

Enbridge To Unlock Crude Midcontinent Market

EEP is banking on its \$7.3 billion in growth projects will unlock access to new markets

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

As the North American crude market has experienced a renaissance, thanks to the unconventional development revolution, Enbridge Energy Partners has been one of the largest beneficiaries in this change in market dynamics. The company has the largest transportation system connected to premium markets for North American crude supplies.

“No other MLP has a liquids pipeline system with a scale and positioning of our systems. Our location and market access to led and will continue to lead to further expansion opportunities,” Mark Maki, president and principal executive officer at Enbridge Energy Partners, said during a February 14 conference call to discuss fourth-quarter 2012 earnings.

He added that the company’s liquids-rich pipelines saw volumes and deliveries grow throughout the year, citing the Lakehead System that runs 1,900 miles from Neche, North Dakota, in the Bakken to Chicago. The system, which has a capacity of 2.5



OPENING A DOOR | Enbridge’s expansion programs are designed to unlock markets that have traditionally been served by foreign imports.

million barrels (bbl.) per day, transported an average of 1.79 million bbl. per day in 2012.

“The market continues to experience price dislocations for crude oil between inland sources and waterborne equivalent. North American supply is priced at a discount to imported Brent, Maya and similar barrels due to current infrastructure constraints and supply and demand imbalances,” Maki said.

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HIGHLIGHTS FROM TODAY’S EDITION



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

NGL PRICES & FRAC

Trending Down

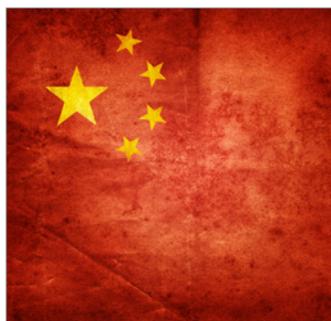
Heavy NGL prices followed crude prices on a downward spiral. **PAGE 3**

PIPELINES

Refined Deal

Magellan Midstream Partners reached an agreement to acquire 800 miles of refined products pipelines from Plains All American.

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SNAPSHOT

Revolution 2.0

China is beginning its own shale gas revolution.

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PROCESSING TRENDS

Emergency Exit

Alberta’s Minister of Energy, told DUG Canada attendees that the province needs to get its volumes to market by any transport possible. **PAGE 5**

Long-Term Benefit

U.S. refiners will continue to benefit from the production of domestic crude for the foreseeable future

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NGL PRICES & FRAC SPREAD | Week in Review

Heavy NGL Prices Follow Crude Prices Downward

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

Light natural gas liquid (NGL) prices showed improvements the week of February 20, but the overall NGL barrel (bbl.) price decreased as crude prices have turned bearish the last few weeks.

West Texas Intermediate crude prices traded at about \$92 per bbl. during the week as domestic demand continues to lessen. According to the Energy Information Administration (EIA), crude stocks hit their highest level for a late February period since the agency began recording this data in 31 years ago. Brent crude prices also

CURRENT FRAC SPREAD (CENTS/GAL)				
February 25, 2013	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	23.74		26.24	
Shrink	23.14		22.54	
Margin	0.60	-66.27%	3.70	-0.96%
Propane	82.58		86.96	
Shrink	31.97		31.14	
Margin	50.61	-3.01%	55.82	-2.40%
Normal Butane	153.00		157.96	
Shrink	36.19		35.26	
Margin	116.81	-6.16%	122.70	-6.55%
Iso-Butane	162.70		158.62	
Shrink	34.76		33.86	
Margin	127.94	-5.18%	124.76	-8.47%
Pentane+	229.48		231.90	
Shrink	38.70		37.71	
Margin	190.78	-4.64%	194.19	-5.64%
NGL \$/Bbl	41.67	-1.66%	42.65	-2.25%
Shrink	12.75		12.42	
Margin	28.92	-5.17%	30.23	-5.36%
Gas (\$/mmBtu)	3.49	7.38%	3.40	6.25%
Gross Bbl Margin (in cents/gal)	64.61	-5.21%	68.35	-5.25%
NGL Value in \$/mmBtu				
Ethane	1.31	1.76%	1.44	5.17%
Propane	2.87	0.77%	3.02	0.53%
Normal Butane	1.65	-3.27%	1.71	-3.96%
Iso-Butane	1.01	-2.75%	0.99	-5.68%
Pentane+	2.96	-2.80%	2.99	-3.90%
Total Barrel Value in \$/mmbtu	9.80	-1.26%	10.15	-1.59%
Margin	6.31	-5.48%	6.75	-5.12%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 20 - 26 '13	26.24	86.96	157.96	158.62	231.90	\$42.65
Feb. 13 - 19 '13	24.95	86.50	164.48	168.18	241.30	\$43.64
Feb. 6 - 12 '13	24.90	84.66	163.74	174.28	236.30	\$43.20
Jan. 30 - Feb. 5 '13	25.53	86.22	170.28	181.46	234.22	\$43.87
January '13	23.45	83.42	170.21	181.12	223.98	\$42.51
December '12	22.97	79.70	175.77	184.25	214.89	\$41.75
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
1st Qtr '12	53.93	125.90	192.36	204.32	238.95	\$55.05
Feb. 22 - 28, '12	49.80	122.74	186.58	195.06	245.63	\$53.95
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 20 - 26 '13	23.74	82.58	153.00	162.70	229.48	\$41.67
Feb. 13 - 19 '13	23.33	81.95	158.18	167.30	236.10	\$42.37
Feb. 6 - 12 '13	23.74	80.36	156.88	168.00	233.83	\$42.05
Jan. 30 - Feb. 5 '13	27.44	81.58	170.53	177.20	255.15	\$45.21
January '13	22.55	78.62	172.77	171.79	221.36	\$41.73
December '12	18.42	73.02	188.65	178.77	211.62	\$40.74
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
1st Qtr '12	26.93	103.34	168.65	184.75	227.16	\$45.92
Feb. 22 - 28, '12	29.80	105.14	166.66	173.40	238.46	\$46.96

