

Tertzakian: Oil Prices Destined To Soften — But Not Yet

Export opportunities are likely limited by market dynamics.

BY **STEVE TOON** | HART ENERGY

With North American oil production on the rise and global demand tapering, the price for a barrel of oil will inevitably follow a similar trend downward as did the price of natural gas as volumes rose, according to economist Peter Tertzakian. However, the fall won't be as severe nor is it imminent, he said.

With oil trending in the \$80 to \$100 range since 2010, the incentive to producers is to grow production. "If everybody is growing production, it has the ultimate consequence to the price of the commodity. The dynamics for oil are following exactly the same playbook as natural gas. It's a replay of the gas story."

Tertzakian, chief economist for Calgary-based ARC Financial Corp., spoke at Hart Energy's DUG Permian conference in Fort Worth.

At present, an average annual 100,000 barrels (bbl.) per day U.S. growth rate is mitigated by softened demand globally, keeping prices stable, he said.



STILL SOLID | Oil prices will remain at their same level for the next few years, according to ARC Financial's Peter Tertzakian. Source: Hart Energy

"For this year and next, it doesn't matter that much," he indicated. "A hundred thousand barrels a day will get mopped up by the market. But sustained production growth will lead to eventual price erosion."

Still, the price of oil will be "stickier" than natural gas, he predicts, due to it being a strategic national commodity. He sees a broad price range of \$60 to \$100 and more likely \$70 to \$90 in time.

Continued on **Page 12**

HIGHLIGHTS FROM TODAY'S EDITION



FRANK NIETO
Editor, *Midstream Monitor*
& *MidstreamBusiness.com*
fnieto@hartenergy.com

NGL PRICES & FRAC **Not Cooling Off**

Gas prices remain strong as heating demand has been replaced by cooling demand.

PAGE 3

PROCESSING TRENDS **Export Driven**

The hydrocarbon markets will be led by export capacity and demand.

PAGE 5



SNAPSHOT

New Opportunity

Emissions can be a financial opportunity if looked at properly.

PAGE 11

PIPELINES

Rail Gaining Strength

Rail has a major impact on the transportation sector, but isn't ready to push pipelines aside yet.

PAGE 8

Still Playing Catch-Up

The midstream is still trying to catch up with transportation demand in many plays.

PAGE 9



Reel SIMPLE

When corrosion is not an option, choose

FIBERSPAR ®
THE LEADER IN SPOLABLE PIPELINE SYSTEMS

Go to fiberspar.com for more information DELIVERING EXPERIENCESM

NGL PRICES & FRAC SPREAD | Week in Review

Gas Prices Solid As Cooling Demand Replaces Heating

BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR, MIDSTREAMBUSINESS.COM

In the early part of spring, it appears that the Northeast skipped spring temperatures and jumped from colder-than-normal weather right to summer temperatures in the 80s and even 90s. This meant that many residents in the region went from heating their homes to cooling them at a similar usage level.

This was a boon for natural gas producers as many regions have switched their power generation from coal-fired to gas-fired in the past several years. Indeed, despite the steep

CURRENT FRAC SPREAD (CENTS/GAL)				
April 15, 2013	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	24.72		28.31	
Shrink	26.52		26.98	
Margin	-1.80	-493.18%	1.33	-55.54%
Propane	87.00		91.48	
Shrink	36.64		37.28	
Margin	50.36	-5.36%	54.20	-6.08%
Normal Butane	127.56		135.44	
Shrink	41.48		42.21	
Margin	86.08	-7.80%	93.23	-6.01%
Isobutane	134.13		139.24	
Shrink	39.84		40.54	
Margin	94.29	-9.62%	98.70	-7.38%
Pentane+	212.75		208.04	
Shrink	44.36		45.14	
Margin	168.39	-5.03%	162.90	-4.47%
NGL \$/Bbl	39.13	-4.26%	40.19	-4.00%
Shrink	14.61		14.87	
Margin	24.52	-7.40%	25.33	-6.34%
Gas (\$/mmBtu)	4.00	1.52%	4.07	0.25%
Gross Bbl Margin (in cents/gal)	54.92	-7.48%	57.58	-6.44%
NGL Value in \$/mmBtu (Basket Value)				
Ethane	1.36	-7.00%	1.56	-5.32%
Propane	3.02	-2.58%	3.18	-3.60%
Normal Butane	1.38	-4.96%	1.46	-4.15%
Isobutane	0.83	-6.58%	0.87	-5.28%
Pentane+	2.74	-3.73%	2.68	-3.48%
Total Barrel Value in \$/mmbtu	9.34	-4.30%	9.75	-4.08%
Margin	5.34	-8.24%	5.68	-6.96%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
April 3 - 9, '13	28.31	91.48	135.44	139.24	208.04	\$40.19
March 27 - April 2, '13	29.90	94.90	141.30	147.00	215.55	\$41.87
March 20 - 26, '13	28.84	92.84	139.74	144.20	212.86	\$41.12
March 13 - 19 '13	27.33	89.66	139.88	142.55	213.52	\$40.52
March '13	27.95	89.66	141.09	145.14	212.62	\$40.69
February '13	25.64	86.16	162.10	168.05	234.15	\$43.09
1st Qtr '13	25.68	86.42	157.72	166.41	222.63	\$42.07
4th Qtr '12	26.59	88.74	162.76	181.71	215.67	\$42.69
3rd Qtr '12	32.34	89.27	142.76	161.88	200.54	\$41.03
2nd Qtr '12	37.00	97.80	160.76	175.08	207.57	\$44.54
April 4 - 10, '12	43.30	119.24	188.14	205.38	238.92	\$52.43
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
April 3 - 9, '13	24.72	87.00	127.56	134.13	212.75	\$39.13
March 27 - April 2, '13	26.58	89.30	134.22	143.57	221.00	\$40.87
March 20 - 26, '13	25.66	88.72	131.60	143.18	218.50	\$40.33
March 13 - 19 '13	24.50	85.22	133.52	139.68	218.74	\$39.75
March '13	25.29	85.20	134.11	143.21	217.48	\$39.91
February '13	24.13	81.76	156.45	167.85	230.84	\$42.05
1st Qtr '13	23.94	81.81	153.43	160.39	222.63	\$41.11
4th Qtr '12	18.45	79.24	164.46	174.39	209.16	\$39.94
3rd Qtr '12	14.60	70.25	124.35	165.61	195.68	\$34.99
2nd Qtr '12	11.18	72.63	135.80	161.38	203.31	\$35.72
April 4 - 10, '12	16.30	93.32	161.23	191.83	232.65	\$43.16

