

# MIDSTREAM Monitor

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## Hess Builds On Historic Bakken Position

*By Paul Hart, Hart Energy*



**Greg Hill of Hess Corp. told attendees at Hart Energy’s DUG Bakken and Niobrara Conference and Exhibition that the company’s creative management techniques in the Williston Basin offer it strong returns in the future. *Source: Hart Energy***

DENVER—Few remember that it was a Hess Corp. well that discovered the prolific Bakken oil play—in 1951.

That conventional well, drilled on the farm of namesake Henry Bakken, “flowed at the rate of 300 barrels per day [bbl/d] for 42 hours, then went to zero,” Hess COO Greg Hill told Hart Energy’s DUG Bakken and Niobrara Conference and Exhibition in Denver.

The industry's technology had not solved the challenge of drilling and producing a shale play 64 years ago, Hill added, and the real action in the Williston Basin in those days was conventional producing zones like the Lodge Pole and Red River.

But in one form or another, Hess has been in the Williston ever since and creative management techniques offer it strong returns in the future, he said. "We're still learning a lot" about the Bakken and Three Rivers shales. "There are more opportunities and more excitement than ever in the Williston—we're not done yet," he said.

As with most U.S. producers, Hess had turned its focus abroad in the 1990s. That focus changed rapidly in 2010 as the Bakken emerged as one of North America's leading shale plays.

"Hess had really become an offshore company by then," although it retained a sizeable leasehold in North Dakota. The company still "has half its production outside the U.S., which is a little different for this crowd" of mostly domestic operators, Hill said with a chuckle. Hess also has far smaller interests in Ohio's Utica unconventional play. It remains a major North Sea producer and is exploring a major concession offshore Ghana.

Hess holds 615,000 net acres in the Bakken/Three Forks plays and serves as operator for most of that acreage. A plus it enjoys is the bulk of that acreage lies in the core of the plays' most-productive areas. Hess has some 1,200 potential well locations identified. Net North Dakota production for this year should be 95,000 to 105,000 bbl/d, equivalent. The company's target is 175,000 bbl/d, equivalent, by 2020, Hill said.

The Williston now accounts for 26% of production and 33% of proved reserves for the New York-based firm, he said.

Despite the potential of the Bakken, Hess must deal with the reality of current low crude prices. The producer has cut its 2015 capex to \$1.8 billion in the play, down from \$2.2 billion in 2014, according to Hill. It plans to place 210 wells on production this year, compared with 238 wells last year. It plans to reduce its Bakken rig count to eight during the second quarter, less than half of its peak of 17 active rigs last year.

### **Midstream Assets**

Hess has invested considerable capital in the midstream infrastructure needed to handle that swelling production. Hill noted Hess has plans underway to make an IPO for a midstream MLP unit this year.

Its Tioga gas plant was recently expanded to 250 million cubic feet per day (MMcf/d) and future debottlenecking could lift the processing plant's capacity to 300 MMcf/d. Hill said the plant sells its ethane under a long-term contract rather than rejecting it back into the gas stream. The company's Mentor LPG terminal has a capacity of 328,000 bbl "and we sell that propane into seasonal demand" of the upper Midwest, Hill said.

Hess' Tioga rail terminal can load 140,000 bbl/d of crude oil and 30,000 bbl/d of gas liquids. The terminal has 287,000 bbl of crude storage available.

### **Lean Manufacturing**

Hill credited the much-publicized lean manufacturing techniques of automaker Toyota for the company's continuing improvement in drilling costs of well production. He said the techniques can be applied to most industries and added he learned the lean manufacturing concept while with another firm before joining Hess in 2009.

"Lean manufacturing is a proven methodology pioneered by Toyota," Hill explained. "It has all sorts of cool Japanese terms but that's a very small part of it. The important thing is the culture within the company and its suppliers. It involves the entire supply chain and turns the [corporate] structure upside down."

The continuous improvement effort emphasizes the contributions of those closest to a given function and their ideas on how to remove unneeded effort and costs, he added. That differs from the top-down management style of most companies. The process has yielded substantial improvements for Hess operations in the Williston Basin, Hill said.

As an example, he noted a better than 50% reduction in drilling time for the firm's Bakken wells since first-quarter 2011, from 45 days to 22 days. That has contributed to a related reduction in drilling and completion costs per well, from \$13.4 million to \$7.1 million, in the same period.

"We think we can take another \$400,000 out, compared to where we were in late 2014," he added.

Meanwhile, Hess wells rank among the best in initial Bakken production rates—and those rates continue to rise, he noted.

"This stuff is really good," he said of the lean manufacturing concept, "it's powerful and it really works."

# Crude By Rail Improvements Take Center Stage Amid Derailment Concerns

*By Caryn Livingston, Hart Energy*



With several recent accidents involving transport of crude by rail (CBR) raising safety concerns, industry associations are moving to address the incidents through a focus on derailment prevention and education for first responders.

The National Transportation Safety Board (NTSB) said as of 2014 crude oil shipments by rail have increased by more than 400% since 2005, citing data from the Association of American Railroads (AAR).

While AAR data through the week ended March 28 suggested that U.S. crude production and crude-by-rail transport may be declining moderately, Global Hunter Securities (GHS) strategist Richard Hastings said in a recent report that “the data is highly erratic on a week-by-week basis” and a stronger pattern would need to emerge to draw any definite conclusions. Even with the decline, total carloads for March were up from the rate when crude oil prices peaked in June 2014, GHS said.

As one means of accident prevention in crude-by-rail transport, the NTSB has called for stricter standards for tank cars, though even newer model tank cars have been breached in accidents. The government is also launching efforts to better track CBR.

