

## Diversified Asset Base Gives Enterprise Flexibility

### Broader Infrastructure Portfolio Helps Company Weather Drop In Gas Prices

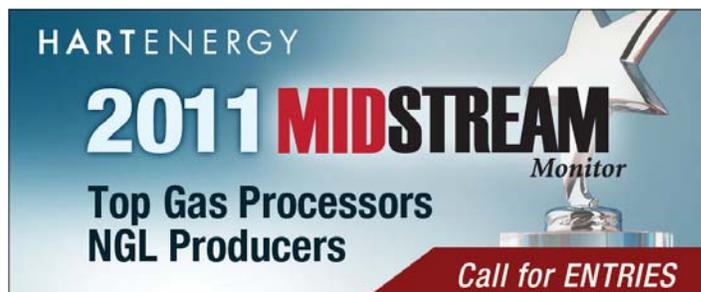
BY **FRANK NIETO** | EDITOR, MIDSTREAM MONITOR  
AND MIDSTREAMBUSINESS.COM

If there is one major takeaway from the winter of 2011-2012 it is that just as cold weather can drive natural gas and natural gas liquids (NGL) prices up, a warm winter can drive those price down just as fast.

Although propane prices were negatively affected by limited heating demand, and ethane faced rejection during the same time as ethane crackers were offline for scheduled turnarounds, leadership at Enterprise Products Partners contends that this negative economic environment has since passed with the market balancing within the next year.

“At the peak of the turnaround season, approximately 120,000 barrels per day (b/d) of ethane demand was offline due to the downtime of ethylene crackers,” Mike Creel, president and chief executive of Enterprise, said during the company’s conference call last week to discuss Q2 2012 earnings.

“The good news is that most of the crackers are back online, and demand for ethane was back up to 1 million barrels per day in July. We believe the combination of increased cracking of propane as a



Midstream Monitor’s listing of the top NGL producers and gas processors for 2011 is nearing completion. We will be tabulating the final numbers during the next few weeks. We request that companies send their keep-whole NGL volumes and first-party gas processed volumes from 2011 to Frank Nieto at [fnieto@hartenergy.com](mailto:fnieto@hartenergy.com). If you have any questions, call 703-891-4807.

feedstock, a return of normal this coming winter and the completion of the expansion of our export facility in the fourth quarter should help propane balances to continue to improve to normal levels, hopefully by next spring.”

The current supply overhang is worked off as the petrochemical industry is expanding their facilities in the U.S. to reap the benefits of the price advantages being offered due to the abundance of gas and liquids in the country. However, the market still faces some uncertainty in the short-term.

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## HIGHLIGHTS FROM TODAY’S EDITION



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## NGL PRICES & FRAC SPREAD | Week in Review

### Despite Price Improvements, Conway Ethane Remains Theoretically Negative

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

Although its frac spread margin still remains theoretically negative, Conway ethane prices continue to improve as the glut of product in the Mid-Continent is worked off thanks to the return of cracking capacity as well as added transportation capacity.

Conway ethane's price increased 13% from last week to 16¢ per gallon (/gal), which was its highest level since it was also 16¢/gal the week of April 4. Despite this increase, margins at the hub remain negative due to steady natural gas feedstock prices that

CURRENT FRAC SPREAD (CENTS/GAL)				
August 10, 2012	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	15.56		35.38	
Shrink	19.49		19.89	
Margin	-3.93	39.14%	15.49	-0.68%
Propane	61.84		88.24	
Shrink	26.93		27.48	
Margin	34.91	13.12%	60.76	1.05%
Normal Butane	107.82		132.14	
Shrink	30.49		31.11	
Margin	77.33	-1.45%	101.03	-1.16%
Iso-Butane	155.02		151.98	
Shrink	29.28		29.88	
Margin	125.74	4.56%	122.10	-5.82%
Pentane+	190.78		197.32	
Shrink	32.60		33.27	
Margin	158.18	2.87%	164.05	5.85%
NGL \$/Bbl	32.67	2.75%	40.34	-0.35%
Shrink	10.74		10.96	
Margin	21.93	6.18%	29.38	1.41%
Gas (\$/mmBtu)	2.94	-3.61%	3.00	-4.76%
Gross Bbl Margin (in cents/gal)	48.74	6.69%	67.32	1.29%
NGL Value in \$/mmBtu				
Ethane	0.86	13.08%	1.95	-3.02%
Propane	2.15	5.17%	3.06	-0.83%
Normal Butane	1.16	-2.07%	1.43	-2.03%
Iso-Butane	0.96	2.91%	0.95	-5.61%
Pentane+	2.46	1.71%	2.54	3.90%
Total Barrel Value in \$/mmbtu	7.59	3.38%	9.93	-0.77%
Margin	4.65	8.35%	6.93	1.07%