(Above) Data Provided by Intercontinental Exchange. Individual product prices in cents per gallon. NGL barrel in \$/42 gallons | Source: Frank Nieto

(Left) 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 Ship Channel.

Shrink is defined as Btus that are removed from natural gas through the gathering and processing operation. Source: Hart Energy

reduction in heating demand, natural gas prices held firm at about \$4.00 per millionBtu (/MMBtu) at both Conway and Mont Belvieu.

However, the decrease in heating demand did have a negative effect on propane prices, which fell at both hubs. The Conway price dropped 3% to 87¢ per gallon (/gal), its lowest price in three weeks. The Mont Belvieu price took a 4% downturn to 92¢/gal, the lowest it has been in a month.

NGL PRICES & FRAC SPREAD | Week in Review

Despite the decrease, propane prices remain healthy as En*Vantage anticipates balances to continue to tighten with the inventory level approaching 51 million barrels (bbl.) by July 26. This would be nearly 12 million bbl. below the inventory level recorded last year at the same time and nearly 3 million bbl. below the five-year average.

Prices should continue to benefit from solid export demand in the foreseeable future as well, according to En*Vantage. “The arbitrage between northwest Europe and Mont Belvieu has been narrowing since December, and we have been forecasting that could happen as U.S. propane exports pick up. Sluggish European petrochemical demand and ethylene plant turnarounds on the continent have weakened propane demand and prices in northwest Europe. However, due to the drop in Gulf Coast spot price propane this

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / April 11, 2013	
Gas Hub Name	Current Price
Carthage, TX	4.08
Katy Hub, TX	4.09
Waha Hub, TX	4.04
Henry Hub, LA	4.11
Perryville, LA	4.09
Houston Ship Channel	4.08
Agua Dulce, TX	3.59
Opal Hub, Wyo.	3.59
Blance Hub, NM	3.98
Cheyenne Hub, Wyo.	4.00
Chicago Hub	4.29
Ellisburg NE Hub	4.16
New York Hub	4.27
AECO, Alberta	3.61

Source: Bloomberg

week, the price spread between northwest Europe propane prices and Mont Belvieu widened this past week,” the company said in its Weekly Energy Report for the week of April 4.

Ethane prices tumbled at both hubs, which was more of a result of a downturn in crude oil prices as ethane and crude have had a more symbiotic relationship of late. “Ethane inventories are forecasted to reach 28.3 million barrels by the end of July; however, ethane prices should continue to track gas prices very closely through July, with regional ethane frac spreads still at negative levels to cause at least 150,000 barrels per day of ethane rejection. This does not mean that ethane prices will drop as it is likely tighter gas balances could cause gas prices to rise which will push ethane prices higher,” according to En*Vantage.