(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%, Production and transport costs not included.

Conway gas based on NGPL Midcontinent, 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: Frank Nieto

fell to about \$111/bbl. for the week as the outlook for the European economy remains poor. In addition to a downturn in crude prices, heavy NGLs were also negatively impacted by refiners switching to the production of summer-grade gasoline.

Such sentiments resulted in sizable losses for heavy NGLs at both hubs. Mont Belvieu isobutane tumbled 6% to \$1.59 per gallon (/gal), its lowest level since it was \$1.56/gal

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NGL PRICES & FRAC SPREAD | Week in Review

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the week of August 8. The Conway price fell 3% to \$1.63/gal, its lowest price in six weeks.

The price of butane dropped 4% to \$1.58/gal at Mont Belvieu, its lowest price since it was \$1.52/gal the week of October 17 while the Conway price decreased 3% to \$1.53/gal, its lowest price since it was \$1.49/gal the week of October 17.

Mont Belvieu C₅₊ also fell 4% for the week as it wound down to \$2.32/gal, its lowest price in six weeks. The Conway price dropped 3% to \$2.30/gal, which was its lowest price since it was \$2.17/gal the week of January 16.

While heavy NGL prices struggled, the light NGLs showed renewed signs of life at both hubs. Mont Belvieu ethane improved 5% to 26¢/gal, its highest price thus far in 2013. The Conway price showed slower growth of 2% to 24¢/gal, its highest price in a month.

Although market fundamentals are improving for ethane, En*Vantage cautioned that the outlook for ethane remains depressed for the immediate future. "As ethane rejection diminishes and new ethane extraction comes online it is very possible that ethane supplies

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / February 28, 2013	
Gas Hub Name	Current Price
Carthage, TX	3.46
Katy Hub, TX	3.45
Waha Hub, TX	3.41
Henry Hub, LA	3.50
Perryville, LA	3.48
Houston Ship Channel	3.45
Agua Dulce, TX	3.59
Opal Hub, Wyo.	3.44
Blance Hub, NM	3.40
Cheyenne Hub, Wyo.	3.47
Chicago Hub	3.64
Ellisburg NE Hub	3.58
New York Hub	3.73
AECO, Alberta	3.11

Source: Bloomberg

will overwhelm the market again unless the ethylene industry maximizes ethane cracking and operates at 95% of capacity," the company said in its Weekly Energy Report for February 28.

Propane prices rose 1% at both hubs for the week as the Mont Belvieu price increased to 90¢/gal and the Conway price improved to 83¢/gal. The Texas price was the highest it has been since the final week of 2012, when it was 88¢/gal. The Kansas price was its highest since the final week of October, when it was 84¢/gal. Prices are being supported by a diminished storage overhang in the Gulf Coast.

Natural gas storage levels have also been getting worked off for the past month as heating demand remains strong. According to the EIA,

RESIN PRICES – MARKET UPDATE – FEBRUARY 28, 2013

TOTAL OFFERS: 18,398,764 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
PP Copolymer - Inj	3,208,000	0.72	0.83	0.77	0.81
PP Homopolymer - Inj	2,789,288	0.65	0.85	0.75	0.79
HDPE - Blow Mold	2,184,576	0.65	0.71	0.635	0.675
LDPE - Inj	2,140,208	0.68	0.78	0.71	0.75
LLDPE - Film	1,637,380	0.69	0.79	0.65	0.69
LLDPE - Inj	1,608,276	0.66	0.75	0.67	0.71
HDPE - Inj	1,608,184	0.66	0.7	0.65	0.69
LDPE - Film	1,562,116	0.71	0.8	0.72	0.76
GPPS	570,000	0.94	0.99	0.9	0.95
HIPS	548,000	1.06	1.07	1.02	1.07
HMWPE - Film	542,736	0.67	0.73	0.67	0.71

Source: Plastics Exchange – www.theplasticsexchange.com

natural gas in storage for the week of February 22 dropped 171 billion cubic feet to 2.229 trillion cubic feet (Tcf) from 2.4 Tcf the previous week. This was 12% lower than the storage level of 2.536 Tcf reported last year at the same time and 16% greater than the five-year average of 1.921 Tcf.

