

Oil, Gas Industry Extending The Fiscal Cliff

The shale gas revolution helped the U.S. avoid the fiscal cliff last year.

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

The shale gas revolution hasn't just helped support and renew local economies; it also helped the U.S. avoid falling over the fiscal cliff last year, according to Rick Cargile, president, midstream, Energy Transfer Partners (ETP).

"When you think about the fiscal cliff, the industry that has really extended it has been you," he told attendees at Hart Energy's Marcellus-Utica Midstream conference in Pittsburgh in January.

"Without the development of shale technology, this country, without question, would be over the fiscal cliff. It's generating energy that's affordable and abundant along with low-cost fuel that is spurring manufacturing and exports," he added.

In just five years, the U.S. has been able to move away from projects to transport natural gas from Alaska to the Lower 48 states and importing liquefied natural gas (LNG) from foreign nations to projects designed to export LNG due to the shale gas revolution. During this timeframe natural gas has gone from being about \$13 per million Btu (/MMBtu) to around \$3/MMBtu.



FINANCIAL POWERHOUSE | Shale gas technology is the real economic stimulus package, according to ETP's Rick Cargile (Courtesy: Hart Energy)

These prices resulted in consumer savings, job creation and lower carbon emissions. As natural gas displaced large amounts of coal for electric power generation in 2012, the U.S. was able to record its lowest level of annual carbon emissions in 20 years.

"Shale gas technology development is the real economic stimulus package for the U.S. For every job created in the oil and gas industry, it creates an additional three jobs in other sectors, including service and construction jobs," he said.

It isn't just the U.S. energy industry that has been transformed by shale gas, it's also ETP and its

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NGL PRICES & FRAC SPREAD | Week in Review

Ethane Margins Remain Positive

BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR,
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Ethane margins remained positive last week despite an increase in natural gas prices. As temperatures remain cold throughout the country, heating demand continues to rise and drive gas prices up.

The Mont Belvieu price for natural gas increased 4% to \$3.25 per million Btu (/MMBtu) and the Conway price rose 5% to \$3.27/MMBtu. While propane prices remained flat at both hubs, this came a week after prices posted strong gains due to high heating demand.

CURRENT FRAC SPREAD (CENTS/GAL)				
February 11, 2013	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	27.44		25.53	
Shrink	21.68		21.55	
Margin	5.76	13.82%	3.98	-4.60%
Propane	81.58		86.22	
Shrink	29.95		29.77	
Margin	51.63	-2.83%	56.45	-1.76%
Normal Butane	170.53		170.28	
Shrink	33.91		33.70	
Margin	136.62	-6.46%	136.58	-2.85%
Iso-Butane	177.20		181.46	
Shrink	32.57		32.37	
Margin	144.63	-2.57%	149.09	-1.83%
Pentane+	255.15		234.22	
Shrink	36.26		36.04	
Margin	218.89	11.91%	198.18	0.18%
NGL \$/Bbl	45.21	3.49%	43.87	0.15%
Shrink	11.95		11.87	
Margin	33.26	2.91%	32.00	-1.26%
Gas (\$/mmBtu)	3.27	5.14%	3.25	4.17%
Gross Bbl Margin (in cents/gal)	74.09	2.51%	72.28	-1.31%
NGL Value in \$/mmBtu				
Ethane	1.51	6.85%	1.41	2.70%
Propane	2.83	-0.05%	2.99	0.21%
Normal Butane	1.84	-4.36%	1.84	-1.54%
Iso-Butane	1.10	-1.24%	1.13	-0.81%
Pentane+	3.29	10.90%	3.02	0.77%
Total Barrel Value in \$/mmbtu	10.58	3.13%	10.39	0.27%
Margin	7.31	2.25%	7.14	-1.41%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Jan. 30 - Feb. 5 '13	25.53	86.22	170.28	181.46	234.22	\$43.87
Jan. 23 - 29 '13	24.86	86.04	172.94	182.94	232.43	\$43.80
Jan. 16 - 22 '13	23.97	82.05	163.25	175.93	210.87	\$41.03
Jan. 9 - 15 '13	21.84	79.46	165.30	175.32	214.95	\$40.76
January '12	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. 1 - 7, '12	48.05	125.90	187.88	191.46	233.40	\$53.19
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Jan. 30 - Feb. 5 '13	27.44	81.58	170.53	177.20	255.15	\$45.21
Jan. 23 - 29 '13	25.68	81.62	178.30	179.42	230.08	\$43.69
Jan. 16 - 22 '13	22.10	77.80	164.73	168.48	216.77	\$40.74
Jan. 9 - 15 '13	20.60	75.08	163.24	163.08	217.83	\$40.02
January '12	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. 1 - 7, '12	21.02	99.02	155.90	177.93	215.44	\$42.79

(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

Despite the positive gains, Barclays Capital stated that the cold weather might have too late to make a significant dent in the storage level as there has been a decline in the forward curve.

