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FEATURE

Marcellus Midstream 2012: Lt. Gov. Cawley Says Marcellus Providing Economic Opportunities Throughout Pennsylvania

The phrase “game changer” is tossed around quite a bit, but when it comes to the Marcellus shale it serves as a very apt description of the play’s influence on the Commonwealth of Pennsylvania.

“The Marcellus is having a profound effect on Pennsylvania and, indeed, on the economy of our nation,” Pennsylvania Lt. Gov. Jim Cawley, said during his keynote speech at Hart Energy’s third annual Marcellus Midstream Conference in Pittsburgh, Pa.

According to the Pennsylvania Department of Labor and Industry, the play has been responsible for the creation of 123,000 new jobs since 2009 with two-thirds of these jobs going to Pennsylvanians at an average salary of \$77,000. Not only do such jobs lower unemployment rates and economically benefit the state, but such job creation is one of the best ways to protect the public’s health, safety and welfare, according to Cawley.



“The Marcellus is fuelling economic opportunity and creating good-paying jobs all over this state and region. The opportunities aren’t just at drill sites and the value of the Marcellus isn’t just being felt at drill sites. The Marcellus is having an effect throughout Pennsylvania, miles away from any gas producing areas. It’s revitalized the main streets in downtowns and provided opportunities for more and more companies to do business with producers,” he said.

(continued on page 6)

NGL PRICES & FRAC SPREAD

Propane Prices Increasing Along With Export Demand

Ethane prices tumbled this week, but Mont Belvieu prices improved as petrochemical producers are reportedly stocking up on supplies in anticipation of various crackers coming back online this spring.

The Mont Belvieu price dropped 5% to 48¢ per gallon (/gal), its lowest price since it was 46¢/gal the week of Feb. 15. The final day of this trading week, March 27, saw the price increase to 51¢/gal. However, Conway ethane continued to face headwinds as the price dropped 15% for the week to 26¢ per gallon (/gal), its lowest price since it was 23¢/gal the week of Feb. 15.

During the past week, there has been a great deal of discussion surrounding the propane storage overhang with several Wall

Street analysts stating that this surplus could result in propane overtaking ethane as the most preferred feedstock. If this were true, we could see ethane prices negatively impacted.

However, it was noted by En*Vantage that propane exports are expected to increase in the second and third quarters, which would help reduce the propane surplus. “We do not share this view that the world is about to end for light NGLs. Yes, propane supplies are in surplus due to the lack of normal weather, and it is possible that we could see propane inventories reach 75,000 barrels by the end of the October as a worst-case scenario,” the company said in its Weekly Energy Report for March 29.

In addition, the company noted that while petrochemical demand for propane should increase, it will be difficult for it to overtake ethane as the most preferred feedstock as it would need to lose 14¢/gal. “Ethane’s floor value, set by natural gas, is extremely low, about 13¢/gal in the field, which equates to about 23¢ to 28¢ at Mont Belvieu ... with a market value of over 50¢/gal, ethane has the flexibility to fall as much as 25¢/gal to maintain its preferred feedstock position if threatened by propane,” according to En*Vantage.

Despite the overhang, propane prices increased 1% to \$1.27/gal at Mont Belvieu while they declined very slightly to \$1.07/gal at Conway as export demand is increasing, which provides further credence to the notion that ethane will remain stable in its role as the most preferred feedstock.

Heavy NGL prices were largely flat this week as they followed the same path of crude prices, which have been hovering in the same price range for the past few weeks. Butane prices dropped 1% at both hubs with the Mont

Current Frac Spread (Cents/Gal)				
March 30, 2012	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	26.34		47.68	
Shrink	12.48		13.48	
Margin	13.86	-20.83%	34.20	-5.95%
Propane	106.74		127.26	
Shrink	17.22		18.59	
Margin	89.52	1.28%	108.67	2.53%
Normal Butane	172.10		192.50	
Shrink	19.50		21.05	
Margin	152.60	0.45%	171.45	-0.59%
Iso-Butane	191.70		208.14	
Shrink	18.72		20.22	
Margin	172.98	0.05%	187.92	1.97%
Pentane+	239.37		243.10	
Shrink	21.09		22.78	
Margin	218.28	0.57%	220.32	-0.58%
NGL \$/Bbl	47.42	-2.10%	54.65	-0.71%
Shrink	6.89		7.43	
Margin	40.54	-0.87%	47.21	-0.12%
Gas (\$/mmBtu)	1.88	-8.74%	2.03	-4.25%
Gross Bbl Margin (in cents/gal)	92.55	-0.76%	109.40	-0.01%
NGL Value in \$/mmBtu				
Ethane	1.45	-15.52%	2.62	-5.47%
Propane	3.71	-0.48%	4.42	1.48%
Normal Butane	1.86	-0.68%	2.08	-1.00%
Iso-Butane	1.19	-0.88%	1.30	1.33%
Pentane+	3.05	-0.32%	3.10	-0.94%
Total Barrel Value in \$/mmBtu	11.26	-2.74%	13.51	-0.88%
Margin	9.38	-1.44%	11.48	-0.26%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
March 21 - 27, '12	47.68	127.26	192.50	208.14	243.10	\$54.65
March 14 - 20, '12	50.44	125.40	194.45	205.40	245.40	\$55.03
March 7 - 13, '12	53.39	128.54	194.84	209.92	247.63	\$56.15
Feb. 29 - March 6, '12	50.11	121.94	190.28	207.65	248.20	\$54.60
February '12	46.97	122.28	186.50	192.29	239.97	\$52.99
January '12	64.67	129.56	197.46	212.13	232.57	\$57.18
4th Qtr '11	84.49	144.13	188.16	227.18	224.44	\$61.34
3rd Qtr '11	76.03	153.87	188.27	208.52	237.59	\$61.59
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
March 23 - 29, '11	70.79	138.94	190.03	198.42	243.60	\$59.24
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
March 21 - 27, '12	26.34	106.74	172.10	191.70	239.37	\$47.42
March 14 - 20, '12	31.18	107.26	173.28	193.40	240.15	\$48.44
March 7 - 13, '12	33.20	111.82	176.44	196.86	245.70	\$49.95
March 7 - 13, '12	32.20	107.04	173.26	190.77	244.36	\$48.79
February '12	22.65	100.24	160.71	173.94	227.79	\$44.18
January '12	28.59	102.17	171.36	182.59	210.31	\$44.99
4th Qtr '11	34.29	129.43	160.82	204.27	196.08	\$48.23
3rd Qtr '11	46.69	143.07	166.30	199.68	210.98	\$53.06
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
March 23 - 29, '11	53.68	129.46	177.70	191.62	241.25	\$55.03