These storage levels helped to increase natural gas prices as the Mont Belvieu price rose 6% to \$6.25 per million Btu (MMBtu) while the Conway price increased 7% to \$3.49/MMBtu.

Stronger natural gas prices combined with weaker overall NGL prices resulted in the theoretical NGL bbl. price dropping at both hubs. The Conway price dropped 2% to \$41.67/bbl. with a 5% drop in margin to \$28.92/bbl. The Mont Belvieu also fell 2% to \$42.65/bbl. with a 5% drop in margin to \$30.23/bbl.

The weaker market for NGLs saw frac spread margins drop across the board at both hubs. However, the most valuable NGL to make remained C₅₊ at \$1.91/gal at Conway and \$1.94/gal at Mont Belvieu. This was followed, in order, by isobutane at \$1.28/gal at Mont Belvieu and \$1.25/gal at Conway; butane at \$1.17/gal at Mont Belvieu and \$1.23/gal at Conway; propane at 51¢/gal at Mont Belvieu and 56¢/gal at Conway; and ethane at 1¢/gal at Conway and 4¢/gal at Mont Belvieu.

The National Weather Service's forecast for this week should cause heating demand to remain stable in much of the country as it anticipates colder-than-normal temperatures along the East Coast running into the Deep South as well as parts of the Midwest and Gulf Coast. The forecast is calling for warmer-than-normal temperatures in New England and the Southwest.

PROCESSING TRENDS | An Inside Look

Energy Minister Says Alberta Must Move Oil, Gas To Market

BY **DARREN BARBEE** | HART ENERGY

Alberta and Minister of Energy Ken Hughes are looking for a way out: boats, trains or, with luck, the Keystone XL pipeline.

The country has a stockpile of resources, including more than 170 billion barrels (bbl.) of proven oil at the start of 2012 and the third-largest reserves in the world after Saudi Arabia and Venezuela. It's the world's third-largest natural gas producer.

It just needs a way to get those resources to market, Hughes said.

The problem for Canada is that its biggest customer—the United States—is no longer as reliant on its oil and gas, Hughes said February 26 to open Hart Energy's DUG Canada conference.

"If you look at where we are today in Alberta, we've been well served by having one client, one customer in the United States of America. Exceedingly well served," Hughes said.

But, thanks to technology and the shale oil and gas revolution, U.S. capacity has changed that arrangement.

"Everybody knew that that was possible, but not everyone was predicting how quickly that would happen or what an impact that would have on the continental crude market," Hughes said.

In 2011, Canada accounted for about 25% of U.S. oil imports, or 2.2 million bbl. per day of crude oil. However, the United States exported 250,000 bbl. of oil per day, a more meaningful volume of petroleum products, according to the U.S. Energy Information Administration.

"With that growth of that capacity, we actually now have to be very determined to get to other markets," Hughes said. "It's no surprise that getting to global markets means getting our production onto tidewater. As long as we're on tidewater, we get world price or close to it."

Pricing is a key matter for Canadian oil, WCS, which gets a lower price than WTI and Brent. Estimates vary, but the cost to the Canadian economy is in the billions.

Hughes said Alberta has a talented young workforce, access to global capital markets and a tremendous supply of resources.

"We have all the challenges anybody else in the rest of the world would love to have," he said. "Our greatest challenge is the fact that we actually have a challenge getting our stuff to market."



CONSTRUCTION NEEDED | To fully realize its energy potential, Canada needs additional oil transportation capacity to be built, Alberta's Minister of Energy Ken Hughes said at DUG Canada 2013.

Hughes said the government is exploring every opportunity. For instance, five years ago, no one would have thought trains would be used to move huge volumes of oil around the continent. Such transport is more costly and less safe than pipelines.

But last year, trains shipped 600,000 bbl. a day out of the Bakken. In Canada, 150,000 bbl. a day moves by train, Hughes said.

"One of the really interesting developments is when there's spread like there is today on the price of oil, the natural forces of the market are remarkably responsive," he said. "When arbitrage opportunity is there, people take advantage of it."

"We're working on every possible angle," Hughes said. "We will do what it takes to make sure we have a market for our products."

Alberta is also keen to add value to products in Canada, which Hughes sees as an important part of gaining access to the global market.

"The province needs to be ready to step up, create the circumstances for the industry to be successful," he said.