The downturn in crude prices had the biggest impact on heavy natural gas liquid (NGL) prices for the week of April 3. Conway isobutane was tied with ethane for the largest price decrease for the week at 7% as it fell to \$1.34/gal. This was its lowest price since it

RESIN PRICES – MARKET UPDATE – APRIL 11, 2013					
TOTAL OFFERS: 16,851,688 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	0.63	0.67
HDPE - Blow Mold	2,950,968	0.67	0.72	0.71	0.75
LDPE - Film	2,670,692	0.68	0.775	0.655	0.695
LLDPE - Film	2,462,760	0.685	0.775	0.69	0.73
PP Homopolymer - Inj	2,185,680	0.65	0.8	0.66	0.7
HMWPE - Film	1,490,368	0.68	0.82	0.71	0.75
PP Copolymer - Inj	881,840	0.74	0.75	0.85	0.9
GPPS	760,000	0.91	0.94	0.97	1.02
HIPS	760,000	1.02	1.04	0.65	0.69
LLDPE - Inj	538,000	0.72	0.74	0.63	0.67
HDPE - Inj	438,828	0.67	0.77	0.69	0.73
LDPE - Inj	438,552	0.66	0.73	0.65	0.69

Source: Plastics Exchange – www.theplasticsexchange.com

was \$1.31/gal the week of June 27, 2012. The Mont Belvieu price took a 5% downturn to \$1.39/gal, which was also its lowest price since the week of June 27, 2012 when it was \$1.36/gal.

Butane prices fell at similar rates between the two hubs with the Mont Belvieu declining 4% to \$1.35/gal, its lowest level since it was \$1.32/gal the week of August 1, 2012, and the Conway price declined 5% to \$1.28/gal, its lowest price since it was \$1.22/gal the week of August 8.

The most profitable NGL to make at both hubs remained C₅₊ at \$1.68/gal at Conway and \$1.63/gal at Mont Belvieu. This was followed, in order, by isobutane at 94¢/gal at Conway and 99¢/gal at Mont Belvieu; butane at 86¢/gal at Conway and 93¢/gal at Mont Belvieu; propane at 50¢/gal at Conway and 54¢/gal at Mont Belvieu; and ethane at negative 2¢/gal at Conway and 1¢/gal at Mont Belvieu.

The theoretical NGL barrel price fell 4% at both hubs with the Conway price down to \$39.13/bbl. with a 7% drop in margin to \$24.52/bbl. and the Mont Belvieu price decreasing to \$40.19/bbl. with a 6% drop in margin to \$25.33/bbl.

Natural gas storage levels remained lower than their five-year average the week of April 5. According to the Energy Information Administration, storage levels decreased 14 billion cubic feet to 1.673 trillion cubic feet (Tcf) from 1.687 Tcf. This was 33% below the 2.477 Tcf figure posted last year at the same time and 4% below the five-year average of 1.739 Tcf.

Cooling demand could see a drop-off in the Northeast this week as the National Weather Service’s forecast anticipates normal spring temperatures.

PROCESSING TRENDS | An Inside Look

Wells Fargo: Exports Will Continue To Drive Prices/Demand

BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR,
MIDSTREAMBUSINESS.COM

As we have reported for the past several weeks, exports will be the primary driver in the supply and demand pricing function for North American natural gas and natural gas liquids (NGL). In addition, exports of refined products such as distillates and diesel have been having an impact on crude prices.

Enterprise Products Partners and Targa Resources both acknowledged customers have been seeking ways to export ethane, according to Wells Fargo Securities' March 2013 NGL Snapshot.

The idea of ethane exports has become enticing due to the high level of rejection of the product in various North American hubs. The investment firm stated that ethane rejection is estimated to be between 150,000 barrels (bbl.) per day and 250,000 bbl. per day. As we have noted several times in our weekly Frac Spread, ethane rejection is widespread, but has not affected every hub.

In fact, both Enterprise and Targa officials told Wells Fargo that there has not been widespread ethane rejection on their systems. "Enterprise [officials] indicated that the partnership has a higher threshold for ethane rejection at its processing plants in the Rockies after factoring in the [transportation and fractionation] fees collected by the partnership downstream of its processing plants. Accordingly, ethane rejection has not had a significant impact on the [company's] y-grade NGL pipeline volumes," the report said.

Targa officials stated that propane prices have been subsidizing ethane rejection economics, which has led to negligible rejection throughout its system. Although ethane prices have been experiencing improvements of late, officials from both companies stated that they anticipate the ethane market to remain oversupplied for several years.

At least in the near-term, light NGL prices should continue to benefit from the construction of new LPG export capacity. Though propane demand could lessen with price increases associated with this construction, the ceiling for ethylene price should also increase and help support ethane prices.



BALANCING ACT | Exports will be the main impetus in meeting supply and demand as North American hydrocarbon production increases.

Ethane demand should remain healthy as it replaced naphtha as the baseload feedstock of choice for crackers. Even if there is some feedstock switching on a month-by-month basis, the report anticipates that a strong amount of ethane will continue to be consumed on a regular basis.