In response to a recent U.S. Department of Energy (DOE) study on crude oil properties and transportation, the American Petroleum Institute (API) said the report showed that no single factor can determine the flammability of a certain grade of crude oil.

“This report shows the need to focus more on preventing train derailments as part of a holistic approach to safety improvements of shipping oil by rail,” said Robin Rorick, midstream director for API.

DOE’s study said several characteristics can make one shipment of crude oil more or less volatile than another, such as:

- Flashpoint: Temperature that results in a vapor concentration in air that will support combustion. When the flashpoint is reached a flash of flame occurs without sustained burning. The flashpoint temperature is lower than sustained burning requires;
- Flammability limits: Range of vapor concentration in the air that will support combustion;
- Auto-ignition temperature: Minimum temperature at which a fuel-air mixture ignites;
- Minimum ignition energy: Minimum energy needed to ignite a flammable fuel-air mixture; and
- Burning velocity: Rate at which reactants flow to a flame from a certain point, such as a burner.

With so many variables, predicting the right combination is difficult. Designing tank cars that will prevent ignition in a derailment is second place as far as prevention of catastrophic accidents is concerned, Rorick said.

Prevention is more important, he said. Companies shipping oil by rail “can and must do more to prevent derailments as part of a comprehensive approach to safety.”

### **Time To Act?**

But others believe that with so much train traffic carrying so much oil, structural changes to tank cars are needed.

Recent high-profile derailments, including the February derailment of 27 CSX Corp. (NYSE:CSX) tank cars carrying crude oil in West Virginia, are leading to increased efforts by industry members and regulators to prevent accidents.

The NTSB is pushing for changes to DOT-111 tank cars, the “workhorse” of the industry and the most common rail tank car in use. Vulnerabilities in the design include the tank heads, shells and fittings, NTSB said. In 2013, the Lac-Mégantic, Quebec, derailment involved at least 60 DOT-111 in an incident that led to 47 deaths.

“These vulnerabilities create the risk that, in an accident, hazardous materials could be released and, in the case of flammable liquids such as crude oil and ethanol, could ignite and cause catastrophic damage,” the agency said earlier this year.

However, West Virginia’s February derailment involved the newer CPC-1232 model, which were said to be safer.

As a result of the CSX and other derailments, the NTSB evaluated the performance of the CPC-1232 model and, on April 3, said the tank car design “is insufficient to prevent tank failures from pool fire thermal exposure and the resulting overpressurization.” The agency recommended to the Pipeline and

Hazardous Materials Safety Administration that a new tank car design including sufficient thermal protection systems and pressure relief devices were needed and should be implemented during the next five years.

Following a derailment in early March in which a BNSF Railway Co. crude oil train derailed and caught fire in Illinois, the company announced it would reduce the speed of trains carrying oil in some urban areas to as slow as 35 miles per hour (mph), *Bloomberg* reported.

BNSF, owned by Warren Buffett's Berkshire Hathaway Inc. (NYSE: BRK), voluntarily reduced the speeds to 40 mph and increased efforts to inspect tracks and rail cars more closely in 2014, after BNSF and other railroads identified high-risk areas in 46 urban areas in 2014. The lower 35 mph speed limit is an indication that the company will continue to evaluate how effective the changes it implements are at preventing derailments.

Other safety steps BNSF took include implementing wider use of monitors to detect overheated wheel bearings on rail cars, with monitors placed every 10 miles on crude-by-rail routes along critical waterways instead of the current 40-mile spacing, *Bloomberg* said. BNSF will also inspect track more often on crude train routes and reduce the tolerance for pulling out rail cars that register on wheel-impact detectors.

Industry groups are doing their part to increase CBR safety as well. API developed an education module to help first responders safely address derailments when they occur, said Jack Gerard, president and CEO, during a March press briefing.

"As the U.S. has become the world's leading producer of oil and natural gas, shipments of crude by rail have increased," he said. "North America's freight railroads move 99.998% of hazardous materials to their destination without incident, but the oil and natural gas industry's goal for safety is always zero incidents."

API, the AAR and member companies of both have created a course to help firefighters and other first responders in the event of a derailment, Gerard said.

"Participants will learn about the characteristics of crude oil, the rail cars in which it is shipped, and the considerations and strategies for spill response and firefighting that should be weighed," he said. "The materials also highlight the importance of following training and the incident command system at all times."

The associations partnered with the Federal Railroad Administration to identify states for the initial rollout of the program, which is free to hazmat and emergency response conferences throughout North America.