The Keystone XL pipeline would alleviate some pressure on the Canada within the next couple of years. But Hughes said he's taking nothing for granted.

"I remain cautiously optimistic, but we have much work to do to make sure that happens," he said.

Alberta Premier Alison Redford recently traveled to Washington to promote the Keystone pipeline and

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PROCESSING TRENDS | An Inside Look

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Alberta's commitment to cracking down on carbon emissions. Alberta is one of the few jurisdictions in North American that has a carbon tax, Hughes said.

He said Alberta needs social license — the good will of Canadians and the rest of the world — to allow industry to work.

“If we don't have that social license we start running into roadblocks and we start running into people who would stop us from trying to conduct the business we conduct,” he said. “As an industry, the energy industry needs to be prepared to step up, and if there are challenges out there we need to address them.”

Fracing is a great example, Hughes said.

“There's a lot of misinformation out there” he said. “What we need to do, those of us who actually understand that technology, is ensure that we're out there in the competition of ideas: online, working with people, making sure that people can't misinform great swaths of the citizenry.”

CMD Acquisition To Power Access Midstream Growth

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

Access Midstream Partners completed a major move toward greater diversity as 2012 came to close when it completed its acquisition of the Chesapeake Midstream Development (CMD) natural gas processing, fractionation and natural gas liquids (NGL) pipelines from its former general partner Chesapeake Energy for \$2.16 billion.

The agreement brought in assets from the Eagle Ford, Utica and Niobrara that are well-known to executives at Access Midstream, which was previously known as Chesapeake Midstream Partners. “This acquisition allows our very talented midstream organization to remain together,” Mike Stice, Access Midstream's chief executive, said during a conference call on February 20 to discuss fourth-quarter 2012 earnings.

“A critical aspect of this acquisition was that the assets came with long-term, market-based, cost of service contract structures consistent with the existing assets in our portfolio. This 100% fee-based structure provides protection for capital, inflation, and re-

contracting risks, resulting in highly visible and predictable cash flow over the 10 to 20-year contract terms,” he added.

The addition of these assets are expected to result in a total earnings of \$800 million to \$850 million in 2013 and 2014 for the company as well as \$1.6 billion to \$1.7 billion in 2013 growth capital. Stice said that much of this growth capital will be utilized in the Eagle Ford and other liquids-rich portions of the country.

The company has 478 wells waiting to be connected to its pipelines with 257 in the Marcellus. Access Midstream anticipates exiting the year with 50 to 60 wells being added in the play. Marcellus wells waiting to be connected are followed by wells in the Eagle Ford at 109 and the Utica at 68.

“As you can imagine, WOPLs (waiting on the pipeline) are being added every day in the liquids-rich plays and they are being declined in any areas where there is dry-gas play. So we are catching up and making progress in the dry-gas areas where there's WOPL inventory, and we are still being outpaced by the upstream producers in the liquids-rich areas,” Stice said.

The agreement also involved the addition of a new corporate sponsor for Access Midstream as Williams acquired 50% of its general partner along with 34.5 million limited partner units in Access Midstream from Global Infrastructure Partners.

“Williams brings midstream operational and asset development capabilities as well as deep expertise across the midstream value chain, which complement our already strong business. We now have two great sponsors who have substantial commitment to Access and a strong belief in our assets, our business model and our people,” Stice said.

U.S. Refiners Will Continue To Benefit From Domestic Crude

BY **KRISTIE SOTOLONGO** | HART ENERGY

U.S. crude markets are evolving in ways thought impossible a decade ago and highly unlikely just a few years ago.

The use of hydraulic fracturing and horizontal drilling, which revolutionized the natural-gas sector by enabling commercial production of shale gas, is now making its mark on U.S. oil output.

Rising shale-oil production is offering U.S. Gulf Coast and Midcontinent refiners access to more

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domestic supplies of light, sweet crude. That output is displacing imports of light, sweet grades from across the Atlantic and depressing the price of domestic marker grades West Texas Intermediate and Louisiana Light Sweet relative to North Sea benchmarks.

More specifically, U.S. crude production is at a 14-year high of 6.39 million barrels (bbl.) per day, and with Canadian domestic imports at record levels, U.S. refiners purchased 594,000 b/d less trans-Atlantic crudes from November 2011 to November 2012, according to Rodrigo Favela, executive director for refining, planning and evaluation at Hart Energy.

At the same time, U.S. refiners continue to enjoy cost advantages over their global counterparts to the extent that U.S. refined-product exports — and eventually, crude-oil exports — will grow significantly, he said.

Speaking at a Hart Energy breakfast event in February, Favela said global refined-product demand is expected to grow 33% in the next two decades — driven by growing need in developing countries — and transportation fuels like diesel and gasoline will represent nearly 60% of that total.