“Shifting weather patterns have been the main driver of swinging natural gas prices over the past two weeks. Cash prices have dropped 37¢ since January 22 and have

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averaged \$3.32 from the beginning of 2013. The forward curve came under pressure as well, as freezing temperatures moderated, with the balance of 2013 closing at \$3.57/MMBtu and calendar 2014 at \$4.03 on February 4. We believe that it is a little too late for cold weather for the rest of the winter to put a significant dent in storage unless natural gas production declines outside of temporary freeze-offs materialize earlier than expected,” the investment firm said in its Gas and Power Kaleidoscope for the week of February 5.

Overall Conway natural gas liquids (NGL) prices outpaced their Mont Belvieu counterparts on the strength of two products: ethane and C5₊ due to tight inventories. Conway ethane increased 7% to 27¢ per gallon (/gal), its highest price since it was 31¢/gal the week of March 14, 2012. This increase was primarily due to a lot of volatility on January 31, which caused the

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / February 8, 2013	
Gas Hub Name	Current Price
Carthage, TX	3.22
Katy Hub, TX	3.24
Waha Hub, TX	3.25
Henry Hub, LA	3.26
Perryville, LA	3.25
Houston Ship Channel	3.23
Agua Dulce, TX	3.59
Opal Hub, Wyo.	3.33
Blance Hub, NM	3.25
Cheyenne Hub, Wyo.	3.26
Chicago Hub	3.39
Ellisburg NE Hub	3.33
New York Hub	4.02
AECO, Alberta	3.10

Conway C5₊ increased 11% to \$2.55/gal due to the continued strength of crude oil, which traded above \$95 per bbl. (/bbl.) for the week. The Conway price was the highest it had been since \$2.67/gal the week of July 30, 2008.

The largest price increases at Mont Belvieu were also for ethane and C5₊. The price of ethane increased 3% to 26¢/gal, its highest it has been since it was 27¢/gal the week of

price to increase to an average of 33¢/gal on the day. By the end of our weekly analysis on February 5, the price had fallen back to 25¢/gal.

Ethane storage levels in the Midcontinent are nearly 1 million barrels (bbl.) below their levels last year at the same time. This decrease is due to more pipeline capacity coming online that is transporting ethane to the Gulf Coast.

RESIN PRICES – MARKET UPDATE – FEBRUARY 7, 2013					
TOTAL OFFERS: 18,442,344 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
LDPE - Film	5,208,992	0.65	0.85	0.72	0.76
LLDPE - Film	3,949,520	0.67	0.75	0.71	0.75
HDPE - Blow Mold	2,318,312	0.615	0.71	0.64	0.68
LDPE - Inj	1,509,564	0.67	0.78	0.68	0.72
PP Homopolymer - Inj	1,292,736	0.82	0.87	0.81	0.85
PP Copolymer - Inj	1,270,184	0.74	0.89	0.79	0.83
HMWPE - Film	1,190,484	0.72	0.76	0.67	0.71
HDPE - Inj	1,058,460	0.61	0.77	0.66	0.7
GPPS	258,000	0.94	1.02	0.67	0.71
LLDPE - Inj	218,092	0.7	0.805	0.9	0.95
HIPS	168,000	1.04	1.04	1.02	1.07

Source: Plastics Exchange – www.theplasticsexchange.com

November 21. Pentanes-plus (C5₊) rose 1% at the hub to \$2.34/gal, the highest it has been since it was \$2.35/gal the week of April 25.

As a result of these sizable increases in ethane and C5₊, the Conway NGL bbl. price rose 4% to \$45.21/bbl. This put the overall Conway price above the Mont Belvieu price for the first time in a month. The Conway NGL bbl. margin increased 3% to \$33.26/bbl. The Mont Belvieu NGL bbl. price was flat at \$43.87/bbl. with a 1% decrease in margin to \$32/bbl.

The most profitable NGL to make at both hubs was C5₊ at \$2.19/gal at Conway and \$1.98/gal at Mont Belvieu. This was followed, in order, by isobutane at \$1.45/gal at Conway and \$1.49/gal at Mont Belvieu; butane at \$1.37/gal at Conway and \$1.37/gal at Mont Belvieu; propane at 52¢/gal at Conway and 57¢/gal at Mont Belvieu; and ethane at 6¢/gal at Conway and 4¢/gal at Mont Belvieu.

Natural gas in storage for the week of February 1 was down 118 billion cubic feet to 2.684 trillion cubic feet (Tcf) from 2.802 Tcf. This was 8% lower than the 2.910 Tcf figure posted last year at the same time and 15% greater than the five-year average of 2.333 Tcf.