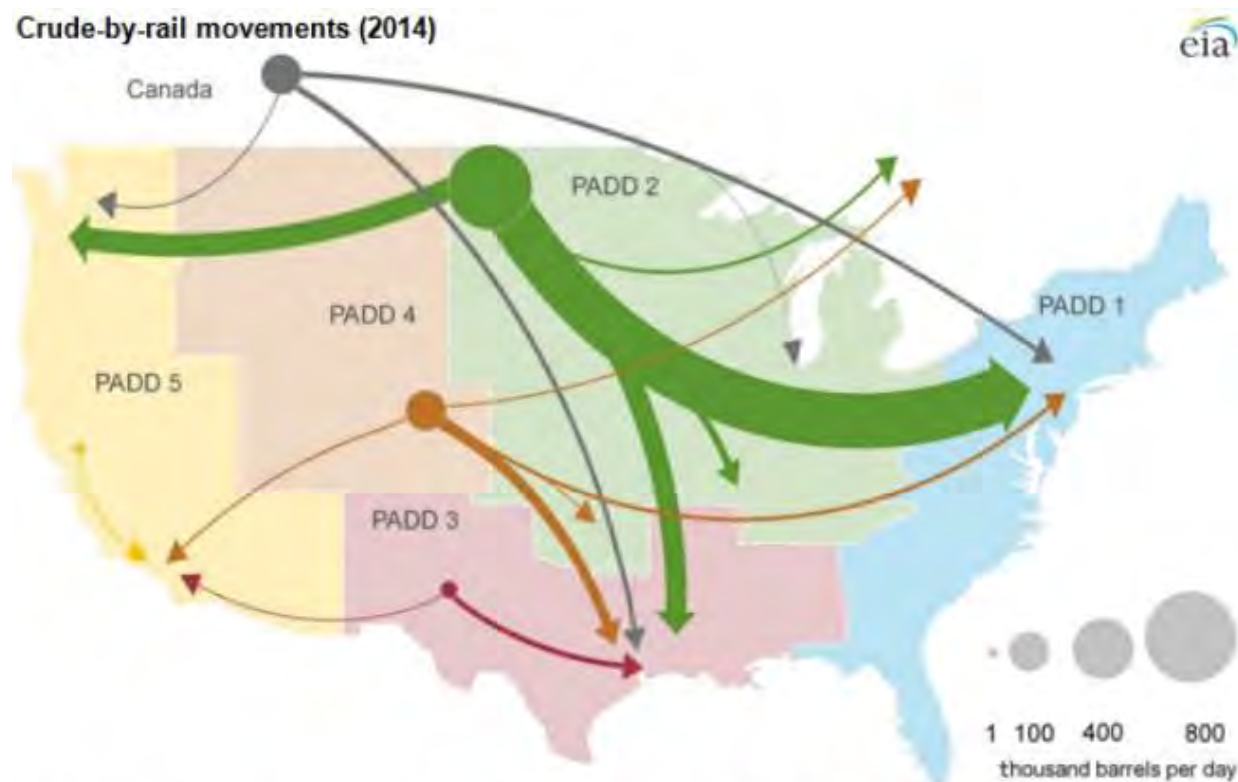
"Course offerings are already confirmed or being planned in more than 15 states," Gerard said.

## The More You Know

In a move that could make regulators' jobs easier, the U.S. Energy Information Administration (EIA) announced that for the first time, it will provide monthly data on crude-by-rail movements.

In "This Week in Petroleum" published April 1, EIA said, "The new monthly time series of crude oil rail movements going back to January 2010 includes shipments to and from Canada, and dramatically reduces the absolute level of unaccounted-for volumes shown as 'adjustments' in EIA's monthly balances for each region."

### Crude-by-rail movements (2014)



*Source: U.S. Energy Information Administration based on data from the Surface Transportation Board and other information*

*Note: Crude-by-rail movements greater than 1,000 barrels per day are represented on the map; short-distance movements between rail yards within a region are excluded.*

The EIA developed its new data series using information from the U.S. Surface Transportation Board, Canada's National Energy Board, other third-party sources and EIA survey data. The agency expects the information to provide insights into oil-by-rail movements, EIA said March 30.

"The new crude-by-rail data provides a clearer picture on a mode of oil transportation that has experienced rapid growth in recent years and is of great interest to policy makers, the public, and industry," said EIA Administrator Adam Sieminski.

# ONEOK JV To Pipe Natural Gas From Permian To Mexico's Doorstep

*By Darren Barbee, Hart Energy*



ONEOK Partners LP (NYSE: OKS) has entered a 50/50 joint venture (JV) with a Mexico City-based natural gas infrastructure company to construct a pipeline that would transport natural gas from the Permian Basin in West Texas to Mexico.

The \$450 million to \$500 million Roadrunner Gas Transmission Pipeline will be built by MLP ONEOK in partnership with a subsidiary of Mexico midstream company Fermaca Infraestructura B.V.

Roadrunner will extend from ONEOK's WesTex Transmission natural gas pipeline system (OWT) at Cayanosa, Texas, west to a connection at the U.S./Mexico border near San Elizario, Texas. There, it will connect with Fermaca's Tarahumara Gas Pipeline which owns and operates the Chihuahua Corridor pipeline and offers another gas import location in Mexico.

"We are pleased to partner with Fermaca on this strategic pipeline project and about the opportunity to add to our extensive 36,000-mile integrated network of natural gas and natural gas liquids pipelines," said Terry K. Spencer, president and CEO.

The project will be constructed in phases, including about 200 miles of new, 30-inch diameter pipeline designed to transport up to 640 million cubic feet per day (MMcf/d) of natural gas and up to 570 MMcf/d to Mexico's growing markets.

"We see Roadrunner as a gateway asset that will connect Mexico's rapidly growing natural gas markets with U.S. producers in the developing Permian Basin," Spencer said. "The pipeline will connect with



ONEOK Partners' extensive existing natural gas pipeline and storage infrastructure in Texas and create a platform for future cross-border development opportunities."

ONEOK's OWT assets consist of a 2,200-mile Texas intrastate pipeline system connected to natural gas producing areas in the Texas Panhandle, Waha Hub and Permian Basin. It transports natural gas between Midcontinent and Waha pipelines.

The JV will provide markets in Mexico access to upstream supply basins in West Texas and the Midcontinent, Spencer said.

Firm take-or-pay agreements with 25-year terms for the initial design capacity have been executed with the Comision Federal de Electricidad (CFE), Mexico's national electric utility and a subsidiary of Fermaca, said Mark Reichman, director in research for MLPs, Simmons & Co. International.

"This is a first-class project for OKS given the pipeline will connect with and leverage the partnership's existing natural gas pipeline and storage infrastructure and could lead to greater opportunities" across the border, he said.

