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NATURAL GAS WEEK®

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November 14, 2016

Natural Gas Weekly Spot Prices

Flow Dates: 11/8-11/14

Price Point	$/MMBtu	Chg.	High	Low	Avg. Daily Vol.	Avg. Daily Deals	Nov. Bid Week
GULF COAST							
ANR SE	2.02	-0.25	2.25	1.95	37,543	6	2.69
Col. Gulf - Erath	2.04	-0.13	2.23	1.93	58,043	7	—
Col. Gulf - Rayne	2.01	-0.12	2.23	1.93	154,486	12	2.65
Florida Zone 1	—	—	—	—	—	—	2.76
Florida Zone 2	—	—	—	—	—	—	2.75
Florida Zone 3	2.06	-0.26	2.33	1.99	115,642	12	2.77
Henry Hub	2.15	-0.16	2.36	2.02	124,171	11	2.77
NGPL-LA	—	—	—	—	—	—	—
Sonat	2.06	-0.17	2.27	1.95	163,770	18	2.70
Tenn 500 So LA Z1	2.04	-0.15	2.24	1.94	99,733	10	2.70
Tenn 800 So LA Z1	2.06	-0.10	2.25	1.93	72,557	8	2.69
Tetco ELA	2.00	-0.14	2.40	1.91	47,200	5	2.67
Tetco WLA	2.08	-0.09	2.23	1.95	9,686	1	2.70
TGT Zone SL	1.97	-0.10	1.97	1.95	286	1	—
Transco Station 45	2.02	-0.35	2.33	1.93	15,200	4	—
Transco Station 65	2.09	-0.14	2.32	1.90	64,904	9	2.75
Trunkline ELA	2.17	-0.48	2.17	2.17	2,162	1	2.74
Trunkline WLA	—	—	—	—	—	—	—
Trunkline Zone 1A	1.96	-0.17	2.25	1.92	92,455	4	2.66
Regional Average	2.05	-0.16	—	—	—	—	2.71
TEXAS (SOUTH/EAST)							
Carthage Hub	2.13	-0.03	2.24	1.95	13,243	2	2.66
HSC	2.26	-0.12	2.43	2.18	1,743	1	—
Katy Hub	2.02	-0.33	2.36	1.91	95,814	7	2.75
NGPL-South Texas	2.02	-0.18	2.23	1.89	16,700	2	—
NGPL-TexOk	1.98	-0.22	2.24	1.93	93,726	10	2.66
Tenn Zone 0	1.99	-0.23	2.28	1.88	62,857	6	2.67
Tetco-East Texas	2.14	-0.16	2.23	1.90	1,986	1	2.64
Tetco-South Texas	2.11	-0.29	2.28	1.88	24,843	4	2.72
TGT Zone 1	2.05	-0.24	2.24	1.93	49,614	6	2.66
Transco Station 30	2.16	-0.15	2.29	1.92	7,943	3	2.69
Regional Average	2.02	-0.25	—	—	—	—	2.69
TEXAS (WEST)							
El Paso Permian	1.84	-0.08	2.14	1.67	229,600	21	2.52
NNG Custer	—	—	—	—	—	—	—
Transwes E of Thoreau	1.85	-0.19	2.14	1.69	97,771	13	—
Waha Hub	1.89	-0.16	2.25	1.73	240,043	18	2.56
Regional Average	1.86	-0.14	—	—	—	—	2.54
MIDCONTINENT							
ANR SW	1.87	-0.17	2.14	1.77	14,728	4	2.57
CenterPoint East	2.02	-0.15	2.29	1.94	112,362	5	2.54
CenterPoint West	—	—	—	—	—	—	—
NGPL-MC	1.96	-0.09	2.17	1.85	62,628	9	2.60
Oneok	1.92	-0.18	2.17	1.78	54,381	5	2.50
Panhandle	1.84	-0.17	2.22	1.77	138,273	11	2.55
Southern Star	1.85	-0.13	2.14	1.75	136,529	9	2.56
Regional Average	1.90	-0.16	—	—	—	—	2.54

(continued on p2)

Trump Seen as 'Mixed Bag' for Gas As Industry Eyes Regulatory Rollback

Donald Trump's stunning upset in the presidential election is interpreted as a boon for the oil and gas industry. But is that just wishful thinking in these carbon-constrained times?

It's difficult to know exactly what to expect from a newcomer to politics whose campaign was long on catchy bumper-sticker phrases and short on substance and details. Post-Nov. 8, insiders and outsiders are still trying to sort out what might evolve on the fossil fuels front by reading a strange assortment of opaque tea leaves.

For instance, analysts at ClearView Energy Partners classified a

(continued on page 14)

ConocoPhillips Looks to Unload Bulk of its North American Gas

ConocoPhillips last week outlined an ambitious plan to adjust to the reality of $50 per barrel oil, a strategy it will jump-start by selling $5 billion to $8 billion in North American natural gas assets — the lion's share of its gas portfolio.

The US major said it will use the proceeds to help pay down a staggering $28.7 billion in debt while returning $3 billion to shareholders.

Citigroup analysts Alastair Syme and Fernando Valle called the move part of a "decent attempt to unlock much of the hidden value in the Conoco equity." With no ongoing development, Conoco's gas

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Where's Winter? High Storage, Low Demand Keeps Prices Spiraling

In the face of bloated gas storage fields and unusually lackluster demand, the US December gas contract fell another 5.3% last week, landing in the low $2.60s — and the short-term outlook could hardly be more grim for bulls. Storage inventories have already exceeded last year's all-time high and mild weather is set to linger until late this month.

"Early indications are that November 2016 could end up being warmer than the record breaker of November 2015," GMP/First Energy analyst Martin King said.

October had already been deemed the third warmest yet, and

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Natural Gas Weekly Spot Prices (cont.)

Flow Dates: 11/8-11/14

Price Point	$/MMBtu	Chg.	High	Low	Avg. Daily Vol.	Avg. Daily Deals	Nov. Bid Week
GREAT PLAINS							
Emerson	1.88	-0.20	2.16	1.78	211,061	30	2.68
NB Ventura TP	1.99	-0.16	2.21	1.87	26,086	2	—
NNG Demarc	1.97	-0.15	2.26	1.87	53,171	7	2.73
NNG Ventura	1.92	-0.18	2.22	1.86	68,771	6	2.74
Regional Average	1.91	-0.18	—	—	—	—	2.73
UPPER MIDWEST							
Alliance	2.14	-0.03	2.28	1.98	130,038	16	—
ANR ML7	2.01	-0.25	2.34	1.99	39,612	2	2.87
Chicago Citygate	2.13	-0.09	2.38	1.93	362,571	40	2.81
Consumers	2.07	-0.12	2.33	1.95	192,891	20	2.84
MichCon	2.04	-0.14	2.33	1.95	254,185	26	2.81
Regional Average	2.09	-0.10	—	—	—	—	2.81
SOUTHEAST							
Tetco M1	1.98	-0.09	2.20	1.96	9,857	1	—
Transco Zone 4	2.09	-0.15	2.34	1.90	372,617	39	2.73
Transco Zone 5	2.15	-0.29	2.42	2.08	63,843	8	2.87
Regional Average	2.09	-0.15	—	—	—	—	2.76
APPALACHIA							
Col. Gas App. Pool	1.92	-0.14	2.28	1.83	176,505	25	2.57
Dominion North	1.77	0.35	1.88	1.51	46,646	4	1.14
Dominion South	1.74	0.29	1.89	1.49	247,820	32	1.12
Lebanon Hub	2.07	-0.13	2.25	1.90	61,689	7	2.72
Regional Average	1.84	0.06	—	—	—	—	1.42
EASTERN CANADA							
Dawn	2.09	-0.10	2.40	2.00	366,211	50	2.93
Iroquois	2.17	-0.07	2.38	1.95	15,020	9	2.77
Niagara	—	—	—	—	—	—	1.39
Regional Average	2.09	-0.10	—	—	—	—	2.78
NORTHEAST / MIDATLANTIC							
Algonquin	2.17	0.19	3.25	1.74	57,219	12	2.43
Dracut	—	—	—	—	—	—	—
Iroquois Zone 2	2.16	-0.10	2.40	2.06	12,996	3	2.74
Tenn Gas Zone 6	2.15	0.11	2.98	1.74	96,916	10	2.50
Tetco M3	1.91	0.34	2.00	1.65	134,031	20	1.32
Transco Z6 - Non-NY	1.98	0.14	2.15	1.73	81,872	16	1.92
Transco Z6 - NY	1.95	0.22	2.11	1.74	5,300	1	1.91
Regional Average	2.03	0.17	—	—	—	—	1.87
ROCKIES							
Cheyenne Hub	1.83	-0.11	2.13	1.73	193,421	14	2.55
CIG	1.82	-0.08	2.13	1.70	21,200	2	2.54
Kern River / Opal	1.83	-0.12	2.14	1.71	510,700	39	2.63
NW Rockies	1.92	-0.07	2.12	1.71	42,871	6	2.56
Questar	1.96	-0.27	2.10	1.70	10,486	2	2.54
Regional Average	1.83	-0.11	—	—	—	—	2.60
SAN JUAN BASIN							
El Paso Bondad	1.81	-0.06	2.14	1.71	120,986	9	—
El Paso San Juan	1.87	-0.08	2.17	1.71	168,514	19	2.54
Regional Average	1.84	-0.08	—	—	—	—	2.54
PACIFIC NORTHWEST/WESTERN CANADA							
AECO	1.71	-0.13	1.84	1.62	799,716	71	2.05
Kingsgate	1.84	-0.07	2.00	1.75	13,729	2	—
Malin	1.84	-0.21	2.12	1.76	108,300	11	2.67
NW Sumas	1.84	0.01	2.01	1.65	57,586	7	2.63
Stanfield	1.95	-0.06	2.05	1.85	10,014	1	—
Westcoast Station 2	1.11	0.11	1.23	1.00	16,590	3	1.69
Regional Average	1.72	-0.05	—	—	—	—	2.07
CALIFORNIA							
Kern - Wheeler Ridge	—	—	—	—	—	—	—
PG&E Citygate	2.38	-0.39	2.65	2.20	37,750	6	3.25
PG&E South	1.96	-0.07	2.23	1.80	32,457	3	—
SoCal Border	1.93	-0.10	2.28	1.78	307,457	26	2.71
SoCal Citygate	2.31	0.01	2.50	1.97	59,543	10	2.87
Regional Average	2.03	-0.16	—	—	—	—	2.82
WEEKLY COMPOSITE SPOT PRICES							
Wellhead	1.94	-0.16	—	—	—	—	—
Delivered	1.95	-0.12	—	—	—	—	—

Analysts, Officials See Canadian Pushback Against US Gas Imports

US shale gas is unlikely to dominate central Canadian gas markets, although it undoubtedly has — and will continue to have — a major influence, according to speakers at the LDC Gas Forum in Toronto last week.