Storage levels should continue to experience large withdrawal rates as the National Weather Service’s forecast for this week the entire country experiencing colder than normal temperatures.

PROCESSING TRENDS | An Inside Look

Crosstex Has Condensate In Its Crosshairs

BY PEGGY WILLIAMS | HART ENERGY

The Utica is shaping up to be another great shale play, said Paul Weissgarber, senior vice president, Ohio River Valley, Crosstex Energy. And the Utica looks to be capable of generating such high volumes of production — and new mixes of products in that production — that the traditional midstream infrastructure in the Appalachian region is rapidly being reconfigured to accommodate it. Weissgarber spoke at Hart Energy's Marcellus-Utica Midstream conference and exhibition in Pittsburgh in late January 2013.

Crosstex is right in the middle of the action. The Dallas-based firm entered the Northeast with last year's acquisition of Clearfield Energy, a long-time firm that had Ohio River Valley crude-gathering and marketing assets. Crosstex now does business in the region as Ohio Oil Gathering, West Virginia Oil Gathering, Kentucky Oil Gathering and Appalachian Oil Purchasers.

Early midstream efforts in the Utica have focused on gas gathering, processing and NGL fractionation. Projects in this vein have been numerous, but little attention has been given to handling condensate volumes.

That's the niche that Crosstex is targeting. "Our belief is that condensate is going to be extremely critical," said Weissgarber. The company is consequently developing its capabilities in condensate handling and marketing to complement its existing crude oil capabilities.

Condensate is quite different from crude oil; condensate often contains methane, ethane and propane components. "There's virtually no resin being produced when you distillate condensate. So some refineries do not want condensate."

Local refineries in the Utica region currently can handle about 38,000 barrels (bbl.) of condensate per day, which can be supplied by about 190 wells. Capacity is expanding to be able to handle 53,000 bbl. per day, but that volume can be produced from about 265 wells, said Weissgarber. That's just a scratch on the surface of the number of wells the Utica could ultimately support.

"We think that local refineries will quickly be oversupplied by condensate. So we are looking at moving condensate out of the re-

gion." To accomplish that, Crosstex is gearing up to offer a full suite of condensate handling options.

The company has a great base to build on. It already has two key market outlets: a rail terminal on the Ohio Central Railroad and a barge terminal on the Ohio River. And, it has truck, barge and rail transport options in addition to pipelines, along with 500,000 bbl. of above-ground storage. Its plans are to offer condensate gathering, stabilizing, splitting, transporting and marketing services to producers throughout the region and to be in this business on the ground floor.

"These facilities are in service today and have been in service for years," he said. "Now there's an opportunity to match the condensate to the market, and that's what we're working on."

Appalachian Resins CEO Zeroes In On A Myth

BY CHRIS SHEEHAN | HART ENERGY



AGAINST THE GRAIN | Jim Cutler, chief executive of Appalachian Resins, said that not every ethane cracker needs to be world-scale. (Courtesy: Hart Energy)

End markets for ethane can exist in Marcellus-producing areas if a break is made away from the "myth" that the only way to go is to build "world-scale" plants for ethylene production, Appalachian Resins CEO Jim Cutler told participants at Hart Energy's Marcellus-Utica Midstream Conference in Pittsburgh last week.

"Not all ethylene plants have to be world scale," said Cutler, who went on to outline plans for "a new petrochemical business model that recognizes the shale-gas sea change."

Cutler described Appalachian Resins as a "start-up company" that is developing a 500 million pound (lb.)

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per year integrated ethylene/polyethylene production facility. The company views itself as a “regional” producer as compared to a typical Gulf Coast producer with a 2 billion lb. per year “world-class” facility.

Noting that “ethane has become the feedstock of choice,” Cutler showed a schematic of a production facility that would be based on a feedstock intake of 15,000 barrels (bbl.) per day. The estimated cost of the facility was put at \$400 million. In the event of plant downtime, re-injecting ethane into the gas stream would be manageable relative to a 60,000 bbl per day intake for a world-scale plant, he said.

Ethane-based facilities tended to be less capital intensive than those based on naphtha, given the need for more back-end units with the latter, Cutler noted. Also, in comparing ethane-based facilities of varying sizes, he emphasized that the ethylene yield of the facilities was constant at 80%, regardless of facility size, and indicated that regional plants would have the same variable costs as world-scale plants.

In addition, an ethylene facility in the Marcellus would enjoy an advantage in being near the major polymer consumption areas of the U.S. By not having to transport ethane to the Gulf Coast and then ship end products back northeastern markets, “the potential freight savings would more than take care of the nominal savings of a world scale plant.”