In the past four years, U.S. natural gas exports to Mexico by pipeline have doubled to 2 Bcf/d in 2014 from less than 1 Bcf/d in 2010, according to the U.S. Energy Information Administration (EIA).

Exports to Mexico are projected to double to 3.8 Bcf/d by 2018, according to Mexico's national energy ministry.

In 2015, ONEOK's natural gas pipelines segment is expected to contribute about 18% of the partnership's operating income. The project introduces a new avenue of growth and highlights ONEOK's efforts to pursue opportunities across all segments of its business, he said

The project will be built in three phases.

| <b>ONEOK Roadrunner Pipeline</b>                    |                            |                        |
|---|----------------------------|------------------------|
| <b>Phases</b>                                       | <b>Cumulative Capacity</b> | <b>Completion Date</b> |
| <b>First</b>  | 170 MMcf/d                 | 1Q16                   |
| <b>Second</b>                                       | 570 MMcf/d                 | 1Q17                   |
| <b>Third</b>  | 640 MMcf/d                 | 2019                   |
| <i>Source: ONEOK Partners LP, Simmons &amp; Co.</i> |                            |                        |

Fermaca, a gas infrastructure player in Mexico, operates pipelines capable of transporting 1.2 Bcf/d or about 20% of Mexico's natural gas supply.

Manuel Calvillo Alvarez, Fermaca's COO and executive vice president, said the JV agreement with ONEOK is another key step in Fermaca's plans to extend its network of gas pipelines across Mexico and into the U.S.

"A confluence of factors, including ambitious growth targets, a favorable regulatory and political framework and an abundance of planned projects mean that it is a great time to be investing in the build-out of natural gas infrastructure in and around Mexico," Alvarez said. "In ONEOK, we have found a partner that recognizes the Mexican opportunity, and we really look forward to working with them."

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## Williams Partners Buys Control Of Utica Assets

*By Darren Barbee, Hart Energy*



Williams Partners LP (NYSE: WPZ) said April 6 it will acquire another piece of Utica East Ohio Midstream LLC (UEO), giving the company a 70% interest in the Utica Shale natural gas business.

Williams will pay about \$575 million to buy all of EV Energy Partners LP's (NASDAQ: EVEP) interest, about 21%, in UEO, both companies said.

The Ohio assets, which include gathering, processing, fractionation and storage assets, are anchored by long-term, fee-based contracted commitments. Williams, through its subsidiary Utica Gas Services, owns 49% equity interest in UEO.

UEO operates natural gas gathering and compression facilities in eastern Ohio, four processing plants with 800 million cubic feet per day (MMcf/d) of capacity, a 135,000 barrels per day (bbl/d) capacity fractionation facility and 600 Mbbbl NGL storage capacity, said Mark Reichman, a director of research, Simmons & Co. International.

The assets earn fee-based revenues.

The partnership intends to fund the acquisition with equity and debt financing. To support the transaction, WPZ's general partner, Williams Co. (NYSE: WMB), has agreed to waive about \$43 million of general partner incentive distributions from 2015 through 2017.

"Acquiring these cash-generating assets supports our strategy to grow our natural gas midstream position in key basins," said Williams Partners CEO Alan Armstrong. "This fixed-fee business will be accretive to Williams Partners beginning in 2015, and the partnership has attractive growth opportunities as the Utica continues to develop."

EVEP's net capital contribution to UEO has been about \$294 million. The MLP said it intends to initially use net proceeds to repay outstanding credit and to hold the remainder available for future activities.

EVEP's stake fetched less than the \$700 million anticipated by Kevin Smith, senior vice president, Raymond James. But the selling price will significantly improve EVEP's balance sheet.

"The deal represents a significant step in EVEP's ultimate plan of divesting its midstream business and reinvesting capital into its upstream operations," he said.

Longer term, the company could make an accretive asset acquisition, providing a meaningful boost to production and cash flows.

The transaction, along with EVEP's sale of interest in Cardinal Gas Services, reflects the completion of the company's divestiture of midstream investments in the Utica Shale, said Michael Mercer, president and CEO.

In October 2014, EVEP sold 9% interest in Cardinal and Eagle Ford formation rights for \$162 million. It used the money to pay bank debt.

"We are pleased with the returns we achieved and look forward to participating in what we expect to be an attractive upstream A&D market in the second half of the year," he said.

The agreement is subject to customary purchase price adjustments and closing conditions, including termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act.

The other member of UEO has the right to agree to acquire EVEP's interest in UEO for the same price. If the other member exercises and closes on this right, the aggregate purchase price received by EVEP would remain the same, and WPZ would acquire about a 13% interest and the other member an 8% interest.

EVEP expects the transaction to close by the middle of July 2015. Jefferies LLC acted as EVEP's exclusive financial adviser in connection with the pending divestiture.

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## Frac Spread: NGL Prices Retreat

*By Frank Nieto, Hart Energy*



NGL prices took another downturn during the first full week of April as traders were no longer dealing with end-of-month shortages. This impact was most noticeable with the downturn in Mont Belvieu C<sub>5+</sub> prices, which retreated 11% to a more normal \$1.23 per gallon (gal) price. The Conway price was flat at \$1.15/gal.

In addition, heavy NGL prices were negatively impacted by the slight downturn in West Texas Intermediate (WTI) crude oil prices caused by the reopening of the Houston Ship Channel and the resulting influx of crude shipments. This increased inventories and caused a nearly \$4 per barrel (bbl) price swing in a 24-hour period to start the week of April 6. WTI crude wound up at just above \$50/bbl, which is about the same price it has been trading at for the past month.