For the past few years, the prevailing wisdom has been that cheap gas from plays close to Ontario and Quebec, mainly the Marcellus and Utica in the US Northeast, would almost completely displace gas from Western Canada due to geographical and price advantages (NGW Aug.1'16).

Not so fast, according to Luke Jackson, a senior energy analyst with S&P Markets.

"The argument was that infinite supplies of US Northeast gas would flood markets in Eastern Canada — but there is a pretty strong counter argument to this," he said at the conference.

Foremost among these arguments, he said, is the fact that shale gas from the prolific Montney play in northeast British Columbia has the lowest break-even costs in North America — and production in the region is also bolstered by its strong associated production of crude and gas liquids.

Further bolstering efforts by Canadian producers to protect their traditional turf is a move by gas pipeline giant TransCanada to reduce tolls on its Mainline from Alberta to the Dawn Hub in southern Ontario — North America's second busiest hub — in order to boost traffic and profits on its venerable line (NGW Sep.5'16).

Tom Choi, a director with Washington, D.C.-based Berkeley Research Group, agreed with Jackson, although he also mentioned that "Appalachian gas growth will be checked by pipeline constraints, political opposition [to fracking] and high costs" at wells in the Marcellus and Utica Shales.

"The Marcellus is risky business," he said. "Most wells there are not very productive; only 30% are profitable at a price of $2.50 [per MMBtu] and the smaller guys don't have the capital to develop new wells."

Production from the US Northeast, he argued, will flow more to other regions, including 5 billion cubic feet per day to markets in the eastern US and 3.7 Bcf/d to the US South, while only some 1.3 Bcf/d will head north to central Canada.

Richard Smead, a managing director with RBN Energy, pointed out that with US gas output dropping thanks to low prices and field declines, Canadian exports to the US this year have actually increased by as much as 1 Bcf/d — and that thanks to the near seamless integration of US and Canadian gas markets, Canada gas may even be re-exported from the US to Mexico, as well as possibly supply US LNG export projects.

Two new pipelines from the US into the Dawn Hub in Ontario — Rover and Nexus — are being completed and to some extent will back out Western Canadian gas production. Chris Shorts, a director of major Ontario gas distributor Union Gas, said some US gas imported into the Union Gas-owned Dawn Hub will be re-exported to US markets including New York City by pipelines that were originally built to supply Canadian gas to the US before production in Canada's southern neighbor skyrocketed in recent years.

Another reason US shale gas producers are less keen on Ontario markets is the provincial government's push to increase green energy. Jackson said the Ontario government is currently pushing for an electricity market dominated by nuclear (60%) and hydroelectricity (24%).

In October, the Ontario government made a surprise announcement that it would buy enough hydroelectric power from Quebec to replace about 15% of its gas-fired power — a blow to gas distributors who had hoped to sell more gas-fired power while Ontario refurbishes some of its nuclear power plants (NGW Dec.1'14). "We see flat demand for natural gas in Ontario until 2021," Jackson said.

But gas distributors in Ontario remain keen to access gas from the US Northeast. "We continue to diversify our portfolio of gas supply," said Erin Liberty, a manager of transportation acquisition with Union Gas. "While a significant part of our portfolio is Western Canadian gas, the more points of supply the better."

Liberty also said she was concerned that Union Gas was continuing to pay maximum tolls to TransCanada due to contracts signed before the gas giant offered discounts to shippers this fall. "It's troubling for us that they are selling capacity at a considerable discount to others," she said.

TransCanada is expected to announce soon whether its bid to attract enough producers willing to sign 10-year contracts to ship at least 1.9 Bcf/d is successful (NGW Sep.5'16).

James Irwin, Toronto

Citing 'Emergency,' Okla. Shuts More Wastewater Wells After Quake

Saying last week's damaging earthquake in Cushing "constitutes an emergency situation," the Oklahoma Corporation Commission (OCC) ordered the shut-in of yet more wastewater disposal wells and restricted intake volumes for others.

OCC spokesman Matt Skinner said the new order covers 700 square miles and includes 58 wells — four of which were covered under a previous action taken after another quake.

Gov. Mary Fallin declared a state of emergency for Payne County, home to the oil market's Cushing Hub, following the Nov. 6 quake that left at least 50 buildings damaged. State regulators and scientists have linked the quakes to deep injection wells that pump wastewater from gas and oil drilling operations into the earth under high pressure.

City and state officials said the quake, which was followed by several strong aftershocks, did not cause any damage to gas or oil pipelines crossing the area or above-ground oil storage tanks at the hub, which is the US benchmark pricing point for West Texas Intermediate crude.

Just three days before the Cushing temblor, the OCC had ordered operators to either shut down or sharply reduce injections into dozens of wastewater disposal wells in response to the 4.3-magnitude quake that hit the Pawnee area Nov. 1. The plan covered 38 Arbuckle Formation disposal wells under OCC jurisdiction and 26 Arbuckle wells under the US Environmental Protection Agency purview (NGW Nov.7'16).

The OCC noted that 15 of those wells were already shut down under a Sep. 3 directive that followed a record 5.8-magnitude quake in the same region (NGW Sep.12'16).

Regarding the Cushing directive, "it is important to note that this plan is an initial response, and operators are being warned that work is under way on a broader plan that will encompass a greater area and more Arbuckle disposal wells," Skinner said. "Work is expected to take several weeks."

He said the OCC's plan involves three circles that are six, 10 and 15 miles from the epicenter of the Cushing quake. Inside the six-mile ring, seven disposal well operations must stop injecting by Monday; within 10 miles, 16 wells must reduce their intake volume by 25% of the last 30-day average by Nov. 21; and within 15 miles, 31 wells are limited to their last 30-day average by Nov. 21.

Skinner said operators must begin a gradual shutdown of their wells to avoid creating a pressure imbalance along the fault line that has become active. The state will continue its response plan, which is to use wells in the affected area after a quake to try and stabilize the pressure along the fault lines — though it could take months or years before a meaningful decrease in the number of quakes can be measured.

Since 2009, Oklahoma has become the most seismically active state in the US and one of the most active in the world. Prior to 2009, according to Oklahoma Geological Survey and US Geological Survey records, the Sooner State was averaging two to three magnitude-3 or greater quakes a year from 1978-2009.

According to the OGS, that number has now streaked into the stratosphere. There were 510 magnitude 3 or greater tremors between Jan. 1 and Oct. 4, nine of magnitude 4 or greater and two magnitude 5 or greater (NGW Jul.18'16). That compares with 2015, when the OGS recorded 877 quakes of magnitude 3 or greater and 29 of magnitude 4 of higher. In 2014, there were 565 quakes of magnitude 3 or greater and 14 of magnitude 4 or higher.

John A. Sullivan, Houston

Intrastate Weekly Spot Prices

Flow Dates: 11/8-11/14

Price Point	$/MMBtu	Chg.	High	Low	Avg. Daily Vol.	Avg. Daily Deals	Nov. Bid Week
Louisiana Intras	—	—	—	—	—	—	—
Oklahoma Intras	1.922	-0.180	2.17	1.78	54,381	5	2.50
South Texas Intras	2.318	-0.118	2.35	2.21	1,314	0	—
West Texas Intras	—	—	—	—	—	—	—

Industry Eyes Refracking Technology To Extend Life of Shale Wells

Refracking existing wells has vast potential, but also considerable limitations, as the industry employs new technologies to extract more gas and oil from shale formation, officials and analysts say.

More than 250,000 gas and oil wells have been refracked in the US onshore over the past 60 years, they told the recent Enercom Oil and Gas Conference in Denver. And David Demshur, chief executive of service provider Core Laboratories, told *Natural Gas Week* in an interview that the industry is still in the early stages of understanding what makes the best candidate for a secondary completion.

He said the technology is not entirely in place that one of the big issues is so-called "diverter technology."

"When you refrack, unless you can plug up existing perforations, you'll lose all your new refrack to those existing perforations, and it is far less productive than stimulating new rock," Demshur said. "That is the head-scratcher for the industry."

Another factor is the type of rock involved. Demshur said more brittle rock with higher silica or carbonate content make the best candidates, referencing the Haynesville and Barnett Shales in Louisiana and Texas, respectively, where refracks have become increasingly common.

As two of the first unconventional natural gas plays, the completions were not very sophisticated, making them worthy candidates to test refrack potential. "Those two formations are set to probably get the most attention in the refrack market over the next year," Demshur said.

In early 2016, Devon Energy concluded its horizontal refrack appraisal program in the North Texas Barnett, identifying around 1,000 potential refrack locations. The results were positive for Devon, with refracks increasing well productivity by 340%.

Devon late last year pegged the cost of a refrack job at $1.2 million, less than half the typical price tag for drilling a new Barnett well (NGW Dec.7'15).

Rob Hull, director of corporate innovation and global technology centers at services giant Halliburton, has said refrack potential is selective by operator, basin and cost. "Operators have to really look at overall spend and they are going to focus on the areas that give them the most bang for the buck," Hull told NGW.

As for the South Texas Eagle Ford Shale, Marathon Oil Regional Vice President Dale Kokoski said refracking technology has yet to find consistency, but he noted that the value of the technology could be huge moving forward.

Demshur agreed, saying that technology advancements will be incremental moving forward and refracking will have growing importance. "As we run out of sweet spots, the way we drill, complete and refrack will be very important for sustaining production."

