HARTENERGY

MIDSTREAM Monitor

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Midstream drives second-quarter deal values

Private equity continues at a brisk pace, according to PwC report

BY **MIKE MADERE** | HART ENERGY

During the past two years, M&A deal value in the U.S. oil and gas industry has mostly been driven by shale transactions in the upstream sector. But during the second quarter of 2012, that trend dissolved as midstream deals sizzled, according to a report by PwC US.

Midstream gathering and processing deals accounted for $15.8 billion, or about 55% of total domestic deal value, in the second quarter of 2012. When compared with the same period last year, midstream deals increased by 200%, according to the PwC report, which was released on July 26. Furthermore, three of the five biggest oil and gas deals in second-quarter 2012 were midstream-focused.

"The second quarter experienced a softening of oil prices and, combined with the continued lows of natural gas prices and the global economic uncertainty, many oil and gas companies started to pull back from new investments in the upstream sector," said Rick Roberge, principal in PwC's energy M&A practice.

"Dealmakers put their capital to work in the midstream sector, where they focused on building out the infrastructure to transport, process and store the oil and natural gas extracted from shale plays they previously acquired. We believe that this infrastructure-related build-out will continue to be a focus for the remainder of 2012 and into 2013."

A NEW FOCUS | In second-quarter 2012, the M&A spotlight was no longer on upstream deals. Midstream became the new darling of dealmakers.

For the three-month period that ended on June 30, 2012, total deal value for oil and gas transactions that were greater than $50 million reached $28.5 billion. That compares to $23.1 billion during the same period in 2011.

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HIGHLIGHTS FROM TODAY'S EDITION

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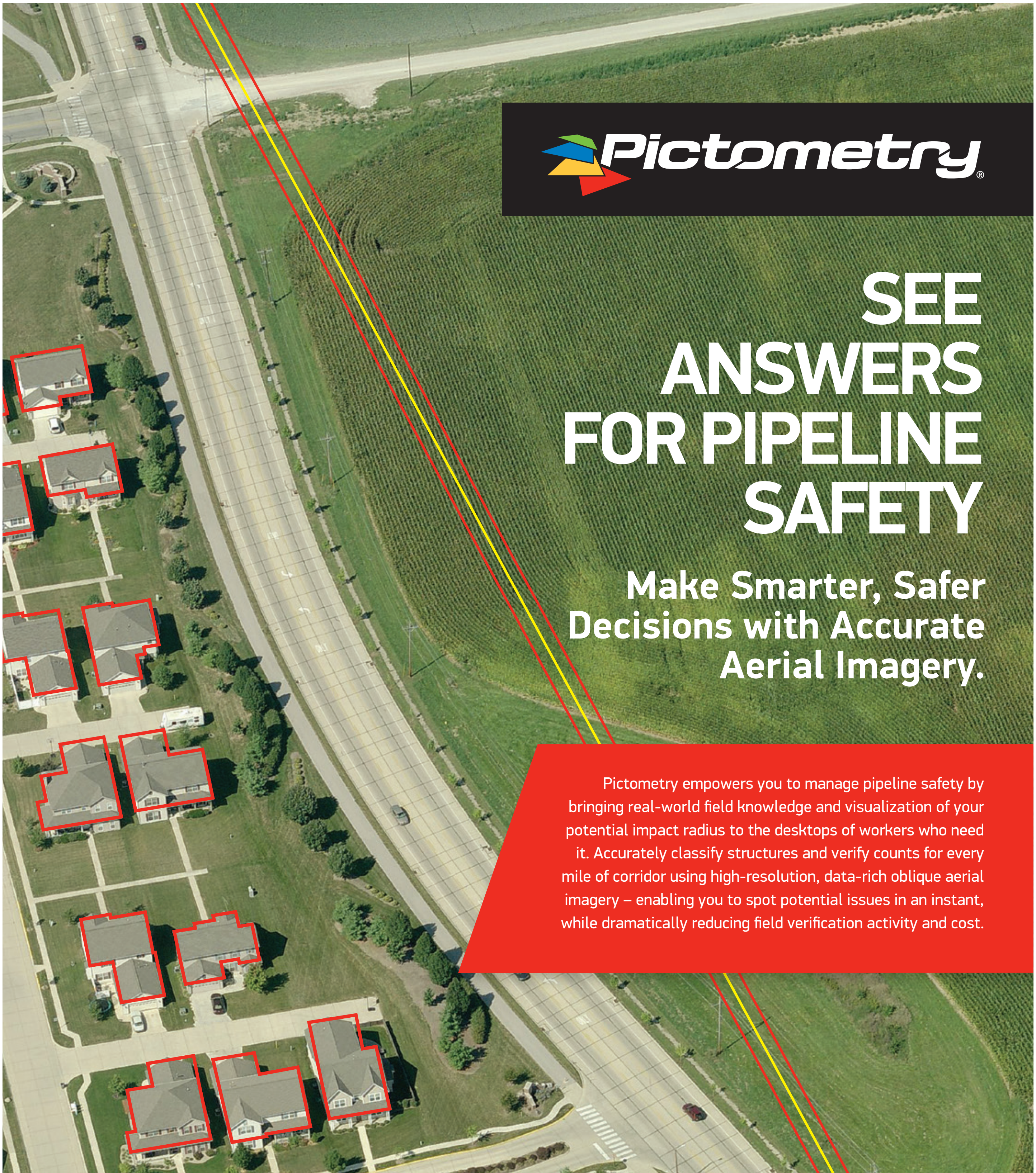