(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

Belvieu price down to \$1.93/gal and the Conway price down to \$1.72/gal. Butane’s sister product, isobutane, was a mixed bag as the Mont Belvieu price increased 1% to \$2.08/gal while the Conway price dropped 1% to \$1.92/gal. Pentanes-plus (C₅₊) prices dropped at both hubs as the Mont Belvieu price was down 1% to \$2.43/gal and the Conway price was down slightly to \$2.39/gal.

Similarly frac spread margins were also a mixed bag despite heavy drops in natural gas prices that saw the Mont Belvieu price fall 4% to \$2.03 per million Btu (/MMBtu) and the Conway price falling 9% to \$1.88/MMBtu.

However, the sharp drop in ethane prices meant that the margin was unable to capitalize on the lower feedstock prices as the Mont Belvieu margin fell 21% and the Conway margin dropped

6%. Lower natural gas prices resulted in improved margins for propane and isobutane at both hubs, along with Conway butane and C₅₊.

The theoretical NGL barrel price dropped 2% at Conway to \$47.42 per barrel (/bbl) with a 1% drop in margin to \$40.54/bbl. The Mont Belvieu barrel was down 1% to \$54.64/bbl with a very slight drop in margin to \$47.21/bbl.

The most profitable NGL to make at both hubs was C₅₊ at \$2.18/gal at Conway and \$2.20/gal at Mont Belvieu. This was followed, in order, by isobutane at \$1.73/gal at Conway and \$1.88/gal at Mont

Belvieu; butane at \$1.53/gal at Conway and \$1.72/gal at Mont Belvieu; propane at 90¢/gal at Conway and \$1.09/gal at Mont Belvieu; and ethane at 14¢/gal at Conway and 34¢/gal at Mont Belvieu.

Natural gas in storage for the week increased 57 billion cubic feet to 2.437 trillion cubic feet (Tcf) from 2.380 Tcf, according to the Energy Information Administration. This was 50% greater than the storage level of 1.621 Tcf reported last year at the same time and 59% greater than the five-year average of 1.537 Tcf.

After several weeks in which the weather across the country was finally

starting to help the industry by increasing cooling demand early after a winter with a decided lack of heating demand, the weather is again becoming fickle. According to the National Weather Service's forecast for next week, temperatures on the East Coast are expected to be normal for late winter/early spring. These normal temperatures will extend into parts of the Midwest and Rockies. Increased temperatures are expected in the Gulf Coast and parts of the Midwest along with cooler than normal weather on the West Coast.

— Frank Nieto

INSIDE LOOK AT PROCESSING

Cardinal Midstream Brings Third Woodford Processing Plant Online

Cardinal Midstream LLC announced that it has a third cryogenic processing plant online in the Arkoma Woodford shale. With 220 million cubic feet of natural gas per day (MMcf/d) of operated cryogenic processing capacity, Cardinal is now the largest natural gas processor in Oklahoma's Arkoma Woodford shale. The new cryogenic processing facility, called the Tupelo Plant, is located in Coal County, Okla, and is capable of processing 120 MMcf/d.

The Tupelo Plant complements the two additional cryogenic processing plants Cardinal operates in the play.

The Coalgate Plant is an 80 MMcf/d facility also located in Coal County immediately adjacent to the Tupelo Plant. The Atoka Plant has a capacity of 20 MMcf/d and is located 13 miles to the south in Atoka County, Okla. An NGL pipeline connects the Atoka Plant with the Coalgate and Tupelo facilities, where NGLs are delivered to the ONEOK NGL Pipeline system (NYSE:OKS). The Coalgate and Atoka plants are owned in a joint venture with MarkWest Energy Partners, L.P.

(NYSE: MWE). Cardinal is the sole owner of the Tupelo Plant.

“Bringing the Tupelo Plant online is an important step in our effort to address processing bottlenecks in the Arkoma Woodford,” said R. Mack Lawrence, president of Cardinal Midstream. “Cardinal is expanding its gathering system and evaluating further processing capacity expansions given the level of drilling activity on dedicated acreage and the quality and production volume we're seeing from the rich gas wells in the play.”

Antero Completes Sale Of Midstream Assets To Crestwood

Crestwood Midstream Partners LP (NYSE: CMLP) and Crestwood Holdings Partners LLC announced their joint venture, Crestwood Marcellus Midstream LLC, has completed the previously announced acquisition of Antero Resources Appalachian Corp's Marcellus shale gathering system assets. The effective date of the acquisition is January 1, 2012. Cash paid at closing totaled \$376.8 million, which

included preliminary closing adjustments of \$1.8 million, related to first quarter 2012 operations and capital spending.