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Aug. 1 - 7 '12	35.38	88.24	132.14	151.98	197.32	\$40.34
July 25 - 31, '12	36.48	88.98	134.88	161.02	189.92	\$40.48
July 18 - 24, '12	36.82	92.44	138.74	158.16	192.16	\$41.22
July 11 - 17, '12	31.56	87.36	129.82	145.64	184.88	\$38.51
July '12	33.11	87.19	131.77	150.81	186.00	\$39.04
June '12	28.19	78.11	127.86	141.05	169.28	\$35.60
2nd Qtr '12	37.00	97.80	160.76	175.08	207.57	\$44.54
1st Qtr '12	53.93	125.90	192.36	204.32	238.95	\$55.05
4th Qtr '11	84.49	144.13	188.16	227.18	224.44	\$61.34
3rd Qtr '11	76.03	153.87	188.27	208.52	237.59	\$61.59
Aug. 3 - 9, '11	76.06	150.98	182.72	207.23	227.25	\$60.23
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Aug. 1 - 7 '12	15.56	61.84	107.82	155.02	190.78	\$32.67
July 25 - 31, '12	13.76	58.80	110.10	150.63	187.58	\$31.80
July 18 - 24, '12	10.08	60.32	108.68	147.38	188.31	\$31.26
July 18 - 24, '12	6.52	57.06	100.18	142.00	181.68	\$29.25
July '12	7.80	57.01	103.02	145.79	183.28	\$29.81
June '12	7.20	53.58	106.56	131.70	173.06	\$28.42
2nd Qtr '12	11.18	72.63	135.80	161.38	203.31	\$35.72
1st Qtr '12	26.93	103.34	168.65	184.75	227.16	\$45.92
4th Qtr '11	34.29	129.43	160.82	204.27	196.08	\$48.23
3rd Qtr '11	46.69	143.07	166.30	199.68	210.98	\$53.06
Aug. 3 - 9, '11	47.73	140.70	160.20	184.90	190.25	\$50.83

(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

continue to hover around \$3.00 per million Btu (/MMBtu). At this level, ethane prices need to be greater than 20¢/gal to return to a positive state. Mont Belvieu ethane fell 3% to 35¢/gal, its lowest price in a month. However, its margin remained relatively flat as it fell 1%.

NGL margins could see further improvements in the coming weeks should crude prices hold

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## NGL PRICES & FRAC SPREAD | Week in Review

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or improve and gas prices remain below \$3.00/MMBtu. While it is difficult to get a consensus on where crude oil prices are headed, Barclays Capital stated that it is likely gas prices will linger below the \$3.00 threshold.

“Despite hovering at least 10¢ on average above \$3 for more than a week ... the market realized that the heat is waning, while coal displacement is not as inelastic as some might believe. For the rest of the injection season, even if August prices stay elevated due to the above-normal weather forecast for the week, prices would still need to come off to mid-\$2 in September and October to encourage enough coal displacement in the east and west to prevent storage from filling early,” according to the investment firm’s Gas and Power Kaleidoscope for the week of Aug. 6.

The largest increase of any NGL at either hub was Conway propane, which rose 5% to 62¢/gal. This price, which was the highest since it was 66¢/gal the week of May 23, helped to improve ethane at the hub due to their correlation. The

KEY NORTH AMERICAN HUB PRICES	
2:30 PM CST / August 9, 2012	
Gas Hub Name	Current Price
Carthage, TX	2.86
Katy Hub, TX	2.93
Waha Hub, TX	2.91
Henry Hub, LA	2.87
Perryville, LA	2.85
Houston Ship Channel	2.94
Agua Dulce, TX	1.88
Opal Hub, Wyo.	2.76
Blance Hub, NM	2.80
Cheyenne Hub, Wyo.	2.77
Chicago Hub	2.93
Ellisburg NE Hub	3.04
New York Hub	3.06
AECO, Alberta	2.35

Source: Bloomberg

the week, the Mont Belvieu price rose 4% to \$1.97/gal, its highest level since the week of May 23, when it was \$2.01/gal. The Conway price rose 2% to \$1.91/gal, which was also the highest price at the hubs since the week of May 23, when it was \$1.99/gal.

