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**FEATURE**

**S&P: Despite Economic Uncertainties, Midstream Outlook Looks Positive**

Although there are some headwinds facing the midstream industry the positives outweigh the negatives according to David Lundberg, analytical manager for Standard & Poor's midstream energy and MLP team, as he points to a strong outlook for the industry in 2012.

"Crude and liquids prices remain high, liquidity and capital market access remain healthy, and there has been a decline in long-term capital programs that stretched out balance sheets," he said during the rating service's "Outlook for the Midstream Energy and MLP Industry" teleconference.

The negatives for the midstream are that natural gas prices remain low with narrow basis differentials. In addition, financial



leverage is at the outer edges of tolerance levels in many cases despite capital expenditures coming off the books. "We didn't think this would be the case. As a result, many companies have balances that are stretched. Many companies are pursuing good projects, but we will be mindful of how companies spend for these projects," he said.

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**TOP NEWS**

**MarkWest To Acquire EMG Interest In MarkWest Liberty JV**

MarkWest Energy Partners L.P. (NYSE: MWE) signed a letter of intent to acquire The Energy & Mineral Group's (EMG) interest in MarkWest Liberty Midstream & Resources LLC by Dec. 31, 2011.

The agreement includes \$1 billion of cash and the issuance of 19.95 million unregistered MWE Class B Units to EMG. These units that would be issued to EMG would convert into MWE Common Units on a one-for-one basis in five equal annual installments beginning on July 1, 2013, and each of the four annual anniversaries thereafter. The Class B Units would not be entitled to participate in any distributions of available cash from MarkWest prior to their conversion and would not have voting rights, other than with respect to matters that disproportionately and adversely affect the rights and preferences of the Class B Units in relation

to other classes of partnership interests in MarkWest. Upon conversion of the Class B Units, EMG's right to vote as a common unit holder of MarkWest would be limited to a maximum of 5% of MarkWest's outstanding Common Units.

MarkWest officials stated that the company will increase its 2012 DCF guidance to a range of \$480-\$540 million and its capex guidance to \$900 million to \$1.3 billion as a result of the agreement. This acquisition is also expected to increase MarkWest's fee-based net operating margin by up to 6% annually, starting in 2012.

This letter of intent also calls for MarkWest and EMG to create a new Utica Shale midstream joint venture to develop natural gas processing and NGL fractionation, transportation and marketing infrastructure in eastern Ohio beginning in 2012. EMG would

*(continued on page 7)*

## NGL PRICES

### Conway NGL Prices Drop Across The Board

Conway natural gas liquid (NGL) prices continued to drag along at the bottom end of their 12-month stretch with ethane, butane and C<sub>5+</sub> below their prices from one year ago. While there is definitely some blame to be placed on falling crude prices this week, the major reason for the Mid-Continent's price depression remains the abject weakness of the region's market for liquids.

Ethane prices at the hub dropped 10% to 29¢ per gallon (/gal), its lowest price since it was 28¢/gal the week of Aug. 11, 2010. The price was 45% lower than the 52¢/gal price reported last year at the same time.

Mont Belvieu ethane was much stronger this week as the price improved 3% to 82¢/gal, which was the hub's highest price in a month. The price also represented a 23% improvement over the price of 63¢/gal posted last year at the same time.

According to En\*Vantage, the ethylene market remains sluggish and it is possible that some ethylene producers are selling the product as they destock for year-end ad-valorem taxes. However, ethane margins for ethylene remain strong throughout the country and crackers are operating at approximately 95% rates and consuming roughly 1 million barrels per day of ethane.

Crude prices continued to weaken this week because of lower global demand, which is reflected in increased storage levels. Prices fell below \$94 per barrel (/bbl) for WTI crude and Brent crude began to approach levels closer to \$100/bbl.

Though demand has waned around the globe of late, crude supplies are still tight, albeit not in the United States. Although crude prices may experience more decreases, they should remain strong compared to other commodities. OPEC's announcement this week that they would not curtail their current production of 30 million barrels per day lent some credence to this position.

However, the cartel made it clear that the outlook for demand remaining relatively high was tepid at best. "In light of the foregoing and given the demand uncertainties, [OPEC] decided to maintain the current production ... including production from Libya, now and in the future. [OPEC] also agreed that member countries would, if necessary, take steps (including voluntary downward adjustments of output) to ensure market balance and reasonable price levels. In taking this decision, member countries confirmed their preparedness to swiftly respond to developments that might have a detrimental impact on orderly market developments," OPEC said in a news release.

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Dec. 7 - 13 '11	82.38	142.92	196.08	243.24	220.86	\$61.47
Nov. 30 - Dec. 6 '11	79.56	144.66	194.84	237.40	222.03	\$61.10
Nov. 23 - 29 '11	80.95	145.30	183.35	222.80	217.35	\$60.08
Nov. 16 - 22 '11	84.77	145.98	180.94	217.40	221.45	\$60.76
November '11	86.59	145.97	181.32	223.10	224.75	\$61.43
October '11	88.04	147.23	179.87	208.39	226.82	\$61.48
3rd Qtr '11	76.03	153.87	188.27	208.52	237.59	\$61.59
2nd Qtr '11	75.14	149.59	186.75	202.07	248.23	\$61.42
1st Qtr '11	63.74	137.32	175.07	186.15	228.46	\$55.82
4th Qtr '10	59.07	126.07	162.01	168.24	198.89	\$50.59
Dec. 8 - 14 '10	62.85	127.08	172.34	178.82	209.95	\$52.87
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Dec. 7 - 13 '11	28.50	125.78	167.36	212.63	197.03	\$47.48
Nov. 30 - Dec. 6 '11	31.80	129.54	169.96	220.93	205.24	\$49.38
Nov. 23 - 29 '11	34.00	128.85	156.63	212.45	195.33	\$48.06
Nov. 16 - 22 '11	36.60	130.30	152.58	209.26	194.98	\$48.34
November '11	35.90	130.51	154.92	212.38	194.85	\$48.45
October '11	37.79	136.85	153.16	189.69	194.62	\$48.80
3rd Qtr '11	46.69	143.07	166.30	199.68	210.98	\$53.06
2nd Qtr '11	52.63	139.38	170.76	192.47	236.00	\$55.34
1st Qtr '11	46.30	128.26	164.69	186.06	225.91	\$51.80
4th Qtr '10	47.01	120.80	157.16	161.69	193.86	\$47.80
Dec. 8 - 14 '10	51.93	121.66	170.70	171.00	206.50	\$50.53

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

Consequently, the NGL that had the biggest decrease at both hubs was C<sub>5+</sub>, which remained below isobutane at both Mont Belvieu and Conway for the third straight week. The Mont Belvieu price dropped 1% to \$2.21/gal and the Conway price fell 4% to \$1.97/gal.