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NGLs continue positive trend as ethane, propane still struggle

BY **MICHELLE THOMPSON** | ASSOCIATE EDITOR, MIDSTREAM BUSINESS

Natural gas liquid (NGL) prices took a unanimous step in a positive direction this week, continuing a month-long trend of improvement. However, Conway ethane continues to struggle as it hangs onto a theoretically negative margin.

The market continues to battle with a supply surplus of both ethane and propane, an unusual set of circumstances in the world of feedstocks.

CURRENT FRAC SPREAD (CENTS/GAL)

July 27, 2012	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	10.08		36.82	
Shrink	19.49		20.02	
Margin	-9.41	15.33%	16.80	26.04%
Propane	60.32		92.44	
Shrink	26.93		27.66	
Margin	33.39	2.13%	64.78	4.19%
Normal Butane	108.68		138.74	
Shrink	30.49		31.32	
Margin	78.19	7.71%	107.42	6.04%
Iso-Butane	147.38		158.16	
Shrink	29.28		30.08	
Margin	118.10	2.24%	128.08	8.31%
Pentane+	188.31		192.16	
Shrink	32.60		33.49	
Margin	155.71	2.32%	158.67	2.78%
NGL $/Bbl	31.26	6.87%	41.22	7.04%
Shrink	10.74		11.03	
Margin	20.52	5.06%	30.19	6.06%
Gas ($/mmBtu)	2.94	10.53%	3.02	9.82%
Gross Bbl Margin (in cents/gal)	45.53	4.92%	69.39	6.12%
NGL Value in $/mmBtu				
Ethane	0.55	54.60%	2.03	16.67%
Propane	2.09	5.71%	3.21	5.82%
Normal Butane	1.17	8.48%	1.50	6.87%
Iso-Butane	0.92	3.79%	0.98	8.60%
Pentane+	2.43	3.65%	2.48	3.94%
Total Barrel Valuein $/mmbtu	7.17	7.82%	10.20	7.76%
Margin	4.23	6.02%	7.18	6.91%

NGL PRICES

Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
July 18-24, '12	36.82	92.44	138.74	158.16	192.16	$41.22
July 11 - 17, '12	31.56	87.36	129.82	145.64	184.88	$38.51
July 4 - 10, '12	28.20	81.95	127.42	143.75	181.30	$36.93
June 27 - July 3, '12	27.43	80.66	120.40	135.62	171.14	$35.38
June 20 - 26, '12	27.71	80.70	116.42	135.28	160.08	$34.46
June '12	28.19	78.11	127.86	141.05	169.28	$35.60
May '12	37.89	95.11	162.91	179.74	209.64	$44.73
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
4th Qtr '11	84.49	144.13	188.16	227.18	224.44	$61.34
3rd Qtr '11	76.03	153.87	188.27	208.52	237.59	$61.59
Conway, Group 140	**Eth**	**Pro**	**Norm**	**Iso**	**Pen+**	**NGL Bbl**
July 18 - 24, '12	10.08	60.32	108.68	147.38	188.31	$31.26
July 11 - 17, '12	6.52	57.06	100.18	142.00	181.68	$29.25
July 4 - 10, '12	2.25	51.68	95.95	139.50	178.88	$27.43
June 27 - July 3, '12	4.58	52.68	91.38	131.08	171.90	$26.99
June 20 - 26, '12	4.82	52.88	91.05	125.95	167.00	$26.57
June '12	7.20	53.58	106.56	131.70	173.06	$28.42
May '12	11.85	72.43	138.80	163.54	202.23	$35.94
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
4th Qtr '11	34.29	129.43	160.82	204.27	196.08	$48.23
3rd Qtr '11	46.69	143.07	166.30	199.68	210.98	$53.06

(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: Frank Nieto

Typically, when one feedstock is in tight supply, another is balanced, while a third is in surplus, said Daniel Lippe, founder of Petral Consulting Co.

"A primary function of ethylene producers is to increase their use of the feedstock in surplus and reduce their use of the feedstock in tight supply," Lippe wrote in an NGL analysis provided to Midstream Monitor.