The Asia-Pacific region will overwhelmingly dominate global oil-demand growth. Strong demand growth will be seen throughout the region — driven largely by China and India — while Japan will experience a decline, Favela said.

“Unconventional gas and crude will foster U.S. refineries competitiveness in the Atlantic Basin — affecting the European refining industry and possibly some Latin American refining projects — and new opportunities will arise for petrochemicals based on condensates for the region,” he said. “U.S. refiners will see between a \$2-per-barrel (/bbl.) and \$3/bbl. advantage over other regions.”

Offering similar predictions, Roland Moreau, manager of safety, security, health and environment for ExxonMobil Corp.’s upstream research division, said between now and 2040, total energy consumption will also be driven by developing countries.

Citing ExxonMobil’s Outlook for Energy — released in December 2012 — Moreau told breakfast attendees that world energy demand will require 85% more electricity by 2040 than it used in 2010, with increasing reliance on natural gas and nuclear power.

“Good news for everyone in the room,” he said. “Oil and gas and coal aren’t going away.”

Under the current trajectory, ExxonMobil expects North America to become a net exporter of energy by 2025, with natural gas leading the way and the continent producing more oil than it uses by 2030. Some of that energy would come from Canada, including bitumen harvested from the oil sands around Alberta, Moreau said.

ExxonMobil’s export prediction dovetails with similar forecasts by the International Energy Administration, the U.S. Energy Information Administration and other organizations.

“The Outlook forecast provides a window to the future, a view that we use to help guide our own strategies and investments. Over the next five years, ExxonMobil expects to invest about \$185 billion in energy projects,” he said. “Given the magnitude of our investments, it’s critical that we take an objective and data-driven approach to ensure that we have the most accurate picture of energy trends.”

Looking to the future, energy sources currently considered “unconventional” are rapidly becoming conventional, thanks to the technologies available to produce them, giving them an increasingly significant role in the global energy mix, Moreau said.

“Oil will remain the largest single source of energy to 2040, growing around 25%,” he added. “But the most significant shift in the energy mix occurs as natural gas displaces coal as the second-largest fuel by 2025. Gas will grow faster than any other major fuel source, with demand up 65% by 2040.”

Although gasoline demand will continue to erode in the U.S. and Europe, demand for diesel is expected to rise slightly in the U.S. — and significantly in Latin America, according to Favela.

Brazil and Mexico currently account for 60% of the total petroleum-fuels demand in Latin America.

“We expect to see declining gasoline demand in the U.S. and Europe because of transportation efficiency standards, ethanol growth and the dieselization of vehicle fleets,” he said.

In Brazil, Petróleo Brasileiro S.A. (Petrobras) dominates in refinery-capacity expansions, with plans to add nearly 3.2 million b/d of crude capacity by 2020. But the shifting crude-oil landscape in North America could change all that, he said.

“There already have been a number of projects that were delayed, and we expect further delays,” Favela said. “The jury is still out on where they will end up.”

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PIPELINES & TRANSPORTATION | Developments

Magellan To Acquire 800 Miles Of Refined-Product Pipelines

BY **KRISTIE SOTOLONGO** | HART ENERGY

Magellan Midstream Partners LP agreed to buy about 800 miles of refined-product pipelines and related assets in the Rocky Mountain and New Mexico areas from Plains All American LP for \$190 million.

According to a Magellan announcement, the transaction is expected to close in the second quarter.

“This acquisition utilizes Magellan’s expertise in transporting and storing petroleum products,” Magellan Midstream CEO Michael Mears was quoted as saying. “These pipelines are a natural extension of our existing refined-products distribution system and provide new markets for Magellan to serve.”

The Rocky Mountain system includes 550 miles of common-carrier pipeline that delivers refined products in Colorado, South Dakota and Wyoming. The system includes four terminals with a combined storage capacity of nearly 1.7 million barrels, according to the announcement.

The 250-mile New Mexico pipeline system delivers refined petroleum products from El Paso, Texas, to Albuquerque, N.M., and Juarez, Mexico.

Magellan said it expects the acquisition to immediately add to distributable cash flow per unit, with the potential for additional growth in cash flow from the assets over time. It will pay for the deal with cash on hand and borrowings under its revolving credit facility, if necessary.

Magellan primarily transports, stores and distributes petroleum products. It owns the longest refined petroleum-products pipeline system in the country, with access to more than 40% of the nation’s refining capacity.

Plains transports, stores and markets crude oil and refined products, as well as natural-gas liquids.