Interestingly, Cutler said an ethane-based ethylene plant could be set up in a master limited partnership structure by having a long-term tolling arrangement under a “take or pay” type of contract, generating a steady, measurable amount of cash flow somewhat similar to the characteristics of a pipeline. The ethane “just moves through the ethylene plant.” Such an arrangement assumes good credit standings on the part of the polyethylene purchasers supporting the tolling agreement.

Cutler indicated that Appalachia Resins has selected an as yet undisclosed 30-acre site in West Virginia, on which it has acquired an option. Permitting has begun, and the timeline to build a plant is about three years.

Marcellus, Utica Growth Underscores Infrastructure Need

BY PAUL HART | HART ENERGY

Midstream’s rapid development— and the need for still more infrastructure as the Marcellus and Utica plays continue to expand—provided a lively topic for dozens of conversations at Hart

Energy’s 4th annual Marcellus-Utica Midstream Conference & Exhibition. Several presenters observed the world-class nature of what’s happening now in Appalachia.

“The Marcellus and Utica are what’s exciting now, and the midstream industry itself is exciting,” observed Steve Jacobs, president of Harvest Pipeline Co., as the conference began.

Jacobs’ presentation on his firm’s regional projects underscored a common theme: There’s a lot happening in the two plays. Midstream faces major hurdles in moving all the natural gas, gas liquids and crude to market. Another presenter, Ben Davis, partner at Energy Spectrum Capital, put the necessary Marcellus-Utica buildout in perspective when he noted requirements for billions of dollars in investment “if not tens of billions of dollars, will be needed for midstream infrastructure” to serve producers active in the plays. All agreed there’s a long way to go, even though the region— particularly the Marcellus—shows some growing maturity.

Several speakers discussed options on how to better serve gas and gas liquids producers in the region. Should midstream operators emphasize building new processing and cracking capacity in Appalachia, or should the industry develop transportation options that move production to existing customer centers in Ontario and along the Gulf Coast? Perhaps there will be some of both in coming years. These are big plays with big reserves. They hold the ability to remake North America’s oil and gas business, presenters agreed.

Regulatory and environmental issues were common topics in conference presentations. Meanwhile, a number of conference exhibitors emphasized their expertise in these areas—and drew crowds of midstream operators to their booths. Most presenters agreed Pennsylvania, Ohio and West Virginia generally offer workable regulatory environments while New York’s hydraulic fracturing ban limits development.

But Ohio has one difference. Rapid development in drilling and midstream in the Buckeye state comes in and around a larger population than that found in the more-rural regions common in West Virginia and Pennsylvania. Tom Stewart, executive vice president of the Ohio Oil and Gas Association, said his state offers “a good regulatory structure—it’s a great place to operate.” But Ohio’s denser population requires upstream and midstream operators be aware that “you’re always close to someone.”

PROCESSING TRENDS | An Inside Look

High Hopes For Marcellus And Utica Growth

BY MICHELLE THOMPSON | HART ENERGY

The Marcellus and Utica shale plays will experience extensive growth in coming years as production ramps up, says a leading analyst.

Right now, there are about 25 rigs running in the Utica, with more than 400 outstanding permits. More than 200 wells have been drilled in the region. Manuj Nikhanj, managing director and head of energy research with ITG Investment Research (ITG), said he expects rig count to increase to about 75 in less than two decades.

“By 2025, assuming this play continues to perform, it could reach over 1 million barrels of oil equivalent (BOE) post-processing,” said Nikhanj. “Our expectation is that it will be heavily weighted toward natural gas and natural gas liquid (NGL) and less so on oil and condensate, just based on what we’re seeing out of the windows.”

The most impressive test rates for drilled wells were more than 2,000 BOE per day, he added. The highest figures came mainly from wells drilled in the southern area of the play.

Nikhanj shared play insights and forecasts while speaking at Hart Energy’s Marcellus-Utica Midstream Conference and Exhibition in Pittsburgh. During a presentation to conference attendees, he provided an equally optimistic outlook for the Marcellus.

Right now, there’s about 8.4 billion cubic feet equivalent (Bcfe) of Marcellus wellhead gas production. “Without infrastructure constraints, production would be significantly higher than this,” said Nikhanj.

There are currently 90 rigs running in the Marcellus, with northeast Pennsylvania, southwest Pennsylvania and south West Virginia the most active regions. The potential for the Marcellus is much greater, said Nikhanj.

“Taking into consideration the aerial extent of each country, spacing assumptions, wells already drilled to date—and excluding counties in which less than a dozen wells have been drilled—we estimate there’s almost 80,000 remaining drilling locations left in the Marcellus.”