The only other NGL to drop in value at both hubs was propane, which was down 3% to \$1.26/gal at Conway and 1% to \$1.43/gal at Mont Belvieu. The biggest factor for these weaker prices is the warm winter thus far in most of the country that has lessened heating demand. The limited takeaway capacity at Conway is further pushing down prices in the Mid-Continent.

Isobutane and butane prices moved in opposite directions at Mont Belvieu and Conway with Gulf Coast prices performing well, while the Mid-Continent prices experienced weaker prices.

– Frank Nieto

## FRAC SPREAD

### Declining Gas Prices Help Support Frac Spread Margins

Natural gas experienced substantial price decreases at both hubs, which saw frac spread margins improve across the board at Mont Belvieu and limited margin decreases at Conway.

Natural gas prices dropped 14% at Conway to \$3.02 per million Btu (/MMBtu) and 8% to \$3.10/MMBtu at Mont Belvieu. These decreases were primarily driven by two factors: an overall sluggish economy and the continued expectation of a warm winter throughout the country. According to Barclays Capital, the only short-term support that gas prices can look to would be colder weather given the large domestic production, but even this might not be able to offer much support. “Our own projections show that a 10% colder-than-normal winter will only result in end-of-March 2012 levels equal to March 2011 inventories. March 2011 inventory levels did not boost the market this year.”

The frac spread margin with the biggest dichotomy between Conway and Mont Belvieu was ethane, which had an 8% improvement at Mont Belvieu and a 1% decrease at Conway that left it dangerously close to becoming negative for all intents and purposes. This was followed by isobutane, which had a 4% improvement at Mont Belvieu and a 2% decrease at Conway.

Propane and butane were the only NGLs to experience margin improvements at both hubs this week. Butane had the strongest performance between the two hubs as it had a 3% gain in margin at Mont Belvieu and a 2% gain at Conway. Propane margins were up 1% at both hubs.

The theoretical NGL barrel price continued to perform better at Mont Belvieu as its price improved 1% to \$61.47 per barrel (/bbl) with a 3% gain in margin to \$50.15/bbl. The Conway theoretical barrel was down 4% to \$47.48/bbl, although the margin was largely flat at \$36.45/bbl.

The most profitable NGL to make at both hubs was once again isobutane at \$1.83 per gallon (/gal) at Conway and \$2.12/gal at Mont Belvieu. This was followed, in order, by C<sub>5+</sub> at \$1.64/gal at Conway and \$1.87/gal at Mont Belvieu; butane at \$1.36/gal at Conway and \$1.64/gal at Mont Belvieu; propane at 98¢/gal at Conway and \$1.15/gal at Mont Belvieu; and ethane at 9¢/gal at Conway and 62¢/gal at Mont Belvieu.

Natural gas in storage for the week of Dec. 9, the most recent information available from the Energy Information Administration, was 3.729 trillion cubic feet (Tcf), which was 102 billion cubic feet lower than the previous week's storage figure of 3.831 Tcf. This was 4% higher than the 3.575 Tcf posted last year at the same time and 10% greater than the five-year average of 3.382 Tcf.

Storage levels will continue to struggle to work off inventory in the coming week according to the National Weather Service's forecast, which is anticipating warmer than normal weather along the East Coast and much of the Midwest. The Gulf Coast and parts of the Southwest are expected to experience cooler than normal weather.

– Frank Nieto

#### Current Frac Spread (Cents/Gal)

December 16, 2011	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	28.50		82.38	
Shrink	20.02		20.55	
Margin	8.48	-1.37%	61.83	8.18%
Propane	125.78		142.92	
Shrink	27.66		28.40	
Margin	98.12	0.65%	114.52	0.73%
Normal Butane	167.36		196.08	
Shrink	31.32		32.15	
Margin	136.04	1.78%	163.93	2.59%
Iso-Butane	212.63		243.24	
Shrink	30.08		30.88	
Margin	182.55	-1.89%	212.36	4.24%
Pentane+	197.03		220.86	
Shrink	33.49		34.38	
Margin	163.54	-1.73%	186.48	1.05%
NGL \$/Bbl	47.48	-3.86%	61.47	0.60%
Shrink	11.03		11.32	
Margin	36.45	-0.42%	50.15	2.86%
Gas (\$/mmBtu)	3.02	-13.71%	3.10	-8.28%
Gross Bbl Margin (in cents/gal)	84.24	-0.24%	117.18	2.85%
<b>NGL Value in \$/mmBtu</b>				
Ethane	1.57	-10.38%	4.54	3.54%
Propane	4.37	-2.90%	4.96	-1.20%
Normal Butane	1.81	-1.53%	2.12	0.64%
Iso-Butane	1.32	-3.76%	1.51	2.46%
Pentane+	2.54	-4.00%	2.85	-0.53%
Total Barrel Value in \$/mmBtu	11.61	-4.11%	15.98	0.82%
Margin	8.59	-0.21%	12.88	3.28%

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

## INSIDE LOOK AT PROCESSING

### Nuevo Plans Significant Delaware Basin Midstream Expansion

Nuevo Midstream LLC, Houston, will significantly increase processing and treating capacity at its Ramsey plant site located in the Delaware Basin near Orla, Texas. Nuevo has purchased a cryogenic processing plant with capacity of 100 million cubic feet per day (MMcf/d) and a second amine treating plant with a capacity of 475 gallons per minute (gpm). Both will be installed at the Ramsey site and are expected to be operational in the second quarter of 2012. Nuevo will also extend its Ramsey Gathering System with additional large diameter, natural gas gathering lines and an interconnect to the El Paso natural gas pipeline. The Ramsey Gathering System crosses through Eddy County in southeast New Mexico and Culberson, Loving and Reeves counties in West Texas and currently serves 38 natural gas producers pursuing the liquids-rich Bone Springs, Wolfcamp and Avalon shale plays.