Tyler Webb, Houston and Casey Sattler, Phoenix

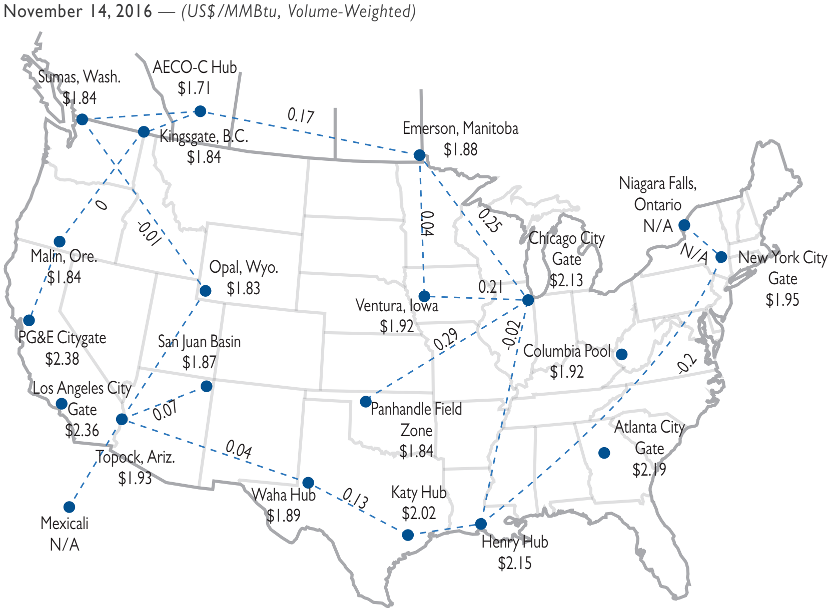
Mountain Valley Pipeline Finding Opposition in Energy Leaning W. Va.

As proposed, the Mountain Valley Pipeline (MVP) is a large-scale 300-mile system that would carry natural gas from the Marcellus and Utica Shales to growing Mid- and South Atlantic markets. But its developers face a growing resistance in West Virginia that is using history, water and a love of the land to challenge the pipeline.

"Some folks think it will create additional jobs for the oil and gas

Prices And Differentials For Major Hubs And Selected City Gates

November 14, 2016 — *(US$/MMBtu, Volume-Weighted)*



Selected Daily Differentials

Differential	11/7	11/8	11/9	11/10	11/11
HH-NY	-0.58	-0.26	-0.29	-0.13	-0.06
HH-Chicago	-0.06	-0.06	-0.07	-0.06	-0.04
AECO-CHIC	+0.43	+0.47	+0.39	+0.26	+0.34
AECO-PG&E	+0.76	+0.84	+0.79	+0.67	+0.59

industry in West Virginia. Others are concerned about the environmental impact," J. Damon Cain, editor of the *Register-Herald* in Beckley, West Virginia, told *Natural Gas Week*. "On one end you have those who say pipelines will be good — just don't spill anything. On the other end, you have, 'we just don't trust these pipelines to be environmentally safe.'"

The 42-inch MVP system would move up to 2 billion cubic feet of gas per day, extending the Equitrans Transmission system in Wetzel County, West Virginia, to Transcontinental Gas Pipeline Co.'s Zone 5 compressor station 165 in Pittsylvania County, Virginia. The $3.5 billion line would require three compressor stations in West Virginia.

The Federal Energy Regulatory Commission (Ferc) recently held one of a series of hearings on the MVP in Peterstown, West Virginia. Among those who voiced their opposition was Shirley Hall.

"The line, as proposed, would come within a mile of my home," Hall told NGW, adding that she fears construction of the pipeline will damage or destroy a spring that supplies her home and several others with fresh water.

"This spring runs underground. There are a lot of people here who have very strong ties to the land," Hall said. "And this is going to change the land — and probably some of the best water you will ever find. They said they will supply us with water if there is a problem — but is that a solution?"

Hall said the line would also run through the nearby Jefferson National Forest, cutting through old growth forests, as well as specially identified black bear habitats, adding that several groups have formed to challenge the MVP.

"There is a growing sense of frustration that this kind of stress is being put on people," Hall said. "People don't seem to understand the value that we put on this land. There is a cemetery near the proposed pipeline that has graves dating back to the Civil War. This project will have a huge impact on our life."

For their part, the MVP developers insist safety is a top priority. In their Ferc application, they cited some of the safeguards they will use: remote controlled shut off valves monitored 24 hours a day; having more inspections than required by state and federal law; X-raying 100% of all pipeline welds; and in some areas installing thicker steel pipe than required by regulators.

During the hearing, one vocal opponent was quoted as saying a standoff similar to the one in North Dakota is necessary to stop the MVP. In North Dakota, members of the Standing Rock Sioux tribe been locked in a sometimes violent confrontation with officials over construction of the Dakota Access Pipeline — a $3.8 billion line being developed by Energy Transfer Partners to carry more than 500,000 barrels of oil per day across several states (NGW Nov.7'16).

The MVP gas project would be built and owned by Mountain Valley Pipeline, a joint venture of EQT Midstream Partners; NextEra US Gas Assets; Con Edison Gas Midstream; WGL Midstream; and RGC Midstream. EQT Midstream Partners will operate the pipeline and own a significant interest in the venture.

When asked about a potential standoff over the MVP similar to the North Dakota protests, Cain said, "I can't see into the future and I wouldn't want to guess about something like that."

That said, "people love the outdoors. They love hunting, fishing and white water rafting. So, what is the balance?" Cain asked, explaining that the oil and gas price downturn has led to a steep drop in a usually dependable cash stream for West Virginia. At the same time, "with tourism the question is asked, what does a pipeline going across a river do to this?"

For now, Ferc is gathering public input about the MVP and said a final environmental impact study could be finished by next spring. The application would be sent to the full commission for consideration after that.

If Ferc gives the OK on MVP's request for a certificate of public convenience and necessity, which basically gives the company power of eminent domain, construction could begin as early as next summer, with the line becoming operational by the end of 2018.

North American Weekly Gas Storage

(Billion Cubic Feet)

Region	Week Ending Nov. 4	Week Ending Oct. 28	% Full	1 Week Chg.	Year Ago	1 Yr Chg.	5 Yr Avg.	5 Yr Chg.
US								
East	946	940	88.7	6	925	21	928	18
Midwest	1,148	1,130	93.4	18	1,111	37	1,093	55
Mountain	253	249	54.7	4	217	36	210	43
Pacific	327	326	78.6	1	381	(54)	368	(41)
South Central	1,343	1,318	85.7	25	1,336	7	1,229	114
Total Lower 48	**4,017**	**3,963**	**84.7**	**54**	**3,970**	**47**	**3,828**	**189**
Canada								
East	270	272	96.0	(2)	262	9	246	24
West	475	475	96.9	(0)	419	55	434	41
Total Canada	**745**	**747**	**96.6**	**(2)**	**681**	**64**	**680**	**65**
Total North America	**4,762**	**4,710**	**86.4**	**52**	**4,651**	**111**	**4,508**	**254**

Sources: US-EIA. Canada-Enerdata. Values in Bcf unless otherwise noted.

"There is a lot of talk. There are a lot of people concerned about this," Hall told NGW. "I just wish folks would understand that this is our land. I have 22 dogwood trees on my property. What will happen to them?"

John A. Sullivan, Houston

Pa. Program Sees Locally Produced Gas Driving In-State Economy

Pennsylvania is awash in natural gas, with production exceeding 14 billion cubic feet per day and proved reserves well north of 10 trillion cubic feet and climbing. But while one of the most well-known hurdles facing producers has been getting that gas to markets outside the state, a new initiative from Gov. Tom Wolf's administration seeks to spur more consumption of gas at home.

The Pipeline Investment Program (Pip) seeks to address the "last mile" conundrum that has long afflicted the gas sector, whether it be in transportation, power generation or residential/commercial use (NGW Jun.9'14).

"We have $10 billion of pipeline infrastructure being developed right now for gas to be utilized outside the state. The governor is advocating that more of that gas be used by residents inside the state," said Dennis Davin, secretary of the Department of Community & Economic Development, which administers the program.

Pip will provide grants for pipeline projects that link the state's vast gas grid to a wide range of possible consumers, such as municipalities, business and industrial parks, existing manufacturing projects, hospitals and school districts. Residential use and bringing gas to unserved areas of the state is not included at this time, Davin said, though it could be considered in the future by working with such groups as the Public Service Commission.

For now, the program is focused on spurring economic development and job creation by defraying costs of the last few miles of pipeline via grants of up to $1 million. Eligible expenses include costs for acquisition, construction and site preparation. The applicant must provide matching funds of no less than 50% of the total project cost. Grants will be awarded though a bidding process.

The program is initially being funded with $24 million that been reallocated from an energy efficiency program that had run its course. Davin said this should fund at least 25 to 30 projects in 2017-18. If successful, Pip might seek additional funds from Pennsylvania General Assembly if funds can't be found from a similar reallocation.

Davin said he has "no idea whatsoever" what projects will bid or the jobs they might create at this point. However, what he does know is that Pennsylvania is a leader in brownfield development, which has been a key source of job creation and industrial growth in the state since well before Pip was launched.

Having a world class gas resource gives the state a tremendous opportunity — a bonus of sorts to build on its other strengths, he said. And in-state gas production has proved an economic dynamo before.

In May 2013, Procter & Gamble (P&G) began using locally produced gas to take its giant Mehoopany manufacturing plant off the power grid. For more than three years now, the plant has been producing a maximum of 64 megawatts of electricity using a Rolls Royce Trent 60 Gas Turbine and Heat Recovery Steam Generator — the second generator installed at the plant — and is now an net exporter of power into the grid.

As 100% of the gas used to generate power at the Mehoopany plant comes from northeastern Pennsylvania and most of the supply is extracted from beneath the plant itself. P&G has estimated that on-site power production can deliver an annual gross savings of more than $16.5 million per year.

More recently, burgeoning state ethane production led Shell to green-light the development of a major petrochemical complex in Beaver County, Pennsylvania, near Pittsburgh (NGW Jun.13'16). Central to the project, Shell Chemical Appalachia will construct a 1.5 million tons per year ethane cracker, which will consume an estimated 105,000 barrels per day of low-cost ethane as feedstock, as well as 100 million cubic feet of gas per day as fuel.