The acquired assets include 34 miles of low pressure gathering pipelines located in Harrison and Doddridge Counties, West Virginia, which are currently gathering approximately 230 million cubic feet per day from 63 existing horizontal Marcellus Shale wells, nine of which

have been connected in 2012. Based on current estimates, an additional 51 wells are expected to be drilled and connected during the remainder of 2012. The gathering pipelines deliver Antero's Marcellus Shale production to various regional pipeline systems including Columbia, Dominion and Equitrans and later this year will begin deliveries to intermediate systems that will connect to MarkWest En-

ergy Partners' Sherwood Gas Processing Plant, expected to be placed in service in the third quarter of 2012. As part of the acquisition, Crestwood Marcellus Midstream and Antero have entered into a 20-year gas gathering and compression agreement, which will provide for an Area of Dedication of approximately 127,000 gross acres, or 104,000 net acres. In addition, Antero has provided for annual minimum volume commitments and a right of first offer on future development on acreage adjacent to the Area of Dedication in Doddridge County.

"On behalf of both Crestwood Holdings and CMLP, we are very excited to complete this acquisition, expanding the Crestwood footprint into the Marcellus Shale," stated Robert G. Phillips, president and chief executive of CMLP's general partner. "The acquisition is an excellent fit with our strategy of building our portfolio on a solid foundation of long-term fixed-fee revenue streams. We are equally pleased to be working with Antero, an experienced producer who has established an excellent track record and reputation successfully developing unconventional shale plays. Antero's wells have been among the most prolific producing wells completed in the Marcellus Shale play to date. The Area of Dedication is largely located in the rich gas window of the southwestern core of the Marcellus Shale play, which provides CMLP with additional exposure in areas where producers' economics

are enhanced with the higher content of natural gas liquids contained in the gas stream."

The Crestwood Marcellus Midstream LLC joint venture was primarily funded by a \$131 million equity contribution from CMLP, representing a 35% ownership interest, and a \$244 million equity contribution from Crestwood Holdings, representing a 65% ownership interest. Crestwood Marcellus Midstream LLC has entered into a \$200 million revolving credit facility to finance future capital requirements and working capital needs of the joint venture. CMLP funded its equity contribution from borrowings under its \$500 million revolving credit facility. Crestwood Holdings funded its contribution from a combination of additional equity contributions from its sponsor, First Reserve Corporation, and a new \$400 million term loan credit facility that was also used to refinance existing indebtedness at Crestwood Holdings. The Crestwood Marcellus Midstream LLC facility and the Crestwood Holdings facility were arranged and syndicated by a group of banks including BofA Merrill Lynch, BNP Paribas, Citigroup, RBC Capital Markets, The Royal Bank of Scotland plc and UBS Securities.

"The structure of the joint venture between CMLP and Crestwood Holdings demonstrates the commitment and value that First Reserve provides to CMLP," added Phillips. "The equity contribution into Crestwood Holdings by First Reserve

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / March 29, 2012	
Gas Hub Name	Current Price
Carthage, TX	2.00
Katy Hub, TX	1.99
Waha Hub, TX	1.95
Henry Hub, LA	2.01
Perryville, LA	1.98
Houston Ship Channel	1.95
Agua Dulce, TX	2.64
Opal Hub, Wyo.	1.86
Blance Hub, NM	1.86
Cheyenne Hub, Wyo.	1.83
Chicago Hub	2.10
Ellisburg NE Hub	2.17
New York Hub	2.22
AECO, Alberta	1.66

Source: Bloomberg

and Crestwood Holdings' access to the term loan market enabled the acquisition to be completed within one month of signing the definitive agreement. In addition, CMLP has maintained sufficient liquidity to fund its 2012 planned capital expenditure program without the need to access additional equity capital. Most importantly, the joint venture provides CMLP with visible organic growth and potential drop-down acquisition opportunities over the next several years," Phillips added.

BENTEK Energy: Ethane Takeaway Capacity Sufficient, But Propane Storage Could Be Problematic

The influx of NGLs from the Northeast will increase dramatically during the next eight years as wet gas production from the Marcellus and Utica shales is expected to increase from approximately 15,000 barrels per day (b/d) to 645,000 b/d by 2020,

according to Kristen Holmquist, manager, NGL analytics at BENTEK Energy.

Speaking at Hart Energy's third annual Marcellus Midstream Conference in Pittsburgh, Pa., Holmquist noted that this represented tremendous

growth opportunities for the midstream industry as it will require additional processing and fractionation capacity because production is expected to remain in the Northeast.



Kristen Holmquist, manager, NGL analytics at BENTEK Energy, speaking at Hart Energy's third annual Marcellus Midstream Conference.

In 2011, the Northeast reached an all-time low of inbound flows of gas from other regions. The basis differentials in the region have reached almost zero, which has removed a great deal of the incentive for producers from other sections of the country to direct as many volumes to the Northeast. Consequently, BENTEK anticipates production from the Marcellus and Utica will remain in the Northeast.

"For the rest of the country, the raw mix is heading down to Mont Belvieu to be fractionated, but the decision has been made to fractionate the raw mix from the Northeast locally," Holmquist said.

However, this decision will present its own set of challenges. "In the Northeast, ethane and propane demand are not expected to increase nearly as much as are supplies. Solutions will have to be created to handle these additional volumes," she said.

The rig counts have increased in the past two to three years from a little more than 80 rigs to the current level of approximately 180 rigs. Even if the rig count decreases, production is expected to continue to increase and keep the Northeast well stocked in gas and liquids.

"It is important to consider that there are about 1,000 wells in the dry

portion of the Marcellus that have not been completed because of a shortage of fracing crews or there isn't enough take-away capacity. Now we're getting to the point where there might not be enough demand, but production could still increase even if the rig count were reduced," she said.