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NGL PRICES & FRAC SPREAD | Week in Review

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"The current market circumstance is rare; ethane and propane are both in surplus supply," Lippe added. "Since these two feedstocks account for about 90% of U.S. ethylene production, the feedstock markets in Texas and Louisiana are experiencing a 'perfect storm' and fundamental influences on prices for both feedstocks are very bearish."

The bearish double whammy is expected to be tempered by increased sales of the cheapest feedstocks. As well, liquefied petroleum gas producers are expected to max out their purchases to take advantage of weak prices. The propane market can rid itself of surplus inventory if ethylene producers increase their use of propane and international buyers continue to maximize their purchases.

Meantime, gas plant production of ethane and propane in the U.S. has increased from 1.3 million barrels (bbl.) per day in 2007 to 1.53 million bbl. per day in 2011. During the first quarter of 2012, ethane and propane accounted for 72% of U.S. gas plant NGL production.

"However, the increase in production was not the root cause of the market's current supply surpluses of ethane and propane; instead, a slump in demand during the winter heating season (propane) and a slump in feedstock demand for ethane due to an extensive period of plant downtime for maintenance turnarounds (ethane) were the root causes," said Lippe.

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / July 26, 2012	
Gas Hub Name	**Current Price**
Carthage, TX	3.07
Katy Hub, TX	3.11
Waha Hub, TX	3.03
Henry Hub, LA	3.13
Perryville, LA	3.11
Houston Ship Channel	3.10
Agua Dulce, TX	1.88
Opal Hub, Wyo.	2.92
Blance Hub, NM	2.92
Cheyenne Hub, Wyo.	2.94
Chicago Hub	3.18
Ellisburg NE Hub	3.32
New York Hub	3.45
AECO, Alberta	2.44

Source: Bloomberg

Although feedstock demand for ethane has held steady for the past three years, demand has been slumping for the past five months because of ethylene plant turnarounds. This brought Gulf Coast storage levels to twice their January 2012 volume, and created a bearish influence on ethane prices in recent months, said Lippe.

"Ethane and propane markets are very intertwined by competing with each other in the ethylene feedstock markets in Texas and Louisiana," he said. "With both ethane and propane inventory levels at significant surpluses relative to historic norms, gas processing companies and NGL marketers in Mont Belvieu face a nearly perfect storm for the balance of 2012."

RESIN PRICES – MARKET UPDATE – JULY 19, 2012					
TOTAL OFFERS: 16,778,892 lbs		SPOT		CONTRACT	
Resin	**Total lbs**	**Low**	**High**	**Bid**	**Offer**
PP Copolymer - Inj	2,804,116	0.62	0.675	0.63	0.67
LDPE - Film	2,597,220	0.64	0.69	0.66	0.7
PP Homopolymer - Inj	2,386,012	0.62	0.72	0.615	0.655
LLDPE - Film	2,082,760	0.63	0.69	0.6	0.64
HDPE - Inj	2,010,460	0.65	0.68	0.59	0.63
HDPE - Blow Mold	1,467,656	0.61	0.665	0.59	0.63
HMWPE - Film	865,012	0.63	0.68	0.62	0.66
LDPE - Inj	807,288	0.63	0.69	0.66	0.7
LLDPE - Inj	746,368	0.65	0.7	0.63	0.67
HIPS	548,000	0.92	1.03	0.97	1.02
GPPS	464,000	0.93	0.94	0.85	0.9

Source: Plastics Exchange – www.theplasticsexchange.com

The theoretical NGL barrel price improved 5% to \$20.52/bbl at Conway and 6% to \$30.19 /bbl. at Mont Belvieu.

> "The current market circumstance is rare; ethane and propane are both in surplus supply."
> - Daniel Lippe, Petral Consulting Co.

The most profitable NGL to make at both hubs was C+ at \$1.56/gal at Conway and \$1.59/gal at Mt. Belvieu.

This was followed, in order, by isobutene at \$1.18/gal at Conway and \$1.28/gal at Mont Belvieu; butane at 78¢/gal and \$1.07/gal at Mont Belvieu; propane at 33¢ /gal at Conway and 65¢ /gal at Mont Belvieu; ethane at a theoretically negative margin at Conway and 17¢ at Mont Belvieu.

Natural gas storage the week ending July 20 rose 26 billion cubic feet (Bcf) above the week prior, according to EIA data. There was 3.189 trillion cubic feet of working gas in storage as of July 20. As well, stock was 487 Bcf higher year-over-year. They were 435 Bcf above the five-year average.

Crestwood announces acquisition of assets from Devon Energy

Crestwood Midstream Partners LP (Crestwood) has agreed to acquire gathering and processing assets from Devon Energy Corporation (Devon) in the southwestern area of Texas' Barnett Shale for $90 million, the company announced July 24.