While no projects to export ethane have been announced at this time, Wells Fargo stated that officials with both Enterprise and Targa indicated that more customers have been requesting such infrastructure. This would not only capitalize on the growing supplies of domestically-produced ethane, but also satisfy an increase in foreign demand as more crackers overseas have upgraded to be able to switch from heavy to light feedstocks.

Phillips 66 Files For IPO

Phillips 66 Partners LP, a wholly owned subsidiary of Phillips 66, filed a registration statement on Form S-1 with the U.S. Securities and Exchange Commission (SEC) related to its proposed initial public offering of common units representing limited partner interests. The offering is expected to occur in the second half of this year. Phillips 66 Partners anticipates the common units will trade on the New York Stock Exchange under the ticker symbol "PSXP". The number of common units to be offered and the price

PROCESSING TRENDS | An Inside Look

range for the offering have not yet been determined. Phillips 66 Partners expects to receive gross proceeds from the offering in the amount of approximately \$300 million, excluding proceeds from any exercise of the underwriters' over-allotment option to purchase additional common units.

Phillips 66 formed Phillips 66 Partners to own, operate, develop and acquire primarily fee-based crude oil, refined petroleum product and natural gas liquids pipelines and terminals and other transportation and midstream assets. Headquartered in Houston, Texas, Phillips 66 Partners expects its initial assets to include the Clifton Ridge crude oil pipeline, terminal and storage system in Louisiana; the Sweeny to Pasadena refined petroleum product pipeline, terminal and storage system in Texas; and the Hartford Connector refined petroleum product pipeline, terminal and storage system in Illinois.

CHK Pushes On Without McClendon, Aims To Sell \$7 Billion In Assets

BY **DARREN BARBEE** | HART ENERGY

The post-Aubrey McClendon era at Chesapeake Energy Corp. (CHK) began with the company more or less on the same course.

On April 1, the former chief executive's official retirement date, acting chief executive Steve Dixon reported in an analyst call that the nation's second-largest gas producer is off to a strong start in 2013.

Chesapeake has taken advantage of the recent surge in gas prices to lock in price protection in 2013. It has also started hedging 2014 prices "well above \$4, a level the market has not seen for quite some time," Dixon said.

The company appears to be holding its own in the Eagle Ford shale, reporting strong operating results that Dixon said will position it as the No. 2 producer there.

Dixon said Chesapeake is allocating the largest percentage of its drilling completion capital expenditure budget to the Eagle Ford shale this year, about 35% of the company's \$6 billion drilling and completion capex.

The company parted on April 1 with another 157,000 net acres for \$85 million, part of an ongoing paring of assets to generate cash and focus more intently on oil and gas elsewhere.

The call was most likely an effort to assure the market that with McClendon officially gone, the company is running smoothly, said David Tameron, Wells Fargo Securities senior analyst. The call did not address the search for a new chief executive.

Instead, Chesapeake centered on stability. It pointed out that its capital expenditures have tracked below budget, reflecting financial discipline and a focus on efficiency and cutting costs. Production was also positive, Tameron said.

However, the update "didn't move CHK shares, and we don't think the call does much near term to change the perception of CHK share price," Tameron said.

To generate funds, Chesapeake has so far completed or signed up about \$1.5 billion of assets for sale as part of a goal to sell \$4 billion to \$7 billion in 2013.

"We are on track to execute agreements for additional sales in the next few months," Dixon said.

ONEOK Completes Number Of Growth Projects

ONEOK Partners LP announced the completion of three projects that are part of its previously announced \$4.7 billion to \$5.3 billion growth program through 2015, including:

- The Bakken NGL Pipeline that transports unfractionated natural gas liquids (NGLs) from the Bakken shale and Three Forks formations in the Williston basin to the partnership's 50 percent-owned Overland Pass Pipeline, a 760-mile NGL pipeline extending from southern Wyoming to Conway, Kansas;
- The Stateline II natural gas processing facility in western Williams County, North Dakota; and
- An ethane header pipeline that creates a new point of interconnection between the partnership's Mont Belvieu, Texas, NGL fractionation assets and several petrochemical customers.

Bakken NGL Pipeline completed:

The Bakken NGL Pipeline is a \$450 million to \$550 million, 600-mile pipeline with the capacity to transport 60,000 barrels (bbl.) per day of unfractionated NGLs from ONEOK Partners'

PROCESSING TRENDS | An Inside Look

natural gas processing plants and from third-party natural gas processing plants in the Williston basin to an interconnection with the partnership's 50 percent-owned Overland Pass Pipeline in northern Colorado. The NGL volumes are then delivered to ONEOK Partners' Midcontinent NGL fractionation and storage facilities in central Kansas.

In July 2012, the partnership announced plans to invest approximately \$100 million to install additional pump stations on the Bakken NGL Pipeline, which will increase its capacity to 135,000 bbl. per day from 60,000 bbl. per day. . This expansion is expected to be completed in the third quarter 2014.