Liquids production out of the Marcellus and Utica shales will increase to nearly 6 billion cubic feet per day (Bcf/d) by 2020, according to BENTEK Energy data. The company currently forecasts processing capacity to reach approximately 3 Bcf/d by 2015, but they are not expecting processing bottlenecks because of the midstream industry's recent exemplary track record in avoiding these issues.

"In the past few years, every time it looks like there could be processing constraints, there are projects quickly announced to help relieve these constraints. So even though our current forecast data includes the potential for constraints, we are not constraining our forecast based on processing capacity in the medium- to long-term," Holmquist said.

Takeaway Issues

Although ethane has garnered the most attention in terms of the NGL that will require the most infrastructure build-out because of the development of the Marcellus shale, BENTEK anticipates that propane will actually have the most issues as there isn't enough storage capacity to handle the added production.

Two years ago it looked like there was going to be a great deal more ethane production than could be consumed by the midstream. However, the industry quickly responded with many projects designed to alleviate this issue before it became

a problem by building crackers in the Northeast as well as directing volumes to the Gulf Coast and Sarnia.

While BENTEK's current forecast has excess ethane from the Marcellus from 2017 to 2020, Holmquist noted that these volumes were less than the capacity of several projects that have been announced for consideration. Although it is highly unlikely that all of these projects would be given the green light to proceed, it is expected that enough will be built to consume this excess ethane. "There is no longer an ethane problem in the Northeast. There have been sufficient solutions created to generate additional value," she said.

However, announcements on the propane front have been few and far between at this point and it is a growing concern for producers. "Propane production growth looks very similar to ethane production growth. We expect propane production to be about 180,000 b/d by 2020, which matches current demand levels. However, demand is expected to shrink slightly. This will tax the storage in the Northeast storage system. By 2018-2020, you will need to see more storage and demand to consume this increased propane production," Holmquist said.

Consequently, access to other markets will be needed for propane producers. The two most likely are Europe via export and the Gulf Coast via pipeline similar to what has happened with ethane. It is also possible that the petrochemical industry could enter the region to make propylene in the region similar to what has been discussed with ethane crackers in the Northeast.

— Frank Nieto

Lt. Gov. Cawley Says Marcellus Providing Economic Opportunities... *(continued from page 1)*

This job growth has occurred as Pennsylvania has maintained best practices and an exemplary safety record, which was further strengthened with a comprehensive update of the state's oil and gas act for the first time in 30 years. This update, called Act 13 of 2012, was put into law on Feb. 14 and was based on input from the Marcellus Shale Advisory Commission, which included members from the oil and gas industry, along with environmentalists, academics and politicians.

"It is a historic measure for Pennsylvania. We can now boast some of the toughest environmental protections in the country. The voices from the [oil and gas] industry were very clear: they want tougher regulations, but they want them applied uniformly and they want everybody playing by the same rules. That is something that this package guarantees," Cawley said.

The legislation could generate an additional \$180 million for environmental protection of lands, training of emergency responders, as well as the repairing of bridges and roads through drilling impact fees.

Such fees would be in addition to the large economic benefit that producers

have provided the state through taxes. Cawley said that since 2006, the Marcellus shale has been responsible for \$1.6 billion in taxes paid to the general fund.

"There are those out there that say this industry does not pay taxes. Wrong answer! Just in 2011 alone, this industry was responsible for \$419 million in taxes. That money is going into schools, roads, and parks all across this state," he said.

Cawley also noted that the Marcellus shale is also helping to drive down energy costs in Pennsylvania as gas prices have dropped by nearly 13% since the play has begun to be developed. These prices have increased its use as a power generator, which has in turn lowered prices for electricity. According to a recent Penn State study, Pennsylvanians spent \$633 million less on energy in 2010 than in other parts of the country and this is primarily due to the Marcellus shale.

Act 13 also provides incentives for end-uses of natural gas, such as construction of natural gas fueling stations every 50 miles along the state's highways and the conversion of fleets to natural gas. Gov. Corbett also recently secured an initial victory in getting a

world-scale ethylene plant built in the state when Shell signed a land option to build a \$2.5 billion plant in Monaca earlier this month.

"While we are excited by that announcement, we know it is a long way until there is a shovel in the ground and that there are still many hurdles that we have to overcome. We know that we will have to continue to work hard in order to make sure that that petrochemical complex comes to Pennsylvania," Cawley said.

While Pennsylvania and its citizens are benefitting from the increased use of natural gas, the rest of the country must follow suit, Cawley said. "We can no longer, from an energy consumption perspective, continue on the road we're on. We've got to promote energy independence in this nation – it is equally important to not just drill for the gas, but to use the gas. Pennsylvania can be a keystone for ending our dependence on foreign oil," he added.

– Frank Nieto

Economides: Texas Lost \$7.7B, Forfeited 8,600 Jobs From Declining Natural Gas Use

Natural gas' declining share of the Texas power generation market from 2005 through 2011 translated into a \$7.7 billion economic loss to the state, according to a study by Dr. Michael J. Economides, a chemical and biomolecular professor at the University of Houston, and petroleum engineering consultant Philip E. Lewis.

The study compares the direct and value-added economic impacts from



the three dominant power generation energy sources in Texas: coal, natural gas and wind. Over the past two decades in the U.S., natural gas has increasingly become the preferred energy source for power generation. Starting in 2005, however, Texas' reliance on natural gas began to decrease, as national use continued to rise.