According to the announcement, the assets from Devon consist of a 74-mile low-pressure natural gas gathering system, 100 million cubic feet per day (MMcf per day) cryogenic processing facility and 23,100 horsepower of compression equipment located in the western portion of Johnson County, Texas. Devon's West Johnson County pipeline system and processing plant are located immediately adjacent to Crestwood's Cowtown gathering system that includes two natural gas processing plants with a combined processing capacity of approximately 325 MMcf per day.

The transaction is expected to close in the third quarter and, upon closing, Crestwood said it expects to consolidate the systems to process all of Devon's West Johnson County natural gas production in Crestwood's Cowtown and Corvette processing plants.

Additionally, Crestwood announced it has entered into a 20-year gathering, processing and compression agreement with Devon that will provide for 100% fixed-fee based revenues to Crestwood and includes a dedicated production area from Devon of approximately 20,500 acres.

"The acquisition allows us to consolidate the two systems, optimize the available capacity in Crestwood's existing high-recovery cryogenic processing plants and provides long term benefits to Devon through lower wellhead pressures, higher NGL recoveries and expanded marketing options for their natural gas and NGL production," Robert G. Phillips, chairman, president and chief executive of Crestwood's general partner, said in the announcement. "The transaction is expected to be immediately accretive to Crestwood and allows us the option of leaving the West Johnson County plant in place to handle future production requirements or to move it to another rich gas region such as the Marcellus/Utica, Granite Wash or Avalon Shale plays."

Williams Companies Inc. to acquire interest in olefins-production facility

WILLIAMS ACQUISITION | Located south of Baton Rouge, La., the Geismar facility is a light-end natural gas liquid cracker with current volumes of 37,000 barrels (bbl) per day of ethane and 3,000 bbl. per day of propane, and annual production of 1.35 billion pounds of ethylene.

Williams Companies Inc. (WMB) is pursuing an agreement to acquire Williams Partners LP's (WPZ) 83.3% interest and operatorship of an olefins-production facility in Geismar, La., the companies announced June 23.

With an uncertain ethane market, the WMB expects the deal to bring more cash flow to the company.

"Adding the Geismar olefins-production facilities to Williams Partners' portfolio would immediately reduce the partnership's exposure to the ethane market by nearly 70 percent, and it would nearly eliminate it by 2014," Alan Armstrong, Williams Partners chief executive, said in a company statement. "The business is highly desirable because it would create greater consistency in our earnings and cash flows. It provides strong support of our plans for continued growth in the cash distributions we pay unit-holders."

Located south of Baton Rouge, La., the Geismar facility is a light-end natural gas liquid cracker with current volumes of 37,000 barrels (bbl) per day of ethane and 3,000 bbl. per day of propane, and annual pro-

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duction of 1.35 billion pounds of ethylene.

The partnership expects, with the benefit of a $350- to $400-million expansion under way and scheduled for completion by late 2013, that the facility's annual ethylene production capacity will grow by 600 million pounds to 1.95 billion pounds.

The company noted the ethane market might become unstable as demand infrastructure lags new supplies from shale-gas production. Ethylene demand is expected to remain strong as ethylene is expected to be significantly less expensive than crude-oil based feedstock.

WPZ would fund the transaction largely with the issuance of limited-partner units to WMB. WPZ owns 68% of WMB, including the general-partner interest.

Kinder Morgan Energy Partners reports second-quarter profit loss

Kinder Morgan Energy Partners (KMP) reported second-quarter net-income of $159 million, a 33% tumble from second-quarter 2011, due in large part to the company discontinuing certain operations in order to gain government approval for its $21 billion acquisition of El Paso Corp.

According to a quarterly earnings report released July 18, the company reported a second-quarter net income down from $232 million last year. This is the second consecutive quarter KMP has reported decline in net income.

> Despite the quarterly income loss, Kinder Morgan increased its cash distributions per unit to $1.23, up from $1.20 for the first quarter of 2012.

The company thinks the loss is directly related to "discontinued operations to fair value related to the KMP assets to be divested in order to obtain Federal Trade Commission (FTC) approval for Kinder Morgan Inc.'s acquisition of El Paso."

In May, KMP announced it "reached a verbal agreement with the FTC to sell Kinder Morgan Interstate Gas Transmission, Trailblazer Pipeline Company, its Casper-Douglas natural gas processing and West Frenchie Draw treating facilities in Wyoming, and the company's 50 % interest in the Rockies Express Pipeline."

The FTC gave Kinder six months to complete the transactions.

Despite the loss, Kinder Morgan increased its quarterly cash distributions per unit to $1.23 According to the company, "This represents a 7% increase over the second quarter 2011 cash distribution per unit ... and is up from $1.20 per unit for the first quarter of 2012."

Kinder Morgan's Chairman and Chief Executive, Richard T. Kinder, sees this increase as a direct result of the booming natural-gas industry. "Our CO2, natural gas pipelines and terminals business segments produced robust results," Kinder Morgan said in the statement.