Mont Belvieu price for propane moved in the opposite direction as it was down 1% to 88¢/gal, its lowest price in a month.

As crude oil prices continue to hold their value above \$90 per barrel (/bbl), C<sub>5+</sub> prices have been showing strong improvements at both hubs. By Aug. 7, the close of this week’s trading cycle, the price had hit the \$2.00/gal threshold at both hubs. For the

RESIN PRICES – MARKET UPDATE – JULY 12, 2012					
TOTAL OFFERS: 15,319,112 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
HDPE - Inj	3,419,128	0.64	0.72	0.6	0.64
LLDPE - Film	2,623,404	0.61	0.72	0.61	0.65
LDPE - Film	2,608,668	0.68	0.74	0.66	0.7
HDPE - Blow Mold	2,195,128	0.65	0.685	0.6	0.64
PP Copolymer - Inj	1,406,368	0.62	0.78	0.62	0.66
HMWPE - Film	1,275,472	0.68	0.69	0.63	0.67
PP Homopolymer - Inj	1,273,184	0.65	0.685	0.6	0.64
LDPE - Inj	1,071,840	0.7	0.71	0.665	0.705
LLDPE - Inj	848,184	0.68	0.7	0.635	0.675
GPPS	380,000	0.93	0.93	0.85	0.9
HIPS	380,000	1.04	1.04	0.97	1.02

Source: Plastics Exchange – www.theplasticsexchange.com

The theoretical NGL barrel price improved 3% at Conway to \$32.67/bbl with a 6% gain in margin to \$21.93/bbl. The Mont Belvieu barrel price was flat at \$40.34/bbl with a 1% gain in margin to \$29.38/bbl.

The most profitable NGL to make at both hubs continued to be C<sub>5+</sub> at \$1.58/gal at Conway and \$1.64/gal at Mont Belvieu. This was followed, in order, by isobutane at \$1.26/gal at Conway and \$1.22/gal at Mont Belvieu; butane at 77¢/gal at Conway and \$1.01/gal at Mont Belvieu; propane at 35¢/gal at Conway and 61¢/gal at Mont Belvieu; and ethane at a theoretical negative 4¢/gal at Conway and 16¢/gal at Mont Belvieu.

Natural gas in storage for the week of Aug. 3 increased 24 billion cubic feet to 3.241 trillion cubic feet (Tcf) from 3.217 Tcf, according to the EIA. This was 17% more than the 2.776 Tcf posted last year at the same time and 14% above the five-year average of 2.855 Tcf.

The storage injection level should remain low next week as the National Weather Service is forecasting another hot week for a good portion of the country. According to the forecast, much of the East Coast, Southeast and Gulf Coast will experience warmer than normal temperatures. Normal temperatures are expected along the West Coast and parts of the Midwest and Tri-state region in the Northeast as well as New England.

## NGL PRICES & FRAC SPREAD | Monthly Summary

### In July, Margins Hit Bottom Early But Were Able To Stage Late Rally

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

The month of July represented both the floor for NGL prices and frac spread margins this year, as well as the start of their recovery. The final two weeks of the month saw prices and margins both recover as ethane crackers in the Gulf Coast were brought back online from scheduled maintenance.

Several of these plans involved increasing cracking capacity, which will benefit the market in the long run. In addition, NGL producers also benefitted from the first full month of Kinder Mor-

gan's Cochin pipeline transporting E-P mix from Conway to the Sarnia, Canada, petrochemical hub.

While there were positives to be taken from the month, overall the NGL market continued to be depressed. This was partially a result of several fractionators coming offline just as ethane cracking capacity returned to 100% levels, but the biggest negative is that the NGL market is oversupplied and it will take sometime to work this supply off.

As we have seen with natural gas prices, there is no magic switch that can turn prices around. In the past several years, we've seen both a very harsh winter in the Northeast in 2010 as well as a very harsh summer throughout the U.S. this year. Both have had sizeable increases on gas prices as heating and cooling demand increased accordingly, but supply levels were such that prices have not even begun to approach their levels in 2007-2008.