Since virtually all the natural gas used for electric generation in Texas is

produced in-state, this divergence represents a loss of more than \$7.7 billion to the state since 2005 – \$2.5 billion in lost potential revenue, including leasehold improvements, production royalties, severance taxes to state and local governments, sales taxes, and local property taxes, as well as \$530 million in lost wages in 2011 alone. The state also forfeited 8,600 jobs that would have otherwise been created by the Texas natural gas industry. The analysis was commissioned by America's Natural Gas Alliance.

“Over this study period, Texas increased its reliance on out-of-state coal as a substitute for Texas natural gas. This does little for our economic development and job creation,” according to Economides. “Greater use of Texas natural gas will aid the state's employment, which has suffered as a result of this trend.”

Marcellus Midstream 2012: Multiple Uses For Natural Gas Expected To Boost Demand

The demand for natural gas is expected to rise in the future as more vehicles turn to it and a greater number of power plants use it to generate electricity, a panel of experts said recently.

Speaking at Hart Energy's recent Midstream Marcellus conference, the panel said it expected public transportation, rail, and personal vehicles are also expected to boost demand.

“We are at the tip of this tremendous iceberg in terms of where the opportunities are,” said Richard Bohr, president Whitetail Natural Gas Services LLC.

George Stark, director of external affairs at Caboil Oil & Gas, said the technology for commercial natural gas already exists and has for at least 20 years. Cabot has converted many of its vehicles to compressed natural gas (CNG) in an effort to spur demand for natural gas and Stark encouraged other producers to follow.

The time is ripe for such a transition, and the recent CPS Energy announcement that it will mothball an older coal plant and purchase an 800-MW natural gas plant may signal a slowing or reversal of this trend.

Natural gas is affordable and available at competitive costs for Texas electricity consumers and projections show long-term stability in natural gas markets. Texas natural gas companies also pay five times more in state and local taxes and royalties on a per-job basis than the average company in other industries. Community hospitals, emergency services and Independent school districts in Texas depend on the benefits from natural gas. In fact, about 75 percent of the total independent school districts in Texas each receive an average of \$1.35 million per year in ad valorem revenues from the production of natural gas.

“I drove a natural gas vehicle back in 1985, so this is not a new story by any means,” he said.

He encouraged public, private partnerships to develop additional fueling stations which offer natural gas supplies to vehicles. In addition, the market is developing a growing number of home fueling devices whose prices are growing continually more attractive.

Lou D'Amico, president and executive director of Pennsylvania Independent Oil & Gas Association, said the best way to quickly spur natural gas demand is to encourage transportation and local trucking to use natural gas as a fuel. Another important source of demand is to encourage power producers to use more natural gas and less coal, he said.

New EPA rules will likely push many utilities away from coal as a fuel and force them to look for alternatives,

In addition to its economic benefits, abundant Texas natural gas is a cleaner source of electricity. A combined-cycle natural gas plant emits virtually zero sulfur dioxide and particulates, while smog-forming nitrogen oxides emissions are substantially lower than coal-fired power plants.

“A failure to take full advantage of Texas natural gas in power generation is a substantial missed opportunity for our state because of how tightly integrated natural gas development and related industries are with the state's economy,” Dr. Economides said. “Texans ignore the benefits of this abundant local resource at their economic and environmental peril. Embracing greater use of natural gas is key to Texas' long-term growth, prosperity and clean air.”

although some utilities have not fully grasped this potential change.

“Many of the utilities have been using some rose colored glasses about what impact the EPA will have on them,” he said.

In addition, a natural gas fueled plant is relatively easy to get a permit to build. A nuclear fueled plant, by contrast, could take decades to permit, D'Amico said.

A clean coal plant could easily take “close to a decade” to permit, which would discourage its development, he said.

Thomas Murphy, co-director of Penn State Marcellus Center for Outreach and Research, said the development of nuclear power is further delayed, making natural gas more important in the short term. Home heating is another important source of demand is home heating. Prices are less cyclical. “We will not see the same cyclical price that we have in the past,” he said. As a result, many home

owners will likely to switch to homes to natural gas for heating.

Meanwhile there is a growing number of industrial power users who are looking at using natural gas as a fuel.

Murphy said additional public education was needed to translate the availability of natural gas as an alternative fuel to the average member of the public. "One

way to do that is to bring non-industry vehicles in the discussion," he said.

One way to reach out to the general public is to convince local school districts and municipalities to use additional supplies of natural gas in their fleet vehicles, Murphy said.

Bohr stressed during the discussion that natural gas is not a bridge

fuel. Proven reserves in the U.S. have shown the U.S. has more than 100 years of potential supply, and that by definition, this is no longer a bridge to some other alternative.

"100 years is an awfully long bridge," he said.

– Keefe Borden

PIPELINES & TECHNOLOGY

NET Midstream Announces 105-Mile Expansion Of Eagle Ford System

NET Midstream announced that Eagle Ford Midstream, LP, a wholly owned subsidiary of NET, will build a 105-mile, 24" - 30" diameter extension of its existing gas pipeline. The extension will be anchored by a long-term, gas transportation agreement with an affiliate of Anadarko Petroleum Corp.

The extended pipeline will transport residue gas from Western Gas Partners, LP's Brasada natural gas processing plant in LaSalle County, Texas to interstate and intrastate pipelines at the Agua Dulce Hub in Nueces County, Texas. The first phase of the expansion will be placed into service in December 2012, with completion by April 2013.

"In addition to the recently announced expansions of our liquids-handling capacity, this agreement will secure firm pipeline capacity for our residue gas, which is essential in facilitating the continued rapid production growth Anadarko is achieving in the Eagle Ford Shale," said Danny Rea, Anadarko's vice president of Midstream. "NET Midstream's existing assets in the region make them an ideal partner for us."