Based on the current rig count, there’s more than a decade of drilling in any of those counties, once again excluding those with less than a dozen wells, he added.

“We actually think we’re taking the conservative approach on this chart,” said Nikhanj. “It’s an absolutely massive gas field.”

He also shared a few various scenarios which would result in unconstrained growth in the Marcellus. Under a base case assumption of 90 horizontal wells, the play would grow to more than 15 BCFE per day by 2025, said Nikhanj. Under a 150 horizontal well scenario, the play could grow to more than 20 Bcfe per day by 2025.

Howard Energy To Construct Natural Gas Processing Plant

BUSINESS WIRE

Howard Midstream Energy Partners LLC has announced that the company will construct a cryogenic natural gas plant that will process 200 million cubic feet of gas per day. In addition, the company has begun construction on an import and export logistics railroad hub for oil field related services and products, including condensate and natural gas liquids. Both facilities will serve primarily producer and midstream customers operating in the Olmos, Escondido and Eagle Ford Shale plays in South Texas. The total cost of the projects is approximately \$100 million.

The new Reveille cryogenic natural gas processing plant and associated pipelines will be located in Webb County, Texas; the facilities will tie into the Cuervo Creek gathering pipeline system that HEP acquired in March 2012. Plant construction is scheduled to begin in April with start-up of the facilities anticipated in January 2014. The plant is designed for multiple rich natural gas geologic formations including the Olmos, Escondido and Eagle Ford. HEP has signed long-term natural gas gathering and processing contracts with Escondido Resources II and Laredo Energy that support the construction of the Reveille plant. The agreements add to HEP’s guaranteed minimum throughput of natural gas fee-based commitments to their system, bringing the total to more than 350 billion cubic feet (Bcf). The company is aggressively seeking additional customers for the plant.

In addition to the Reveille plant, HEP is constructing an industrial logistics railroad hub in Live Oak County, Texas on approximately 260 acres in the heart of the Eagle Ford. The Live Oak Rail Hub will be a major South Texas industrial hub that is capable of handling manifest and unit trains transporting multiple types of cargo, including crude oil, condensate, natural gas liquids, water, pipe and sand used in the hydraulic fracturing process.

PIPELINES & TRANSPORTATION | Developments

Cooper: Permission To Export U.S. Natural Gas Should Be Resumed

BY **NISSA DARBONNE** | EDITOR-AT-LARGE, HART ENERGY

Based on U.S. law, Obama-administration permissions to export U.S. natural gas should be resumed, says Bill Cooper, president of the



WAITING TO EXPORT | Bill Cooper, president of the Center for Liquefied Natural Gas, said that LNG exports will benefit the U.S. economy. (Courtesy: Hart Energy).

Washington-based Center for Liquefied Natural Gas, a gas-industry trade association that has consisted primarily in the past of U.S. gas importers and now represents these and others who now seek to export gas.

Cooper addressed more than 1,600 attendees at Hart Energy's Marcellus-Utica Midstream conference in Pittsburgh.

Houston-based Cheniere Energy Inc., on behalf of its Sabine Pass Liquefaction LLC unit, currently has the only existing U.S. Department of Energy (DOE) permissions to export U.S. gas to both North American Free Trade Agreement (NAFTA)-member countries and to all other countries with which the U.S. does not prohibit trade. The first permission is automatically granted by the long-standing Natural Gas Act; the broader permission requires review. Cheniere's needed second permission was granted in May 2011 after some six months of review, "which, in the regulatory world, is incredibly fast," Cooper said.

Since then, however, the DOE has suspended issuance of the important second permission—that is, it is particularly important in that NAFTA-member countries consist almost entirely of countries that don't need gas or get it from sources nearer. Export to non-NAFTA-member countries is the prize.

The DOE's recent study of whether U.S. gas exports are a good idea was concluded this past fall. Since then, the DOE has concluded a

public-comment period on the findings. The process is now in a "public reply" period that concludes February 25. After this, the DOE is to resume application reviews.

Meanwhile, the Cheniere project, which is to export gas from Sabine Pass, Louisiana, is proceeding, since revocation of the two permissions would require that the Obama administration make an historical exception and is able to prove that exporting U.S. natural gas is against "public interest."

Cooper says the DOE's study was of 63 scenarios, including prohibiting exports and of allowing unlimited export.

"Every scenario shows improvement in the gdp ... and any level of LNG exports from the U.S. is a net benefit to the U.S. economy," Cooper said the study results indicate.

He concluded, "Based on the law, the applications ought to be approved by the DOE."

Blue Racer Steps On The Gas

BY **PEGGY WILLIAMS** | HART ENERGY

The East Ohio system was long a sleepy cul-de-sac in Dominion's extensive Appalachian pipeline network. That was until the Utica play exploded a short while back, with its high-rate, rich gas and condensate wells. Today, the old legacy system is revved up and things are moving fast.