"Looking ahead, we believe there are multiple growth opportunities across all of our businesses related to the natural gas shale plays, growing CO2 needs in West Texas for enhanced oil recovery, increasing demand for export coal and additional infrastructure requirements to transport products from the Canadian oil sands and to move and store natural gas liquids."

Joule Processing LLC adds three vice presidents to management team

Joule Processing LLC (Joule) has bolstered its executive team with the addition of three vice presidents to its management ranks.

Joining the natural gas processing, and treating solutions, company are Museeb Sharieff, Mike Redmond and William Gist. The hires were announced July 19.

Sharieff will serve as vice president of operations, while Redmond has been named the company's vice president of engineering. Gist is the company's new vice president of business development.

"The addition of these three highly accomplished and dynamic executives represent a long-term investment in the future of Joule Processing that advances our growth strategy and expands our ability to provide our customers with superior treating and processing solutions," said managing director Ben Victor.

"We are well-positioned for continued success and excited about the opportunities that lie ahead."

BC government outlines requirements for Northern Gateway Pipeline Project

British Columbia's government has announced five minimum requirements that Enbridge must meet before the province considers support for its Northern Gateway Pipeline Project.

"Our government is committed to economic development that is balanced with environmental protection," Premier Christy Clark said during a July 23 press conference.

The government also requested that aboriginal rights be taken into consideration.

The government announced the project must first receive environmental approval, including a recommendation from the National Energy Board Joint Review.

The company must then aid in improvements to marine and land oil spill response and recovery systems along the British Columbia coast.

"When we consider the prospect of a heavy oil pipeline and of the increased oil tanker traffic that would result, it is clear that our spill prevention and response plans will require significant improvements," Environment Minister Terry Lake said in the press conference.

"Our government has already initiated discussions with the federal government on improving our response plans and resources."

The government also requested that aboriginal rights be taken into consideration, including full-disclosure of information and opportunities within the project.

Lastly, the government asks that, "British Columbia receives a fair share of the fiscal and economic benefits of a proposed heavy oil project that reflects the level, degree and nature of the risk borne by the province, the environment and taxpayers."

After the announcement, Enbridge released a response statement.

"We wish to reiterate our commitment to working with governments, including British Columbia, in determining what we can do to further address concerns and to engaging in a dialogue to ensure full understanding of the assessments of risk, the many safety and environmental protection measures in the plan as well as the benefits that would come with the project," the statement read.

WORD FROM THE TOP | British Columbia Premiere Christy Clark says, "Our government is committed to economic development that is balanced with environmental protection."

Texas man pleads not guilty of trying to blow up natural gas pipeline

A North Texas man accused of trying to blow up a natural gas pipeline in suburban Dallas has pleaded not guilty, according to a report by The Associated Press.

Anson Chi of Plano, Texas, entered the plea on July 25 in federal court in Sherman, Texas, where he was indicted by a federal grand jury earlier this month.

Chi remains in custody without bail on a charge of possession of an unregistered firearm or explosive device.

Investigators say Chi was seriously hurt on June 18 when a bomb he allegedly made exploded on a natural gas regulator in Plano.

Authorities say the device went off prematurely and caused little damage.

Chi's next court hearing is set for early September.

Barclays report: Gas prices 'show signs of softening, have more room to fall'

BY **MICHELLE THOMPSON** | ASSOCIATE EDITOR, MIDSTREAM BUSINESS

It's been another rollercoaster month for natural gas prices, with rises and falls continuing to generate concern.

Though gas prices dipped after reaching the highest level since January, recently released data from the Commodity Futures Trading Commission (CFTC) shows that speculative length in the NYMEX gas contract is the highest it's been since July 2008.

Yet, that doesn't mean gas prices are in the clear, says a Barclays' report.

"Even though some bullish factors appeared over the past few weeks, prices seem shaky, and we suspect that bearish sentiment may appear soon," says the report, released July 10. It was authored by a team of Barclays' commodities research analysts. "…Prices are already showing signs of softening, and we believe they have more room to fall."

The rise was attributed to unusually hot weather in parts of the U.S., and also some coal displacement. Prices are expected to sink once again as the heat cools and some gas-fired plants are replaced on an incremental basis by coal plants as the power output of choice.

"Without the scorching heat and any major hurricane threats in the Gulf, the market would again have only coal displacement to absorb oversupply," says the Barclays report, which anticipates some coal plants to be running again at $2.90. "In our view, we will still need some coal displacement in the west this summer, which will require that prices return to the $2.50 range."

And while cranked air conditioners boosted gas demand, the rise was countered by power outages that hammered parts of the Northeast and the upper Midwest, the report adds.

The Colorado wildfires shut more than 100 natural gas wells, although that had a minor effect on supply disruption, the report says.

Of course, coal prices have been struggling too, particularly with displacements by natural gas. Its profits are hurting partly because the softening prices of coal shipments and demand aren't translating into a cheaper product for consumers.

