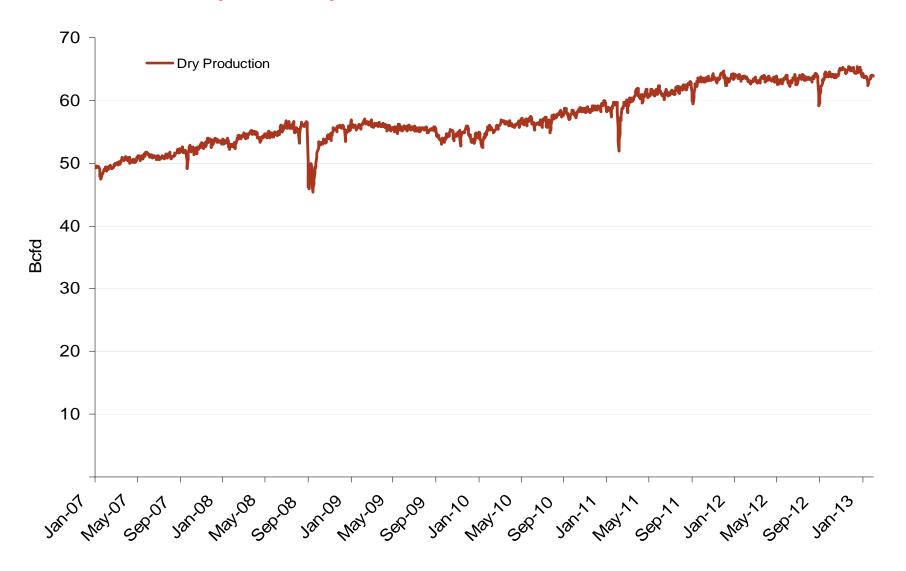
#### **Midwest Natural Gas Consumption for Power Generation**



#### **Gulf Natural Gas Consumption for Power Generation**

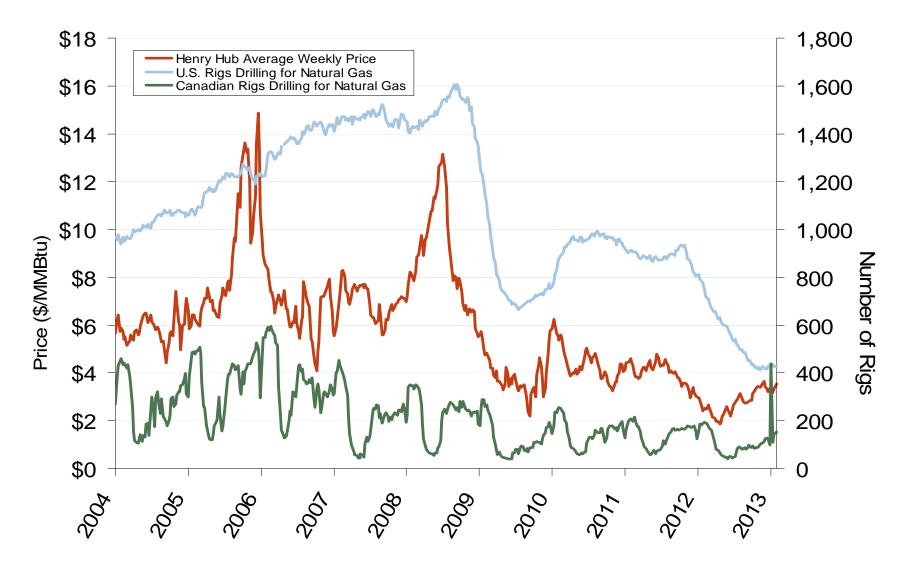


#### Monthly U.S. Dry Gas Production – Lower 48 States



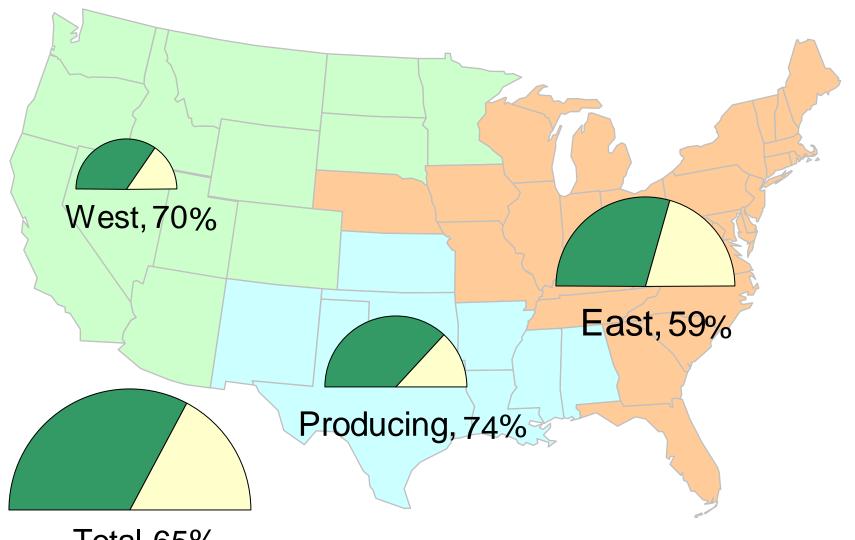
Note: Prior to July 2010, chart was derived from a combination of *EIA* and *Bentek Energy* data Source: Derived from *Bentek Energy* data