Natural Gas Futures

Trading Dates: November 7-November 11

New York Mercantile Exchange (NYMEX) Henry Hub

	– Monday –		– Tuesday –		– Wednesday –		– Thursday –		– Friday –		Week's	Open
	Nov 7	Volume	Nov 8	Volume	Nov 9	Volume	Nov 10	Volume	Nov 11	Volume	Low-High	Interest
Dec 2016	2.816	141,836	2.633	211,752	2.690	209,317	2.632	185,153	2.619	—	2.546-2.875	128,363
Jan 2017	2.978	99,283	2.810	141,007	2.859	138,532	2.811	112,519	2.850	—	2.722-3.027	266,028
Feb 2017	3.011	25,518	2.854	40,841	2.898	43,621	2.858	27,857	2.898	—	2.766-3.055	74,970
Mar 2017	3.000	38,133	2.854	60,331	2.897	48,596	2.860	36,937	2.899	—	2.764-3.039	166,853
Apr 2017	2.936	36,185	2.816	60,526	2.847	52,934	2.818	39,802	2.863	—	2.727-2.963	94,964
May 2017	2.944	16,718	2.825	18,438	2.852	15,724	2.828	21,329	2.874	—	2.731-2.955	67,703
Jun 2017	2.983	9,900	2.863	12,285	2.888	14,952	2.866	11,100	2.914	—	2.771-2.994	45,890
Jul 2017	3.021	9,142	2.901	13,121	2.924	8,828	2.904	9,699	2.953	—	2.809-3.028	31,774
Aug 2017	3.025	6,087	2.908	7,546	2.929	6,726	2.908	7,553	2.956	—	2.815-3.033	22,008
Sep 2017	3.014	4,486	2.901	5,613	2.919	4,798	2.897	5,189	2.943	—	2.800-3.023	22,933
Oct 2017	3.033	14,682	2.922	19,369	2.939	14,827	2.917	11,737	2.962	—	2.832-3.043	68,346
Nov 2017	3.082	5,295	2.973	4,410	2.986	3,958	2.966	4,006	3.009	—	2.867-3.088	24,352
12-Mth Strip	**2.987**	—	**2.855**	—	**2.886**	—	**2.855**	—	**2.895**	—	—	—
2016 Strip	2.426	—	2.410	—	2.415	—	2.410	—	2.409	—	—	—
2017 Strip	3.022	—	2.896	—	2.923	—	2.896	—	2.940	—	—	—
Total Volume	—	**419,549**	—	**608,660**	—	**572,481**	—	**480,308**	—	—	—	—

So the Pip program is a natural fit to keep the ball rolling in the Keystone State, Davin said.

"The governor really believes that there is a great opportunity here with low-cost gas. You can't get a better sales pitch than that," he said. "We have a great story to tell."

Tom Haywood, Houston

Winter? ...

(continued from page 1)

the prompt month has lost almost 20% of its value since taking the lead Oct. 28.

"Winter is getting off to a delayed start and this has traders rushing to sell," Gelber & Associates analyst Kent Bayazitoglu said. "Last year's mild winter is still fresh on trader's minds and there is no talk of a polar vortex."

Early winter warmth is even more pronounced in Canada, where temperatures have been as much as 30 degrees Fahrenheit above normal due to an unusually strong jet stream in the far north blocking Arctic air incursions.

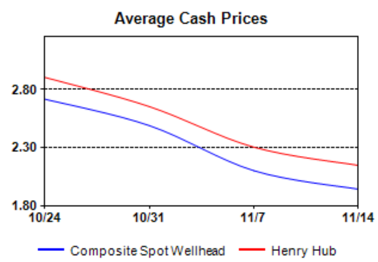
However, there are signs that colder weather is coming. The National Oceanic and Atmospheric Administration confirmed last week a La Nina has formed in the tropical Pacific, replacing the El Nino pattern that was chiefly responsible for last winter's warmth. If the La Nina doesn't strengthen substantially it could help produce a normal to cold winter. A strong La Nina, however, would act much like an El Nino (NGW Oct.10'16).

Reuters analysts anticipate that colder conditions will take hold by December with frequent outbreaks of cold Canadian air sweeping across the eastern US all the way to the Gulf Coast.

In the meantime, a price floor in the $2.50s appears to have formed, mainly due to unusually resilient levels of gas-fired power generation (NGW Oct.24'16).

"In October when prices climbed towards $3.50, power generators started to favor cheaper coal," Bayazitoglu said. "With prices falling toward $2.50, gas will start to look more attractive for power generation." Gas exports to Mexico and growing demand from LNG production would also support the contract.

The US Energy Information Administration reported a 54 billion cubic foot build for the week ended Nov. 4, bringing the volume of working gas in storage to 4.017 trillion cubic feet, eclipsing the November 2015 record of 4.009 Tcf. The injection was well above last year's 38 Bcf injection, causing the surplus to fall to 47 Bcf, or 1.2%. But it was in line with the 55 Bcf five-year average, bumping the surplus to 189 Bcf, or 4.9%.



Meanwhile, early consensus for the week ended Nov. 11 is for a build in the upper 30s Bcf, which would push the all-time high close to 4.05 Tcf. However, the massive glut isn't the result of a heavy injection season, but the almost 2.5 Tcf of gas still in the ground from last April.

Independent analyst Stephen Schork noted that injections this season so far have totaled 1.55 Tcf, or 59% of normal, due primarily to record gas burns.

The December contract lost 1.3¢ Friday to close at $2.619/MMBtu, down 14.8¢ for the week. Baker Hughes reported Lower-48 gas-directed rigs were down by two, bringing the total to 115.

December WTI crude futures fell $1.25 Friday to close at $43.41/bbl, down 66¢ for the week. Meanwhile, Baker Hughes reported that oil-directed rigs were up by two, bringing the total to 452.

Lisa Lawson and Tom Haywood, Houston

Pipeline Capacity Utilization

(Mcf/d)

Location	FlowDate	Flow	Nov (2016) Month-to-Date	Nov (2015) Month-to-Date
ANR LA	11/5/2016	—	—	—
ANR OK	11/5/2016	546,111	548,116	659,726
Chicago Citygate	11/5/2016	2,614,049	2,714,587	2,853,705
Florida	11/5/2016	3,198,799	3,464,380	4,249,367
Michcon	11/5/2016	972,645	974,085	1,248,136
NGPL TexOk	11/5/2016	680,907	640,797	393,276
Niagara	11/5/2016	—	—	—
NNG Demarc	11/5/2016	—	—	—
Opal	11/5/2016	835,338	849,402	884,724
PEPL Haven	11/5/2016	1,059,620	1,041,885	887,850
PG&E citygate	11/5/2016	1,774,000	2,064,200	2,867,000
PG&E Malin	11/5/2016	1,054,029	1,144,022	1,099,696
Questar	11/5/2016	956,824	1,187,575	1,425,587
SoCal	11/5/2016	2,137,000	2,287,600	2,577,200

BENTEK Energy LLC

www.bentekenergy.com

Rate of NGV Adoption to Accelerate Worldwide, Firm Predicts

Thanks in large part to tougher environmental policies in the US and globally, Future Market Insights (FMI), a New York-based consulting firm, is upbeat about the future of natural gas vehicles (NGVs).

In its latest report, *Automatic Natural Gas Vehicle Market: Global Industry Analysis and Opportunity Assessment 2015-2025*, the firm predicts that the slow rate of adoption for both compressed natural gas (CNG) and LNG cars and trucks will accelerate.

"Around the world, governments have issued stringent regulations regarding excess emissions and fuel efficiency, and the global fossil fuel price has seen an increasing trend over the past five to 10 years," FMI said. "Because of this, there is a growing demand for cheap and environment-friendly fuel alternatives. Original equipment manufacturers of vehicles are now heavily promoting their products by showcasing the fuel efficiency and emission-free features, fueling the demand for the automotive NGV market."

A similar phenomenon is about to ramp up in the marine sector as a glutted LNG market seeks to capitalize on new maritime pollution restrictions (NGW Oct.10'16). "While the direction of the transportation sector is still uncertain, trends like these suggest the possibility of a natural gas-fueled future," FMI said.

The firm did cite potentially limiting factors such as high up-front purchase costs and low awareness in many countries. Nevertheless, it sees the global NGV market expanding at a compound annual growth rate (CAGR) of around 5% to 7% during the 10-year forecast period.

In a similar review of the market in September, Navigant Consulting said it expects global annual NGV sales to grow from 2.4 million vehicles in 2015 to 3.9 million in 2025, or about 62% (NGW Sep.12'16).

For its part, Navigant highlighted the increasing availability of cheap natural gas as an important driver of NGV adoption, but hesitated when it comes to the countereffect of lower crude oil pricing, which makes gasoline- and diesel-powered vehicle competition stronger.

In its review, FMI highlighted the Asia-Pacific region, whose "automotive energy recovery market is projected to register a significant CAGR during the forecast period, reporting stable economic growth, growing automotive production, stringent government emission norms, and changing consumer preferences as driving the significant demand. FMI singled out China, India and Iran for expectations of "significant growth ... as these countries have a significant network of gas infrastructure and CNG fueling network."

"The Europe NGV market revenue is currently dominated by commercial vehicles, with government policies, subsidies, increasing fossil fuel prices and stringent environmental regulations fueling the demand in western and eastern Europe," FMI said.

The US NGV market has also been dominated by commercial vehicles, especially since the sole natural gas-powered entrant in the US passenger market — the mono-fueled Honda Civic GX — was discontinued in 2015 (NGW Jul.13'15). As a result of that move, even natural gas utilities are finding it hard to find light-duty NGVs for use in their own fleets (NGW Oct.3'16).

If there is going to be a future for NGVs in the passenger market, industry observers are looking to a combination of a space-saving, conformable adsorbed natural gas tanks and a plug-in hybrid-like approach. The latter allows for short-distance transport on CNG, while for longer distances the same vehicle utilizes gasoline (NGW May9'16).

NGVs are also getting serious competition on the light-duty passenger market from electric vehicles, which may yet leave NGVs clinging to their strongest suit: the heavy-duty, high-fuel use commercial truck market.

Russia's Gazprom, a major supplier of gas to Europe, is also working to encourage demand downstream, and among its efforts will be a series of modular CNG stations.

The stations have a capacity of 500 to 600 cubic meters per hour. A prototype was installed in May at the Dyurtyulinsky gas pipeline operation center and tested for four months. After 1,213 refills, the modular station was approved for use at Gazprom's existing facilities. The unit was manufactured by Barrens in cooperation with a Gazprom subsidiary.

"When put into commercial operation, the small-size modular CNG stations will accelerate the expansion of Gazprom's gas filling infrastructure and offer gas for motor vehicles," according to Mikhail Likhachev, director general of Gazprom Gazomotornoye Toplivo.