This is Nuevo Midstream's second major expansion in the Delaware Basin since the company launched in April. The Phase II expansion is supported

by additional customer dedications of acreage and production volume in the Avalon shale trend. When the expansion is complete, Nuevo Midstream will have 110 MMcf/d of processing capacity and 625 gpm of treating capacity at the Ramsey plant along with more than 180 miles of high- and low-pressure pipeline and residue connections to interstate and intrastate markets. Drilling projections from numerous existing and prospective customers are expected to support further system extensions and capacity upgrades.

Nuevo recently completed its Phase I expansion, which included the recommissioning of a 10 MMcf/d refrigerated JT processing plant and fractionator and the installation of a 150 gpm amine treating facility at the Ramsey plant site, as well as the addition of 13 miles of eight-inch pipeline to the Ramsey Gathering System with an interconnect to the Enterprise Products pipeline nine miles south of the Ramsey plant.

"We are pleased to announce completion of the Phase I expansion of our

Ramsey Gas Gathering system and a very sizable Phase II expansion of our processing and treating capacity," says Jay Lendrum, Nuevo Midstream's president and CEO. "With the location of our processing assets and gathering lines, we are well positioned to serve producers operating in the liquids-rich Bone Springs, Wolfcamp and Avalon shale plays. Producer activity in the area is accelerating, and we will continue to expand our capacity and pipeline footprint to provide producers with strategic gathering, processing and treating services to enable them to move gas to multiple high-value markets.

"We are in advanced discussions with a number of producers regarding additional acreage and production dedications. Based on the level of current and planned drilling activity in the area, it is very conceivable that by the time our Phase II expansion is operational, we will be in the advanced planning stages of a Phase III expansion. Our goal is to offer as much as 250 MMcf/d of total processing capacity through the Ramsey system."

### S&P... (continued from page 1)

#### Constructive Dynamics For Crude

The biggest positive for the midstream has been the outstanding performance by natural gas liquids (NGLs), which has been supported by strong crude prices and increased demand from the petrochemical industry.

S&P anticipates these positives continuing in 2012. "It's been pretty striking to us that despite the economic slowdown and the material chance of a double-dip recession that crude prices have remained quite high at around \$100 per barrel (bbl) for WTI and \$110/bbl for Brent crude. We think the dynamics are

relatively constructive for crude," Lundberg said.

The agency has set a base case outlook of approximately \$70/bbl for crude for the next few years, but Lundberg noted that S&P uses a very big cushion to predict where crude prices are headed. Therefore, this figure doesn't really represent S&P's forecast for crude prices but is used by the agency to determine ratings for companies long on crude.

"The supply and demand dynamic is very tight with OPEC spare capacity only being 3-4 million barrels per day. That's not a whole lot of spare capacity, particu-

larly as demand in emerging economies grows," he said. This dynamic will loosen up slightly once Libyan crude supplies come back online, but demand should remain strong globally.

"Looking at the longer-term price deck, one thing we really think about is what price point is needed to support the production of more marginal/frontier projects like deepwater drilling and some projects in the Canadian oil sands. We think that \$70-75/bbl is a reasonable expectation for what prices are really needed to justify longer-term investment decisions," he continued.

### NGL Prices To Continue To Flourish

Strong crude prices will continue to support NGL prices, especially butane, isobutane and C<sub>5+</sub>, because of their close correlation with crude. Lundberg stated that propane prices were also somewhat correlated with crude and would continue to reap benefits from crude.

Lundberg added that propane prices also have the possibility of becoming decoupled from crude oil because of petrochemical demand, both domestically and internationally through exports.

The lone NGL that is becoming increasingly decoupled from crude prices is ethane, which has largely been driven by petrochemical demand for ethylene. "We feared that the petrochemical industry couldn't take all of the ethane being produced, but that hasn't happened," he said.

### Natural Gas To Continue To Face Headwinds

While crude and NGL prices are helping to support the midstream, natural gas prices are having a negative effect, which S&P anticipates continuing in the near-term. "There's really no catalyst for gas prices being higher. Our pricing assumption is around \$3.75 per million Btu (/MMBtu) to \$4.00/MMBtu and a little over \$4.00/MMBtu in the outer years.

"The demand side really hasn't been a bad story, it's actually been up a little bit and we expect it to remain up next year from increased industrial and power demand. The issue with gas prices is that

they have been overwhelmed by the supply side due to technology and the industry continuing to find lots and lots more shale," he said.

The great unknown remains whether production will come down anytime soon. Although the dry gas rig count will decrease, the rig count in wet gas plays is expected to grow at a rapid pace. This make is unlikely that production will decrease. While increased power demand will eventually help to work some of this increased production out of storage, this demand will take many years for a full realization of demand. "This demand will hit in measured increments compared to how supply is coming online," Lundberg said.

With no end in sight for production from shale plays, the need for midstream infrastructure remains high, especially for pipeline takeaway capacity in regions without the capability to process or refine this production. This built-in market for pipeline projects makes them very manageable from a credit perspective, according to S&P's Bill Ferrara, a senior member on the S&P midstream energy and MLP team. He noted that some of these projects are increasing in risk as some companies have begun to place high debt leverage on these assets.

These projects are also part of the pricing problem for natural gas as it has caused basis differentials to drop throughout the United States. "All of the big pipeline projects the last few years

have de-bottlenecked the spreads in the country. We've seen weak basis differentials for a couple of years now and we do not expect a change going forward in the near-term. The country is awash in gas supplies and demand is rather sluggish throughout the economy," Ferrara said.

S&P views NGL pipelines as being more attractive since the industry is pursuing these projects more forcefully because of their relationship to crude prices and the strong ethane demand.

There are also severe differentials involving crude oil hubs, especially at Cushing, where takeaway capacity is severely restricted. According to Manish Consul, an S&P credit analyst, there are a combined 1.7 million barrels per day (b/d) of crude shipped into the hub and only 600,000 b/d of outbound capacity and 500,000 b/d of local consumption. Consequently there is a great deal of demand for both takeaway pipeline capacity and storage capacity in the region.