The reopening of the Houston Ship Channel following a ship collision last month should help improve propane and butane prices as LPG exports increase, but a buildup of LPG stocks caused a price downturn this past week. The prices at both Mont Belvieu and Conway were down 2% to their lowest in two weeks.

Propane stock levels at the close of winter were at their highest levels ever for that time of year, which will require LPG exports to work off the overhang and improve prices. According to En\*Vantage, propane exports are averaging 650,000 bbl/d. "These volumes may increase with the recent announcement that Enterprise Products Partners LP [NYSE: EPD] has completed their 1.5 million bbl/month export terminal expansion along the Houston Ship Channel. Also tanker rates have dropped which should ease the pressure on Gulf Coast propane prices; however, we still feel that Mont Belvieu prices will have to remain in the low 50 cents/gal range to encourage more propane exports from the Gulf Coast," the investment firm said in its April 9 *Weekly Energy Report*.

The other light NGL, ethane, fell 5% at both hubs due to cracker outages. The low prices continue to encourage heavy rejection throughout the country, with En\*Vantage estimating current rejection levels at 600,000 bbl/d. The good news is that this continued rejection could result in ethane inventories falling below 20 million bbl for the first time since Oct. 2011 when margins were very positive. However, the investment firm cautioned that if this scenario occurs then the market will have to call on rejected bbl to be extracted.

"That is, no longer will the market be able to dip into the overflowing ethane inventory pool that it has enjoyed for the past several years, which could be very shallow in another six months. Petrochemical companies will have to economically dispatch the ethane being rejected and in some cases from transportation disadvantaged regions, such as the Marcellus Shale," En\*Vantage said. In this case margins and prices would have to be high enough to clear the transportation and fractionation fees in such regions to encourage their transportation to the Gulf Coast.

Overall the theoretical NGL bbl improved at both hubs with a 2% gain at Conway to \$21.01/bbl with a 7% gain in margin to \$12.25/bbl while the Mont Belvieu price rose 5% to \$22.25/bbl with a 7% gain in margin to \$12.57/bbl.

Natural gas prices have remained relatively firm at Conway and Mont Belvieu, which saw frac spread margins improve at both hubs. The most profitable NGL to make at both hubs was C<sub>5+</sub> at 88 cents/gal at Conway and 93 cents/gal at Mont Belvieu. This was followed, in order, by isobutane at 42 cents/gal at Conway and 38 cents/gal at Mont Belvieu; butane at 35 cents/gal at Conway and 36 cents/gal at Mont Belvieu; propane at 25 cents/gal at Conway and 29 cents/gal at Mont Belvieu; and ethane at 1 cent/gal at Conway and negative 1 cent/gal at Mont Belvieu.

The U.S. Energy Information Administration reported that natural gas storage levels rose at a limited rate of 15 billion cubic feet (Bcf) the week of April 3. This injection was due to a combination of higher natural gas production and lower power demand. The storage level of 1.476 trillion cubic feet (Tcf) was

79% greater than the 825 Bcf posted last year at the same time and 11% below the five-year average of 1.649 Tcf.

Cooling demand could be increased this week according to the National Weather Service's forecast, which anticipates warmer-than-normal spring temperatures along both the East and West coasts. This will be tempered by cooler-than-normal weather in the Midwest.

| <b>NGL PRICES</b>        |            |            |             |            |             |                |
|--------------------------|------------|------------|-------------|------------|-------------|----------------|
| <b>Mont Belvieu</b>      | <b>Eth</b> | <b>Pro</b> | <b>Norm</b> | <b>Iso</b> | <b>Pen+</b> | <b>NGL Bbl</b> |
| April 1 - 7, '15         | 16.65      | 52.95      | 63.33       | 64.58      | 122.73      | <b>\$22.25</b> |
| March 25 - 31, '15       | 17.52      | 54.04      | 63.22       | 64.16      | 137.54      | <b>\$23.50</b> |
| March 18 - 24, '15       | 18.36      | 50.64      | 59.36       | 60.44      | 112.20      | <b>\$21.20</b> |
| March 11 - 17, '15       | 18.23      | 53.22      | 62.80       | 63.74      | 110.46      | <b>\$21.64</b> |
| March '15                | 18.15      | 54.72      | 64.30       | 65.48      | 119.85      | <b>\$22.57</b> |
| February '15             | 18.19      | 57.06      | 68.02       | 69.98      | 116.61      | <b>\$22.95</b> |
| 4th Qtr '14              | 20.22      | 76.90      | 96.73       | 98.28      | 149.25      | <b>\$30.10</b> |
| 3rd Qtr '14              | 23.19      | 103.92     | 123.69      | 128.39     | 212.20      | <b>\$40.27</b> |
| 2nd Qtr '14              | 29.26      | 106.55     | 124.12      | 130.23     | 222.81      | <b>\$42.31</b> |
| 1st Qtr '14              | 34.50      | 129.51     | 137.62      | 141.49     | 212.60      | <b>\$46.16</b> |
| April 2 - 8, '14         | 29.46      | 108.40     | 123.56      | 129.10     | 222.10      | <b>\$42.45</b> |
| <b>Conway, Group 140</b> | <b>Eth</b> | <b>Pro</b> | <b>Norm</b> | <b>Iso</b> | <b>Pen+</b> | <b>NGL Bbl</b> |
| April 1 - 7, '15         | 16.55      | 47.28      | 59.60       | 66.10      | 114.55      | <b>\$21.01</b> |
| March 25 - 31, '15       | 17.45      | 48.46      | 60.42       | 65.42      | 114.84      | <b>\$21.35</b> |
| March 18 - 24, '15       | 18.35      | 46.60      | 56.90       | 64.10      | 106.92      | <b>\$20.51</b> |
| March 11 - 17, '15       | 17.50      | 48.68      | 58.52       | 73.40      | 106.46      | <b>\$20.92</b> |
| March '15                | 17.81      | 49.99      | 61.09       | 72.97      | 110.31      | <b>\$21.52</b> |
| February '15             | 17.56      | 53.62      | 67.06       | 82.14      | 113.63      | <b>\$22.69</b> |
| 4th Qtr '14              | 18.69      | 78.64      | 102.72      | 113.19     | 146.37      | <b>\$30.77</b> |
| 3rd Qtr '14              | 20.38      | 104.99     | 123.51      | 140.07     | 207.90      | <b>\$40.18</b> |
| 2nd Qtr '14              | 26.26      | 105.44     | 121.26      | 163.00     | 221.62      | <b>\$42.62</b> |
| 1st Qtr '14              | 25.46      | 169.48     | 132.08      | 147.10     | 216.86      | <b>\$49.93</b> |
| April 2 - 8, '14         | 27.17      | 108.72     | 120.02      | 157.58     | 226.50      | <b>\$43.29</b> |