Even as producers have turned their focus from dry gas plays to liquids-rich plays, supply continues to exceed demand and a similar action appears to be taking hold in the NGL market now.

There are positives though as demand and usage for both natural gas and NGLs continues to expand. Both the petrochemical and manufacturing industries are growing in the U.S. in response to the financial advantages being offered by low NGL prices. Similarly utilities are switching more coal-fired power generators to utilize natural gas because of its cost and environmental advantages.

Margins improved throughout the month across the board at both hubs, but the largest increase in margin of any NGL in the month of July was for ethane, which improved 56% at Conway and 27% at Mont Belvieu.

These improvements would have been even greater, but natural gas prices improved dramatically as cooling demand increased prices above \$3.00 per million Btu at both Conway and Mont Belvieu.

JULY 2012 MONTHLY FRAC SPREAD (CENTS/GAL)				
June, 2012	Conway	Change from Start of Week	Mont Belvieu	Start of Week
Ethane	13.76		36.48	
Shrink	20.22		20.88	
Margin	-6.46	55.55%	15.60	26.49%
Propane	58.80		88.98	
Shrink	27.94		28.85	
Margin	30.86	7.03%	60.13	7.14%
Normal Butane	110.10		134.88	
Shrink	31.63		32.67	
Margin	78.47	17.18%	102.21	6.09%
Iso-Butane	150.63		161.02	
Shrink	30.38		31.37	
Margin	120.25	6.88%	129.65	16.68%
Pentane+	187.58		189.92	
Shrink	33.82		34.93	
Margin	153.76	6.81%	154.99	6.85%
NGL \$/Bbl	31.80	16.48%	40.48	11.31%
Shrink	11.14		11.51	
Margin	20.65	17.49%	28.97	9.31%
Gas (\$/mmBtu)	3.05	14.66%	3.15	16.67%
Gross Bbl Margin (in cents/gal)	45.69	17.37%	66.46	9.37%
NGL Value in \$/mmBtu				
Ethane	0.76	343.87%	2.01	20.67%
Propane	2.04	10.53%	3.09	10.06%
Normal Butane	1.19	16.45%	1.46	8.47%
Iso-Butane	0.94	8.37%	1.00	16.68%
Pentane+	2.42	8.15%	2.45	8.53%
Total Barrel Value in \$/mmbtu	7.34	19.60%	10.01	12.05%
Margin	4.29	23.38%	6.86	10.04%

(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

**PROCESSING TRENDS** | An Inside Look

## DCP Midstream Plans To Double Processing Capacity In D-J Basin

DCP Midstream LLC announced that capital investments under way will double its processing capacity in the Denver-Julesburg Basin by the end of 2014.

As producers move more drilling rigs into basins where new technology is significantly increasing natural gas production, DCP has a strategy underway to build a one-stop services company to offer integrated solutions to its customers – including gathering, processing, natural gas liquids (NGL) transportation and fractionation services.

“The Denver-Julesburg Basin continues to reinvent itself, and the introduction of horizontal drilling is uncovering associated natural gas discoveries in the Niobrara Shale and Codell formations,” said Wouter van Kempen, president of DCP Midstream’s gathering and processing business unit. “In this new phase of oil-driven development, volumes and infrastructure needs are accelerating. Given DCP Midstream’s prominent position in the basin, we have a strategic imperative to provide gas gathering, processing and transportation services to bring producers’ products to market.”

DCP recently broke ground on the previously announced LaSalle Plant, west of LaSalle in Weld County, with a capacity of 110 million cubic feet per day (MMcf/d) and a completion date in the second half of 2013 in coordination with the start-up of the Front Range NGL pipeline. DCP is simultaneously constructing two compressor stations, with one to the north and one to the west of the LaSalle Plant, and an associated gathering system, which are also expected to be in-service by the second half of 2013.

DCP also submitted last month a permit application for the LaSalle gas plant that will reconfigure some of the plant operations and equipment, and will also enable a plant throughput of 160 MMcf/d, increasing gas processing capacity by 50 MMcf/d. DCP expects to complete this effort at LaSalle in the second half of 2013, after it receives the necessary air permit. As with the other projects DCP is implementing, this LaSalle project will help significantly in DCP’s ability to move gas through the DJ Basin and on to market.

In addition, DCP received a revised air permit from the state of Colorado last month enabling operation of the Mewbourn II



**ANOTHER PLUS** | In addition to new processing capacity, DCP will extend the high-pressure gathering system grid connected to its processing plants.