While such projects are well regarded by the industry and investors, there is also uncertainty with several of them, most notably the Keystone XL Pipeline. "These [pipeline] solutions will help ease the pressure, but the solutions have been unpredictable. 'So there is uncertainty, which has also led to the spread being higher. We think these differentials will compress as these pipeline projects become more concrete," Consul said.

– Frank Nieto

### SNL Energy: Three Most Profitable Utilities Are Gas In Q3

The conversion from coal-fired power generation to gas-fired generation is having a strong effect on profits, judging by a recent report from SNL Energy that found that the top three most profitable utilities in Q3 2011 were gas utilities.

The report based these findings on the recurring EBITDA (earnings before interest, taxes, depreciation and amortization) posted by these utilities. The report found that the most profitable utility was EQT Corp. with a 54.43% recurring EBITDA

margin. This represented an 8.62% year-on-year change based on a \$234 million increase as a result of greater production sales volumes, higher gathering and transmission revenues and a reduction in certain non-income tax reserves. Al-

though EQT has transformed itself from a smaller utility to a large E&P company, it still retains a sizable utility asset – Equitable Gas, which serves approximately 275,000 customers in Pennsylvania, West Virginia and Kentucky.

EQT was followed by a company with a similar scope in Energen. The company had a 44.94% recurring EBITDA margin and a 6.94% year-on-year change. These figures were attributed to a combination of greater production volumes, higher prices for oil and gas, lower exploration expenses as well as after-tax gains on derivatives. While Energen is largely an E&P company, it is also the largest gas utility in Alabama, providing power generation to more than 437,000 homes, businesses and industries in the state.

Questar Corp. followed these companies in the third position in SNL En-

ergy’s rankings with a 46.73% recurring EBITDA margin. This represented a 1.55% decline in year-on-year change. Questar goes about its operations differently than EQT and Energen in that it spun its E&P operations – QEP Resources Inc. – into a separate division in 2010. Questar operates as an integrated natural gas company that distributes natural gas to nearly 900,000 customers in Utah, Wyoming and Idaho.

The only other company identified as a pure-gas utility by SNL Energy’s top 25 rankings was National Fuel Gas & Co. at number six; however, the rankings also includes companies such as Duke Energy, Dominion Resources and Exelon Corp., which were identified as diversified” power utilities.

– Frank Nieto

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / December 14, 2011	
Gas Hub Name	Current Price
Carthage, TX	3.03
Katy Hub, TX	3.06
Waha Hub, TX	3.06
Henry Hub, LA	3.08
Perryville, LA	3.07
Houston Ship Channel	3.06
Agua Dulce TX	3.40
Opal Hub, Wyo.	3.02
Blance Hub, NM	3.11
Cheyenne Hub, Wyo.	3.02
Chicago Hub	3.23
Ellisburg NE Hub	3.27
New York Hub	3.33
AECO , Alberta	2.99

Source: Bloomberg

## Adding Ethylene Cracking Capacity Key To LyondellBasell’s Future

LyondellBasell (NYSE: LYB) chief executive Jim Gallogly today told participants at the company’s annual Investor Day in New York that LyondellBasell is well positioned for the future.

The company has had successive quarters of record results and delivered \$5.5 billion of EBITDA during the last 12 months.

Gallogly and other LyondellBasell executives reviewed recent financial performance, the near-term outlook, a business segment-by-segment report of achievements, and the company’s plans for growth in front of an audience of investors participating in the half-day program that was broadcast on the company’s web site.

“The past 18 months have been a period of significant progress at LyondellBasell,” Gallogly said. “We have rebuilt this company from the plant floor up.

We have improved our cost structure, strengthened our balance sheet and enhanced all aspects of our operations.

The collective efforts and success of our employees around the world in implementing our back-to-basic strategy is proof we have what it takes to become the premier commodity petrochemical company. We believe we have now earned the right to grow and are well-positioned for the future,” Gallogly said.

Highlights of Investor Day 2011 included an overview of the following investments in high-return growth projects:

Ethylene Capacity Expansion -- An expansion of the La Porte, Texas, steam cracker is expected to increase the annual production of ethylene from low-cost ethane by approximately 850 million pounds to a total capacity in excess of 2.5 billion pounds per year.

China PO/TBA Plant Study -- An agreement to conduct a joint feasibility study to construct a world scale PO/TBA plant in Ningbo, China, has been signed by LyondellBasell and Sinopec. The study will recommend the final scope of the project, costs and a construction schedule for a new joint venture plant.

Methanol Plant Restart -- To take advantage of low-cost natural gas supplies, LyondellBasell plans to restart a 780 KT per year methanol plant at Channelview, Texas.

Ethane Feedstock Flexibility -- The Channelview plant is expected to increase its capability to process low-cost ethane feedstocks by an additional 500 million pounds per year. The company also continues to study a modest ethylene capacity expansion at this site.

Co-Product Flexibility Expansion -- The company is advancing a project to

build a new metathesis unit at Channelview, which is planned to increase propylene production by 500 million pounds per year of equivalent ethylene.

Butadiene Expansion at Wesseling -- Butadiene capacity at Wesseling, Germany, will be expanded by 40 percent, from 170 KT to 238 KT per year, through a debottlenecking project.

Commenting on the growth projects discussed at Investor Day 2011, Gallogly said, "The North American projects build upon our asset and technology positions, coupled with cheap and abundant natural gas and natural gas liquids, to offer high-returns in a relatively short period. Additionally, they are expected to be completed more

quickly and inexpensively than greenfield projects.

While only at the feasibility stage, a new PO plant in China offers the potential to be the lowest-cost site in the world. The project in Germany will provide additional value from co-products."

**MarkWest...**

*(continued from page 1)*

fund a majority of the initial capital expenditures required to develop the Utica midstream infrastructure.