Stateline II gas processing facility completed:

ONEOK Partners has begun operating its new \$135 million to \$150 million, 100-million cubic feet (MMcf) per day natural gas processing facility in western Williams County in North Dakota – the Stateline II plant. .

The Stateline II plant is the third new natural gas processing facility that ONEOK Partners has completed in the Williston basin since late 2011, joining the Garden Creek and Stateline I plants that are now processing natural gas and increasing its current processing capacity in the region to 390 MMcf per day from 90 MMcf per day in 2011.

The partnership previously announced that it will invest \$1.7 billion to \$1.9 billion for natural gas gathering and processing projects in the Williston basin from 2011 through 2015, including the Garden Creek II and III plants in eastern McKenzie, North Dakota, which are expected to be in service in the third quarter 2014 and the first quarter 2015, respectively, and will increase the partnership's natural gas processing capacity in the region to 590 MMcf per day.

ONEOK Partners is the largest independent operator of natural gas gathering and processing facilities in the Williston Basin, with a natural gas gathering system of more than 5,000 miles and acreage dedications of approximately 3.1 million acres.

New ethane header pipeline completed:

ONEOK Partners also completed a 12-inch diameter ethane header pipeline that creates a new point of interconnection between the partnership's Mont Belvieu, Texas, NGL fractionation assets and several petrochemical customers. . The \$23 million

pipeline is backed by contractual commitments with several petrochemical companies.

The new pipeline is capable of transporting 400,000 bbl. per day of purity ethane from the partnership's 80 percent-owned, 160,000-bbl. per day MB-1 fractionator; the partnership's two 100 percent-owned, 75,000-bbl. per day MB-2 and MB-3 fractionators that are under construction and scheduled for completion in the third quarter 2013 and the fourth quarter 2014, respectively; and the partnership's previously announced new E/P splitter that has the capacity to produce 32,000 bbl. per day of purity ethane and 8,000 bbl. per day of propane and is expected to be in service during the second quarter 2014. .

The Bakken NGL Pipeline, Stateline II plant and Mont Belvieu ethane pipeline are part of ONEOK Partners' previously announced \$4.7 billion to \$5.3 billion growth program through 2015.

The partnership has a \$2 billion-plus backlog of unannounced growth projects that it continues to evaluate. . Additional projects included in this backlog will be announced when sufficient supply commitments are completed.

Alerian Launches Two New Indices

Alerian announced the real-time launch of two indices tracking the North American Energy Infrastructure and Master Limited Partnership (MLP) sectors. Designed in response to the evolving needs of industry stakeholders, the Alerian Energy Infrastructure Index (AMEI) and the Alerian MLP Equal Weight Index (AMZE) provide investors, management teams, and analysts with new benchmarks encompassing a broader range of capitalization, asset, and geographic exposure.

The AMEI is a composite of 30 core energy infrastructure companies in North America. The index provides diversified exposure to MLPs, MLP affiliates, and corporations with midstream operations.

The AMZE is an equal-weighted version of the leading MLP benchmark, the Alerian MLP Index (AMZ). It has the same 50 constituents as the AMZ, but each constituent is re-balanced to a 2% weight on a quarterly basis. The indices will be disseminated real time on a price-return basis and a total-return basis.

PIPELINES & TRANSPORTATION | Developments

Rail Makes Strides In Crude Transportation

BY MICHELLE THOMPSON | HART ENERGY

Rail is fast becoming a major player in crude transport, though it's not likely to displace pipeline, industry leaders say.

"If you go back three years ago, crude by rail was non-existent," Cami Large, assistant vice president of industrial products with BNSF Railway, told Hart Energy's DUG Permian crowd on April 4. "There was very little going on. In just three short years, we've gone to a significant growth business."

To drive her point home, Large shared some company statistics. BNSF shipped its first unit train of crude oil in December 2009. Last March, the company shipped 245 unit trains. The company moved about 100 million barrels (bbl.) of crude oil last year. By the end of 2013, it is projecting to move about 700,000 bbl. per day.

"It's proven to be a very cost-effective, flexible and quickly developable solution for producers and markets and consumers," said Large. "At BNSF, we are just thrilled to be a part of it."

Fellow rail panelist Allan Roach, senior vice president of business development with Watco Companies LLC, agreed that rail has become a popular choice for crude transport.

"This business has really exploded," Roach said. "Rail will never replace pipeline. What it does is compliments pipeline."

Of course, the question that lingers is whether rail is here to stay. Large thinks it is, and said that rail will be able to compete with pipe over the long-term.

Rail will continue to be viewed as a viable option for transport, she said, thanks to the flexibility and market optionality it provides.

"People have started to view this as an option or a choice or even a right," Large said. "I think that's always going to exist. Clearly pipelines are going to be very critical to moving this crude. I think rail is always going to be there as well."