Plant, west of Platteville in Weld County, at its full design capacity of 160 MMcf/d, effectively increasing operational throughput in the plant by 35 MMcf/day this summer. DCP has recently filed for a permit to build and operate the Lucerne II Plant, northeast of Greeley in Weld County, with a maximum capacity of 230 MMcf/d, and separate additional gathering system improvements including up to four compressor stations, with estimated service of those facilities by late 2014.

In addition to new processing capacity, DCP will improve reliability by extending the high-pressure gathering system grid connected to its processing plants. DCP is creating a “super system” in Weld County or a broad network of gathering and processing facilities that afford significant optionality and flexibility, which enables DCP to optimize its processing capacity.

## EagleClaw Midstream Starts Up With \$100MM Equity Commitment

EagleClaw Midstream Services LLC secured a \$100 million equity commitment from EnCap Flatrock Midstream of San Antonio. EagleClaw provides natural gas and crude oil producers in the Permian Basin with midstream services including gathering, compression, treating, processing and transportation. The new company is currently pursuing

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## PROCESSING TRENDS | An Inside Look

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greenfield and acquisition opportunities in the region.

Headquartered in Midland, Texas, EagleClaw Midstream's senior leadership team represents more than 90 years of collective experience in the energy industry. The team is led by president Robert A. (Bob) Milam, executive vice president and chief operating officer Curtis Clark, and executive vice president of commercial development Charles S. Kuss. Milam, Clark and Kuss have worked together in various capacities for more than 25 years. All three have deep experience in West Texas and the Permian Basin.

"It's great to be working in an area that all of us know so well. We're excited about the opportunities we see in the Permian Basin. While it has been one of the most prolific basins in North America for a long time, there has been a dramatic resurgence over the past year or two, and it's more active than ever before. There are more than 500 rigs at work in the area, and production is reaching new highs," Milam said in a news release. "Our goal is to stay ahead of development schedules and provide producers with the rapid response time and flexible solutions that meet their infrastructure requirements on time and on budget so they can focus on their core business."

Before leading the formation of EagleClaw Midstream, Milam served as vice president of Southern Union Gas Services (SUGS), where he was responsible for operations, budgets, construction, measurement and engineering for five cryogenic processing plants, seven treaters and approximately 6,000 miles of gathering pipelines in Texas and New Mexico. In addition, during 2011 and 2012, Milam coordinated the design and funding and initiated construction of a 200 million cubic feet per day (MMcf/d) cryogenic processing plant and a 2,100 GPM amine treating facility in the Permian Basin.

Clark has 29 years experience focusing on engineering, operations and business development, and has in-depth knowledge and expertise in designing, installing and operating high efficiency plants, which help reduce costs and improve output. Most recently, Clark served as vice president of operations at Caiman Energy, LLC, where he directed and managed all operations and facility installations. He was re-

sponsible for the grassroots installation and operation of two cryogenic processing plants with a combined capacity of 320 MMcf/d and a 12,500 barrels per day (b/d) fractionation facility, along with the operation of more than 150 miles of gas and condensate gathering pipeline located in West Virginia. Prior to his work at Caiman Energy, Clark held several positions at Southern Union Gas Services and its predecessor, Sid Richardson, serving as director of plant operations and engineering.

Charles S. Kuss has spent the past 28 years as an independent consultant working with more than 150 Permian producers. Kuss' primary consulting work has involved locating gas markets for producers and the renegotiation and administration of gas contracts. Other areas of his work have included spot market sales and nominations, NGL marketing, gas balancing, due diligence and expert witness testimony. Kuss has also assisted several small gas gathering and processing companies with contract preparation, contract negotiations, pipeline permitting, revenue calculations, gas accounting, gas statement preparation and gas contract administration.

### Report: NGLs Will Help Spur Export-Oriented Investments

The U.S.'s vast natural gas liquid (NGL) supply will drive export-oriented investments in petrochemical facilities, says a new ESAI Energy report.

The five year Global Industrial Fuels Outlook study says an NGL boom born from shale developments will be a catalyst for petrochemical exports to Latin America. It will happen as the U.S.'s growing access to cheap ethane feedstock allows the country to become more competitive globally, the report added.

As well, two new ethylene crackers are expected to be on stream between 2012 and 2016. Meantime, existing plants are undergoing upgrades which will allow them to take in more ethane feedstock.