Kinder Morgan Invests In New Crude-By-Rail Project

BUSINESS WIRE

Kinder Morgan Energy Partners LP announced KW Express LLC, a partnership between KMP and Watco Companies LLC, has en-

tered into a long-term agreement with Mercuria Energy Trading Company Inc., to construct a 210,000 barrel (bbl.) per day crude by rail project at the Greens Port Industrial Park on the Houston Ship Channel. The project will allow Mercuria Energy Trading Inc. to source crude from various origination locations including Cushing, Oklahoma, West Texas, the Bakken shale area and western Canada for delivery by rail into the Houston Ship Channel for distribution to various refiners via pipeline and barges. The facility will have the capability to unload and load up to three unit trains per day of crude oil and condensate as well as provide for up to 100,000 bbl. per day of barge loading capacity. KW Express will own 85% of the project and, together with Watco, construct and operate the project once completed. Mercuria will own the remaining 15% interest of the project.

“This will be the first major crude by rail destination facility in the Houston area with the ability to deliver into the largest refining complex in the world,” John Schlosser, Kinder Morgan Terminals president, said in a release. “It will provide U.S. and Canadian producers much needed market access and optionality to deliver their crude oil production.”

Shell Announces Open Season For Ho-Ho Reversal Project

Shell Pipeline announced the start of a limited supplemental binding open season for additional firm capacity commitments on the Houma-to-Houston pipeline system reversal project (Ho-Ho Reversal). The limited supplemental open season will offer contract transportation rates for the route from Houston to St. James/Clovelly, Louisiana.

Shell Pipeline’s Ho-Ho reversal project will provide west-to-east pipeline access to additional crudes across the 300 miles of the U.S. Gulf of Mexico refining complex. Those crudes include the domestic crude oil production increases in Texas and the Midcontinent, including the Permian, Eagle Ford, and Bakken shale plays, as well as the growing crude supplies in the Cushing, Oklahoma area.

Additionally, the Ho-Ho reversal project will complement the new pipeline infrastructure that is currently being built to the Houston and Nederland areas.

PIPELINES & TRANSPORTATION | Developments

During the 30-day limited supplemental binding open season period interested shippers will have an opportunity to submit a binding bid for firm capacity from Houston to St. James/Clovelly on the Ho-Ho reversal. Incremental firm capacity of 75,000 barrels (bbl.) per day will be offered, contingent upon receiving sufficient bids in the limited supplemental Open Season to support the installation of additional pumping capacity.

The initial phase of the Ho-Ho reversal was completed in January with deliveries of crude oil being moved from connecting pipelines and terminals in East Houston to Nederland / Port Arthur area. Shell Pipeline continues construction work on the next phase that would enable crude originating in the Houston and Port Arthur area to be accessible to Louisiana markets.

Once completed, the Ho-Ho reversal project would reverse the existing Ho-Ho service to connect the Houston and Port Arthur, Texas markets with the Louisiana markets. The Ho-Ho reversal could enable the distribution of approximately 300,000 bbl. per day of crude across the region depending upon crudes types shipped.

Cheniere Provides Updates On Sabine Pass, LNG Export Projects



CLOSER TO REALITY | Cheniere anticipates that it will begin shipping LNG from Sabine Pass in 2015 and to have cost estimates for its Corpus Christi terminal later this year.

Cheniere Energy provided an update on its liquefaction projects. The Sabine Pass Liquefaction Project, which is being developed for up to six natural gas liquefaction trains, each with a nominal production capacity of approximately 4.5 million tons per year.

Trains 1 and 2 of the Sabine Pass, which will cost a combined \$5.7 billion, have received all necessary approvals from the Federal Energy Regulatory Commission (FERC) and Department of Energy (DOE). As for December 31, 2012, the overall project for these trains was approximately 18% complete with an estimated completion date being ahead of the contractual schedule for guaranteed substantial completion. The company anticipates that train 1 will achieve initial liquefied natural gas (LNG) production in late 2015.

Sabine Pass' trains 3 and 4 have also received all FERC and DOE approval and are awaiting sufficient financial commitments for construction. Once this funding is obtained, the company anticipates beginning construction in 2013. Cheniere Energy began developing the terminal's fifth and sixth trains after reaching an agreement with Total for send-out capacity of approximately 2 million tons per year on train 5. The company anticipates receiving regulatory approvals in the first-half of 2013.

As currently contemplated, the Corpus Christi liquefaction project is being designed for up to three LNG trains with an aggregate peak capacity of approximately 15 million tons per year. Cheniere has engaged Bechtel to complete front-end engineering and design work and expect to have cost estimates in the second half of 2013.

In August 2012, we filed applications with the FERC for authorization to site, construct and operate the Corpus Christi project and with the DOE requesting multi-contract authorization to export up to 767 billion cubic feet per year of LNG from the facility to any non-FTA countries. In October 2012, the DOE granted the company authority to export approximately 15 million tons per year of domestically produced LNG to FTA countries from Corpus Christi.

Midstream Partners To Acquire Pipeline Assets From PAA

Midstream Partners LP announced an agreement with Plains All American Pipeline LP (PAA) to acquire 800 miles of non-core refined product pipelines and related assets in the Rocky Mountain and New Mexico areas to Magellan for approximately \$190 million.