The Eagle Ford Midstream system currently consists of 55 miles of 16" pipeline anchored by long-term commitments

RESIN PRICES – MARKET UPDATE – MARCH 30, 2012					
TOTAL OFFERS: 18,160,336 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
LDPE - Film	4,312,648	0.71	0.82	0.71	0.75
LLDPE - Film	3,657,544	0.67	0.81	0.66	0.7
HDPE - Inj	2,596,968	0.67	0.79	0.65	0.69
HDPE - Blow Mold	2,568,208	0.77	0.825	0.74	0.78
PP Copolymer - Inj	1,972,300	0.65	0.75	0.64	0.68
LDPE - Inj	1,725,840	0.7	0.82	0.69	0.73
PP Homopolymer - Inj	1,557,196	0.77	0.86	0.76	0.8
GPPS	617,288	0.74	0.76	0.69	0.73
HMWPE - Film	615,000	0.86	0.86	0.87	0.92
HIPS	380,000	1.01	1.03	0.98	1.03
LLDPE - Inj	190,000	0.72	0.72	0.67	0.71

Source: Plastics Exchange – www.theplasticsexchange.com

from producers in LaSalle and McMullen Counties and delivers pipeline-quality gas to NET's LaSalle Pipeline and Transco Pipeline located near Tilden, Texas in McMullen County. NET developed, constructed and operates LaSalle Pipeline, a 53-mile, 16" intrastate natural gas pipeline, completed in 2009. LaSalle Pipeline provides the full gas supply requirements for a 200 MW power generation facility located in Pearsall, Texas.

"The second phase of Eagle Ford Midstream provides producers and

processors with crucial market liquidity for their plant residue and dry gas production," said Joe Gutierrez, co-president of NET. "Upon completion of this project, NET Midstream will have invested approximately \$250 Million in over 200 miles of pipeline and facilities in the Eagle Ford Shale. We look forward to incremental growth opportunities for our company as the region continues to develop."

Enterprise, Enbridge Secure Capacity Commitments For Seaway Expansion

Enterprise Products Partners LP (NYSE: EPD) and Enbridge Inc. (NYSE, TSX: ENB) obtained sufficient capacity commitments of five to ten years from shippers to proceed with their proposed expansion of the Seaway crude oil pipeline, which will more than double its capacity to 850,000 barrels per day (b/d) by mid-2014. The project will include the construction of a 512-mile, 30-inch parallel pipeline that will add 450,000 b/d of capacity to the system.

In addition, Enbridge secured enough commitments to proceed with its Flanagan South Project that will add incremental capacity from Flanagan, Ill. to the Gulf

Coast via the reversed Seaway Pipeline. The commitments for this project range from 10 to 20 years.

“Based on the tremendous response to the open commitment period, shippers have recognized the advantages Seaway offers in being able to provide a timely, economic and complete solution for relieving not only the bottleneck at Cushing but facilitating the development and delivery of North American energy reserves,” Michael A. Creel, president and chief executive officer of Enterprise’s general partner, said in a news statement. “In addition to promoting energy independence, the Seaway expansion will also

offer economic benefits, including job opportunities during construction and at North American mills that we expect will provide the pipe for the project.”

“Expansion of the Seaway Pipeline, along with Enbridge’s Flanagan South Project, will provide crude oil producers in the Bakken region and other emerging crude oil sources capacity to move secure, reliable supply to U.S. Gulf Coast refineries, offsetting supplies of imported crude,” Pat Daniel, chief executive of Enbridge Inc, said. “By leveraging existing infrastructure wherever possible, impacts to landowners, communities and the environment will be minimized.”

Obama Administration May Study Pipelines Connected To Fracing Sites

The Obama administration may start collecting data on pipelines energy companies use to transport natural gas and oil extracted from shale by hydraulic fracturing, according to a government report.

Federal and state regulators lack enough information to determine the safety of pipelines that collect gas at well sites and carry the fuel to processing facilities, according to the report by the Government Accountability Office, Congress’s investigative arm.

The Department of Transportation’s Pipeline and Hazardous Materials Safety Administration, which oversees transmission pipelines, doesn’t collect data on smaller lines at the wells, according to the report.

“While the safety risks of federally unregulated, onshore hazardous liquid and gas gathering pipelines are generally considered to be lower than other types of pipelines, PHMSA is currently not able to determine the performance and safety of these gathering pipelines,” according to yesterday’s report.

Hydraulic fracturing, or fracing, involves injecting millions of gallons of water, chemicals and sand thousands of feet underground in shale formations to free trapped oil and gas. A surge in exploration in shale formations has been accompanied by a “new infrastructure” of pipelines that may pose unknown safety risks, according to the report.

Sixteen state agencies cited “moderate or high safety risks” because regulators

weren’t certain of the exact locations of pipelines, according to the report. Other concerns included construction quality, maintenance practices and unknown current conditions of pipelines, the GAO said.

The report suggested creating an online database for states to share information on practices to ensure safety of its unregulated pipelines.

Pipelines for hazardous materials and natural gas carry about two-thirds of U.S. energy supplies through a network covering about 2.5 million miles (4 million kilometers), the report said. The U.S. has about 200,000 miles of pipelines collecting natural gas at drilling sites, as well about 40,000 miles of gathering pipelines for hazardous materials.

- Bloomberg

NEWS & TRENDS

Kinder Morgan Announces Capacity Commitment For Trans Mountain Crude Storage Capacity

Kinder Morgan Energy Partners LP (NYSE: KMP) secured enough long-term producer commitments to proceed with the construction of 1.2 million barrels of new crude oil storage at its Edmonton terminal connected to its Trans Mountain Pipeline. The company is building 2.4 million barrels of storage at the facility for a combined \$284 million that will increase its total storage capacity to 3.6 million barrels by late 2013.