The report adds that the exports will be welcomed by Latin America, which is expected to continue facing a shortage of ethylene derivatives.

## PIPELINES & TECHNOLOGY | Developments

### KMP To Acquire 100% OF TGP, Interest In El Paso Natural Gas

Kinder Morgan Energy Partners L.P. (NYSE: KMP) will acquire 100% of Tennessee Gas Pipeline (TGP) and a 50% in El Paso Natural Gas (EPNG) pipeline from Kinder Morgan, Inc. (NYSE: KMI) for approximately \$6.22 billion, including about \$1.8 billion in assumed debt at TGP and approximately \$560 million of proportional debt at EPNG.

The transaction, which is expected to close this month and be effective Aug. 1, was approved by the independent members of the boards of directors of both KMI and Kinder Morgan Management, LLC (NYSE: KMR) following the receipt by each board of separate fairness opinions from different investment banks.

The company previously announced that KMI would offer to sell (drop down) these assets to KMP to more than replace cash flow from certain assets KMP is divesting pursuant to an agreement KMI reached with the Federal Trade Commission in order to complete the El Paso Corp. acquisition. KMP expects to complete the divestiture process during the third quarter of 2012. It is anticipated that the combination of the divestitures and the drop-downs will be slightly accretive to KMP's distributable cash flow in 2012 and nicely accretive thereafter.

KMP is purchasing the assets at about eight times 2012 EBITDA and expects that the purchase price will be an even lower multiple of 2013 EBITDA, given the full-year benefit of cost savings and expansion projects. KMP plans to fund 10% of the transaction value, net of debt assumed, with KMP units that will be issued to KMI at closing valued at approximately \$387 million.

The remaining value is expected to be funded with borrowings under a new \$2.0 billion credit facility, and equity and debt issuances. Any issuances of equity or debt post closing of this transaction, as well as proceeds from the assets to be divested that were noted above, will be used to repay the credit facility. KMI intends to use the proceeds from the drop-down sales to reduce debt.

TGP is a 13,900-mile pipeline system with a design capacity of about 7.5 billion cubic feet (Bcf) per day. It transports natural gas from Louisiana, the Gulf of Mexico and south Texas to the northeastern United States, including the metropolitan areas of New York City and Boston. EPNG is a 10,200-mile pipeline sys-

tem with a design capacity of about 5.6 Bcf per day. It transports natural gas from the San Juan, Permian and Anadarko basins to California, other western states, Texas and northern Mexico. Combined, TGP and EPNG have more than 200 Bcf of working natural gas storage capacity. – Business Wire

### Plains All American, Enterprise Form Crude Pipeline Joint Venture

Plains All American Pipeline LP (PAA) and Enterprise Products Partners LP (EPD) have formed a crude oil pipeline joint venture to consolidate certain portions of projects servicing the Eagle Ford shale play in South Texas, the companies announced.

According to an Aug. 6 release, the joint venture will include a 140-mile crude oil and condensate line, as well as a new 35-mile pipeline segment, which will interconnect to EPD's South Texas Crude Oil Pipeline.

PAA's president and chief operating officer, Harry Prefanis, believes the new system will provide a wealth of shipping opportunities for those working in the Eagle Ford shale.

"The combined project will provide shippers with the option to deliver to Three Rivers, Corpus Christi, Houston, and with dock capabilities at Corpus Christi to access other gulf-coast markets," Prefanis said in the announcement.

The joint venture is supported by a commitment of 210,000 barrels (bbl.) per day and the system – according to the company – will have a targeted capacity of 350,000 bbl. per day. It will also include a marine terminal facility located in Corpus Christi.

PAA will serve as the operator of the system and both companies expect the system, which is already under construction, to be in service by the fourth quarter of 2012.

### In Next Few Years, Russia To Lead The World In Pipeline Construction

As part of its bid to diversify its gas exports and decrease reliance on traditional transit countries, Russia will construct more pipeline than any other country in the

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## PIPELINES & TECHNOLOGY | Developments



**A GLOBAL LOOK** | Russia's upcoming pipeline boom will be focused on finding new markets for its gas exports.

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world over the next few years, says the latest report by natural resources experts GlobalData.

The new report states that the country's vast pipeline additions will largely focus on finding new markets for its gas exports, while simultaneously bypassing traditional transit countries such as Ukraine, Belarus and Georgia.