| <b>CURRENT FRAC SPREAD (CENTS/GAL)</b>      |               |                                  |                     |                  |
|---|---------------|----------------------------------|---------------------|------------------|
| <b>April 10, 2015</b>                       | <b>Conway</b> | <b>Change from Start of Week</b> | <b>Mont Belvieu</b> | <b>Last Week</b> |
| Ethane                                      | 16.55         |                                  | 16.65               |                  |
| Shrink                                      | 15.91         |                                  | 17.57               |                  |
| <b>Margin</b>                               | 0.64          | -65.35%                          | -0.92               | -181.95%         |
| Propane                                     | 47.28         |                                  | 52.95               |                  |
| Shrink                                      | 21.98         |                                  | 24.27               |                  |
| <b>Margin</b>                               | 25.30         | 6.32%                            | 28.68               | 6.90%            |
| Normal Butane                               | 59.60         |                                  | 63.33               |                  |
| Shrink                                      | 24.89         |                                  | 27.48               |                  |
| <b>Margin</b>                               | 34.71         | 11.69%                           | 35.85               | 10.65%           |
| Isobutane                                   | 66.10         |                                  | 64.58               |                  |
| Shrink                                      | 23.90         |                                  | 26.39               |                  |
| <b>Margin</b>                               | 42.20         | 7.37%                            | 38.19               | 10.54%           |
| Pentane+                                    | 114.55        |                                  | 122.73              |                  |
| Shrink                                      | 26.62         |                                  | 29.39               |                  |
| <b>Margin</b>                               | 87.93         | 10.88%                           | 93.34               | 11.97%           |
| NGL \$/Bbl                                  | 21.01         | 2.43%                            | 22.25               | 4.93%            |
| Shrink                                      | 8.77          |                                  | 9.68                |                  |
| <b>Margin</b>                               | 12.25         | 7.25%                            | 12.57               | 7.37%            |
|   |               |                                  |                     |                  |
| Gas (\$/mmBtu)                              | 2.40          | -3.61%                           | 2.65                | 1.92%            |
| Gross Bbl Margin (in cents/gal)             | 27.36         | 7.29%                            | 28.51               | 7.07%            |
| <b>NGL Value in \$/mmBtu (Basket Value)</b> |               |                                  |                     |                  |
| Ethane                                      | 0.91          | -9.81%                           | 0.92                | -9.31%           |
| Propane                                     | 1.64          | 1.46%                            | 1.84                | 4.56%            |
| Normal Butane                               | 0.64          | 4.75%                            | 0.68                | 6.69%            |
| Isobutane                                   | 0.41          | 3.12%                            | 0.40                | 6.85%            |
| Pentane+                                    | 1.48          | 7.14%                            | 1.58                | 9.39%            |
| Total Barrel Value in \$/mmBtu              | 5.08          | 1.28%                            | 5.42                | 3.64%            |
| <b>Margin</b>                               | 2.68          | 6.11%                            | 2.77                | 5.34%            |

Price, Shrink of 42-gal NGL barrel based on following: Ethane, 36.5%; Propane, 31.8%; Normal Butane, 11.2%; Isobutane, 6.2%; Pentane+, 14.3%, Fuel, frac, transport costs not included. Conway gas based on NGPL Midcontinent zone, Mont Belvieu based on Houston Shio Channel.

| RESIN PRICES – MARKET UPDATE – APRIL 10, 2015 |           |       |       |          |       |
|---|-----------|-------|-------|----------|-------|
| TOTAL OFFERS: 16,951,484 lbs                  |           | SPOT  |       | CONTRACT |       |
| Resin   | Total lbs | Low   | High  | Bid      | Offer |
| HDPE - Inj                                    | 3,799,152 | 0.56  | 0.68  | 0.58     | 0.62  |
| LLDPE - Film                                  | 2,859,588 | 0.615 | 0.67  | 0.58     | 0.62  |
| HDPE - Blow Mold                              | 2,857,612 | 0.575 | 0.635 | 0.565    | 0.605 |
| LDPE - Film                                   | 2,567,772 | 0.645 | 0.725 | 0.6      | 0.64  |
| PP Homopolymer - Inj                          | 1,772,932 | 0.66  | 0.76  | 0.67     | 0.71  |
| LLDPE - Inj                                   | 1,071,840 | 0.58  | 0.69  | 0.61     | 0.65  |
| LDPE - Inj                                    | 837,748   | 0.58  | 0.655 | 0.63     | 0.67  |
| HMWPE - Film                                  | 701,288   | 0.58  | 0.635 | 0.595    | 0.635 |
| PP Copolymer - Inj                            | 483,552   | 0.73  | 0.77  | 0.69     | 0.73  |

Source: Plastics Exchange – [www.theplasticsexchange.com](http://www.theplasticsexchange.com)

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## Scotiabank CEO: Canadian Energy Projects Are ‘Priority’

*Bloomberg*

Canadian leaders must put aside bickering and indecision to ensure major energy projects get done before global markets move on to other suppliers, Bank of Nova Scotia Chief Executive Officer Brian Porter said in his first foray into public policy.