Michael Sultan, Washington

Comparative Fuel Prices

(Cash Market)

November 14, 2016

Natural Gas	$/MMBtu	Comparative Fuel	Fuel Price	MMBtu equivalent
Appalachia				
App Pool Dvld Util	$1.92	Ohio/Big Sandy River Coal	$40.00/ton	$1.67
East Coast				
NY City Gate	$2.04	Heating Oil No. 2*	134.54¢/gal	$9.70
		Residual 0.30%	$47.21/bbl	$7.51
		Residual 1.00%	$38.74/bbl	$6.16
Gulf Coast				
TX Onshore Dlvd	$2.16	Heating Oil No. 2*	126.44¢/gal	$9.12
		Residual 0.70%	$41.17/bbl	$6.55
Louisiana Onshore	$2.16	Residual 3.00%	$37.42/bbl	$5.95
		WTI Cushing	$44.61/bbl	$7.69

Notes: (1) Residual=Residual Fuel Oil, priced exclusive of taxes; (2) WTI=West Texas Intermediate crude oil; (3) % = % of sulfur content. *Average sulfur content = 0.2%-0.5%.

Sources: Gas: Natural Gas Week; all prices volume-weighted. Oil: The weekly average of The Oil Daily's cash price postings.

Florida Voters Reject ‘Anti-Solar’ Amendment Pushed by Utilities

Sunshine State voters last week narrowly rejected a proposed amendment that detractors said appeared pro-solar, but its real purpose was to prevent net-metering from being written into the state’s constitution. Net-metering allows solar panel owners to sell excess power back to their utility at retail prices, something utilities claim is done at the expense of non-solar customers.

Florida Solar Amendment 1 on residential solar energy fell well short of reaching the 60% needed for the state constitutional amendment to become law. The result of the vote Tuesday was 51% for and 49% against.

The vote followed a last-minute grassroots effort to have the proposed amendment invalidated, as doubts were raised about its stated goal to expand solar. Opponents claimed the measure was too confusing and would mislead voters. The Florida Supreme Court rejected the bid to invalidate the amendment on Nov. 4, just days before the election, in part because many Floridians had already cast ballots in early voting.

Those against the amendment said selling power back to the utility helps to recover the cost of installing the solar panels and the change would vastly reduce the incentive of owning or leasing solar panels and create hurdles for anyone but utility companies from selling solar power. Florida law currently allows for net-metering, though utilities set the price.

The Sunshine State has fewer than 20,000 homes with solar panels, while similarly sized New York State has 108,000. New York State law allows for limited net-metering and encourages solar growth though tax incentives. Only four states specifically ban the practice outright.

According to the utilities, net–metering fees paid to homeowners for excess solar power unfairly transfer costs to the utilities and their non-solar ratepayers. Therefore, utilities say, net-metering is essentially a subsidy that keeps solar ratepayers from paying full freight for maintaining the power grid, billing, support services and other operational functions. Notably, these costs include providing power capacity — mainly gas-fired generation — to back up growing solar capacity. This often stranded capacity is paid for by all ratepayers but less so by solar customers.

In California, Nevada, Arizona and Hawaii, where solar capacity has become a significant portion of the electricity generated, unrecovered costs are mounting and are usually transferred to customers by raising electricity rates. Nonetheless, the Brookings Institution, a nonprofit public policy organization based in Washington, D.C., released a study earlier this year that found net-metering frequently benefits all ratepayers when all costs and benefits are accounted for.

Predictably, foes of the failed amendment were jubilant. SolarCity Chief Executive Lyndon Rive called the vote a “historic action to choose a future powered by solar energy, as Floridians from all walks of life wisely saw through the utilities’ $26 million deceptive campaign. By voting no on Amendment 1, Floridians have affirmed individuals’ right to generate their own solar power, which is cleaner and will create local jobs that cannot be outsourced.”

Tory Perfetti, chairman of Floridians for Solar Choice, said in a statewide conference call in September that Amendment 1 was a cleverly designed attempt to maintain monopoly control over Florida’s energy industry and an attempt to manipulate people into falsely believing it is currently illegal to buy or lease solar. Amendment 1 proponents, he said, sought to enshrine what he called Florida’s non-competitive, anti-free market solar policy in the state’s constitution.

The amendment was actually meant to counter one being planned by a diverse coalition formed in January 2015. Floridians for Solar Choice, which included tea party groups and environmental organizations, was trying to put forward a ballot initiative it said would fix a competitive, free-market solar policy in the state’s constitution.

However, while this amendment failed to make it on the Nov. 8 ballot, the competing amendment did. Proposed by a group of utility companies, including Florida Power & Light, Duke Energy, Tampa Electric and Gulf Power, critics said it was intentionally written to sound like its intention was to boost solar energy development. However, they said it would actually do the opposite by stopping homeowners and businesses from selling excess generation to third parties. The utility group spent up to $26 million on the November ballot initiative.

Going forward, the utility companies may turn to the Florida Legislature or the Public Service Commission to push through proposals that weaken the state’s net-metering laws, as well as end tax rebates to solar customers.

Lisa Lawson, Houston

Spot Electricity Trading

Trading Dates: November 7-November 11, 2016

POINT	Avg. Price This Week	Avg. Price Last Week	Change	Year Ago	Month Ago
COB	$22.00	$21.75	$0.25	$30.55	$29.50
ERCOT	23.80	29.75	-5.95	26.73	37.50
Mid-Columbia	17.20	18.75	-1.55	27.55	23.25
NEPOOL	26.60	23.50	3.10	28.55	31.50
Palo Verde	20.60	21.50	-0.90	24.00	30.25
PJM-West	29.40	32.00	-2.60	29.27	39.25

Notes: (1) Prices in $/MWh. (2) Prices are for next day peak delivery. *Sources: Energy Intelligence and wire reports.*

PennEast Developers Facing New Ferc Challenges, Second DEIS Delay

Amid growing opposition from residents and key government agencies, the Federal Energy Regulatory Commission (Ferc) has announced a second delay in its schedule for reviewing the proposed PennEast natural gas pipeline. The date for issuance of the final environmental impact statement was postponed from Dec. 16 to Feb. 17, 2017.

Ferc also sent the company a substantial request for 46 sets of new data and called for 34 corrections to PennEast's application to build the 118-mile, 1 billion cubic foot per day capacity pipeline through New Jersey and Pennsylvania. In several cases, Ferc said PennEast's maps are outdated, incorrect and incomplete. In a letter dated Nov. 4, Ferc told PennEast it must comply with the request within 20 days.

The federal agency also added a new 30-day public comment period for its Draft Environmental Impact Study (DEIS) on PennEast due to numerous route changes proposed by PennEast after the close of the first DEIS comment period. The New Jersey utilities that have signed contracts for gas through PennEast are PSE&G, South Jersey Gas, New Jersey Natural Gas and Elizabethtown Gas. Their owner companies – PSEG, South Jersey Industries, New Jersey Resources, and Southern Co. Gas, respectively – are also the owners of PennEast.

Panda Power Funds will commission the 829-megawatt Patriot Energy Center in Montgomery, Pennsylvania, Wednesday. This is Panda's second power plant specifically developed to take advantage of its proximity to Marcellus Shale supply. In late October, Panda dedicated the 829-MW Liberty, Pennsylvania, generating station in Bradford County. Panda officials said the Patriot Energy Center will be cooled with air rather than water — which means it will not have to draw water from or discharge wastewater into the western branch of the Susquehanna River. The plant will also use Siemens H-class gas turbines — the world's first turbine technology to achieve operating efficiencies of 60%.

The Los Angeles County Board of Supervisors voted last week to ask California Gov. Jerry Brown to continue restricting gas injections into the Aliso Canyon storage facility (NGW Nov.7'16). The motion asked that injections be halted until California's Public Utilities Commission completes a study to determine the feasibility of closing or reducing the capacity of the storage facility. The 86 billion cubic foot capacity Southern California Gas facility is the largest in the region. It has been shuttered since a leak was detected Oct. 23, 2015.

The federal Pipelines and Hazardous Materials Safety Administration is seeking industry and public input on a plan to develop a pipeline user fee and rate structure for underground natural gas storage facilities. Larger operators would pay a greater share under the plan.

Painted Pony Petroleum said its average daily production in British Columbia's Montney Shale recently reached 240 million cubic feet equivalent per day, a 76% increase over third quarter volumes. The Canadian company has also started commercial operations at its Townsend Facility, a 198 MMcf/d natural gas processing facility 621 miles north of Fort St. John.

Financial News:

Quantum Energy Partners (QEP) has approved the expansion of a gas processing plant in Grady County, Oklahoma, in the heart of the Scoop play. The addition of another 200 million cubic foot processing train will give the Grady plant 410 MMcf/d of capacity needed to accommodate rising gas production in the area.

QEP has also combined two of its portfolio companies — Xplorer Midstream, owner and manager of Woodford Express, and Intensity Midstream. The key assets of Xplorer include the Grady cryogenic gas processing plant, 5,000 barrels per day of condensate stabilization capacity, 210 MMcf/d of amine treating capacity, 34 miles of 16- and 20-inch mid-pressure gathering trunk lines in Grady and Stephens Counties, 68 miles of associated gathering laterals and 3,000 HP of field compression.

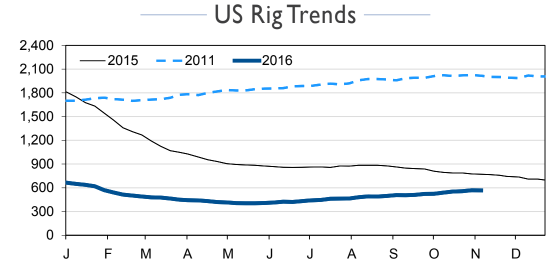
Lilis Energy has purchased additional bolt-on acreage in Winkler County, Texas, that expands its Delaware Basin footprint by 860 acres. Since its merger with Brushy Resources, Lilis has increased its

Baker Hughes Rig Count

Week Ended November 11, 2016

Region	Current Week	Previous Week	Year Ago
Total US	**568**	**569**	**767**
Land	546	546	731
Inland Waters	1	2	3
Offshore	21	21	33
Gulf of Mexico	21	21	33
Total Canada	**176**	**154**	**17679**
US Rigs Exploring for			
Oil	452	450	574
Gas	115	117	193
Unspecified	1	2	0
Drilling Direction			
Directional	52	52	72
Horizontal	457	459	587
Vertical	59	58	108
US Rigs by State			
California	6	6	10
Colorado	18	18	32
Louisiana	28	28	37
New Mexico	31	32	38
North Dakota	35	37	62
Ohio	15	14	20
Oklahoma	75	76	85
Pennsylvania	26	27	28
Texas	267	261	337
Wyoming	17	17	24
Major Oil Basins			
Cana Woodford	40	41	32
DJ Niobrara	16	16	28
Eagle Ford	38	35	73
Permian	218	218	229
Williston (Bakken)	35	37	63
Major Gas Basins			
Marcellus	35	36	43
Haynesville	21	21	27

US Rig Trends



Delaware Basin acreage position by 53%, bringing its total Delaware Basin acreage to 5,300 net acres.