Chris Ryan, general manager of crude oil and natural gas supply with Musket Corp, said crude by rail makes sense economically, too. He said it prevents producers from becoming captive to one market. He pointed to the Bakken as an example. By pipeline,



FAST TRACK | In the past three years, crude rail transportation has gone from nearly non-existent to being a major form of transportation, according to Cami Large of BNSF Railway. Source: Hart Energy

crude can only go to Cushing, Oklahoma, he said. By rail, it could travel to the East, West or Gulf coasts.

"You have three markets you could move your oil to," he said. "[This] offers a much better netback."

Chris Tennant, vice president of commercial operations with Crosstex Energy Services, said his company has undergone a transformation involving rail in recent years. Traditionally, Crosstex had been regarded a gas-gathering company. This changed about three years ago when it became a "more dynamic" company involving natural gas liquids (NGLs) and crude oil, said Tennant.

Rail has made the company's transformation easier, as it has helped alleviate pipeline and fractionation constraints in the Midland/Odessa area, Tennant said.

"We were up to come up with a creative a solution using common carrier pipelines, fractionation and rail cars to export a 300 rail cars a month of NGLs out of the Midland/Odessa area. We continue to do that on the NGL side."

The transformation is being observed with crude, as well. Crosstex is seeing up to 100 cars a month exit the market from Midland/Odessa.

Meanwhile, Crosstex recently began starting up a number of previously idled fractionators and put them to use. The fractionators are being loaded daily with up to 7,000 bbl. of NGLs, which are railed in from the Marcellus, Tennant said.

PIPELINES & TRANSPORTATION | Developments

Midstream Scrambles To Move Production

BY PAUL HART | HART ENERGY

North America's midstream is in the middle of profound change as its operators rebuild and add new assets. The cause is well known: production from the rapidly growing shale plays that's overwhelming current infrastructure, E. Russell "Rusty" Braziel, president of RBN Energy LLC, told Hart Energy's DUG Permian & More conference in Fort Worth recently.

"There isn't enough infrastructure to get it (oil and gas) to market," Braziel said. He began his presentation by tracking natural gas output from 2005 into 2013, a time when North America's gas production jumped by an astounding 16.2 billion cubic feet (Bcf) per day. "Gas production is now at an all-time high," he added, approaching 65 Bcf per day and still growing.



CONSTRUCTION NECESSARY | More infrastructure capacity is needed to meet growing production, said RBN Energy's Rusty Braziel. Courtesy: Hart Energy

To emphasize the impact of the shale plays, Braziel pointed out conventional gas production actually declined during the period, "and growth in the Northeast has made up for that decline," he said, calling the growth "astronomical" and projecting that "the Northeast U.S. can be self-sufficient in gas by 2017." He said Northeast gas production will reach 18 Bcf per day by 2017.

But as impressive as the climb in that production from the Marcellus and Utica has been, it could be far larger were it not for a big backlog in well completions and completed wells waiting to go on production. Facing crew and pipeline constraints have created the backlog, he said. That backlog will create much of the production increase expected in the near future.

Braziel expects the recent trend in pipeline repurposing to continue. Look for continued flow reversals and/or conversion to other products, he said, adding there will be a continuing need for this "re-plumbing" of existing pipelines and storage to handle the change. The trend is in addition to an equally impressive new-build capacity.

"More gas means more natural gas liquids to be processed," Braziel pointed out. He projected NGL [natural gas liquid] production of 2.2 million barrels (bbl.) per day will swell to nearly 3.6 million bbl. per day by 2017.

Increased use of gas to fire power generation will absorb some of the increase in production, but North America will have to look abroad for markets, he said, adding, "we have turned into an export market" for gas, gas liquids, crude and petroleum products, whether the U.S. and Canada want it or not. The challenge will be summoning the political will to overcome years of energy protectionism so export markets can flourish.

Coming Full Circle In The Permian

BY MICHELLE THOMPSON | HART ENERGY

It appears history is repeating itself in the Permian Basin as pipelines are reversed and converted to accommodate regional changes.

One example is the Kinder Morgan Freedom Pipeline LLC, which launched an open season April 2 to determine industry interest. The pipeline, which would be converted from natural gas to crude, would initially take up to 277,000 barrels (bbl.) per day of crude oil from the Permian to Southern California refiners. About 740 miles of existing natural gas pipeline would be converted.

PIPELINES & TRANSPORTATION | Developments

“As I look at the pipeline, history kind of repeats itself,” Gregory W. Ruben, Kinder Morgan’s vice president of business development, said during Hart Energy’s recent DUG Permian conference. The pipeline was originally designed to move crude from the West Coast to McCain, Texas, but was converted to natural gas in 1996.

“We have not seen very high utilization on our system along that corridor,” said Ruben. “This is an opportunity to do some things that will put the asset to better use.”

The pipeline gave Kinder Morgan an opportunity to provide an alternative to move volumes to the west, he added. It could also help mitigate congestion at some California ports, said Ruben.