New entity Blue Racer Midstream LLC, a joint venture of Dominion and Caiman Energy II, is remaking and expanding the East Ohio system. The entity was formed in December 2012 specifically to offer midstream services to producers in Ohio's Utica shale, said Rick Moncrief, president and chief operating officer of Caiman Energy II. Moncrief spoke at Hart Energy's Marcellus-Utica Midstream conference and exhibition in Pittsburgh, Pennsylvania, in late January.

The partnership marries Caiman's midstream expertise and private equity capital with Dominion's strong local presence and experienced operations team. It looks to be a potent combination.

"We're going to bring a different approach," said Moncrief. "We want to provide full processing values to our producers on day one." The venture includes such notable assets as more than 500 miles of rich-gas

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gathering lines laced through the center of the Utica play and Dominion's Natrium extraction plant in West Virginia, currently under construction. The latter facility is projected to be in service in March 2013. Processing capacity will be 200 million cubic feet (MMcf) per day and fractionation capacity will be 36,000 barrels (bbl.) a day. Additionally, the venture has a Dominion Transmission line that connects Natrium to the East Ohio system.

Initially, Blue Racer plans to enhance the system by installing a 200-MMcf-per-day cryogenic skid and constructing a line to directly connect Noble, Washington, Guernsey and Tuscarawas counties to the main system. On the business side, Blue Racer will simplify the contracting process and offer producers full access to its processing capacity.

"We have a little bit different approach to NGLs and processing strategies," said Moncrief. In its delineation phase, Blue Racer will expand capacity at the Natrium plant to around 600 MMcf per day; expand the ability to handle Y-grade from other Blue Racer processing plants; and access third-party frac capacity. And, it will expand its opportunities for residue gas at Natrium. The partners also plan to use rail and truck transport to supplement pipelines.

"We think the delineation phase will provide producers with full value and reliable takes until full development can be completed," he said.

Longer term, Blue Racer will support projects to take Y-grade to such established markets as the Gulf Coast and Sarnia, Ontario. It also plans to provide blending or gas-equivalent options for ethane, and increase connects for residue gas at its plants. It's off to the races.

Williams' Transco Pipeline Delivers Record Volume Of Natural Gas

Williams Partners LP delivered a record amount of natural gas on its Transco interstate gas pipeline to meet demand driven by last week's bitter cold weather in markets on the U.S. Eastern Seaboard.

The Transco pipeline delivered a record-breaking 10.4 million dekatherms on January 22. The new peak-day mark surpasses the previous high of 9.7 million dekatherms set early last year.

Transco also set a three-day delivery record January 22-24, averaging 9.9 million dekatherms per day.

The January 22 record volume represents enough gas to heat more than 45 million U.S. homes. The 10.4 dekatherms is approximately 106% of firm contract demand on the Transco pipeline. Transco's storage services were instrumental in meeting demand and maintaining prescribed operating pressure.

"The recent cold wave in the Northeast is another reminder of the importance of adequate infrastructure in meeting our country's energy demand," Rory Miller, senior vice president of Williams Partners' Atlantic — Gulf operating area, said in a release. "With growing demand for natural gas to serve winter heating loads and cleaner burning power generation, it is vital that we continue to develop pipeline and other infrastructure to reliably meet these needs."

In order to help deliver vital energy infrastructure, Williams Partners has plans to expand Transco's daily capacity by nearly 2 million dekatherms by 2015. This amount of new capacity is roughly equal the amount of new daily capacity that Transco has placed into service over the past five years.

The Transco pipeline is a 10,000-mile pipeline system that extends from south Texas to New York. The system serves major markets along the U.S. Eastern Seaboard.

PAA Announces Mississippian Lime Pipeline Extension

Plains All American Pipeline LP is constructing a 55-mile extension of its previously announced Mississippian Lime pipeline to service growing production in the Mississippian Lime resource play of western Oklahoma and southwest Kansas.

The Mississippian Lime pipeline extension, which is expected to be brought into service in the fourth quarter of 2013, will provide up to 75,000 barrels per day of crude oil throughput capacity from Coldwater in Comanche County, Kansas to Byron in Alfalfa County, Oklahoma. From Byron, crude oil will flow on PAA's Mississippian Lime pipeline to its terminal in Cushing, Oklahoma. The pipeline extension is supported by a long-term commitment from an area producer.

NEWS & TRENDS | Up To Date

Chevron Realigns Gas, Midstream Organization

Chevron Corp. will realign its gas and midstream business by consolidating the company's supply and trading functions into a single supply and trading group within Chevron's gas and midstream organization.