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



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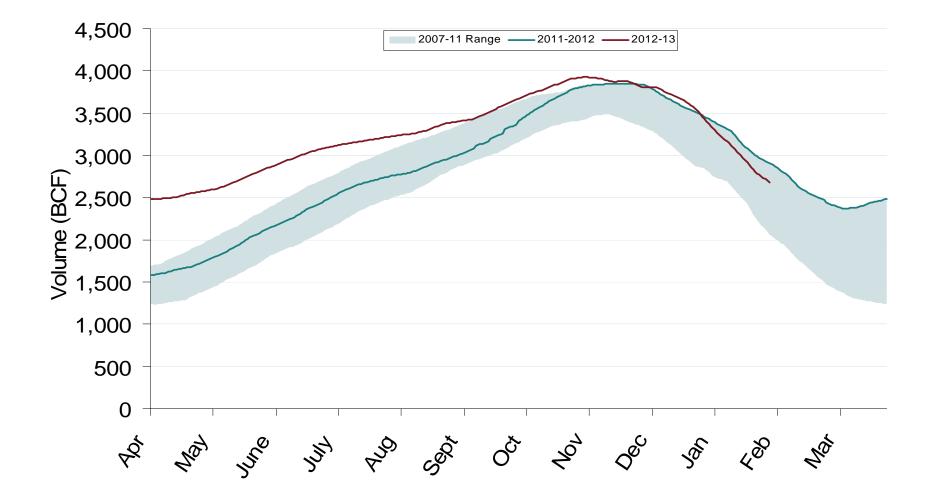
### Natural Gas Storage Inventories – February 1, 2013



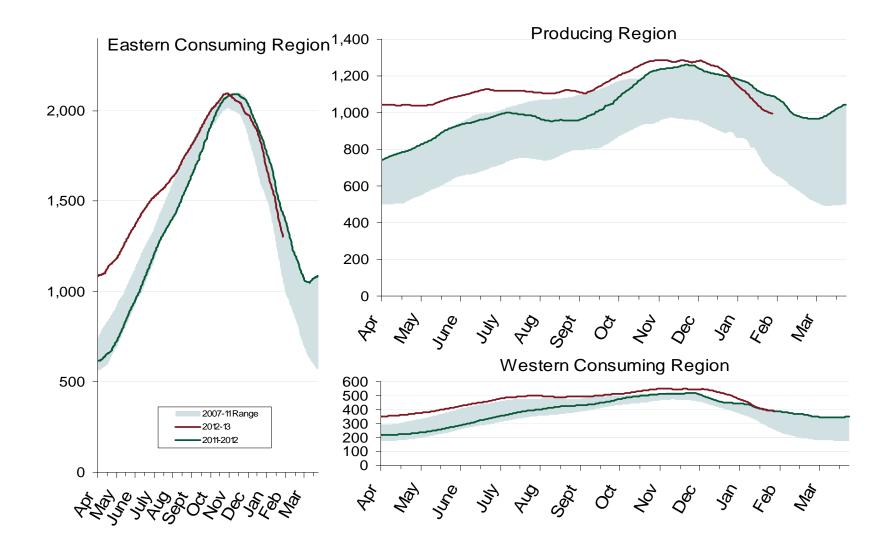
Total,65%

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

#### Total U.S. Working Gas in Storage



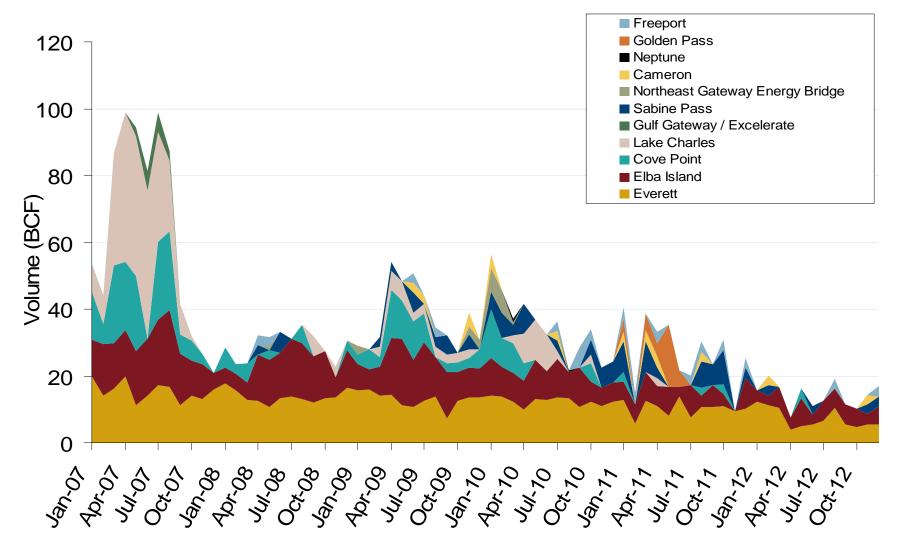
#### **Regional Totals of Working Gas in Storage**



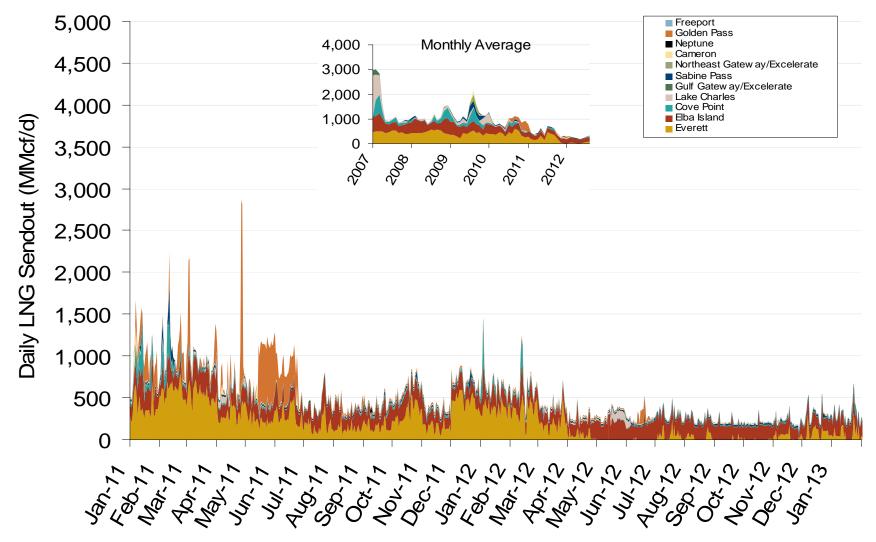
## **World LNG Estimated March 2013 Landed Prices**