RISING AND FALLING | A rollercoaster of natural gas prices may continue for a while, according to Barclays.

Despite coal shipments falling more than 20% from October 2011 to March 2012, the cost of delivered coal dipped just 1% during the same time frame, according to the Barclays report.

"This means that variations in natural gas prices are likely to be a much bigger favor in coal displacement than the cost of coal, despite reports of coal contract renegotiations and a drop in spot coal prices," says the report. "Even though the cost of delivered coal has been sticky, plant operators may use a lower cost for power plant dispatch. Furthermore, the future of coal displacement depends in part on whether the deferral of coal shipments continues through the summer."

Gas prices will play a large role in determining how much coal gets displaced, and if the power industry can't defer mass volumes of coal in the next few years, coal plant operators may have less flexibility and wind up in forced-burn situation, says the report.

The report notes that although the above situation is unlikely, it could force the gas industry to work harder.

"This suggests that gas will have to fight harder to displace coal in H2 [2012], with consequent bearish price implications."

Chesapeake Midstream Partners becomes Access Midstream Partners

Chesapeake Midstream Partners LP has changed its name to Access Midstream Partners LP.

The switch was announced July 24. The company's New York Stock Exchange ticker symbol is now ACMP.

J. Mike Stice, chief executive, said the name change came after Global Infrastructure Partners bought Chesapeake Energy Corp.'s ownership in the partnership back in June.

"Now, as a fully independent publicly traded partnership, we are completing the ownership transition process by announcing our new Partnership name," Stice said in a public statement.

"The board of directors and the management team believe the new name reflects the partnership's ability to provide producers reliable access to quality downstream markets and to provide investors access to growth in distributions and superior total returns."

Trillium, AMP are planning to build CNG stations across the U.S.

Trillium CNG (Trillium) and AMP Americas (AMP) plan to build a network of compressed natural gas stations across the United States.

In the joint venture Trillium, a business unit of Integrys Energy Group, and AMP will begin by constructing CNG stations along the I-65 and I-75 trucking corridors and major routes through Texas.

MAPPING A PLAN | The Trillium-AMP project will begin with the construction of CNG stations along the I-65 and I-75 trucking corridors and major routes through Texas.

AMP said the strength of the joint venture would lead to a future of renewable CNG projects.

"It allows us to complete more renewable CNG projects alongside a strong financial and operating partner," Nate Laurell, AMP's founder and chief executive, said. "Oil, being globally priced, is expensive, but natural gas is not only abundant in the U.S., it's also cleaner, producing 20 to 30 percent fewer greenhouse emissions than diesel fuel."

The companies noted that construction on the first station would begin in fall 2012. While the stations will be open to the public, the primary customers will likely be heavy-duty and long-haul trucking fleets.

House Republicans propose to get Keystone construction moving

After failed attempts to overturn President Obama's permit rejection on the stalled northern portion of the Keystone XL pipeline, House Republicans have devised legislation designed to get the project moving once again.

In a July 23 news conference, U.S. Rep. Lee Terry of Nebraska and other Republicans announced a proposed bill that would remove the need of a presidential permit for the proposed TransCanada Corp. pipeline. This would allow for the construction of the northern portion, which would run from Canada to Nebraska's northern border, to begin, as well as preserving the ongoing work in Nebraska.

Obama rejected the project and its original route in January because a portion of the pipeline would run through Nebraska's Ogallala Aquifer. Obama urged Republicans to revise the proposed route. Since then, Republicans have struggled to advance the project past the Democratic-led Senate.

Union Pacific executives are aiming to focus on shale-related shipments

Union Pacific's best option for replacing sagging coal volumes is continuing to increase its shale energy-related business, as an increasing amount of oil and natural gas liquids (NGLs) as well as equipment and materials needed for onshore hydraulic fracturing are transported by rail.

Catering to the burgeoning shale-energy sector is the company's biggest opportunity to overcome weakness in coal, company executives said while discussing second-quarter financial results on July 19.

Union Pacific Corp. (UP) made a $1 billion profit during the second quarter -- its best on record -- and up 28% on a year-over-year basis. The gain was also helped by a surge in automotive shipments, the company said.

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More specifically, UP reported 2012 second-quarter net income of US$1 billion, or $2.10 per diluted share, vs. $785 million, or $1.59 per diluted share, in the second quarter of 2011.

We're clearly delivering on the strength of our diverse franchise," UP chief executive Jack Koraleski said in a prepared statement. "Volume growth across many of our market sectors offset the 17 percent decline in coal volumes. When combined with solid pricing, efficient network operations and continued productivity gains, the net result was our best-ever quarter by nearly every financial measure."

UP's coal volumes fell 17% on a year-over-year basis in the quarter ended June 30, and this year's drought is likely to moderate fall harvests, executive vice-president of marketing and sales Eric Butler said during the earnings call.