“Our inability to deliver energy to world markets is detrimental to Canada’s economy,” Porter, 57, said in the text of prepared remarks for his speech at Scotiabank’s annual investors meeting Thursday in Ottawa. “It is also detrimental to our country’s brand and future economic prospects for all Canadians.”

Porter, whose comments signal his willingness to wade into broader national issues for the first time since becoming CEO in November 2013, said global market access for the country’s energy must be a “common objective” that corporate, government and community leaders pursue vigorously.

“The time for inter-provincial bickering and political indecision has passed,” said Porter, who heads Canada’s third- largest lender by assets.



Efforts by Canada's energy producers to get oil and gas out of Alberta's land-locked oil sands to international markets have been stymied by public opposition, legal challenges and political wrangling. That's hampered multibillion-dollar pipeline plans such as TransCanada Corp.'s Energy East and Enbridge Inc.'s Northern Gateway.

"Canada's inability to export meaningful quantities of energy efficiently is a significant constraint for one of the world's largest energy producers," Porter said. "Without the ports and pipelines needed to deliver Canada's energy products globally, importing nations will source their energy supply elsewhere."

Energy East, a C\$12 billion (\$9.6 billion) plan to transport oil to Saint John, New Brunswick, would create tens of thousands of jobs at a time when the economy needs job creation, Porter said. Jobs and economic benefits would spread from Alberta to New Brunswick, he said.

TransCanada proposed Energy East after facing delays in the U.S. on its planned \$8 billion Keystone XL from Alberta to Steele City, Nebraska, to help get oil to the U.S. Gulf Coast. Keystone is still awaiting a U.S. presidential permit.

Meanwhile, Enbridge is defending its C\$6.5 billion Northern Gateway project to skeptical British Columbians, including aboriginal and environmental groups challenging the pipeline that would transport Alberta oil to the Pacific coast for shipment to Asia. The federal government approved the project in June.

"Gaps in our infrastructure will have long-term consequences for our economy and for all Canadians," Porter said.

Tax and royalty revenue from energy and energy-related businesses will be hurt, with lower revenues constraining the ability of federal and provincial governments to invest in areas such as education and health care, he said.

"We must make global market access for Canadian energy a national priority, and then make it a reality," Porter said.

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## **Nuevo Midstream Dos Secures \$400 Million In Equity**

*Business Wire*

Nuevo Midstream Dos LLC secured \$400 million in initial equity from private-equity firm EnCap Flatrock Midstream and management, the company said April 9.

Nuevo Dos provides midstream services across North America. It was formed earlier in 2015, the company said. Its management team also founded Nuevo Midstream LLC, the predecessor.

Nuevo Midstream, working in the Delaware Basin, was also backed financially by EnCap Flatrock. It was sold to Western Gas Partners LP in 2014 for \$1.5 billion.

“EnCap Flatrock has been an outstanding, value-added equity partner, and we look forward to building another successful midstream company with them,” said Randy Ziebarth, president and CEO.

Ziebarth succeeded Jay Ledrum in the roles. Previously, he served as Nuevo Midstream’s senior vice president and COO.

“We have a long-standing and productive relationship with the Nuevo Dos team,” said Dennis Jaggi, managing partner at EnCap Flatrock. He is also a member of the Nuevo Dos board of directors.

“The entire team has an outstanding reputation in the producer community for its execution capabilities and devotion to service, which produces strong results for customers. We are excited to partner with them for a second time,” he added.

Houston-based Nuevo Dos was advised by Locke Lord LLP. EnCap Flatrock was advised by Thompson & Knight LLP.

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## Exxon, BP Could Be Considering Deals

### *Bloomberg*

Now that Royal Dutch Shell Plc has made its move for BG Group Plc, Exxon Mobil Corp. and BP Plc could contemplate deals -- perhaps even with each other.

Speculation of an Exxon-BP combination surfaced last year after oil prices declined sharply, increasing the appeal of big mergers that could yield massive cost savings. BP has largely put behind it the legal morass surrounding the 2010 Gulf of Mexico spill. Still, the \$124 billion company remains among the cheapest major producers relative to estimated profit, according to data compiled by Bloomberg.

There are, of course, other targets for Exxon and BP that have gotten less expensive in recent months. Anadarko Petroleum Corp., Cabot Oil & Gas Corp., Pioneer Natural Resources Co., Occidental Petroleum Corp. and Tullow Oil Plc are among those that have risen to the top of analysts’ lists. Their market values span Tullow’s \$4.2 billion to Occidental’s \$59 billion. Exxon is valued at \$353 billion.

The oil slump of the late 1990s sparked a merger boom. BP was the one that kicked things off when it announced plans to buy Amoco Corp. Exxon and Chevron Corp. also struck deals at the time. Should prices remain depressed, history could repeat itself.

“There’s the potential for a lower-for-longer scenario when it comes to oil prices, which suggests that the majors should at least be considering the playbook they used at the turn of the last century,” said Eric Gordon, a Baltimore-based energy analyst for Brown Advisory, which manages \$52 billion. “You really have to spend time thinking about not just the next chess move, but two and three moves out.”