#### Monthly Gas Imports at Existing U.S. LNG Facilities



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

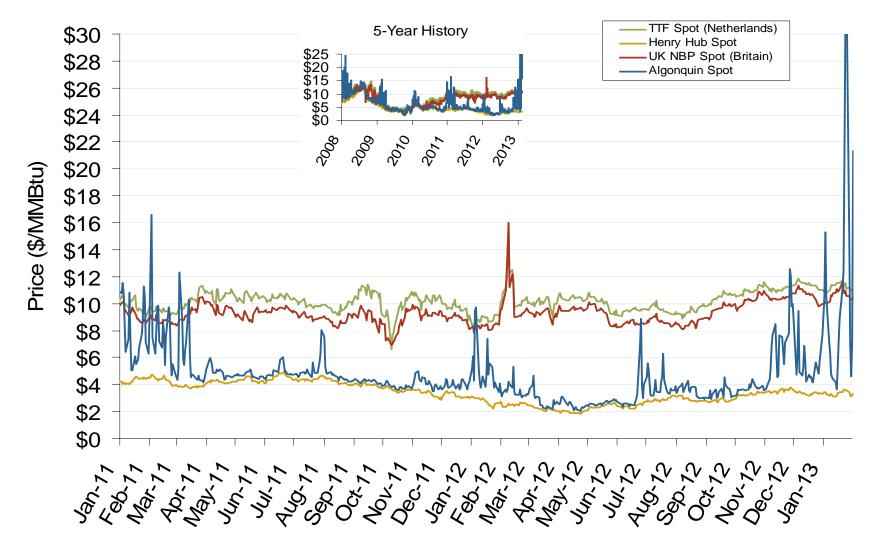


Notes: Everett data includes flows onto the AGT and TGP interstate lines, plus estimates of flows to the Mystic 7 power plant, Keyspan Boston

Gas, and LNG trucked out of the terminal. Excludes flows to the Freeport LNG which flows via intrastate pipelines and flows to the Mystic 8 and 9 power plants.

Source: Derived from Bentek Energy data

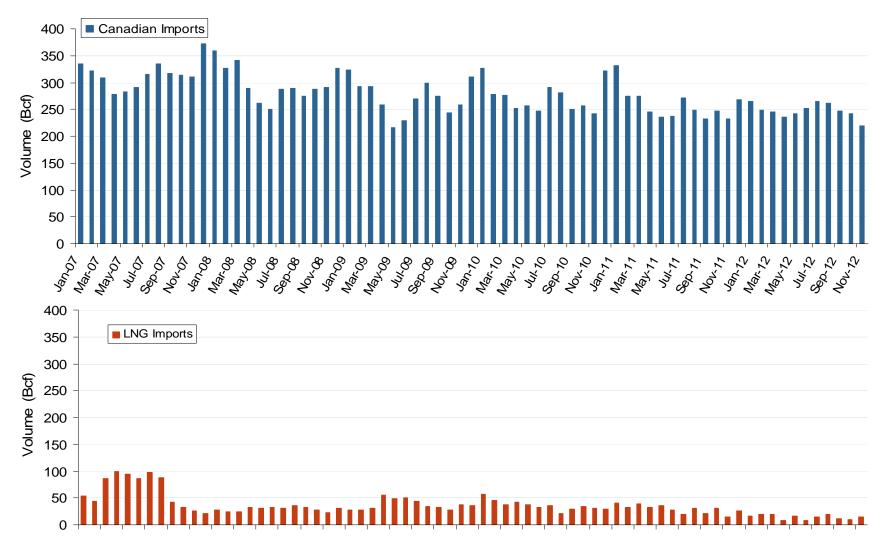
#### Atlantic Basin European and US Spot Natural Gas Prices



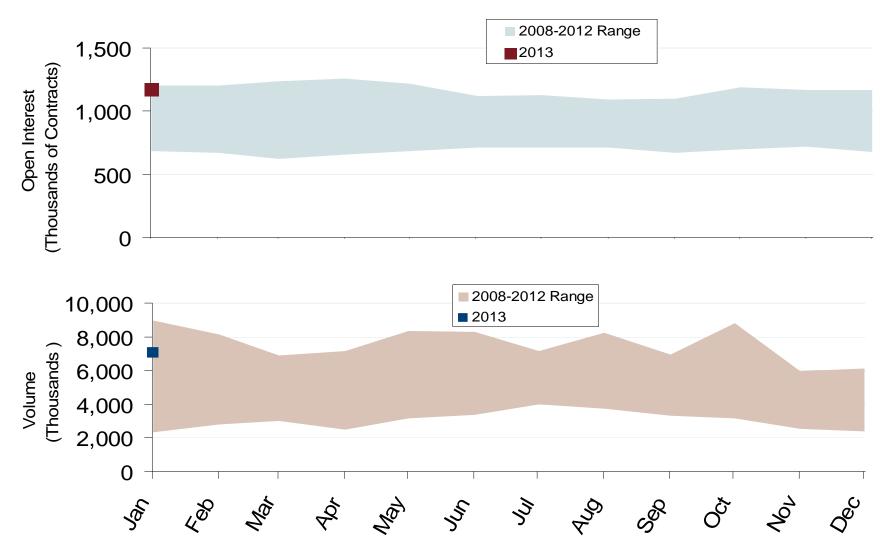
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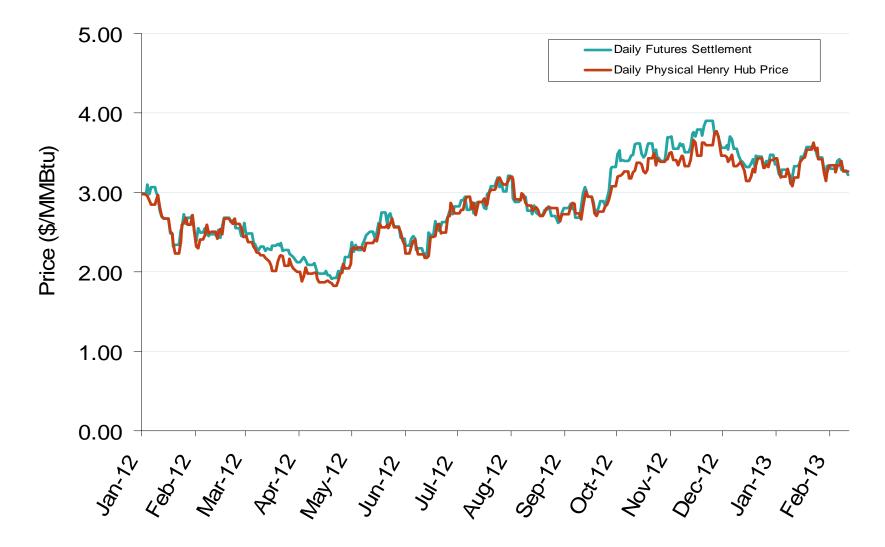
#### Canadian and LNG Natural Gas Imports Into the U.S.