But the ramp up in U.S. onshore drilling has been a boom for rail operators, as exploration and production in remote, infrastructure-constrained locations require trains to bring in drilling materials and push out crude. The sector is expected to contribute about two points to overall growth for UP this year.

GE, Chart Industries, U. of Missouri to study home CNG car-refueling

GE announced on July 18 that it's teaming up with Chart Industries and the University of Missouri for a research program aimed at developing faster, cheaper home-refueling technology for compressed natural gas (CNG) vehicles.

The partners won a grant from U.S. Department of Energy's Advanced Research Projects Agency for Energy (ARPA-E) program. Total cost of the 28-month program will be about US$2.3 million, cost-shared by ARPA-E and GE.

The researchers aim to develop CNG refueler technology meeting ARPA-E's cost target of $500 per station and reduce refueling times from today's five-to-eight-hours to less-than one hour.

"At-home refueling stations are sold today, but are expensive (around $5,000) and require long refueling times," according to GE. "The five to eight hours required to refuel a CNG vehicle often leaves overnight re-fueling as the only the viable option for vehicle owners. While these barriers can be more easily managed by established fleets, they are not practical for passenger vehicles parked in the driveway or garage at home."

In the U.S., most natural gas-fueled vehicles are buses or delivery trucks, along with some passenger cars, GE noted. "With further improvements in the infrastructure to support natural-gas vehicles, the market penetration could be much higher," according to the company.

Today's CNG systems "rely on traditional compressor technologies to compress and deliver fuel to a vehicle," according to GE. "The research team from GE, Chart Industries and the University of Missouri will design a system that chills, densifies and transfers compressed natural gas more efficiently. It will be a much simpler design with fewer moving parts that will operate quietly and be virtually maintenance-free," according to GE.

Pennsylvania launches year-long air-quality study in Marcellus

The Pennsylvania Department of Environmental Protection (DEP) announced that it has begun a one-year air-monitoring study of possible airborne pollutants in the Marcellus shale, in an attempt to determine air quality impacts associated with the processing and transmission of unconventional natural gas.

According to the announcement, the data from the study will allow the DEP to assess potential long-term impact of air emissions from unconventional natural gas operations to nearby communities.

The DEP said it will monitor for ground-level ozone, particulate matter, carbon monoxide, nitrogen oxides, hydrogen sulfide and methane. The air will also be tested for more than 60 volatile organic compounds, including hazardous air pollutants, and meteorological data will be collected continuously.

DEP intends to collect at least one year of data and compare those results to national ambient air quality standards, then conduct a long-term risk analysis.

"There has been a documented downward trend in airborne pollutants across the state over the past 10 years," DEP secretary Mike Krancer said in the announcement. "Marcellus Shale development holds the promise of emissions benefits from the use of this cleaner-burning fuel in the transportation and electricity generation sectors."

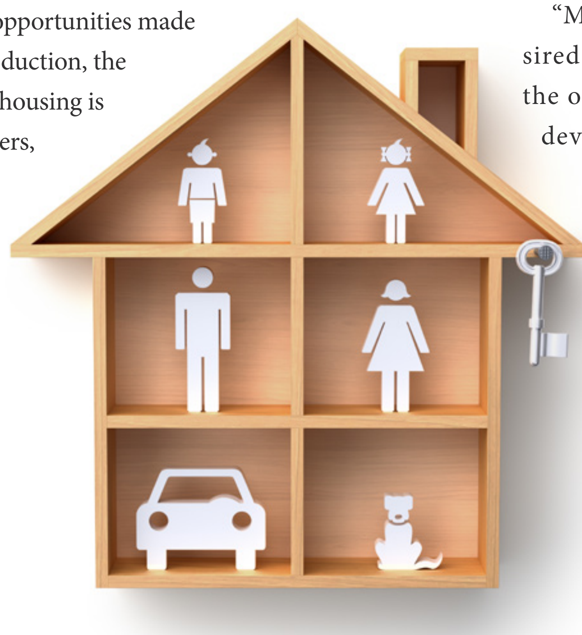
Affordable housing is needed in the Eagle Ford, study implies

BY **MIKE MADERE** | MANAGING EDITOR, NEWSLETTERS

A study of a six-county area within the Eagle Ford shale, based on expectations of increasing production within the next several years, concludes that affordable housing will be the area's most critical need.

The study, conducted by the University of Texas at San Antonio (UTSA), forecasts that the six-county area's population has the potential to swell to 86,000 by 2025, a jump from 65,958 at the end of 2010. Driven by employment opportunities made possible by Eagle Ford oil and gas production, the study concludes that new permanent housing is needed to accommodate the newcomers, most of whom will be young families with school-aged children.