Resource Energy Can-Am has closed on its acquisition of assets in the North Dakota Bakken Formation from Samson Resources for $75 million. The assets were sold in accordance with Section 363 of the US Bankruptcy Code. Resource Energy Chief Executive Paul Favret said, "The transaction further expands our operating footprint in the Williston Basin, and is highly complementary to our existing position in the play." With the acquisition, Resource Energy now has more than 110,000 net acres in the Williston Basin and has proven reserves of about 28 million barrels of oil equivalent. Resource Energy has an interest in more than 350 wells (50% operated) and has gross operated production of 6,500 barrels of oil equivalent per day.

Also Noted:

Staying put: Continental Resources Chief Executive Harold Hamm has told employees of his company that he will staying with the firm and not accepting a position in the Trump administration.

Commissioner elected: Former state legislator Wayne Christian has claimed the open seat on the Texas Railroad Commission, the agency that oversees the oil and gas industry in the Lone Star State. He will join sitting Commissioners Christi Craddick and Ryan Sitton.

New chair: Thomas D. Hutchins has been named board chairman of the Interstate Natural Gas Association of America Foundation for a one-year term. Hutchins is Kinder Morgan vice president of environmental, health and safety for the natural gas business.

Executive changes: Weatherford International Chief Executive Bernard Duroc-Danner has resigned and been replaced by Chief Financial Officer Krishna Shivram on an interim basis; Energy Services Group has named Phil Galati CEO; InfraREIT has named Stacey H. Doré general counsel; Blueknight Energy Partners has named Joel Kanvik general counsel; American Electric Power has named Matthew J. Satterwhite president and chief operating officer of Kentucky Power; Oceaneering International has named Stephen P. Barrett senior vice president for business development.

Gas Price Trends

($/MMBtu)

	CALIFORNIA		ROCKY MTNS	NEW MEXICO	TEXAS				MID-CONT.	LOUISIANA			MID-WEST	APPA-LACHIA	SOUTH-EAST	NEW ENGLAND
	South	North			Gulf Coast Offshore	Central Onshore	Central	West		Gulf Coast Offshore	Gulf Coast Onshore	Northern Louisiana				
Nov 14, 2016																
Inter (Well)	—	—	1.72	1.70	2.09	1.93	—	1.79	1.81	1.95	1.98	1.98	—	1.73	1.93	—
Intra (Well)	1.91	—	1.69	—	2.10	1.95	—	1.79	1.79	1.95	1.98	1.97	—	—	—	—
Dlvd (Pipe)	1.93	1.98	1.84	1.87	2.16	2.01	—	1.86	1.91	2.02	2.05	2.05	2.10	1.84	2.08	2.04
Dlvd (Util)	1.93	1.96	2.17	2.02	—	2.16	—	1.94	2.16	—	2.16	2.19	2.13	1.92	2.54	2.16
Nov 07, 2016																
Inter (Well)	—	—	1.83	1.78	2.24	2.22	—	1.93	1.97	2.07	2.14	2.22	—	1.67	2.10	—
Intra (Well)	2.02	—	1.80	—	2.25	2.24	—	1.93	1.95	2.07	2.14	2.21	—	—	—	—
Dlvd (Pipe)	2.04	2.22	1.95	1.95	2.31	2.30	—	2.00	2.07	2.14	2.21	2.29	2.20	1.78	2.25	1.85
Dlvd (Util)	2.04	2.15	2.28	2.10	—	2.45	—	2.08	2.32	—	2.32	2.43	2.22	1.86	2.70	2.00
October 2016																
Inter (Well)	—	—	2.50	2.47	2.67	2.84	—	2.59	2.59	2.71	2.76	2.70	—	1.50	2.72	—
Intra (Well)	2.71	—	2.47	—	2.68	2.86	—	2.59	2.57	2.71	2.76	2.69	—	—	—	—
Dlvd (Pipe)	2.73	2.98	2.62	2.64	2.74	2.92	—	2.66	2.69	2.78	2.83	2.77	2.84	1.61	2.87	1.63
Dlvd (Util)	2.73	2.93	2.95	2.79	—	3.07	—	2.74	2.94	—	2.94	2.91	2.85	1.69	3.27	2.20
Third Quarter 2016																
Inter (Well)	—	—	2.47	2.45	2.70	2.69	—	2.57	2.52	2.69	2.71	2.68	—	1.70	2.67	—
Intra (Well)	2.82	—	2.44	—	2.71	2.71	—	2.57	2.50	2.69	2.71	2.67	—	—	—	—
Dlvd (Pipe)	2.84	2.95	2.59	2.62	2.77	2.77	—	2.64	2.62	2.76	2.78	2.75	2.75	1.81	2.82	2.19
Dlvd (Util)	2.84	2.94	2.92	2.77	—	2.92	—	2.72	2.87	—	2.89	2.89	2.76	1.89	3.25	2.71
Second Quarter 2016																
Inter (Well)	—	—	1.75	1.68	2.02	1.89	—	1.81	1.80	1.90	1.94	1.91	—	1.55	1.91	—
Intra (Well)	2.06	—	1.72	—	2.03	1.91	—	1.81	1.78	1.90	1.94	1.90	—	—	—	—
Dlvd (Pipe)	2.08	2.01	1.87	1.85	2.09	1.97	—	1.88	1.90	1.97	2.01	1.98	2.04	1.66	2.06	1.93
Dlvd (Util)	2.08	2.03	2.20	2.00	—	2.12	—	1.96	2.15	—	2.12	2.12	2.08	1.74	2.47	2.30
First Quarter 2016																
Inter (Well)	—	—	1.71	1.64	1.79	1.86	—	1.76	1.84	1.92	1.89	1.88	—	1.52	1.85	—
Intra (Well)	2.00	—	1.68	—	1.80	1.88	—	1.76	1.82	1.92	1.89	1.87	—	—	—	—
Dlvd (Pipe)	2.02	1.99	1.83	1.81	1.86	1.94	—	1.83	1.94	1.99	1.96	1.95	1.96	1.63	2.00	2.35
Dlvd (Util)	2.02	1.97	2.16	1.96	—	2.09	—	1.91	2.19	—	2.07	2.09	1.95	1.71	2.39	3.21
2015 Average																
Inter (Well)	—	—	2.29	2.33	2.50	2.45	2.59	2.38	2.39	2.49	2.52	2.50	—	1.96	2.49	—
Intra (Well)	2.56	—	2.26	—	2.51	2.47	2.59	2.38	2.37	2.49	2.52	2.49	—	—	—	—
Dlvd (Pipe)	2.58	2.78	2.41	2.50	2.57	2.53	2.68	2.45	2.49	2.56	2.59	2.57	2.75	2.07	2.64	2.93
Dlvd (Util)	2.58	2.75	2.74	2.65	—	2.68	2.85	2.53	2.74	—	2.70	2.71	2.79	2.15	2.97	3.65
November 2015																
Inter (Well)	—	—	1.98	1.85	1.93	1.93	—	1.92	1.91	1.92	1.95	1.94	—	1.52	1.92	—
Intra (Well)	2.15	—	1.95	—	1.94	1.95	—	1.92	1.89	1.92	1.95	1.93	—	—	—	—
Dlvd (Pipe)	2.17	2.43	2.10	2.02	2.00	2.01	—	1.99	2.01	1.99	2.02	2.01	2.14	1.63	2.07	2.24
Dlvd (Util)	2.17	2.40	2.43	2.17	—	2.16	—	2.07	2.26	—	2.13	2.15	2.15	1.71	2.51	3.33

Notes: (1) This table presents historical data from the Gas Price Report. (2) All prices are volume-weighted. (3) The price points that made up the "Texas Central" and "Texas Gulf Coast, Onshore" composites in the Gas Price Trends table have been incorporated into the new "Texas Central Onshore" composite. The "Texas Central" composite will be eliminated.

Tiny Woodfibre Jumps Ahead of Rivals In B.C. LNG Export Race

The operator of a former pulp and paper mill in British Columbia has approved conversion of the facility to an LNG export terminal, marking the first such decision in the province. But a lack of support from First Nations aboriginal groups suggests some obstacles remain for the company behind the proposal, Woodfibre LNG.

While huge gas export facilities proposed for the Pacific province — Petronas-led Pacific NorthWest LNG and Shell-led Canada LNG — have garnered most of the attention, both have been stuck in limbo as proponents weigh spending tens of billions of dollars at a time when global oil and gas prices remain in the doldrums and other gas-exporting jurisdictions, including the US, forge ahead (NGW Oct.24'16).

Woodfibre, which is privately owned by Singapore-based RGE and controlled by Indonesian tycoon Sukanto Tanoto, hopes by 2020 to start shipping as much as 2.1 million tons per year of LNG, or 288 million cubic feet of gas per day to Asian markets after investing C$1.6 billion (US$1.2 billion) in the facility in Squamish, 40 miles north of Vancouver. By contrast, Canada LNG would export up to 24 million tons/yr of LNG, or 3.3 billion cubic feet of gas per day to Asian markets.

Woodfibre said it has already signed a memorandum of understanding with Beijing Gas Group and has also inked an "advanced" agreement with Guangzhou Gas Group — key determining factors when reaching a final decision to move ahead. Construction could begin next year.

But Chief Ian Campbell of the Squamish Nation said in a statement that it is "too early to celebrate" the company's decision to move forward. "The Squamish Nation set out its 25 conditions to specifically protect sensitive land and marine habitats in and around the proposed project site," he said. "Only when all those conditions have been resolved will we sign the deal. Put simply, our Woodfibre LNG work simply isn't finished."

Tensions are running high; last week, an office in Squamish dedicated to improving relations between Woodfibre LNG and the local aboriginal community was set on fire.

British Columbia's Liberal premier, Christy Clark, has a lot riding on LNG exports after vowing three years ago that at least one major project would be up and running on Canada's Pacific Coast by 2015, underpinning an industry that would rival Alberta's oil sands in terms of wealth creation.

While Woodfibre is not exactly a major project, it does provide the premier with at least some ammunition in her bid for reelection in May. Since her surprise election in 2013, the premier has gone to great lengths to attract investment in her province's nascent LNG industry. One such incentive announced last week would lower electricity rates for LNG developers who opt to power their plants with hydroelectricity rather than natural gas, which Woodfibre plans to do.