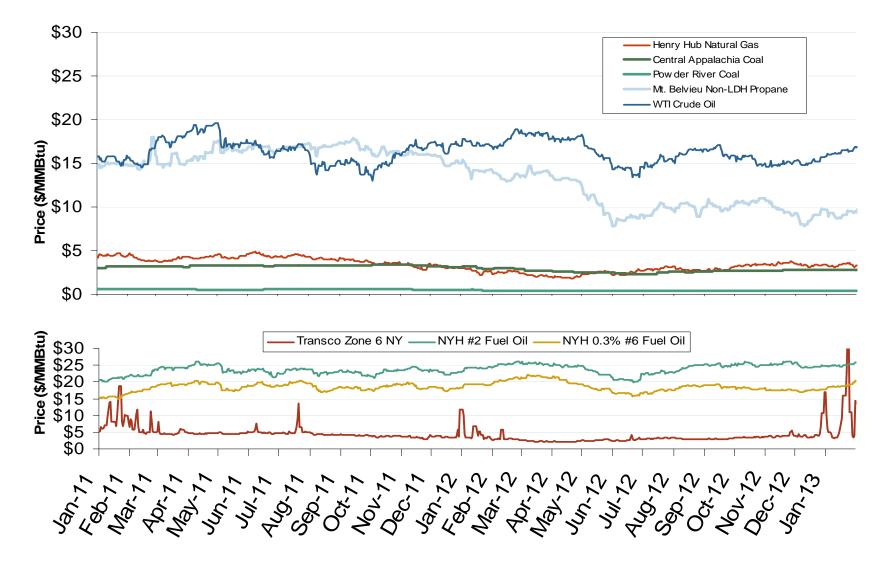
#### Nymex NG Futures Month-End Open Interest and Monthly Volume



#### **Daily Physical Index Price & Daily Futures Settlement Price**



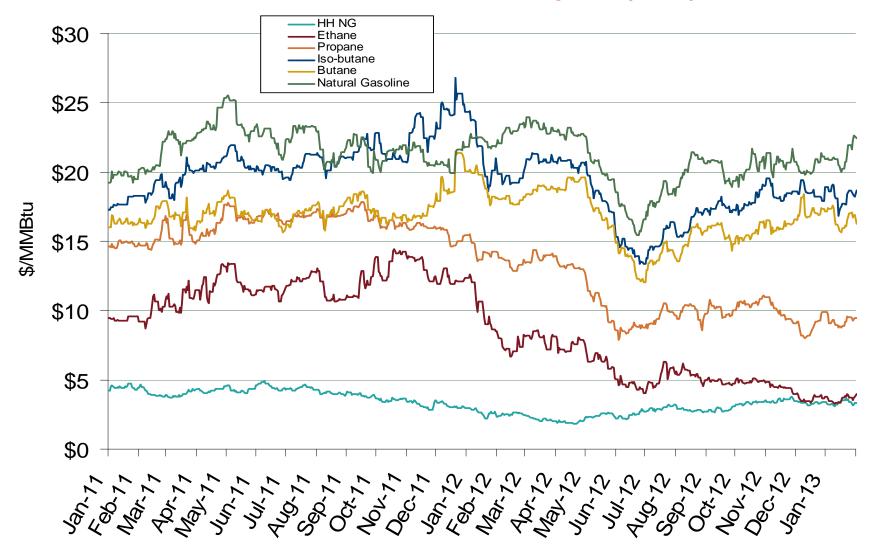
#### Oil, Coal, Natural Gas and Propane Daily Spot Prices



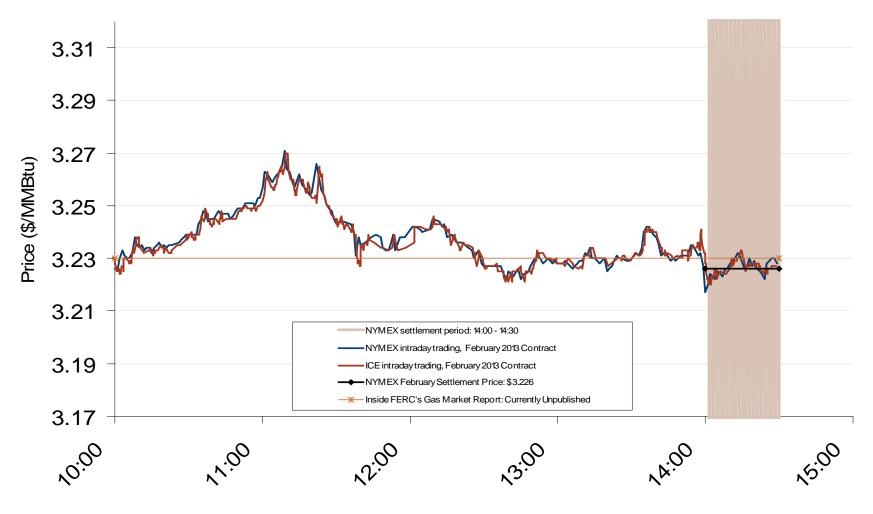
Notes: Coal prices are quoted in \$/ton. Conversion factors to \$/MMBtu are based on contract specifications of 12,000 btus/pound for Central Appalachian coal and 8800 btus/pound for Powder River Basin coal