Until now, Chevron's downstream organization oversaw the company's trading operations for crude oil and refined products, while the company's gas and midstream business was responsible for Chevron's natural gas and liquefied natural gas trading operations.

"These changes will more tightly integrate our supply and trading activities and allow our gas and midstream organization to create value across our upstream and downstream assets," Chevron chairman and chief executive John Watson, said in a release.

Watson said that Joseph C. Geagea will lead the new organization and retain his title as corporate vice president and president, Chevron Gas and Midstream. In addition to supply and trading, Geagea will continue to be responsible for the company's shipping, pipeline, power and gas commercialization operations. Geagea will report to Watson in his expanded role effective immediately. The new gas and midstream organization will be effective June 1, 2013.

Genesis Energy Announces Expansion Of Infrastructure

BUSINESS WIRE

Genesis Energy LP announced the company plans to invest approximately \$125 million to improve existing assets and develop new infrastructure in Louisiana to connect into Exxon Mobil Corporation's Baton Rouge Refinery, one of the largest refinery complexes in North America with more than 500,000 barrels (bbl.) per day of refining capacity. The project is expected to generate positive economic benefits both for the community of Baton Rouge and the state of Louisiana.

Genesis will improve its existing terminal at Port Hudson, Louisiana and build a new 18-mile, 20" diameter crude oil

pipeline connecting Port Hudson to the Maryland Terminal and continuing downstream to the Anchorage Tank Farm. The company also plans to build a new crude oil unit train facility at the Baton Rouge Maryland Terminal.

At Port Hudson, Genesis will construct approximately 200,000 bbl. of storage capacity to complement its 216,000 bbl. of existing tank capacity and make improvements to its existing barge dock and truck station. The new 18-mile pipeline will have an ultimate capacity of about 350,000 bbl. per day, and in addition to its connection to the ExxonMobil Baton Rouge Refinery, the pipeline will have potential access to other local refineries representing approximately 140,000 bbl. per day.

Project construction is scheduled to begin in early 2013. The Port Hudson upgrades and new crude oil pipeline are expected to be completed by the end of 2013 and the Maryland Terminal completion is scheduled for the second quarter of 2014.

Genesis intends to finance the transaction with funds available under its revolving credit facility. Genesis has entered into definitive agreements with ExxonMobil in which ExxonMobil will grant Genesis a land lease at the Maryland Terminal site and secure preferential rights for throughput at the facilities.

Cameron Announces Joint Venture With CNPC

Cameron has announced an agreement with CNPC to establish a joint venture for the manufacture of pipeline ball valves mainly for use by CNPC to support its plans to build pipeline across China in the coming decade.

Under the terms of agreement, Cameron will license its technology to the joint venture and establish a full scale manufacturing operation in Tianjin, China, with CNPC Bohai Equipment Manufacturing Co., Ltd. This joint venture will be the exclusive pipeline valve manufacturing entity within CNPC.

SNAPSHOT | Industry Insight

Gore Skeptical Of Natural Gas, Admits Concerns Could Be Overblown

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

Ironically as more of the general populace becomes aware of the shale gas story in North America, the more obstacles are being put in its way to gaining market share. Just four years ago it wasn't difficult to find environmentalists that supported natural gas a bridge fuel from coal and oil towards renewables. Now the number of green supporters is quickly dwindling as hydraulic fracturing has come under fire in the past few years.

Back in 2009, former Vice President Al Gore, arguably the most recognizable and influential environmentalist in the world, was a supporter of natural gas as a bridge fuel and liquefied natural gas (LNG) as a replacement fuel for heavy-duty diesel trucks. In the last several years, Gore has backed away from that support.

After a speech he gave in Washington, DC last week, Gore discussed his current stance on natural gas as a bridge fuel with *Midstream Monitor*.

"I think the jury is still out [on whether natural gas as a bridge fuel can benefit the environment]. I'm skeptical myself. I had been an advocate for natural gas as a bridge fuel from coal to renewable energy. As a result of the shale gas revolution, hydraulic fracturing and horizontal drilling, natural gas has increased its importance in the energy debate, but there are certain things that trouble me about it. The amount of CO₂ in each Btu from natural gas is only half of what's in coal, but each molecule of methane, which is mostly what natural gas is, is 72 times as powerful as a molecule of CO₂ in trapping heat in the atmosphere over a 10-20 year time span. So if there is a lot of leaking of methane as part of the fracing process, it wouldn't take that much to wipe out the environmental advantages," he said.

Gore stated that the industry isn't doing a great job at limiting methane leaks as some producers are flaring gas, which is releasing more harmful emissions into the atmosphere. According to Gore, if you look at satellite images of the Bakken shale in North Dakota at night it shows lights as bright as those from Chicago due to all of the flaring.