"I am delighted to welcome this good news, which will undoubtedly continue to create good, sustainable, environmentally sound, high-paying jobs for British Columbians in the region," said a hard-hatted Clark at a ceremony in Squamish, adding that the project will create 650 jobs during construction and 100 full-time jobs during its estimated lifespan of 25 years.

Clark downplayed the risk of LNG carriers operating in tricky waters off British Columbia. "We all know that LNG is very different, creates a much smaller environmental impact if it's released into the environment," she said. "It doesn't sink into the ocean and it escapes into the air."

Clark also argues that shipping natural gas sourced from British Columbia's giant shale plays in the province's northeast will displace the use of coal in countries such as China and as such reduce global greenhouse gas emissions — although environmentalists and aboriginal groups aren't exactly buying into that argument.

Greg D'Avignon, president of the Business Council of British Columbia, said Woodfibre's decision to move ahead establishes the province "as one of an increasing number of suppliers of energy to growing Asian markets in the very competitive global LNG sector, and also signals that B.C. is an attractive location in which to invest global capital."

Rig count: There were 151 rigs drilling for natural gas and oil in Western Canada as of Nov. 7, 11 fewer rigs than reported for the previous week by the Canadian Association of Oilwell Drilling Contractors (CAODC). During the same period a year ago, CAODC reported 173 rigs were drilling in the region. A total of 666 rigs are available in the region, unchanged from CAODC's previous report.

Working gas in all Canadian storage facilities was reported to be 96.6% of capacity as of Nov. 4, with a 1.9 billion cubic foot withdrawal from the week before, according to the most recent Canadian Enerdata gas storage survey. A total of 744.9 Bcf of gas was in storage last week; capacity is 771.5 Bcf. Stores were 89.4% full a year ago.

Working gas levels in facilities west of the Manitoba-Saskatchewan border fell to 474.5 Bcf, down from a revised 474.6 Bcf the week before; capacity is 489.7 Bcf. Working gas levels east of the border fell to 270.4 Bcf, down from 272.2 Bcf the week before; capacity is 281.8 Bcf.

The composite spot import price this week is US$1.85/MMBtu for gas leaving Canada and entering the US through six border-crossing points. *Natural Gas Week*'s Nov. 16, 2015, average for Canadian exports was US$2.06/MMBtu.

James Irwin, Toronto

Qatar Joins Spot LNG Sales Trend to Stay Relevant, Eyes Golden Pass

Qatar is overhauling its long-term LNG strategy to strengthen its position amid greater competition and a diversified market that favors buyers. LNG supply over the next five years will outpace demand, particularly in Asia, which imported 72% of globally traded LNG in 2015. The supply surfeit, ensuring a buyers' market until the early 2020s, will increase the need for more flexible supply options and Qatar will have to adapt.

The recent launch of the 70:30 Ocean LNG marketing joint venture between state-owned Qatar Petroleum (QP) and supermajor Exxon Mobil sets the stage for joint investment in global LNG projects, granting Qatar the opportunity to tap new markets and offer more flexible terms.

Until further investments plans are firmed up, the partnership will "market LNG sourced outside of Qatar and currently focused on the Golden Pass Products opportunity," an Exxon spokesman told NGW sister publication *World Gas Intelligence*. Plans are under way to convert the 15.6 million ton per year (2.1 billion cubic feet of gas per day) Golden Pass LNG import facility in Sabine Pass, Texas — a joint venture between QP, Exxon and ConocoPhillips — into an export facility by 2020 (NGW Apr.4'16).

Chevron North Sea has started ramping up production from Alder, a high-pressure, high-temperature natural gas condensate field in the Central North Sea. Alder is a single subsea well tied back, via a 17-mile pipeline, to the existing ConocoPhillips-operated Britannia Platform, in which Chevron holds a 32.38% non-operated working interest. The project has a planned design capacity of 110 million cubic feet of natural gas and 14,000 barrels of condensate per day.

Discovered in 1975, the development has been enabled through the application of innovative subsea technologies designed to meet the temperature and pressure challenges of the field.

Canadian Price Report

($US/MMBtu and $Can/MMBtu)

	British Columbia			Alberta		Manitoba	Ontario	
	Total Province	NW Sumas Border	Kingsgate Border	AECO Hub	Empress Border	Emerson Border	Dawn Hub	Niagara
November 14, 2016								
Wellhead U.S. $	1.70	—	—	—	—	—	—	—
Canadian $	2.33	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	1.84	1.84	1.84	1.71	1.81	1.88	2.09	—
Canadian $	2.47	2.47	2.47	2.29	2.42	2.52	2.80	—
November 7, 2016								
Wellhead U.S. $	1.73	—	—	—	—	—	—	—
Canadian $	2.36	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	1.87	1.83	1.90	1.84	1.95	2.07	2.19	1.60
Canadian $	2.50	2.45	2.55	2.46	2.61	2.78	2.94	2.14
October 2016 Average								
Wellhead U.S. $	2.36	—	—	—	—	—	—	—
Canadian $	3.17	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	2.50	2.57	2.44	2.19	2.27	2.72	2.80	—
Canadian $	3.31	3.40	3.23	2.89	3.00	3.61	3.71	—
3rd Quarter 2016 Average								
Wellhead U.S. $	2.29	—	—	—	—	—	—	—
Canadian $	3.03	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	2.43	2.49	2.37	1.72	1.99	2.59	2.77	1.53
Canadian $	3.17	3.25	3.10	2.24	2.60	3.38	3.62	1.99
2nd Quarter 2016 Average								
Wellhead U.S. $	1.49	—	—	—	—	—	—	—
Canadian $	1.97	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	1.63	1.64	1.63	0.97	1.09	1.94	2.14	1.72
Canadian $	2.11	2.11	2.10	1.25	1.40	2.50	2.76	2.21
1st Quarter 2016 Average								
Wellhead U.S. $	1.49	—	—	—	—	—	—	—
Canadian $	2.10	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	1.63	1.80	1.47	1.33	1.34	2.10	2.08	2.31
Canadian $	2.24	2.47	2.02	1.82	1.84	2.88	2.85	3.17
2015 Average								
Wellhead U.S. $	2.17	—	—	—	—	—	—	—
Canadian $	2.81	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	2.31	2.34	2.27	2.01	2.27	2.77	2.91	4.38
Canadian $	2.95	2.99	2.90	2.57	2.90	3.53	3.72	5.59
November 2015 Average								
Wellhead U.S. $	2.02	—	—	—	—	—	—	—
Canadian $	2.73	—	—	—	—	—	—	—
Delivered to Pipe U.S.$	2.16	2.23	2.09	1.79	1.84	2.15	2.20	1.85
Canadian $	2.87	2.96	2.77	2.38	2.44	2.85	2.93	2.46

Note: Monetary conversions are done weekly. All prices represent volume-weighted averages for the most recent Monday-Sunday trading week.

ConocoPhillips ...

(continued from page 1)

production is declining "and we would argue the market regards [the holdings] as stranded and attributes no value to."

In the third-quarter US and Canadian gas output averaged roughly 1.7 billion cubic feet per day, down sharply from 2.2 Bcf/d a year earlier.

The analysts noted that Conoco "is looking to demonstrate that there is some value in this stranded portfolio targeting [North American] gas where there are buyers who believe in price recovery." And while Conoco has not been specific on which assets it is targeting for sale, it is quite possible that the divestitures are "close to being concluded."

Conoco has substantial gas holdings in the San Juan Basin, Barnett Shale, Uinta Basin, Deep Basin and Cleanwater plays that could be snatched up by smaller players looking for bolt-on opportunities. However, while they might fit into core operations at other firms, they no longer work for Conoco, said Chief Executive Ryan Lance.

"We're a very large company and those assets aren't big for us," he said in an interview with *Natural Gas Week* at the company's strategy meeting in New York. "We recognize that we need to accelerate the value proposition for some investors and accelerate the removal of debt from the balance sheet."

Divestment proceeds will then be split between debt repayment — Conoco is aiming to cut $7 billion off its debt load to maintain its "A" credit rating — and funding $3 billion in share buybacks.

"We believe our plan offers a differentiated strategy within the E&P sector that is focused on free cash flow generation and improving returns to shareholders," Lance told the meeting.

Debt reduction, spending cuts and asset sales are key to keeping the company profitable with Brent oil prices of $50/bbl, Lance said. "We've reset virtually every aspect of the business — our capital program, our cost structure and our portfolio — during the recent industry downturn."

The rapid rise of US shale and subsequent collapse of global oil and gas prices have thrown the upstream industry into deep uncertainty. But Conoco believes the antidote lies in building out a shorter-cycle, low-cost oil portfolio that is resilient in any scenario the market can throw at it.

"You can't count on rising commodity prices to bail out your business model," Lance said at the meeting.

Lance told NGW he believes there is plenty of oil available to meet future demand. The uncertainty lies in how fast that supply can be delivered to market, and how strong demand will be as government regulations and technological advancements potentially change the landscape.

With so many factors having the ability to keep a lid on prices or stoke continued volatility, Lance believes Conoco must make "no-regret decisions" to thrive regardless of the environment.

"We know what to do when prices are $70 to $80. That's never been a problem," Lance said in the interview. "The question you have to ask yourself is, can you make sure you have a viable business model at $40 as well?"

With that goal in mind, Conoco has been working aggressively to lower the cost of supply in its portfolio. Over the past year alone, the producer has grown its pool of supplies that "work" at $50/bbl oil or lower by 46% — to 18 billion barrels of oil equivalent — through a combination of cost-cutting, appraisal work and improved recovery.

That resource pool is split between LNG and oil sands (5 billion boe), conventional resources in places like Alaska, Norway and China (6 billion boe), and shale (7 billion boe).

To leverage this low-cost supply base, Conoco is expanding its previous pledge to lower its break-even oil price needs to $45/bbl and adopt a more flexible distribution model for shareholders.

The Houston-based firm said it will cut capex yet again next year to $5 billion. Roughly $4.5 billion of that will fund production of 1.54 million to 1.57 million boe/d, which is either flat or up 2% compared to 2016. The balance will fund exploration, with most funds appraising Conoco's less-advanced North American shale positions.

Conoco says it can hold production flat for the next decade with capital spending of less than $5 billion — down from a $9 billion maintenance capital minimum two years ago — and will do exactly that if oil prices stay in a $45 to $50 range. The firm will also look to raise the dividend with cash flows from operations.

Casey Sattler, New York, and Tom Haywood, Houston

Trump ...