Source: Derived from ICE and Bloomberg data

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



#### Nymex and ICE Contract Final Settlement - February 2013

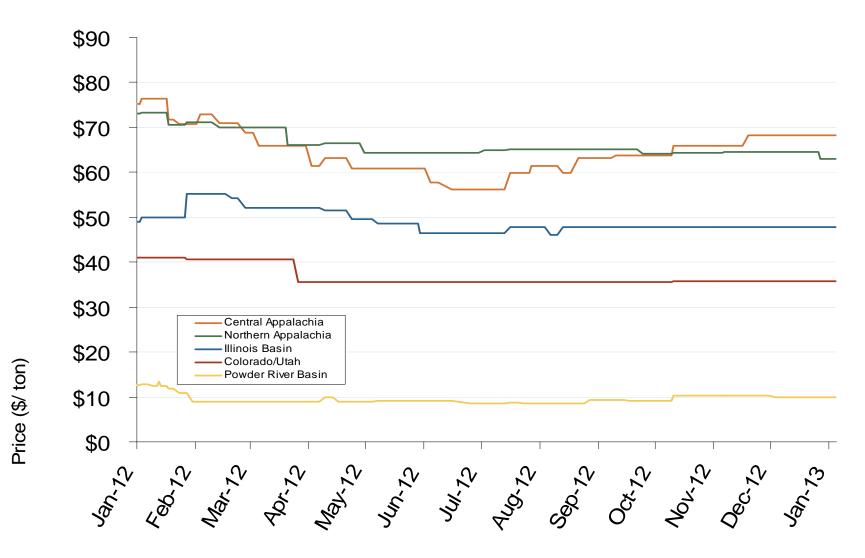


January 29, 2013 Trade Time

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

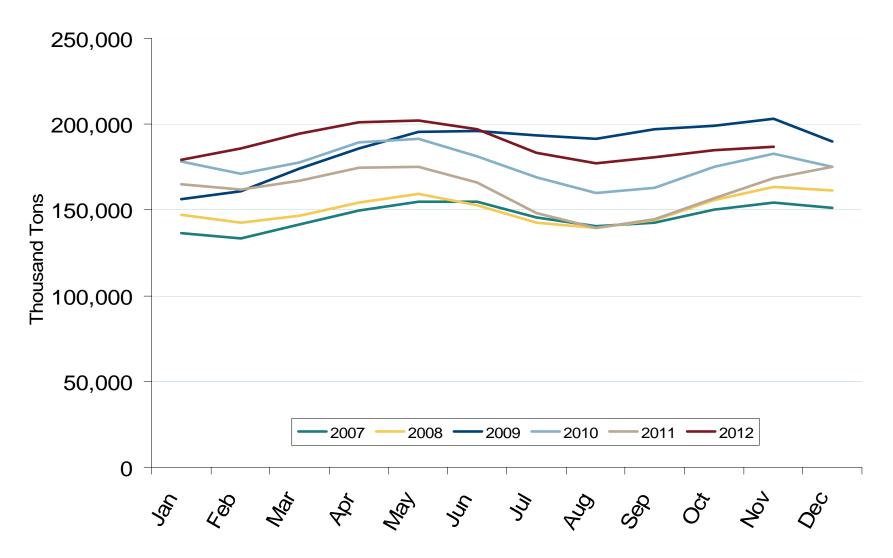
#### **Central Appalachian and Powder River Basin Coal Prices**



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

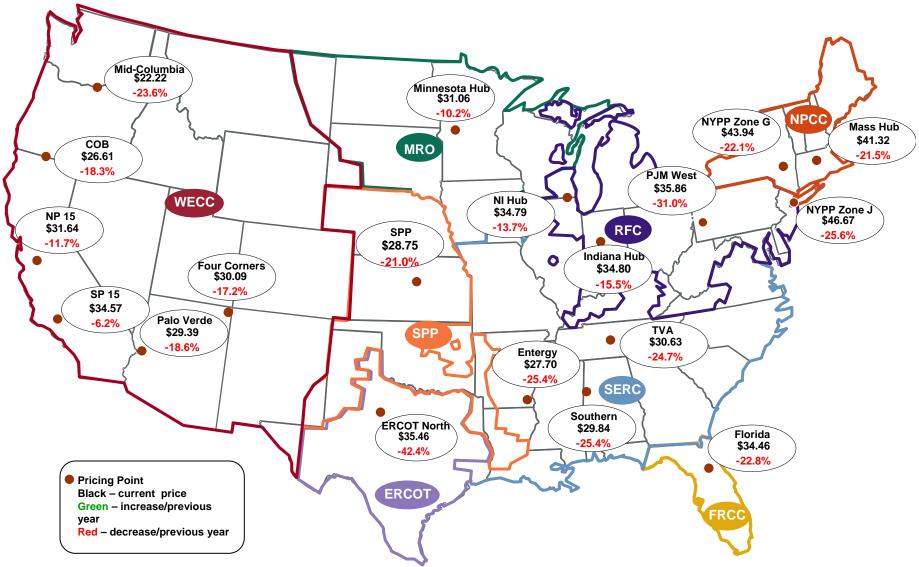
#### **U.S. Coal Stockpiles at Electric Power Generating Facilities**