"Our Liberty joint venture with EMG has made significant capital investments to develop world-class midstream infrastructure that has been critical to the development of the liquids-rich area of the Marcellus," Frank Semple, chairman, president and chief executive of MarkWest, said in a news release. "The joint venture has been very successful and we believe this acquisition represents a significant achievement for both parties. The creative acquisition structure includes up-front cash and deferred issuance of MWE common units. This structure provides immediate and future accretion and reflects the strength of our relationship with EMG as well as their confidence in the future value of MWE's common units. Looking ahead, we are very pleased to work closely with EMG in a new joint venture to leverage a similar operational and financial platform to develop integrated NGL transportation, fractionation, storage and marketing services in the liquids-rich corridor of the Utica Shale."

"Since inception a mere three years ago, the Liberty JV has adapted to the success and needs of the producer com-

munity -- as demonstrated by record drilling activity levels in the basin -- via multiple iterations of geographic and functional expansions that has manifested the development of a large scale, world-class integrated midstream system that allows the producers to fully develop and maximize the value of their underlying reserves," John Raymond, managing partner and chief executive of EMG, said in a news statement.

"This is the direct result of the strong relationship between the teams at EMG and MarkWest. To that end, MarkWest has been an exceptional partner and, as operator of the JV, has consistently delivered best-in-class execution in the development of these critical assets.

The JV has also exercised considerable commercial and financial flexibility via structural solutions and scalable capital needs to support the development of this multibillion-dollar project. Via the newly formed Utica JV, we look forward to again working with the dedicated and talented group of people at MarkWest to continue to meet the dynamic needs of the producer community in one of the most promising basins in North America over the years to come. We look forward to long-term participation in the continued growth of the value of MarkWest via our substantial unit position and the newly formed Utica JV."

**RESIN PRICES – MARKET UPDATE – DECEMBER 16, 2011**

TOTAL OFFERS: 18,551,376 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
LLDPE - Film	3,549,128	0.61	0.72	0.60	0.64
HDPE - Inj	3,349,300	0.63	0.69	0.60	0.64
HDPE - Blow Mold	2,653,220	0.58	0.72	0.59	0.63
PP Homopolymer - Inj	2,547,748	0.66	0.76	0.66	0.70
LDPE - Film	2,503,680	0.60	0.73	0.66	0.70
PP Copolymer - Inj	1,178,828	0.62	0.76	0.68	0.72
GPSS	612,000	0.80	0.88	0.81	0.86
LDPE - Inj	598,368	0.70	0.78	0.65	0.69
HIPS	570,000	0.96	0.96	0.90	0.95
LLDPE - Inj	548,184	0.63	0.67	0.63	0.67
HMWPE - Film	440,920	0.68	0.73	0.65	0.69

Source: Plastics Exchange -- www.theplasticsexchange.com

## EQT Planning MLP IPO

EQT Corp. (NYSE: EQT) announced that it intends to file a registration statement with the U.S. Securities and Exchange Commission during the first quarter of 2012 for an initial public offering (IPO) of common units of a master limited partnership (MLP) that would own portions of the assets of Equitrans LP, EQT's interstate pipeline subsidiary.

Under the current anticipated structure, EQT expects to sell a limited partner interest in the MLP in the IPO, subject to market conditions. At the close of the IPO, EQT would own the general partner of the MLP, which would own the incentive distribution rights, as well as a substantial portion of the MLP's common units. Proceeds of the IPO would be used

to fund the further acceleration of EQT's Marcellus development.

The MLP is expected to focus on providing transmission and gathering services to producers in the Marcellus shale, including EQT Production Co.

## Keyera Signs Deal To Acquire Iso-Octane Facility In Edmonton

Keyera Corp. (TSX:KEY) (TSX:KEY.DB.A) entered into an agreement to purchase Alberta EnviroFuels (AEF), an iso-octane manufacturing business jointly owned by Chevron Standard Ltd. and Neste Canada Inc. Iso-octane is a low-emission, high-octane gasoline-blending component derived from butane, a key component of Keyera's natural gas liquids business.

The acquisition includes a 13,600 barrel per day iso-octane manufacturing facility located south of Keyera's Edmonton Terminal; pipelines associated with the facility; and iso-octane sales agreements with major refiners. Keyera has also entered into multiyear agreements with Chevron and its affiliates relating to sales, transportation, downstream processing and shipping of iso-octane. The

purchase price is US\$198 million, subject to closing adjustments, plus working capital estimated at US\$50 million primarily related to butane and iso-octane inventories. Closing of the acquisition is subject to regulatory approvals. Keyera is targeting closing in early 2012 and has the capacity to finance the acquisition with its recently increased bank credit facility.

"AEF is another long-term, strategic asset that will add value to our integrated business strategy," said Jim Bertram, chief executive of Keyera Corp. "We are experienced operators of large facilities and have a successful track record marketing energy products across North America. AEF is a world-class asset and the personnel joining our team will be a great addition to our organization."

AEF is the largest iso-octane manufacturing facility in the world. The facility uses butane as the primary feedstock and is connected by pipeline through Keyera's Edmonton Terminal with the rest of Keyera's NGL infrastructure in the Edmonton/Fort Saskatchewan area. Keyera has been a supplier of butane feedstock to AEF for over a decade and plans to use its pipeline, rail and storage infrastructure to create synergies with AEF's operations. Iso-octane manufactured at AEF is shipped via the Trans Mountain Pipeline to Chevron's Burnaby, B.C. refinery and onward to customers in California. AEF also sells iso-octane to refiners in Alberta.

## PIPELINES & TECHNOLOGY

### DOS Launches Environmental Assessment For Vantage Pipeline

The U.S. State Department is preparing an environmental assessment for the proposed 430-mile Vantage Pipeline project, which is designed to transport ethane from the Bakken shale in North Dakota to Alberta, Canada, to help determine whether the project should be approved.

Vantage Pipeline stated that the project will enhance exports from the U.S. and

allow natural gas producers to recognize benefits from an existing resource from which they are not presently recognizing any financial benefit, and will contribute to the national economy in terms of job creation and tax payments.

The environmental assessment will study any environmental impacts that could arise from the authorization of the project through its construction, op-

eration and maintenance. In addition, the State Department will consider any public concerns over the proposal. The State Department is asking that interested parties submit their comments on the project by Jan. 17, 2012.