(continued from page 1)

Trump presidency as "generally positive" for fossil energy extraction, midstream infrastructure and downstream processing; "generally neutral" for renewable fuels, power and storage; and "disruptive" for climate policy.

Over at FBR & Co., analysts called Trump's victory a "mixed bag for natural gas." While noting that he supported the domestic fuels industry as a candidate, they warned that "power generation, LNG exports and exports to Mexico figured to be key drivers of gas demand going forward."

Those sources of growth "face additional question marks," they said, because of an uncertain outlook for the Obama administration's Clean Power Plan and greater scrutiny of free trade agreements.

Trump's campaign categorization of climate change as a "hoax" and commitments to tear up the UN Paris climate accord, dismantle or reinvent regulatory bodies such as the Environmental Protection Agency (EPA) had much of industry pining for a return to the days of all-of-the-above energy policies that President Obama touted during his first term.

But the ensuing shale boom allowed the Obama administration to pivot. Pre-Paris pressure for the US to lead on curtailing heat-trapping gas emissions, led to energy and climate policies becoming inextricably intertwined during his second term.

Cries of being under siege from regulatory "overreach" intensified from industry as Obama, constrained by obstructionist Republican majorities in both chambers of Congress, resorted to executive fiats to issue energy/carbon policies.

This election, Republicans kept majorities, albeit slightly slimmer, in both the Senate and the House of Representatives. While that should help Trump press forward with his initiatives, fractures among Republicans over the party's identity could lead to some unexpected outcomes.

Throughout the campaign season, American Petroleum Institute (API) president Jack Gerard consistently stated that "energy" was the candidate of choice for industry's largest trade group. However, the energy outlook Gerard laid out in a post-election teleconference with reporters fell almost completely into line with the anti-regulation and pro-drilling and pipeline rhetoric that Trump espoused on the campaign trail.

"Preventing regulatory overreach should be a top priority," Gerard said, referring to the 145 regulations and policy-setting activities that industry claims inhibit production.

On the gas front specifically, industry wants a Trump administration to dial back on rules focused on limiting methane emissions, meeting stronger ozone standards, tightening well-control and cutting drilling access to public lands and waters. As well, industry wants states, not the federal government, to regulate hydraulic fracturing (NGW Jun.27'16).

Also, many expect the Clean Power Plan (CPP) to be derailed, either by letting it die in the courts or eviscerating it at the EPA level.

The final version of the CPP, rolled out in August 2015, was considered a boon to natural gas because it prompted electricity generators to move away from carbon-intensive coal to reduce greenhouse gas emissions roughly 32% below 2005 levels by 2030.

The CPP is now in the hands of a federal appeals court, which heard arguments on it in late September (NGW Oct.3'16). Trump seems unlikely to defend the rule at any court level, and many had expected an eventual appeal to go all the way to the US Supreme Court after Obama was out of the White House.

It is likely that Trump will appoint a right-leaning ninth justice to the Supreme Court, which has been functioning with eight members since Justice Antonin Scalia died in February. Senate Republicans have allowed Obama's nominee, Merrick Garland, to languish since his name was put forward in mid-March. Other pieces of energy-related Obama climate policy that Trump could revise or rescind include provisions accounting for greenhouse gases more comprehensively, ClearView analysts noted.

For instance, permitting guidance under the National Environmental Policy Act encourages federal agencies to consider lifecycle greenhouse gas impacts of energy infrastructure. And "social cost of carbon" and "social cost of methane" calculations are now incorporated into cost-benefit analyses of environmental rules.

Don Santa, chief executive of the Interstate Natural Gas Association of America, said INGAA would work with the new administration to "advance the use of natural gas, maintain the safety and reliability of natural gas pipelines and ensure a continued, fair, timely and transparent review process for energy infrastructure."

Greens: 'We are not defeated'

Environmental organizations have vowed that a Trump presidency would not put them in a defensive crouch for the next four years. Instead, they will redouble their efforts to advance clean energy.

"We are not defeated, we are determined," Sierra Club Executive Director Michael Brune told reporters at a Wednesday press briefing. "We will not be licking our wounds. We will be preparing for the fights to come."

Brune and other environmental leaders said they would persist with their cause in Congress, the courts, boardrooms, the marketplace and the streets by organizing at the community and state level.

"Let's not sugarcoat it," said Gene Karpinski, president of the League of Conservation Voters. "This was a major disaster at the federal level." However, Karpinski and others said they were heartened that so many states and cities have switched to clean energy sources because of locally controlled renewable portfolio standards.

Those standards, as well as the investment and production tax credits that Congress passed for wind and solar in late 2015, have contributed to monumental growth on the renewables front. Those credits, which are scheduled to sunset, are considered safe under a Trump administration.

Environmental organizations are on track to spend a record $100 million during this election cycle. "We're proud of what we did," Karpinski said. "We just need to keep fighting. We know the challenge is real and the public is on our side."

While they are bracing for the worst with a Trump presidency and a Republican-led Congress, they all recognized, as Brune stated, that "campaigning is one thing but governing is another."

Kevin Curtis, executive director of the Natural Resources Defense Council Action Fund, noted that "a close election is not a mandate" for Trump. "As president, he can't just snap his fingers and wish away regulations," Curtis said. "It's a lengthy process, and there will be backlash."

Key players with the rising Keep It in the Ground movement, which has targeted fossil fuels infrastructure, have sounded anything but defeatist.

"We must channel our anger and fear into hope and resolve," said May Boeve, executive director of 350 Action, who did not attend the press conference. "Now is the time to take a deep breath and fight like never before."

Elizabeth McGowan, Washington

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Short-Term Drivers Roiling Market, But Longer-Term Factors to Prevail

US gas market volatility was in overdrive again last week as short-term bearish and long-term bullish fundamentals continued to duke it out (p1). But it's clear where the market is heading: those bullish drivers will still be steering the ship above $3 per million Btu long after the bearish forces fade (NGW Oct.24'16). The main question now is how much of a legacy the short-term factors leave behind.

The short-term is dominated by weather-related demand, production trends and storage, all of which were exacerbated by short covering to prematurely pushed the contract above $3/MMBtu in early October. "We suspect the run-up last month was because the market saw strong power generation, weak production, a clearly tightened underlying fundamental balance, and began quickly looking past the injection season towards what all of those things mean come winter," said Societe Generale analyst Breanne Dougherty.

The market didn't misinterpret the tea leaves, she said. However, it discounted storage being on track to surpass 4 trillion cubic feet, and with "no winter weather yet on the horizon, the market has been forced to retreat." And retreat the December contract did, plunging 58¢ from its debut as prompt month Oct. 26 to an intraday low of $2.546 in early trading Wednesday. This challenge to August lows right before winter prompted an EcomEnergy analysis to suggest that "some speculative folks are a little beyond themselves." And as if on cue, the market surged back to the $2.70s before noon.

One can appreciate the market reaction to a second year of record inventories in advance of what looks to be a mild early winter. However, last year at this time prices were plumbing the $2.20s, and few expect a repeat this year. "For starters, fuel switching will work to support prices the more prices fall," said Gelber & Associates analyst Kent Bayazitoglu. But while this helps provide current support, a more important factor is an obviously tightening market, Bayazitoglu said, joining a chorus of fellow analysts.

"The warm start to Q4 can delay the bullish narrative but not prevent it," said Barclays' Nicholas Potter. "We continue to see longer-term structural factors eventually overwhelming the current focus on a warm start to winter and higher-than-expected inventory levels."

Dougherty concurred: "Last year we didn't have this same level of tightening. Look at the net injection of 2015 (2.47 Tcf) and this year (1.52 Tcf). Very different," she told *Natural Gas Week*. "No production growth mode (with declining uncompleted well counts) and structural demand growth [from] LNG exports, higher Mexico exports, resilient power generation and some petchem demand on the horizon."

Which also helps explain the 50¢ price difference between Henry Hub cash and the contract early last week, Dougherty said. "I think it signals the market knowing that the warm weather is skewing the bearishness right now ... that a return to normal will bring some things back into check quickly."

Gas Price Report

($/MMBtu—Spot)

November 14, 2016

	Interstate Wellhead		Intrastate Wellhead		Delivered To Pipeline		Delivered To Utility	
	This Week	Bid Week for Nov	This Week	Bid Week for Nov	This Week	Bid Week for Nov	This Week	Bid Week for Nov
CALIFORNIA								
South	—	—	1.91	2.69	1.93	2.71	1.93	2.71
North	—	—	—	—	1.98	2.90	1.96	2.90
ROCKY MOUNTAINS	1.72	2.49	1.69	2.46	1.84	2.61	2.17	2.94
NEW MEXICO	1.70	2.37	—	—	1.87	2.54	2.02	2.69
TEXAS								
Gulf Coast, Offshore	2.09	2.63	2.10	2.64	2.16	2.70	—	—
Central, Onshore	1.93	2.61	1.95	2.63	2.01	2.69	2.16	2.84
Central	—	—	—	—	—	—	—	—
West	1.79	2.47	1.79	2.47	1.86	2.54	1.94	2.62
MID-CONTINENT	1.81	2.48	1.79	2.46	1.91	2.58	2.16	2.69
LOUISIANA								
Gulf Coast, Offshore	1.95	2.59	1.95	2.59	2.02	2.66	—	—
Gulf Coast, Onshore	1.98	2.64	1.98	2.64	2.05	2.71	2.16	2.86
North	1.98	2.59	1.97	2.58	2.05	2.66	2.19	2.80
MIDWEST	—	—	—	—	2.10	2.80	2.13	2.81
APPALACHIA	1.73	1.31	—	—	1.84	1.42	1.92	1.51
SOUTHEAST	1.93	2.59	—	—	2.08	2.74	2.54	3.19
NEW ENGLAND	—	—	—	—	2.04	1.67	2.16	2.44

	Composite Wellhead	Delivered to Pipeline	12-Month Strip Nymex
November 14, 2016	1.94	1.95	2.90
2016 Outlook	2.26	2.26	—

The price points that made up the "Texas Central" and "Texas Gulf Coast, Onshore" composites in the Gas Price Report table have been incorporated into the new "Texas Central Onshore" composite. The "Texas Central" composite will be eliminated.

The *Natural Gas Week* composite spot wellhead price this week is $1.94/MMBtu, 16¢ less than last week and 3¢ less than the Nov. 16, 2015, average. The spot delivered-to-pipeline price this week is $1.95/MMBtu, 11¢ less than last week and 6¢ less than last year's corresponding average.

Tom Haywood, Houston