Source: Derived from EIA data. Excludes Industrial and Commercial Plants

# **Electricity Markets**

## Average On-Peak Spot Electric Prices 2012 (\$/MWh)



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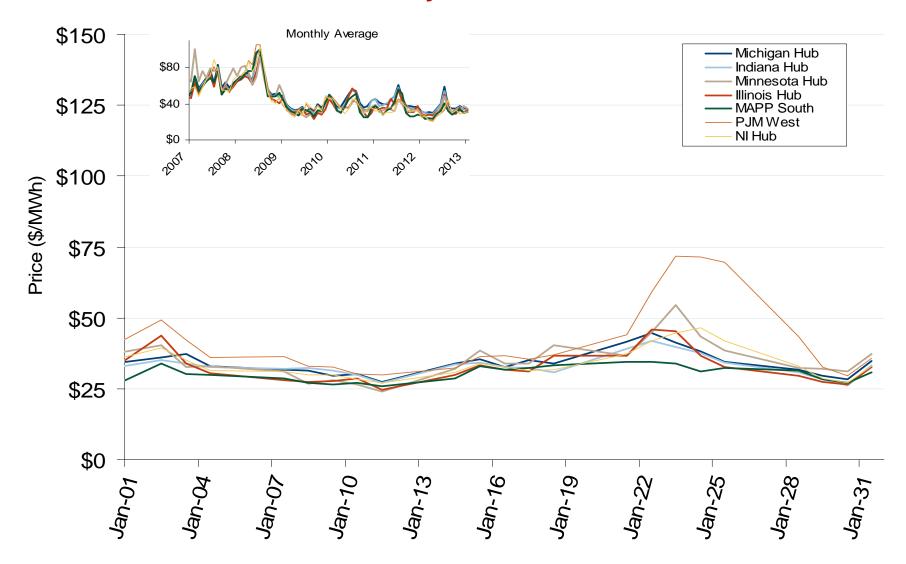
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## **Regional Spot Prices: 2010-2012**

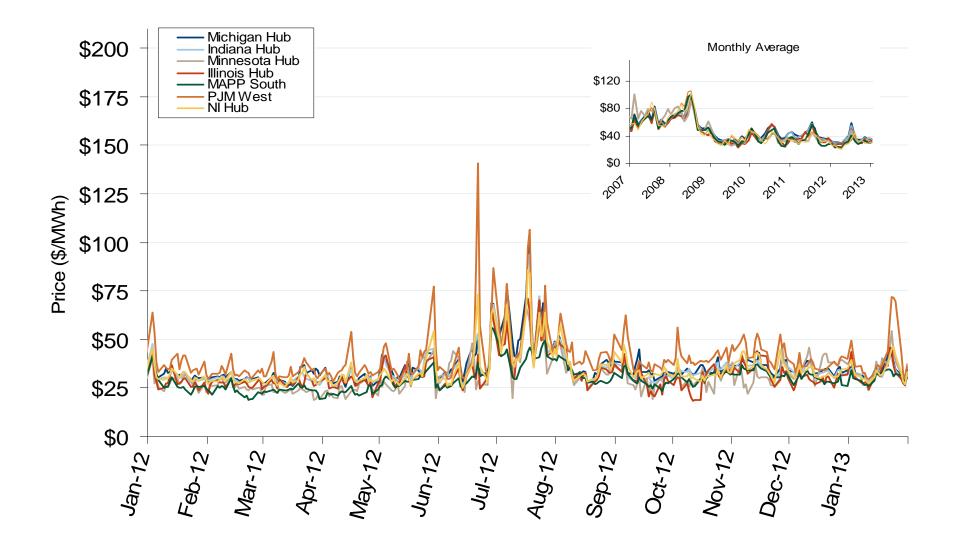
		On-peak Spot Prices (\$/MWh)					Off-peak Spot Prices (\$/MWh)					
				% Change	% Change			-	% Change	% Change		
	2010	2011	2012	10-11	11-12	2010	2011	2012	10-11	11-12		
Northeast												
Mass Hub	56.18	52.64	41.32	-6.3%	-21.5%	38.84	37.95	28.36	-2.3%	-25.3%		
Ny Zone G	59.48	56.41	43.94	-5.2%	-22.1%	39.47	38.26	28.23	-3.1%	-26.2%		
NY Zone J	65.76	62.71	46.67	-4.6%	-25.6%	40.37	39.19	28.63	-2.9%	-27.0%		
NY Zone A	43.89	41.52	35.86	-5.4%	-13.6%	34.05	32.65	24.93	-4.1%	-23.6%		
PJM West	53.68	51.99	35.86	-3.2%	-31.0%	35.81	33.94	26.29	-5.2%	-22.5%		
Southeast												
VACAR	43.24	44.44	32.65	2.8%	-26.5%	29.18	30.23	22.86	3.6%	-24.4%		
Southern	42.61	39.97	29.83	-6.2%	-25.4%	29.51	27.98	21.51	-5.2%	-23.1%		
TVA	41.79	40.68	30.63	-2.7%	-24.7%	27.43	27.55	21.25	0.4%	-22.9%		
Florida	50.81	44.62	34.46	-12.2%	-22.8%	31.59	31.27	23.49	-1.0%	-24.9%		
Entergy	40.07	37.14	27.70	-7.3%	-25.4%	24.87	24.52	19.16	-1.4%	-21.9%		
Midwest												
Indiana*	41.51	41.17	34.80	-0.8%	-15.5%	24.34	25.86	22.14	6.2%	-14.4%		
Michigan Hub	43.68	42.73	36.27	-2.2%	-15.1%	26.84	27.52	24.10	2.5%	-12.4%		
Minnesota Hub	36.86	34.57	31.06	-6.2%	-10.2%	17.61	16.39	17.49	-6.9%	6.7%		
NI Hub	40.85	40.31	34.79	-1.3%	-13.7%	21.70	22.78	21.04	5.0%	-7.7%		
Illinois Hub	38.22	38.12	32.12	-0.2%	-15.8%	20.44	22.20	20.00	8.6%	-9.9%		
MAPP South	37.60	35.48	29.42	-5.6%	-17.1%	21.76	19.90	18.93	-8.5%	-4.9%		
South Central												
SPP North	38.71	36.41	28.75	-5.9%	-21.0%	21.51	20.42	18.73	-5.1%	-8.3%		
ERCOT North	41.15	61.55	35.46	49.6%	-42.4%	26.97	25.74	18.63	-4.6%	-27.6%		
Southwest												
Four Corners	39.68	36.34	30.09	-8.4%	-17.2%	27.02	20.45	20.64	-24.3%	0.9%		
Palo Verde	38.76	36.10	29.39	-6.9%	-18.6%	27.72	21.57	20.78	-22.2%	-3.7%		
Mead	40.11	36.92	30.75	-8.0%	-16.7%	29.37	22.34	21.97	-23.9%	-1.7%		
Northwest												
Mid-C	35.90	29.10	22.22	-19.0%	-23.6%	29.19	19.98	18.33	-31.6%	-8.2%		
СОВ	38.84	32.55	26.61	-16.2%	-18.3%	29.86	19.92	17.92	-33.3%	-10.0%		
California												
NP15	40.08	35.81	31.64	-10.6%	-11.7%	29.89	21.26	22.53	-28.9%	6.0%		
SP15	40.21	36.87	34.57	-8.3%	-6.2%	29.14	21.78	23.28	-25.3%	6.9%		

Note: Effective January 1, 2012, Platts replaced the Cinergy Hub with the Indiana Hub.