He also said he was unsure of the fracing process itself, which has had issues of pollution associated with it raised in recent years. "The gas is typically way deeper than the aquifers, but there have been too many instances of leakage ... There are also con-



UNCERTAIN | Former Vice President Al Gore acknowledged that natural gas can be beneficial, but remains unsure of its long-term environmental impacts. (Source: Stocklight/Shutterstock.com)

cerns about the handling of the fracing fluids. There are many scientists that say this concern is overblown and it may be. However, the man that invented hydraulic fracturing, George P. Mitchell, has called for very strict regulations by the federal government."

In addition, Gore wrote in his recently released book, "The Future," that many of the largest producers in the world do take steps to prevent flow-back, but said that many wildcat operators do not engage in best practices.

While he has called into question the advantages of the increased use of natural gas, Gore did acknowledge that this is at least in part due to the investment funds that are being steered away from renewables and towards gas-related ventures.

"The shale gas boom in the United States has led to a frenzy of exploration for shale gas in China, Europe, Africa, and elsewhere, raising the specter of long-term global commitment to gas at the longer-term expense of renewables," he wrote.

In addition, he raised the possibility that the use of natural gas as a bridge fuel may not be realistic since it would be hard to imagine global society making the large investments necessary to switch from coal to gas and then turnaround shortly thereafter to switch from gas to renewables, which would come at a similarly high economic cost.

Thus far, shale gas development has been slow globally outside of North America, but Gore wrote that momentum is building towards full-scale development and this could have a "temporary but still significant net reduction in the emissions of greenhouse gases."

He added that U.S. CO₂ emissions dropped to their lowest level in 20 years in 2012, in part due to the switch by electric utilities from coal to natural gas. So while he remains skeptical, Gore acknowledges that there positives to natural gas as an energy source.

LEAD STORY | From The FrontContinued from
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general partners, Energy Transfer Equity (ETE). Indeed, ETE has grown at such a rate over the past few years that it acquired the general partnership interest in Regency Energy Partners in 2010 and both Southern Union Co. and Sunoco Logistics Partners in 2012 in order to diversify its asset base.

The total equity value of ETE is more than \$50 billion with midstream infrastructure throughout the nation, including more than 69,000 miles of pipe, 51 natural gas processing plants (including nine under construction), 176 billion cubic feet (Bcf) of natural gas storage, 48 million barrels (bbl.) of natural gas liquid (NGL) storage, two fractionators (including one under construction), two Bcf per day of LNG import capacity that is in the process of reversing its flow to export, a little under 4 million horsepower of compression and approximately 4,900 Sunoco gasoline retail locations.

“Energy Transfer was the largest natural gas transmission company in the U.S. until Kinder Morgan and El Paso Pipeline merged [in August 2012], but we are diversifying our portfolio more toward liquid assets,” Cargile said.

He added that the company’s goal is to build critical mass with its liquids assets to become a major player in that sector. This will be built not through M&A activity, but through organic growth in the Marcellus-Utica, Eagle Ford, Barnett and Permian. By 2015, the company anticipates that this growth will lead to ETE being the top NGL producer in the U.S. with about 450,000 bbl. per day.

The Eagle Ford and Marcellus both came online for producers and operators around the same time a few years ago. Initially the plays faced similar headwinds, but have since grown to confront different challenges, according to Cargile.

“In the Eagle Ford shale, the producers were worried about moving the production out of the play and getting it processed

and fractionated [at Mont Belvieu]. All of that infrastructure has been developed or is being developed so the last concern remaining now is residue gas takeaway. Up to this point the issue for the industry in the Marcellus has been what to do not so much with transportation as for what to do with the NGLs themselves,” he said.

ETE is developing various projects in the Marcellus shale to alleviate these concerns. These include the Mariner program, which will aim to provide much needed relief to the Marcellus NGL market in a pretty short timeframe.

The company is in the process of repurposing Sunoco’s refined products pipeline in the Northeast and repurpose it as part of the Mariner program. The pipeline will be split in two as the Mariner East and Mariner West to ship ethane to Sarnia, Canada, by July 2013 and then E-P mix and purity propane to Marcus Hook, Pennsylvania, in a two-phase project beginning in the second-half of 2014 and completing in the first-half of 2015.

There are other projects under way in the Northeast to handle the additional NGL production out of the Marcellus and Utica shales—either through processing and fractionation in the region or through transportation to other regions—but there will be additional production that will exceed domestic demand.

“The NGL infrastructure will eventually balance itself out between 2015 and 2019, but there will be excess production that will have to be exported,” he said. The bulk of these exports will be ethane and propane, which would ship from the East Coast and Gulf Coast to premium markets in Central and South America as well as Europe.

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