## Seaway Pipeline Reversal To Begin In April

A planned reversal in the direction of oil flowing through the Seaway Pipeline will begin carrying barrels of crude out of the oversupplied U.S. Midwest to Gulf Coast refineries by April 1, 2012, according to a Dec. 7 *Reuters* report citing a filing with regulators.

If all goes according to plan, the Seaway reversal will allow the first pipeline access from the brimming storage tanks of Cushing, Okla., to the Gulf Coast and alleviate the glut of crude built up from Canada and Bakken shale-crude flows.

In a filing with the Federal Energy Regulatory Commission (FERC), Texas-based

Enterprise Products Partners and Canada's Enbridge Inc. said they would start shipping 150,000 barrels per day (b/d) from Cushing into Enterprise's ECHO terminal in Houston – currently under construction – according to the report.

"I think that we're headed to a point where we see domestic and Canadian crudes become the crudes of choice by then," Carl Larry, president of New York-based Oil Outlooks, was quoted as saying.

The backup of crude discounted the price of U.S. benchmark West Texas Intermediate to that of the North Sea Brent crude by as much as US\$27 per barrel this year, Hart Energy data shows.

The Seaway system consists of a nearly 500-mile, 30-inch diameter pipeline carrying crude from the U.S. Gulf Coast to Cushing. It has been used to supply oil to the Cushing terminals as well as ConocoPhillips Co.'s 247,000-b/d Sweeny, Texas, refinery.

ConocoPhillips is selling its 50% interest in Seaway to Enbridge in a transaction expected to close by the end of this year, according to the report.

## PSI Midstream Completes Gathering System Acquisition

PSI Midstream Partners LP closed on the purchase of Williams Gas Processing – Gulf Coast Company, L.P. onshore gathering portion of the Transco Cen-

tral Louisiana Pipeline System effective December 1, 2011. Said gathering assets transport gas to the PSI Kaplan Gas Processing Plant located in Vermilion Parish,

LA. Current flow is 12 mmcf/d through approximately 125 miles of 4" to 18" gathering lines.

## Heckmann Corp.'s Haynesville Water Pipeline Put On Line

Heckmann Corp. (NYSE: HEK) has begun transporting water through its fresh water pipeline in the Haynesville Shale area.

The fresh water, repurposed PVC pipeline will be 40 miles long when fully commissioned, representing the largest fresh water pipeline system in the Haynesville Shale area. Heckmann expects the fresh water pipeline to be fully operational in 2012 with capacity to move up to 60,000 barrels per day. The initial orders for water from the fresh water pipeline are projected to result in the delivery of approximately 16,000 barrels per day beginning in mid-December 2011.

Heckmann Water Resources' (HWR) fresh water pipeline will initially transport water from HWR's Red River water supply and ultimately be able to deliver

water from both the Red River and the Sabine River. HWR has several strategically located reservoirs along the pipeline to provide large quantities of fresh water to meet the peak frac water requirements of HWR customers. The combination of the 40-mile pipeline with multiple sources of fresh water, strategically placed reservoirs, and HWR's ability to move water to customer locations with temporary transmission lines or trucks, provides a comprehensive, cost effective and reliable solution for HWR customers' frac water needs in the Haynesville Shale area.

"Our fresh water pipeline enhances the efficiency and reliability of our total water solutions for HWR customers in the Haynesville Shale area," says Richard J. Heckmann, chairman and CEO of

Heckmann Corp. "Having secured fresh water sources and operating a fresh water pipeline in the Haynesville shale area augments the full range of HWR water services and enables us to provide our customers with even more competitively priced fresh water solutions. Our pipeline is strategically located where we expect continued development and increased flow as new wells are completed.

"In the first half of 2012, we plan to complete the extension and expansion of our adjacent produced water pipeline, and as we bring both pipelines into service we will be able to give our customers a full service option of fresh water, storage, temporary piping, and produced water transfer through either trucks or pipes, to final disposal, recycle or treatment."

On average, 6.3 million gallons of fresh water are needed for each drilled frac well in the Haynesville Shale area. The water returns to the surface over time, with approximately 20% returning as flowback water within the first two to three weeks after the fracing has

commenced, and the remaining water is generally returned to the surface as produced (salt) water over the life of the well, which can be up to 30 years. As a total water solutions provider, HWR is equipped to manage all of the diverse water needs throughout this cycle in-

cluding, water delivery and disposal, trucking, fluids handling, treatment and temporary and permanent pipeline facilities, as well as site preparation, water pit excavation and remediation.

## NEWS & TRENDS

### Cardinal Gas Storage To Build Gas Storage Facility Near Perryville Hub

Cardinal Gas Storage Partners LLC's wholly-owned interstate natural gas storage subsidiary, Cadeville Gas Storage LLC, executed a 10-year precedent agreement with Shell Energy North America (US), L.P. for Cadeville to construct a depleted reservoir storage facility in Ouachita Parish near the Perryville/Delhi Hub in northeast Louisiana. The storage facility is expected to be in service in 2013 and is designed to have approximately 17 billion cubic feet of working gas capacity.

"We are pleased to announce that Cadeville has reached an agreement with Shell Energy to anchor this project. This further demonstrates the need for additional natural gas storage capacity in strategic locations, such as North

Louisiana, especially in and around the Haynesville Shale to Perryville corridor," said Jeff Ballew, president and chief executive of Cardinal. "When combined with our Perryville Gas Storage salt dome project under construction near Delhi, La., Cardinal is positioned to provide the perfect complement of storage services for shippers in and around the Perryville/Delhi Hub."

"Recent advances in technology have allowed producers, including Shell Energy, to unlock gas previously considered inaccessible, resulting in an abundant supply of domestic natural gas," said Frans Everts, president of Shell Energy. "That abundant supply has triggered renewed interest in natural gas from a variety of industries, including

power generation, commercial and manufacturing sectors. Cadeville's strategic location will enhance Shell Energy's ability to provide attractive supply options to customers located east of the Rockies."

Cardinal is a joint venture between Redbird Gas Storage LLC and funds controlled by Energy Capital Partners LLC. Since its inception in 2008, Cardinal has been focused on the development, construction, operation and management of natural gas storage facilities throughout North America. Cardinal also owns Perryville Gas Storage LLC, Arcadia Gas Storage LLC and Monroe Gas Storage Company LLC and is in the process of developing additional natural gas storage infrastructure in North America.