The transaction includes a pipeline system that delivers refined products throughout Wyoming, South Dakota and Colorado and associated tankage, as well as a pipeline system that delivers refined products from El Paso, Texas to Albuquerque, New Mexico and Juarez, Mexico.

PIPELINES & TRANSPORTATION | Developments

The acquisition is expected to close in the second quarter of 2013 subject to regulatory approvals. Management expects to fund the acquisition with cash on hand and borrowings under its revolving credit facility, if necessary.

NET Midstream Announces Pipeline System To Mexico

NET Midstream announced that NET Mexico Pipeline LP, a wholly owned subsidiary of NET, will build a 124-mile, 42" diameter natural gas pipeline system to the Texas / Mexico border, with associated compression. NET Mexico will be anchored by a long term firm gas transportation agreement, for up to 2.1 billion cubic feet per day, with MGI Supply Ltd., an indirect wholly owned subsidiary of Pemex Gas y Petroquímica Básica, the Mexican state-owned gas company.

NET Mexico will transport gas from the Agua Dulce Hub in Nueces County, Texas to a point near Rio Grande City, Texas in Starr County. The pipeline will be placed into service in December 2014.

In addition to NET Mexico, the company operates three pipeline systems in the Eagle Ford shale. Eagle Ford Midstream is a 150-mile, predominantly 30" intrastate natural gas pipeline that provides gas transmission for the Brasada processing plant in LaSalle County (operated by Western Gas Partners), and transports pipeline-quality gas from producers in the Eagle Ford shale to the Agua Dulce Hub. LaSalle Pipeline is a 52-mile, 16" pipeline which provides the full gas supply requirements for a 200 MW power generation facility located in Pearsall, Texas. South Shore Pipeline is a 30-mile pipeline that serves the City of Corpus Christi under a long-term gas supply and transportation contract.

PTP Signs Commercial Agreement For PTP Project

Pacific Trail Pipelines Limited Partnership (PTP LP), the First Nations Group Limited Partnership (FNLP), and the Province of British Columbia announced a revised benefits agreement for the proposed 463-kilometer Pacific Trail Pipeline Project (PTP project) that will ensure The First Nations, various Aboriginal peoples

in Canada who are neither Inuit nor Métis, receive immediate and long-term benefits from the PTP Project.

The agreement between PTP LP and FNLP provides up to \$200 million in financial benefits over the life of the PTP Project to the FNLP First Nations whose traditional territories are located along the proposed PTP pipeline route. In addition, the agreement will also provide substantial business and training opportunities for these First Nations.

The following 15 First Nations are limited partners in FNLP: the Haisla Nation, Kitselas First Nation, Lax Kw'alaams Band, Lheidli T'enneh First Nation, McLeod Lake Indian Band, Metlakatla First Nation, Nadleh Whut'en First Nation, Nak'azdli Band, Nee Tahi Buhn Indian Band, Saik'uz First Nation, Skin Tyee First Nation, Stelat'en First Nation, Ts'il Kaz Koh First Nation, West Moberly First Nations and Wet'suwet'en First Nation.

The PTP Project is a proposed 463-kilometer pipeline that will carry natural gas from Summit Lake, 55 kilometers north of Prince George, to the proposed Kitimat LNG facility on B.C.'s north coast.

PTP LP is made up of the same two partners that comprise the Kitimat LNG project – Apache Canada Ltd. and Chevron Canada Limited.

IIR: Pipeline Conversions Improve U.S. Gulf Coast Access For Liquids

North American pipeline companies are capitalizing on the simpler and less work-intensive nature of pipeline conversions as existing pipe infrastructure is increasingly converted to ship different products, depending on the market conditions of the day, rather than building new, according to Industrial Info Resources, a provider of global market intelligence specializing in the industrial process, heavy manufacturing and energy markets.

Most notably, IIR said, today's pipeline conversions focus on converting former natural gas pipelines to crude oil, in order to ship that crude to the refining hub of the Gulf Coast. There are two common threads among the major conversion projects that are taking place: they provide improved access to crude oil stores that would otherwise be under-accessible, and they have a tendency to avoid the crude oil hub at Cushing, Oklahoma.

SNAPSHOT | Industry Insight

China's Shale Gas Quest Poised For Take-off

BY **STEVE HAMLEN** | SPECIAL TO HART ENERGY

In January this year, China's Ministry of Land and Resources (MLR) handed out exploration rights for 19 shale gas blocks to 16 companies, after its licensing round generated 152 bids from 83 companies.

The winners included six state-owned companies and two private firms. Companies with power and coal interests made up more than half of the winners, said the MLR. The other eight winners were affiliated with local governments looking to capitalize on a potential shale boom in China. Out of the 32 non-state owned players that submitted bids, only two won acreage.

The MLR added that it expects the winners to invest \$2.06 billion in total in developing the shale blocks, most of which lie in south-central and southwest China.