In addition, Kinder Morgan announced that it was also extending the open season for the project by two weeks to allow interested parties to provide additional binding volume commitments as a result of project scoping changes.

“This increase in storage capacity demonstrates the importance and flexibility of Trans Mountain’s Edmonton storage hub, and the unparalleled upstream and downstream connectivity

inherent in the location of the facility,” Bill Henderson, vice president of Kinder Morgan Canada Terminals, said in a news statement.

“The Edmonton hub will also play a very important staging role for crude oil in the Trans Mountain pipeline expansion proposal,” Ian Anderson, president of Kinder Morgan Canada, the operator of both Trans Mountain and the Edmonton terminal added.

Marcellus Midstream 2012: Financial Opportunity Is Exploding In The Midstream

North American natural gas markets are transforming due to the huge volumes coming from Appalachia’s Marcellus shale, said Jerry V. Swank, managing partner, Swank Capital, in a finance panel at Hart Energy’s 2012 Marcellus Midstream Conference & Exhibition in Pittsburgh, Pennsylvania. The development of this resource has brought thousands of jobs to the region, sparked an economic revitalization, and brought much-needed tax revenues to state and local governments.

At the same time, the stunning volumes of gas have caused a major glut of natural gas in the United States. The size of the resource is driving a reconfiguration of the long-haul natural gas transportation infrastructure, and impacting natural gas liquids markets nationwide.

“The Marcellus is now a giant natural gas storage facility,” said Swank. “Our consultants tell us there are more than 1,300 shut in wells right now. As soon as prices kick up to \$3.50 or \$4.00 per Mcf, those will be the first ones to come on.”

Panel member Bill Waldrip, managing partner, EnCap Flatrock Midstream, talked about the changes that this great bounty of production has brought to the midstream. As the upstream operators shift rigs from dry gas to liquids-rich

drilling, the opportunities to invest in the NGL segment have blossomed. “We like the part of the midstream space that requires a lot of multiple services to make the hydrocarbons marketable, such as gas gathering, treating, processing, compression, storage, fractionation and transportation. This portion of the space is a great spot for private equity investments.”

Value is created in the midstream in plays with attractive upstream economics and a lack of existing infrastructure. Waldrip notes that the M&A market in the midstream sector is very active at present, and the environment is ripe for deals. There is pressure both to put capital to work, and to sell before the 2012 elections, he said.

Waldrip estimated that U.S. E&P investment would total \$122.4 billion in 2012, and that would spur \$30.3 billion in midstream capex. “This is a unique period for midstream investment, and it is a time of tremendous opportunity.”

The closing panelist Kenny Feng, president and CEO, Alerian, looked at the midstream from the investor side. Feng noted that master limited partnerships (MLPs) are popular because they provide very attractive yields in comparison

to other asset classes. Indeed, in the past three years, MLPs have outperformed nearly all other sectors, and over the last 10 years MLPs have delivered returns of 18% annualized. Since 2006, the investor hunger for access products has grown from closed-end funds to exchange traded notes, exchange traded funds and mutual funds. According to Feng, exchange traded products and open-ended mutual funds have both experienced phenomenal growth.

Investors are piling into MLPs, bringing new money through pooled investment vehicles, public offerings, private investments in public equity and joint-venture partnerships. Nonetheless, most money flows in through direct investment, which is where the MLP asset class started. “About 75% of the market today is still retail. Direct investment has always been the means by which people access the MLP asset class,” said Feng.

The upshot of the finance panel? The midstream sector is very attractive these days, and the Marcellus midstream particularly so. And that’s the case for investors across the spectrum, from private equity providers to retail consumers. It’s truly a special time.

— Peggy Williams

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Magnum Hunter To Acquire TransTex For \$58.5M

Magnum Hunter Resources Corp. (NYSE: MHR) announced that Eureka Hunter Holdings LLC entered into an Asset Purchase Agreement with TransTex Gas Services LP, a privately-held company based in Houston, Texas, for the acquisition of substantially all of the assets of TransTex, excluding the assumption of existing indebtedness.

The purchase price is \$58.5 million, consisting of approximately \$46.8 million in cash and \$11.7 million in common units of Eureka Hunter. Funding for the cash portion of the acquisition will be provided by the previously announced investment commitment from an affiliate of ArcLight Capital Partners. The

acquisition is subject to certain conditions and is expected to close on or about April 2, 2012.

TransTex is primarily engaged in the business of treating natural gas, including the leasing of equipment to third parties in need of natural gas treating. TransTex is the largest privately-held contract gas treating company in the United States with treating plants currently deployed in seven states serving approximately 30 different customers. TransTex's services are offered to a broad range of producers and midstream operators which includes gas treating, processing, dehydration, pressurized NGL storage tanks, H₂S scavengers, power generation and well head

separation facilities. The TransTex fleet is comprised of 50 amine plants to treat and remove CO₂ and H₂S from natural gas and an interest in a fleet of hydrocarbon dew point control plants.

TransTex was started in 2006 and presently has a staff of 25 full-time employees, including a complete engineering and fabrication team that designs and fabricates treating plants in a fabrication yard located at Hallettsville, Texas. This facility is in very close proximity to the Eagle Ford Shale drilling activity in southwest Texas where Magnum Hunter is presently active with four drilling rigs operating today. TransTex enjoys a dominant market position in the gas treating

business with respect to plants sized less than 60 gallons per million (“GPM”), and offers plants ranging from as small as 5 GPM to as large as 300 GPM.