### Baker Institute: Chinese Shale Gas Could Rock Asian LNG Markets

Shale gas development in China could displace liquefied natural gas (LNG) imports to China and create pipeline deliveries of gas to South Korea, roiling Asian natural gas markets, according to a report on "The Rise Of China And Its Energy Implications" released by the James A. Baker III Institute for Public Policy on Dec. 2.

"Higher shale gas production displaces LNG and has by far the most impact on LNG," said Ken Medlock III, the James A. Baker III and Susan G. Baker Fellow in Energy and Resource Econom-

ics at the James A. Baker III Institute for Public Policy at Rice University. "We see gas demand moving higher; and you have a reciprocating impact. When you have more available domestic supply, you see lower prices and get higher demand in China."

In running this case, the researchers saw something that was not expected, he continued. "You see pipeline development into the Korean Peninsula, and you see exports of up to 1.0 billion cubic feet per day into South Korea. This is a

very interesting development because you have more far-reaching impacts on the LNG market because South Korea is a very large LNG importer."

The study – "Quantitative Analysis Of Scenarios For Chinese Domestic Unconventional Natural Gas Resources And Their Role In Global LNG Markets" – utilized the Rice World Gas Trade Model to examine the market implications and geopolitical consequences of potentially important supply and demand side developments in China.

The results were based on three scenarios. The reference case posits a scenario where all known global shale gas resources can be developed given prevailing commercial technologies. China's recoverable shale gas resources would equate to 75 trillion cubic feet (Tcf).

In the high-China-shale case, the recoverable shale gas resource in China would be 600 Tcf.

Finally, the low-China-demand case posits a much slower growth rate for the Chinese economy. The average annual growth rate would be 2.5%, which is half the GDP growth rate of 5.1% in the reference case.

"We find is that you have robust shale gas development that is every bit as game changing regarding the projected future as what we've seen in North America. I think that's a pretty important point because you're talking about a very large market," Medlock stated.

"If you have a lot of domestic resources, that changes the LNG picture dramatically.

"China's shale gas development could stand if it is very robust and could change the picture, not just for China, but for other countries as well," he emphasized.

In the low-demand case, the projected demand for China does not materialize and that pushes a lot of LNG back out onto the water. LNG imports are substantially lower. "You see a substantial impact borne by the LNG market that is surprising," he noted.

"In the high-China-shale case, what is interesting here is that by displacement, what you end up doing is pushing LNG to the U.S. if the LNG market in China doesn't materialize. And, that was a shocking impact because ev-

eryone here is talking about exports," Medlock said.

"Effectively, what it is doing is lowering the price on the water, changing the marginal cost of supplies in a global LNG market and creating some very interesting impacts. What happens when you have a lot of shale gas in China basically is that you shut Iran down. You really put the clamps on Venezuela. There are lots of far-reaching implications for shale. Not only are there economic impacts, but there are geopolitical impacts," he explained.

"In the low-China-demand case, the difference here is that you see a bigger impact on Australian imports than you do in the high-China-shale case.

"The critical point that came out of these scenarios is that the brunt of the impact of robust growth and development of domestic resources or lower-than-expected growth will be felt in the LNG market," he continued.

"A very key point is that a lot hinges on China, and I really think that falls out of this. When we've seen what happened in North America, we see that really shifted everybody's focus there. Now, they are focused more heavily on market opportunities in Asia. If something happens to change the game in Asia, where's the next big market?" he asked.

However, there is a tremendous amount of uncertainty outside of North America. For example, in China, there's not a lot of data to back up the resource estimates.

"We looked at published data on geophysical characteristics of shales and created mapping for that data into ultimately recoverable resources for average type wells drilled in different shales around the world. Once we had the map-

ping, we could apply geophysical characteristics for shales elsewhere where no wells have been drilled but there is a little bit of geophysical data.

"We can confirm what likely might be what the 'D' curve looks like, which gives you an average type well performance and thus an average type well cost," he stated.

Water is also a major issue in China, he pointed out. There are several shale basins in areas where China has a high degree of water stress.

"Water conflicts are not new to China. There have been water conflicts in China sometimes on a regional basis and sometimes these have been violent," Medlock continued.

"China's standard MO (method of operation) is an engineering approach. Let's build massive amounts of infrastructure to move water from one area to another. They have yet to move into a conservation approach," he added. The country needs to change to allocating water rights instead of the engineering approach.

Gas markets in the rest of the world are not like the North American structure, which is very conducive to entrepreneurs. If a company has capital, the wherewithal and access to leases, it can drill a well, develop the field and tie into a market. All the company has to do is negotiate capacity rights to move natural gas to markets.

"Outside North America, that's generally not the case. The closest is probably Australia, and Europe is moving in that direction. Asia is not even close. A lot of development work has to occur before massive development of shale gas can occur," he emphasized.

— Scott Weeden

## SUG Stockholders Back ETE Merger

Energy Transfer Equity LP (NYSE: ETE) announced that Southern Union Co. (NYSE: SUG) stockholders voted overwhelmingly to approve the proposed merger with ETE at today's special meeting of Southern Union stockholders.

Approximately 98% of the shares voted at today's meeting favor the adoption of the merger agreement, which represented approximately 80% of Southern Union's total outstanding shares of common stock as of the Oct. 11, 2011, record date for the special meeting.

As previously announced on July 19, 2011, ETE and Southern Union entered into an amended and restated merger agreement for ETE to acquire SUG for \$9.4 billion, including \$5.7 billion in cash and ETE common units. Under the terms of the revised agreement, which was unanimously approved by the boards of directors of both companies, SUG shareholders could elect to exchange each outstanding Southern Union common share for \$44.25 of cash or 1.00x ETE common unit. The maximum cash component is

60% of the aggregate consideration and the common unit component can fluctuate between 40% and 50%. Elections in excess of either the cash or common unit limits will be subject to proration.

The merger is expected to be consummated in the first quarter of 2012, subject to regulatory approval.

## Sabine Pass Nails Down Third Offtake Agreement

Sabine Pass Liquefaction LLC entered into a liquefied natural gas (LNG) sale and purchase agreement (SPA) with GAIL (India) Ltd., its third SPA for the planned export project.