### **MISO/PJM Index Day-Ahead On-Peak Prices**



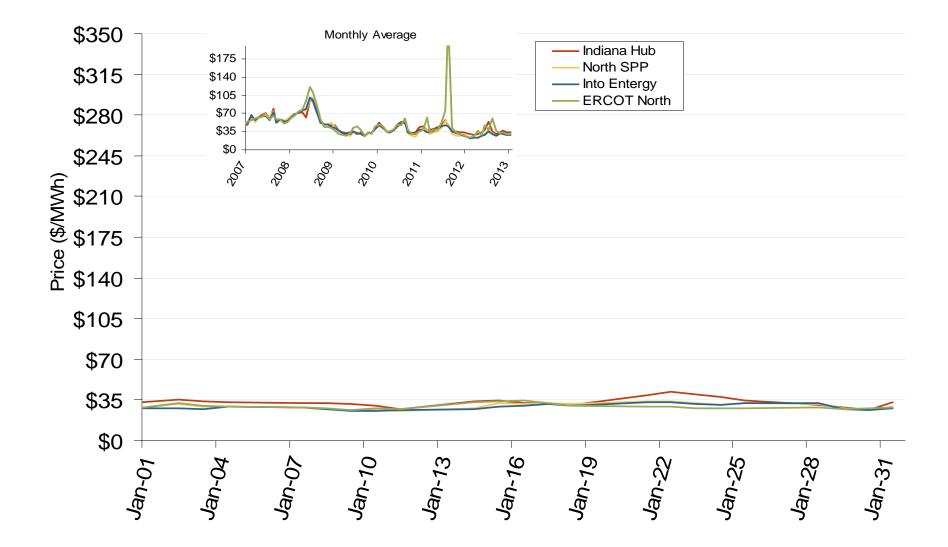
#### **MISO/PJM Index Day-Ahead On-Peak Prices**



## **South Central Annual Average Bilateral Prices**

Annual Average Day Ahead On Peak Prices (\$/MWh)										
	2008	2009	2010	2011	2012	5-Year Avg				
SPP North	\$68.77	\$32.94	\$38.71	\$36.41	\$28.76	\$41.15				
ERCOT North	\$73.42	\$34.89	\$41.15	\$61.55	\$34.99	\$49.20				

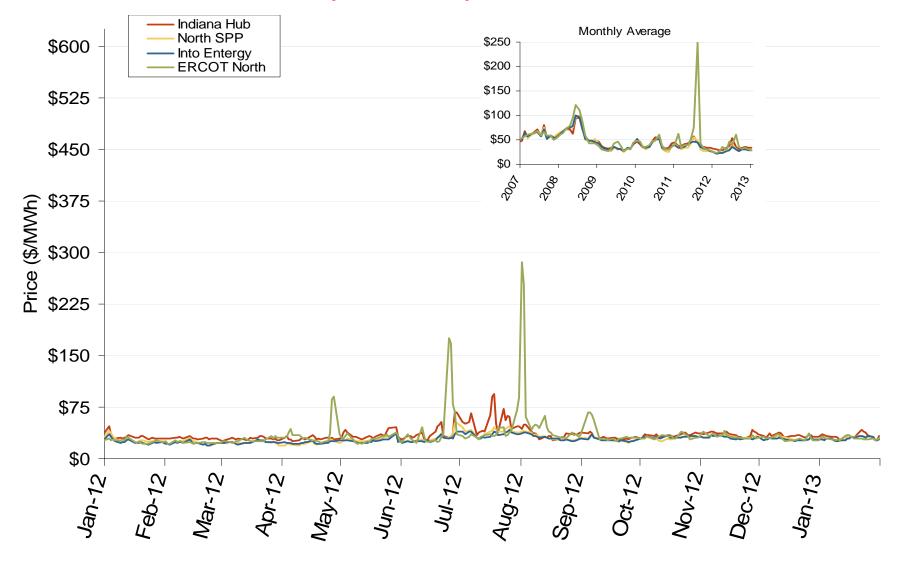
#### Midwestern Daily Index Day-Ahead On-Peak Prices



#### Southeast Electric Market: Midwestern Index Prices

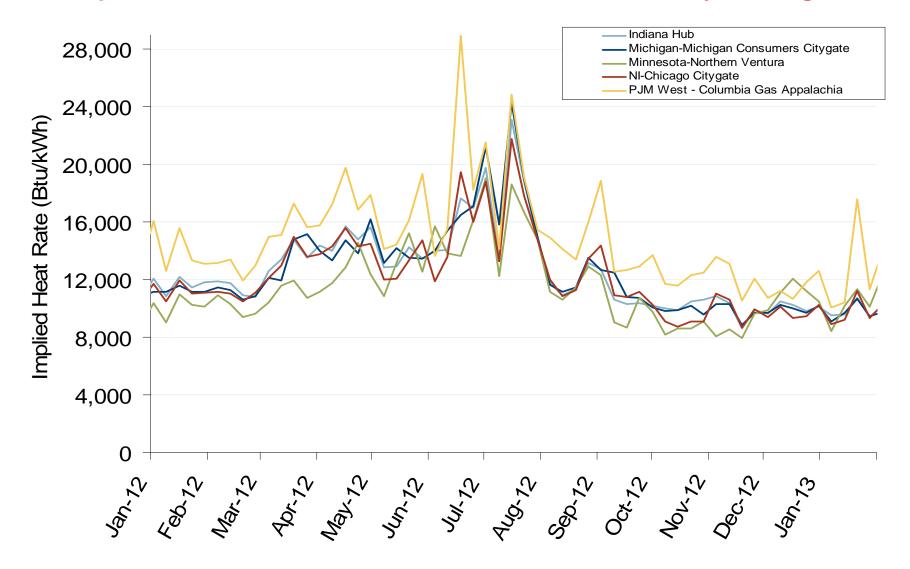
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#### Midwestern Daily Index Day-Ahead On-Peak Prices