BP may be more likely to go on a shopping spree than sell itself because its portfolio is lacking, said Aneek Haq, a London-based analyst at Exane BNP Paribas. In addition to U.S. shale targets, Galp Energia SGPS SA may draw interest from buyers because, like BG, it offers access to oil assets in Brazil, he said. Lisbon-based Galp has a market value of about \$10 billion.

For the other oil majors, Shell’s takeover of BG “increases the pressure on them to look at doing an acquisition,” Haq said in a phone interview. “It will probably just mean that they are going to be quicker and looking at stuff a lot more closely than they were previously.”

Potential targets will probably ask for bids based on a higher price of oil, which could make it harder to get deals done at valuations that are still attractive to buyers, Gordon of Brown Advisory said. Brent crude dropped to as low as \$45.19 a barrel in January, compared with a price of more than \$115 last June. Shell said its deal is predicated on oil reaching \$75 a barrel in 2017 and then \$90 through 2020.

Among the top oil producers, Exxon is the most likely to strike a large deal, Paul Sankey, an analyst at Wolfe Research, wrote in a report Wednesday. In addition to Occidental and Pioneer, he highlighted Concho Resources Inc. and Continental Resources Inc. as targets that may entice the company.

“Is Exxon going to see these guys as nipping at their heels and look to do an acquisition?” said Chris Pultz, a money manager at Kellner Capital, an event-driven investment firm in New York. “With the large E&P deals, these guys have had a pretty good success rate of calling the bottom in oil. This could be an interesting opening salvo.”

Spokesmen for Chevron, Anadarko and Tullow declined to comment, as did representatives for Exxon, Pioneer and Continental. Representatives for the other companies didn’t respond to requests for comment.

# Shell Could Sell Australian Natural Gas Assets If It Buys BG

## *Bloomberg*

Royal Dutch Shell Plc is seeking an outlet for its natural gas reserves in Australia's Queensland state. Its \$70 billion purchase of BG Group Plc provides a solution.

Shell and its partner PetroChina Co. have been looking at alternatives for their Arrow gas project after shelving plans to build an export terminal this year due to cost blowouts and slumping energy prices. Arrow is in the same state as plants run by Santos Ltd. and ConocoPhillips -- as well as BG's \$20 billion Queensland Curtis LNG development.

"The Arrow assets are stranded at the moment, so it's highly probable that if Shell's purchase of BG went through, that gas would be monetized through QCLNG," Neil Beveridge, an analyst at Sanford C. Bernstein in Hong Kong, said Wednesday before the agreement was announced. "That's definitely a source of value for this deal."

The combined company will have double the market value of BP Plc. The deal would also streamline the energy industry in Australia, on course to become the world's biggest liquefied natural gas exporter later this decade, and may spur other acquisitions in the sector.

The accord to purchase BG for about 47 billion pounds (\$70 billion) has other implications in Australia, where investors see potential for further acquisitions.

Santos, Oil Search Ltd. and Beach Energy Ltd. rose today in Sydney trading partly on speculation that they're potential targets, said Evan Lucas, market strategist at IG Ltd. in Melbourne.

In Queensland LNG, the projects face a potential shortfall in feedstock of as much as 30 percent over the next two decades, according to Credit Suisse Group AG. Linking Arrow to Curtis Island would help fix the problem.

Shell in 2013 delayed a decision to go ahead with Arrow due to cost inflation in Australia. The company said in January that a new export plant was "off the table."

The Shell-BG merger, which would combine Europe's largest oil explorer by market value with the No. 3 U.K.-based energy producer, will be the industry's biggest in at least a decade, according to data compiled by *Bloomberg*.

# First Reserve, Pemex Form Infrastructure Investment JV

Petroleos Mexicanos (Pemex) and private-equity firm First Reserve Corp. announced a US\$1 billion joint venture (JV) to invest in energy infrastructure for Mexico, First Reserve said April 7.

The Los Ramones pipelines project will receive investments. There will be 744 kilometers of natural gas pipelines, and construction has already begun, with full commercial operations expected in mid-2016. Investments will also be placed in other large-scale energy infrastructure projects.

The JV marks "foreign confidence in the Mexican energy industry," First Reserve added.

"As global investors, First Reserve is excited to be expanding our existing portfolio in Mexico, where we have believed there to be attractive investment opportunities for some time. Through formal collaboration with Pemex, we feel we have gained substantial access to a region with strong supportive macro dynamics alongside a motivated and accomplished partner. First Reserve looks forward to mutually exploring multiple investment opportunities throughout the country's vast energy value chain on behalf of our investors and the country of Mexico," said William Macaulay, chairman and co-CEO.

First Reserve is based in Greenwich, Conn.

## Contact Information:

**CARYN LIVINGSTON** Assistant Editor  
[clivingston@hartenergy.com](mailto:clivingston@hartenergy.com)

**Contributing Editors:** Velda Addison, Darren Barbee, Nissa Darbonne, Deon Daugherty, Rhonda Ducey, Caroline Evans, Bethany Farnsworth, Dale Granger, Leslie Haines, Mary Hogan, Paul Hart, Susan Klann, Mike Madere, Joseph Markman, Richard Mason, Emily Moser, Frank Nieto, Jack Peckham, Erin Pedigo, Larry Prado, Jennifer Presley, Chris Sheehan, Bryan Sims, Kristie Sotolongo, Steve Toon, Theresa Ward, Scott Weeden, Peggy Williams

**Graphic Designer:** Felicia Hammons

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