Under the agreement, GAIL agreed to purchase approximately 3.5 million metric tons per year (MMmt/y) of LNG from Train 4 for 20 years. Prior to the commencement of train four operations, GAIL will purchase bridge volumes of about 0.2 MMmt/y after Train 2 begins operations.

The SPA with GAIL represents the first contract for the second phase of the project, which will also include two liquefac-

tion trains with combined production capacity of 9.0 MMmt/y.

Under the SPA, GAIL will purchase LNG on an FOB basis for a purchase price indexed to the monthly Henry Hub price plus a fixed component. LNG will be loaded onto GAIL's vessels.

Delivery of the bridge volumes are to occur when Train 2 starts up in 2016 and deliveries from Train 4 are to occur upon commencement of its operations, which is expected as early as 2017.

The SPA is subject to certain conditions precedent, including but not limited to Sabine Liquefaction receiving

regulatory approvals, securing necessary financing arrangements and making a final investment decision to construct the second phase of the liquefaction project.

B.C. Tripathi, chairman and managing director, GAIL, said, "The SPA with Cheniere will help GAIL to ensure long-term gas supply for the growing demand in the Indian market. With an office established in Houston, GAIL has acquired shale gas assets in Carrizo's Eagle Ford shale acreage and is further looking for shale gas assets in the U.S."

— Scott Weeden

## Plains All American Closes On \$1.2B Credit Facility

Plains All American Pipeline LP (NYSE: PAA) closed on a \$1.2 billion credit facility on Dec. 9, 2011, to provide increased liquidity. The company has yet to activate the facility, but can do so at any time in the next six months.

"We appreciate the continued support from our banks. This liquidity facility enhances our flexibility in accessing the capital markets opportunistically, as we complete the financing for the

five acquisitions totaling \$2.3 billion announced on Dec. 1, 2011," said Al Swanson, executive vice president and CFO of Plains All American. "This facility also provides additional liquidity and financial flexibility with which to execute our other growth plans."

Plains Midstream Canada ULC, a Plains All American Pipeline subsidiary, signed a definitive agreement to acquire BP PLC's Canadian natural gas liquids

(NGL) and liquefied petroleum gas (LPG) business earlier this month.

DNB Bank served as administrative agent and joint bookrunner. Bank of America and JPMorgan Chase Bank served as co-syndication agents and joint bookrunners. Also participating in the facility were Mizuho Corporate Bank, UBS Loan Finance and Wells Fargo Bank.

## Chevron Completes Construction Of Saudi Petrochemical Complex

Chevron Phillips Chemical Co. LLC announced that Saudi Polymers Co. (SPCo) and its joint venture partner, National Petrochemical Co., completed construction of the SPCo joint venture's manufacturing facility located in Al-Jubail, Saudi Arabia.

Final commissioning and testing activities continue with a priority on ensuring safe and reliable operations. Commercial production is expected in the first quarter of 2012.

The integrated SPCo petrochemicals complex includes world-class operating units that are capable of producing ethylene, propylene, polyethylene, polypropylene, polystyrene and 1-hexene. In addition to direct sales in the local Saudi market, the company will serve world markets outside the Kingdom of Saudi Arabia through its exclusive distributor, Gulf Polymers Distribution Company, utilizing Chevron Phillips Chemical's global marketing network.

SPCo is a limited liability company incorporated in the Kingdom of Saudi Arabia that is owned 65% by National Petrochemical Company (Petrochem), a joint-stock company incorporated in the Kingdom of Saudi Arabia and 35% by Arabian Chevron Phillips Petrochemical Co., a wholly owned subsidiary of Chevron Phillips Chemical.

## SNAPSHOT

### Vector Pipeline: A Key Shipper In Midwest

The Vector Pipeline, which recently celebrated its 11-year anniversary of operations, is a heavily used pipeline in the Midwest that transports up to 1.2 billion cubic feet per day (Bcf/d) of natural gas from the Chicago region to Michigan. From Michigan, these volumes can be transported to eastern Canada and the Northeast.

The 348-mile pipeline is a joint venture between Enbridge Inc., which holds a 59.6% interest, and DTE Energy, which owns 39.4% of the system. When Vector Pipeline was brought online in Dec. 2000, it was 30% owned by Westcoast Energy Inc. with Enbridge and DTE holding the remaining interest between them. In 2002, Duke Energy acquired this 30% interest and sold the interest to DTE and Enbridge for \$145 million.

Vector Pipeline's primary receipt points are the Alliance Pipeline at Jo-

liet, Ill.; ANR Pipeline at St. John, Ind.; Bluewater Gas Storage at Lenox, Mich.; Enbridge Gas Distribution at Sombra, Ontario, Canada; and Guardian Pipeline at Joliet.

The system's primary delivery points are the ANR Pipeline at St. John, Ind.; Bluewater Gas Storage at Lenox, Mich.; Consumers Energy Co. at Ray, Mich. and Hartland, Mich.; and Crossroads Pipeline at Wheeler, Ind.

According to Hart Energy's Mapping & Data Services, the system's top transport customers are DTE Energy Trading at 340,000 dekatherms per day (Dth/d); BP Canada Energy Marketing at 210,000 Dth/d; Enbridge Gas Distribution at 175,000 Dth/d; Wisconsin Gas at 165,000 Dth/d; Westcoast Energy U.S. at 160,000 Dth/d; Crete Energy Venture at 108,000 Dth/d; ONEOK Energy Services at 100,000 Dth/d; Tidal Energy Marketing at 85,000

Dth/d; Union Gas Ltd. at 80,000 Dth/d; and Wisconsin Public Service at 76,000 Dth/d.

The pipeline has experienced growth in both revenue and transportation throughput from 2006 to 2009. Transportation revenue increased from \$85 million in 2006 to \$107 million in 2009 while throughput increased from 1.039 million Dth/d in 2006 to 1.355 million Dth/d in 2009.

In 2010, the system's top receipt point was the Washington Compressor followed by the Joliet Compressor, according to Hart Energy's Mapping & Data Services. Vector Pipeline's top delivery point was St. Clair followed by Bluewater.

– Frank Nieto

• Click [here](#) to download map and charts.

– Frank Nieto

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