“Now is the time [to build],” he said.

“This project is very compelling from an economic perspective for refiners and producers. It does give a very unique

“A lot of these lines that we are looking at today to [convert] back to crude service were initially built for crude service. History is definitely repeating itself.”

- Scott Devers, director, crude oil transportation, Magellan Midstream Partners LP

and positive economic alternative relative to continue to look solely to move your volumes to the east out of the Permian Basin into the Gulf Coast refining complex.”

Construction on the Freedom line could begin in June 2015, with an in-service target date of late 2016.

Meanwhile, Magellan’s Longhorn pipeline reversal and conversion will ultimately have the capacity to ship up to 225,000 bbl. per day of crude from Crane to its east Houston terminal. Magellan is currently evaluating another potential Longhorn expansion of 70,000 bbl. per day, which would raise the line’s capacity to nearly 300,000 bbl. per day.

The \$375 million capital expenditure project is expected to be fully operational in the third quarter.

“We’re kind of going back in history,” Scott Devers, director of crude oil transportation with Magellan Midstream

Partners LP, told DUG Permian attendees. “A lot of these lines that we are looking at today to [convert] back to crude service were initially built for crude service. History is definitely repeating itself.”

Keyera To Build Gathering Pipeline, Increase Capacity

Keyera Corp. plans to extend the capture area and to provide customers with enhanced processing capability at its Simonette gas plant. The first initiative is the construction of a sour gas gathering pipeline, which will be called the Wapiti pipeline, from the Wapiti region of northwest Alberta to Simonette. The second initiative involves modifications to Simonette to increase plant capacity and handle the growing quantities of NGLs and condensate being produced in the area. The capital cost of these initiatives is expected to be \$210 million.

The Wapiti pipeline is underpinned by a long-term, fee-for-service natural gas gathering and processing agreement with NuVista Energy Ltd.

The Wapiti pipeline consists of a 90-kilometre, 12-inch sour gas gathering pipeline and new inlet facilities at the plant. The total cost is estimated at \$120 million. Construction is scheduled to begin in the fall of 2013 and the pipeline is expected to be in service in the second quarter of 2014.

Keyera is in discussions with other producers along the pipeline route regarding the remaining unutilized capacity of the pipeline. Should there be sufficient interest, Keyera would also consider the construction of a separate 6-inch, 90-kilometre pipeline to carry segregated condensate along the same route.

In order to handle the growing demand for natural gas processing, Keyera will also be undertaking modifications at the plant to expand capacity and increase condensate handling capability. These modifications include the addition of refrigeration to increase the raw gas handling capacity and the construction of condensate stabilization facilities to handle growing volumes of condensate. These facilities will enable Simonette to handle an additional 100 million cubic feet per day of raw natural gas and 5,000 barrels per day of condensate. The total cost of these modifications is anticipated to be approximately \$90 million. Work is expected to be complete in the second half of 2014.

SNAPSHOT | Industry Insight

Wellsite Emissions Can Lead To Potential Profits

BY JOHN GRAVES | SPECIAL TO HART ENERGY

Market dynamics have remained much the same today as hundreds of years ago: Prices are bid and asked, then agreed upon. Supply dictates price, demand drives supply. Today's markets for gas, oil and natural gas liquids (NGLs) are electronic, global and multiple tied, yet remain the same as many other markets.

However, there is one distinct difference. Government intervention dictates how and under what terms that supply meets demand. The Environmental Protection Agency (EPA) has much to say about energy pricing, demand and delivery here in the U.S.

Emissions control between the wellbore and the pipeline is very much a work in progress. As the industry has been revolutionized by the tripartite events of fracking, horizontal drilling and advanced seismic, so, too, has the delivery of gas and oil from the well bore to the commercial pipeline.

The shale gas revolution has created new opportunities for energy usage in this country, but academics and analysts have been debating over whether natural gas is more or less helpful in reducing greenhouse gas emissions. At issue is methane release during the life cycle of energy production.

The real fight is at the EPA, which is setting new standards for onsite emissions of methane, applicable January 1, 2015, to all wells. The agency's REC — reduced emissions completion — is the centerpiece. To its credit, the EPA has modified its initial proposal, based on suggestions from the industry. Six tons per year is their mantra, for wellsite and for storage facilities. Any more than this—of VOCs (volatile organic compounds)—must be reduced by 95%. If they appear during flowback and recovery, they must be stored, reinjected or used on site.