No blocks were awarded to foreign-financed joint ventures or national oil companies (NOCs).

Why would a country with shale gas reserves estimated at 1,275 trillion cubic feet (Tcf) by the U.S. Energy Information Administration (EIA) — by far the largest in the world — receive such little foreign interest?

The answer lies in the very tough challenges arising from complex geology, difficult terrain, a lack of domestically available technology and expertise, limited pipelines and related infrastructure around remote shale deposits, and the need to divert huge quantities of water for hydraulic fracturing (fracing).

Production plans

Although shale gas is still in the exploration phase, state-owned Sinopec plans to start commercial production this year and hopes to achieve significant output by 2015.

The Chinese government has set targets to produce 229.45 billion cubic feet (Bcf) a year by 2015, and 2.12-3.53 Tcf by 2020 from the 19 blocks it awarded. The 2020 target would represent around 6% of all of China's energy.

Part of this strategy to boost output is to offer subsidies to operators looking to develop the country's shale reserves, according to the Ministry of Finance. The government will offer a subsidy of US \$0.06 per



COMPLICATED RESERVES | Shale gas deposits in China are generally located in mountainous, rocky, desert regions.

cubic meter (35.3 cu ft). China currently provides a \$0.03 per cubic meter subsidy for coalbed methane.

The shale subsidy could cut production costs by between 20% and 30% for the key blocks targeted in China's five-year shale gas plan, according to some analysts.

Physical challenges

With the government trying to address issues such as licensing, legislation, and incentives, the other challenges of a more physical nature cannot be overcome by policies alone.

Shale gas deposits in China are generally located in mountainous, rocky, desert regions. Combined, the location with the reserves being buried deep below these terrains in complex geological systems, and the result is a serious technical puzzle that only money and technology can begin to tackle.

Getting heavy equipment to such locations and installing it ready for operation will remain a complicated and expensive process. But — if the reserves are large enough technology and determination can overcome those obstacles.

Water demand

Most of the potential shale gas in China is also found in arid areas, and fracing needs a lot of water.

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LEAD STORY | From The FrontContinued from
Page 1

“Strong system utilization and strong North American crude oil supply fundamentals support our plans to expand our systems,” he said. Throughout 2012, Enbridge announced a series of complementary infrastructure projects at a cost of \$7.3 billion that are designed to alleviate market disruptions by 2016.

Maki stated that in 2012 there were more disruptions than normal, which resulted in large price discrepancies across regions and caused rail transportation to increase. “These liquid expansion projects are underpinned by long-term, low-risk commercial frameworks that will provide a sustainable and predictable stream of cash flow to our partnership and unitholders.”

These projects include the \$2.5 billion Sandpiper Pipeline that will transport up to 225,000 bbl. per day of crude from North Dakota to the Enbridge Mainline system when it comes online in early 2016; along with three expansions of the Mainline itself that will cost an aggregate of \$2.4 billion that will be brought online between 2015 and 2016; and \$2.4 billion in three separate expansions dubbed the Eastern Access project that will transport crude from the Mainline system to refineries in Sarnia, Canada and Chicago.

Enbridge’s expansion programs are designed to unlock the Gulf Coast, East Coast and Midwest markets that have traditionally been served by foreign imports to new domestic production. These projects include acquisitions, reversals and expansions of pipelines.

Maki said that Bakken production growth has filled the declining demand for light oil in the Midcontinent and overwhelmed outbound pipe capacity, resulting in increased rail transport

capacity and demand out of the play. As companies such as Enbridge bring more pipe capacity online to these markets, rail transportation capacity will be shifted to focus on supplying markets, such as the West Coast, which cannot be economically accessed by pipeline.

“We believe the current environment of historically wide crude oil price differentials will be alleviated, as we will be able to deliver substantial incremental volumes in crude oil to new markets. The cost to access those markets by pipe, if the infrastructure were available, will be less than \$10 per barrel,” he said.

“Pipelines can live on a far lower sustaining differential than rail can,” added Steve Wuori, president of Enbridge’s liquids pipelines division. “The wild differentials that are so attractive today, particularly out of the Bakken by rail, will inevitably close due to greater supply into those markets.”

However, despite strong economics supporting the development of North American crude oil, Enbridge felt the negative effects of declining natural gas liquids (NGL) prices in 2012. Maki said that these declines were the main reason for the company’s underperformance in 2012. “These headwinds are expected to persist for the near-term and likely throughout 2013. With that said, our natural gas assets are well positioned to grow as natural and NGL prices recover.” The company posted adjusted earnings of \$1.14 billion for the fiscal year, which was at the midpoint of its guidance levels due to the downturn in prices.

Steve Neyland, Enbridge’s vice president, finance and principal financial officer, said that the company anticipates adjusted earnings to increase to between \$1.25 billion and \$1.35 billion.

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, Kristie Sotolongo

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