Members of the TransTex management team, including Greg Sargent, the President and co-founder of TransTex, will join the Company and continue to manage the acquired business subsequent to closing. Mr. Sargent has over 30 years of experience in the natural gas industry with senior roles in engineering, operations and business development. In addition, TransTex’s senior management team includes talented individuals with specific engineering and operational expertise in gas processing. This additional expertise will allow Eureka Hunter to grow its presence in the processing side of the business as it looks to further expand existing operations in Ohio and West Virginia.

The acquisition of TransTex will be immediately accretive to Magnum Hunter and its subsidiaries. TransTex brings an incremental \$15.0 million in forecasted 2012 revenues and an estimated EBITDA of approximately \$7.5

million for the year. The post transaction enterprise value of Eureka Hunter has now been established at a value of \$458.5 million. Magnum Hunter will retain an approximate 72% equity ownership in Eureka Hunter following the closing of TransTex, valuing its remaining interest in Eureka Hunter at approximately \$299 million. In addition, Magnum Hunter received a \$60 million distribution from the ArcLight initial investment, bringing total retained value to Magnum Hunter of \$359 million (approximately \$2.71 per equivalent Magnum Hunter common share).

Gary C. Evans, chairman and chief executive of Magnum Hunter commented, “The addition of the TransTex’s group of assets and management team to Eureka Hunter is a another step in our overall business plan which makes for a very comprehensive and well rounded midstream services company. Eureka Hunter will now have immediate access and the ability to offer producers skid mounted wellhead treating and field processing plants ideally suited for specific customer needs. In addition, TransTex will broaden its footprint as Eureka Hunter

continues to expand its gathering system in the Marcellus Shale of West Virginia and into the Utica Shale in eastern Ohio. We also believe the management team at TransTex will be able to identify additional business opportunities in the gathering and processing business for Eureka Hunter. With the acquisition of TransTex, we are significantly closer to the MLP objective we are ultimately seeking.”

Greg Sargent, president and co-founder of TransTex, said, “We are very excited about joining the Eureka Hunter team. We have known Gary and the Magnum Hunter management team for many years and we look forward to continuing our growth in both natural gas treating and processing in conjunction with Eureka Hunter’s gas gathering business as well as Magnum Hunter’s upstream business. This transaction will give us the strong balance sheet we need to take our business to the next level. I believe TransTex and Eureka Hunter will create a very formidable midstream company.”

SNAPSHOT

Howard Weil 2012: Chesapeake CEO Outlines Bullish Outlook For Natural Gas



Chesapeake may have made its natural gas bed, but that doesn’t mean the company intends to sleep in it.

That was one of the takeaways from CEO Aubrey McClendon’s standing-room-only

Howard Weil Energy Conference presentation in New Orleans March 26.

America’s Champion of Natural Gas is now looking to champion natural gas demand even while cutting 50 rigs out of its gas drilling efforts and reducing 2012 dry gas capital spending, net of drilling carries, by 70% to \$900 million.

It’s the smallest amount the profligate Oklahoma City independent will spend on dry gas drilling since the pre-joint venture days of 2005.

In the end, the only Chesapeake dry gas rigs left standing will be six each in

the Haynesville and Barnett, and another 12 in the northeast Pennsylvanian Marcellus play.

With all that said, one would expect a McClendon presentation heavily focused on oil and liquids.

But one would be wrong.

Instead the Chesapeake CEO spent more than half the allotted time discussing his bullish outlook for natural gas and reprising a storyline from the great blues artist Willie Dixon, who famously moaned: “I can’t quit you baby, but I got to put you down a little while.”

Only the tune McClendon carried noted “U.S. natural gas is the most underpriced, undervalued asset in the world today.”

McClendon’s bullish thesis suggests U.S. natural gas production will roll sometime in 2012 or 2013 as shale gas follows gas rig counts lower. The CEO pooh-poohed analyst projections that associated gas from liquids would either offset the decline, or even increase overall gas production, which happened in the aftermath of the 2009 collapse in natural gas drilling.

“There is no possible chance,” the ever-loquacious McClendon unequivocally claimed.

Instead, McClendon outlined recent developments on the gas demand side, suggesting the nation’s industrial sector was stepping forward to consume cheap natural gas even as the oil and gas industry nears commercialization of a Gas-to-Liquids (GTL) effort in Louisiana that could consume 800 MMcfed, and an innovative biofuel plant, again in Louisiana, that

could draw another 200 MMcfed, during the second half of the current decade.

And that’s even before electric utilities displace coal through a 10 to 15 Bcf/d switch to gas over the next decade, North American gas nears export in the form of LNG by year-end 2015, and transportation demand kicks in, according to the McClendon thesis.

Although Chesapeake has not repented its contribution to the gas over-supply problem (the company represents 9% of U.S. gas production and contributed one third, or 4.2 Bcf/d of the 14 Bcf/d increase in gas production over the last five years), it has agreed to some public penance.

McClendon noted that Chesapeake provided \$160 million of the \$400 million investment in Clean Energy Fuels Inc., which will add natural gas refueling pumps to 300 truck stops as part of a nationwide comprehensive network that will enable trucks to travel coast to coast on natural gas.

Chesapeake has also invested \$150 million in the Sundrop Fuels Inc., Louisiana plant that will convert natural gas and waste biomass at high temperatures into “tank-ready green gasoline”, and is working with manufacturers to develop a CNG home-refueling appliance that could be installed for \$1,500 in the future versus \$5,000 today.

Chesapeake, according to McClendon, has also invested \$50 million in a program that will add CNG refueling pumps to 200 existing stations nationwide at a cost of \$250,000 per station.

Finally, Chesapeake plans to roll out its self-developed Diesel Natural Gas technology in 2012 (pending certification) that will retrofit diesel engines to run on a blend of natural gas and diesel.

Chesapeake developed the technology to reduce costs from the one million gallons of diesel fuel the company burns daily.

— Richard Mason

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