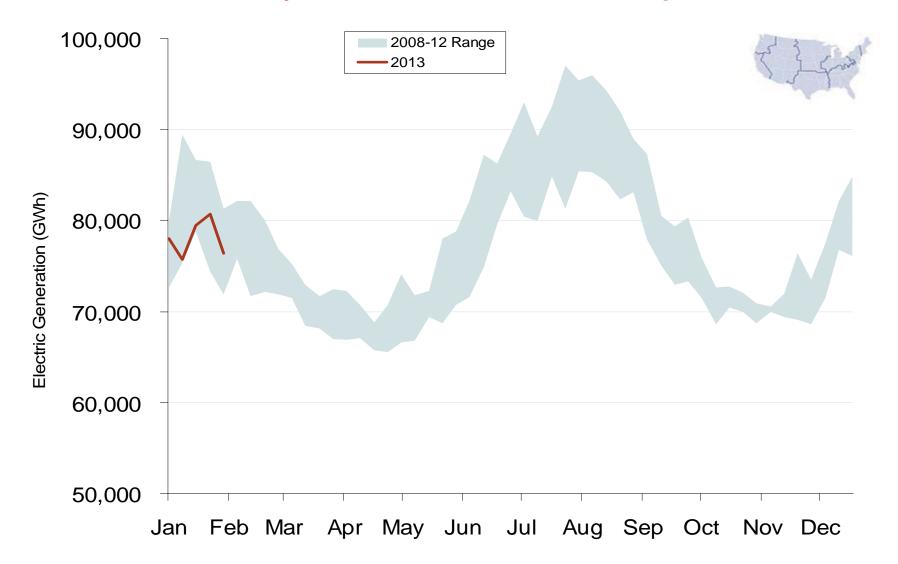


Source: Derived from *Platts* data

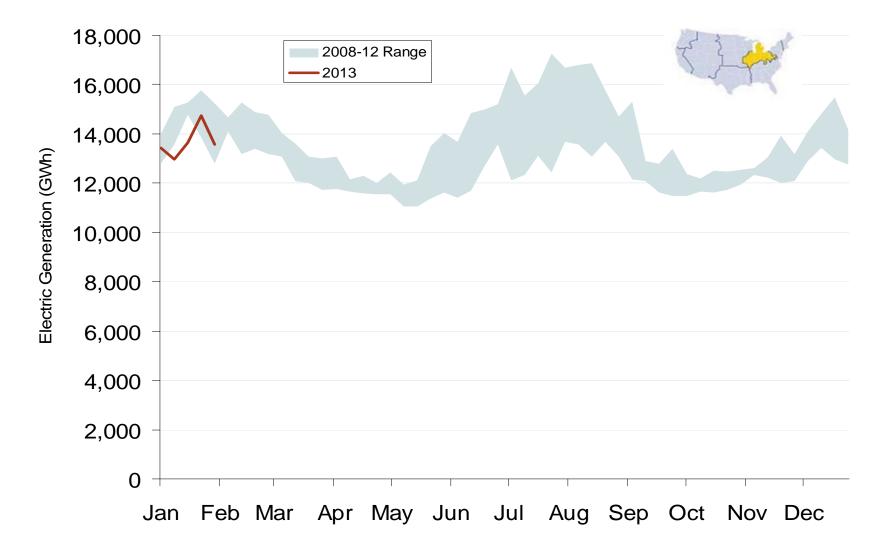
#### Implied Heat Rates at MISO and PJM Hubs - Weekly Averages



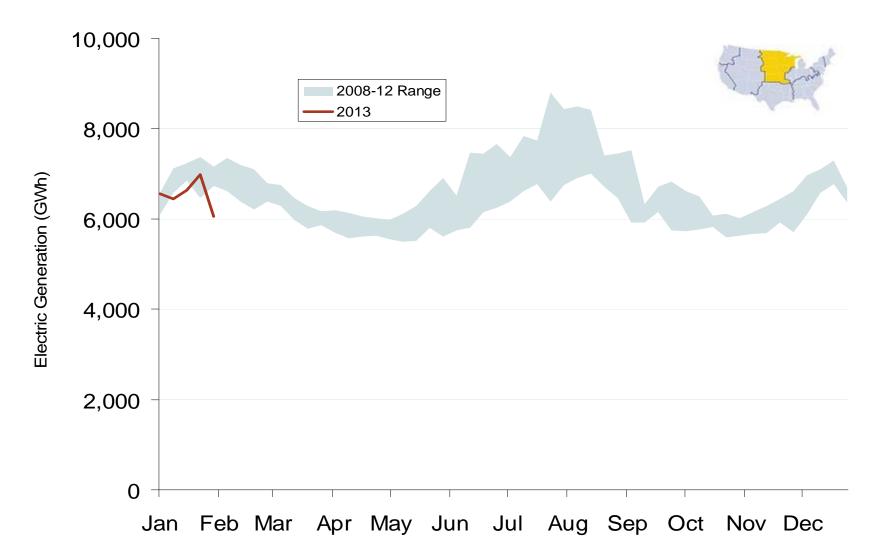
#### Weekly U.S. Electric Generation Output



#### **Weekly Generation Output - Central Industrial Region**



#### Weekly Generation Output - West Central



#### **Weekly Generation Output - South Central**