"The Eagle Ford shale oil and gas play is one of the most significant oil and gas finds in Texas history, and it has attracted an influx of transient and permanent workers from across Texas and the nation," said Gilbert Gonzalez, Rural Business Program director at the university's Small Business Development Center. "As we look 10 to 15 years into the future, it is clear that housing stock, public service, infrastructure and public utilities will need to be improved and expanded to accommodate the influx of new residents."



FORECAST FOR POPULATION GROWTH | New permanent housing is needed to accommodate Eagle Ford newcomers, most of whom will be young families with school-aged children.

The study's major findings are:

- From 2000 to 2010, the population in the six-county region -- Dimmit, Frio, La Salle, Maverick, Webb and Zavala counties -- grew by 65,958 people, and housing increased by 21,805 units.
- The housing occupancy rate has hovered around 89% from 2000 to 2010, suggesting that population and housing growth in the six-county region have grown proportionally.
- The median household income in the six-county region, which ranges from $16,844 to $28,100, is sharply lower than the median income in Texas and the nation.
- Housing units in the area need to include a flexible design approach that can adapt to changes in demographics after the extraction activities of oil and gas has ended.
- Vacant housing units in the six-county area need to be further analyzed because they offer strong potential.

UTSA researchers suggest that new permanent housing in the region should be a combination of detached single-family units and attached multifamily units.

"Mixed-use development is highly desired in the large communities. Moreover, the optimal placement for new residential developments is within 15.5 miles driving distance to work sites in the six-county region studied," according to the study.

Azza Kamal, the study's principal investigator, said, "Affordability is the most important lesson uncovered by this study. Policy leaders need to keep housing prices stable and affordable to maintain a positive quality of life for everyone living in the shale region."

"Rig-related jobs are available, and will likely continue to be in great demand in the western Eagle Ford Shale region throughout its lifecycle," the study states. "The population in this area is growing rapidly, and newcomers are younger than the region's current residents.

"Jobs created in the Eagle Ford Shale area require higher skills and education than the average skill-level currently found in the area. In future years, more attention will be focused on skilled labor. Consequently, training and educational programs are needed to help local residents meet the requirements of jobs that have and will continue to emerge from the oil and gas activities."

LEAD STORY | From The Front

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Deal volume in second-quarter 2012 declined slightly to 50 transactions, compared with 55 deals during the second quarter of 2011. Yet, the average deal size increased in second-quarter 2012, escalating 35% to $569 million from $421 million during second-quarter 2011. The increase, according to PwC, was led by seven deals with values of $1 billion or greater.

On a sequential basis, the number of oil and gas deals in the second quarter of 2012 (50) increased significantly from the 33 in first-quarter 2011. Total deal value also increased sequentially, rising from $25.6 billion to $28.5 billion.

Breaking Down The Numbers

Additional statistics produced by PwC's second-quarter survey include:

- Four downstream deals contributed $2.2 billion in value, while oilfield services added three deals worth $1.2 billion.
- Thirteen corporate transactions had values of more than $50 million during the second quarter of 2012, with a total deal value of $17 billion, or 60% of total second-quarter value.
- Thirty-seven asset deals with combined values of about $11.4 billion.
- About $7.5 billion in total deal value, consisting of 16 transaction worth more than $50 million, were related to shale plays. Included in the shale-related deals were two transactions involving the Marcellus shale totaling $1.6 billion and one Utica deal worth $194 million.

Commenting on second-quarter trends, Steve Haffner, a Pittsburgh-based partner with PwC's energy practice, said, "During the past few quarters, shale assets were supported by strong pricing of natural gas liquids, but in the second quarter the market saw a drop in NGL pricing, impacting deal activity even further. Now the focus is on the midstream sector."

For deals valued at more than $50 million, the volume of transactions backed by financial sponsors doubled to 10 deals when compared to the same period last year. Private-equity agreements represented $5.7 billion in total deal value.

PwC also noted that during the first half of 2012, master limited partnerships (MLPs) and private equity acquirers accounted for approximately 95% of conventional natural gas deal value.

"Private equity activity is expanding in all sectors of the energy industry as financial sponsors continue to look for entry points to position themselves to participate in the tremendous expected growth in the U.S. energy space. They also have the ability to exercise the patience necessary to invest in the natural gas business at the bottom of the cycle -- a luxury public companies do not have," Roberge said.

"They've also been active on the sell-side looking to monetize earlier investments, especially in the midstream and oilfield services space. Whether it's financial sponsors exiting or corporates looking to divest certain non-core assets, sellers in this market need to be well-prepared and ready to provide deeper financial and operational details for a competitive buyer landscape that includes more private-equity firms than ever."

Foreign buyers had three deals in the second quarter of 2012, which contributed $438 million, vs. 11 deals valued at $6.4 billion during the same period last year.

PwC's Oil & Gas M&A analysis is a quarterly report of announced transactions in the U.S. with a value greater than $50 million. Transaction data is provided by IHS Herold.

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