The agency has also mandated significant detail as compliance with state notice requirements is sufficient to satisfy the National Society of Professional Surveyors two-day advance notice rule for site operations. Sites with centrifugal compressors may provide a list of all wells and a photo of each REC in operation. The use of wet or dry seals is allowed, irrespective of well type. Reciprocating compressors must maintain a record of



SOLVING THE PUZZLE | Emissions can be turned into a positive for producers and operators instead of being a hinderance.

rod packing every 26,000 hours or 36 months of use. Pneumatic controllers using no-bleed, intermittent bleed or no diesel are encouraged. Valve leaks must trigger an LDAR (leak detection and repair) if greater than 500 parts per million. As discussed in the April 1 edition of *Midstream Monitor*, storage must be floating roof with closed vent systems and control devices. Mobile and skip loaders in use on site for less than one year are exempt.

In the interval, exemption is offered to operators that preemptively meet or exceed these standards. The extraordinary legal hurdles to be cleared to claim an “affirmative defense to civil penalties” list: two-day claim notification via email and 45-day written notification, including a complete root-cause failure analysis.

These penalties apply in the event of malfunction at the well site, startups and shutdowns. The exemption is denied if claims are missing from periodic compliance reports, deviation reports or excess emissions reports. These are but the surface, as those of you who have filed already know.

Now that we see the challenge coming, here are a few opportunities: vapor recovery units (VRUs); recovery devices: separators and dehydrators; and natural gas engines (NGEs).

John Graves is the editor of The Retirement Journal and author of “Fracking: America’s Alternative Energy Revolution.”

[READ THE FULL ARTICLE ONLINE](#)

LEAD STORY | From The FrontContinued from
Page 1

“There is a floor, and that floor is when rigs go home. The floor is a moving target; it’s the true marginal cost.”

A frenzy of investment being put into new techniques is keeping the price of oil high, he said, but as costs come down the price floor may follow. “We’re at the early innings of new technology, and a lot of upfront capital is being put into infrastructure.”

The lesson from natural gas, he said, is that the incremental cubic foot of gas produced doesn’t cost as much as once thought. “Four years ago, we used to say there was a floor on the price of gas because it was too expensive to bring out of the ground, and here we are today. There is a bit of naivete in the industry as to what these new technologies can do.”

The export option

Many producers anticipate the opportunity to export oil to access global oil prices, but that option may not be the panacea anticipated, Tertzakian said.. The difference is cost efficiencies.

Now, the surge in U.S. oil production is pushing out imports, primarily Mexican and Venezuelan production. “These have largely inefficient state-owned oil companies,” he said. “It’s easy to push them out. But at some point, with this kind of growth, you’re going to push up against the lowest-cost producers in the world—companies with lifting costs from conventional fields less than the price using these new techniques in North America.”

At that point, U.S. producers enter the battle for market share, which is almost always fought on price.

“When oil exports start occurring, it doesn’t mean you’re going to get the big, high price the rest of the world is getting.

It means you’re going to have to compete with the other low-cost producers in the world.”

Changing players

The inevitable trend to be the low-cost producer in U.S. unconventional oil and gas fields is a harbinger for small operators, Tertzakian harkened.

“The whole structure is changing; it’s going to be a big company game,” he said, noting the influx of multinational oil and gas companies. “This is no longer a ma-and-pa type of operation. Yesterday’s playbook is not extendable to today.”

Capital needs for unconventional plays has tripled that once needed, and access to cheaper capital will be needed to drive costs down.

“Look at the scale of these operations,” he said. “These mass-manufacturing operations are like military operations.”

As a result, the industry is undergoing a bifurcation. “It’s the big companies that can achieve these massive economies of scale and drive their costs down. The little companies are not going to be able to get costs down anywhere close to those that can achieve scale.”

The game is changing for smaller companies, Tertzakian said. The role of small companies is no longer to grow production. “The role of the little guy is going to be to prove up productive potential and to hand it off to the big guys who can win the market share battles.”

Consolidation to gain scale will be a natural result, and small companies playing by old playbooks will go out of business, he said. “You’re already seeing that on the gas side. They don’t have the cash flow to be able to fund the investment needed to be able to play the game because their costs are too high.”

Contact Information:

FRANK NIETO Editor
fnieto@hartenergy.com

Contributing Editors: Richard Mason, Mike Madere, Scott Weeden, Jennifer Postel, Michelle Thompson, Keefe Borden, Nissa Darbonne, Leslie Haines, Peggy Williams, Susan Klann, Darren Barbee, Paul Hart, Emily Moser, Chris Sheehan, Steve Toon, Zahra Ahmed, John Graves

ORDER TODAY!

Call: 1-212-608-9078 | Fax: 1-212-608-9357

HART ENERGY

1616 S. Voss, Suite 1000 • Houston TX 77057-2627 • USA

Copyright 2013. All rights reserved. Reproduction of this newsletter, in whole or in part, without prior written consent of Hart Energy is prohibited. Federal copyright law prohibits unauthorized reproduction by any means and imposes fines up to \$100,000 for violations. Permission to photocopy for internal or personal use is granted by Hart Energy provided that the appropriate fee is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Phone: 978-750-8400; Fax 978-646-8600; E-mail: info@copyright.com.