During the period 2012-2016, the Eastern European nation will build a massive 14,053km of pipeline, accounting for 15% of the pipeline length to be constructed globally during this time, and a 63% share of the European total.

The region with the greatest pipeline additions, however, is the Asia-Pacific, thanks to huge projects expected in India and Myanmar, among other countries. India will be responsible for 10,965km of additions by the end of 2016, which equates to approximately a quarter of the continent's pipeline construction.

Gas consumption in India is on the rise while production is declining.

In response, the country is planning to boost imports and needs to develop its pipeline infrastructure to cope.

The Asia Pacific region will introduce a total of 39,597 kilometers of pipeline additions during the period 2012-2016, most of which will be employed to meet the growing demand for natural gas across the continent.

## PetroChina Gives STWA Notice That It Is Planning Field Testing

STWA Inc. (OTCBB: ZERO), a developer of applied solutions for oil and fuel delivery systems in the oil pipeline and diesel engine markets, announced that its commercialization partner, China Beijing Heng He Xing Ye Technology Development Co. LTD, (TDC) has received and forwarded to the company letters from PetroChina Pipeline R&D Center outlining plans for Phase II Field Loop Testing of STWA's AOT 1.2v. The letters, dated July 25, discuss plans for tests to be conducted at the PetroChina loop line test site in Baodi, a district of Tianjin, China.

STWA chief executive Cecil Bond Kyte stated, "We are proceeding on schedule for testing with PetroChina. The strong and cooperative relationship that our commercialization partner TDC has with PetroChina is confirmed by the close communications and contingencies being put in place by PetroChina to assure that testing processes are seamless and efficient."

The letters from PetroChina R&D Center to Beijing Heng He Xing Ye Technology Development Co. LTD indicate that the renovation construction to facilitate the installation and testing of the AOT 1.2v at the loop line test site in Baodi is expected to be completed near the end of September 2012. Invitations have been extended to experts from the U.S. to visit the test site upon completion of the renovation construction.

The groups will be cooperating with PetroChina's Renqiu Oilfield Testing Center, which is located approximately 200 kilometers from Baodi, to undertake on-site pipeline testing. Estimates were made that the installation and testing process would take between two to three weeks.

Kyte added, "PetroChina's eagerness and commitment toward testing and advancing AOT is clearly evidenced first by the initial oil test site identified and now by an additional site secured, which confirms that testing will be completed as soon as possible in a move toward commercialization throughout China."

**NEWS & TRENDS** | Up To Date

## Atco Group Decides To Merge Its Midstream, Energy Companies

In an effort to better serve its commercial customers, Atco Group is combining the operations of Atco Midstream and Atco Energy Solutions.

Effective immediately, the companies will operate under Atco Energy Solutions, which will focus on gas storage, industrial water infrastructure, natural gas gathering, processing, transportation and gas liquids services.

“The extensive assets and proven expertise in ATCO Energy Solutions will provide for strategically situated initiatives to serve the growing demand from upgrader operators, and for storage and transportation in Western Canada’s dynamic energy sector,” said Nancy Southern, president and chief executive of ATCO Group, said in a public statement.

## Plains All American To Build Crude Rail Facilities In Colorado, Virginia

Plains All American Pipeline, L.P. (NYSE: PAA) announced it is constructing new crude oil rail facilities in Tampa, Colo. and Yorktown, Va. and making additional modifications to its Yorktown facility. The new rail facilities and modifications are expected to be completed by the third-quarter of 2013 at an aggregate cost of approximately \$125 million.

The Tampa facility is located approximately 50 miles northeast of Denver and is designed to receive crude oil via truck and pipeline and to load unit and manifest trains at a rate of up to 68,000 barrels per day.

The facility is being built to service increasing DJ Basin crude oil production and is underpinned by firm contracts with large independent producers. The Tampa facility is expected to be in service in the third quarter of 2013. BNSF Railway Co. will provide the rail transportation for the facility.

The Yorktown crude oil rail facility is being constructed at PAA’s multiproduct terminal and is designed to receive unit and manifest trains with the capability to unload 130,000 barrels per day. ng barges and ocean-going vessels at higher rates and handling multiple products.

## Southwestern Energy Co. Promotes Owen To Chief Financial Officer

Southwestern Energy Co. (NYSE: SWN) announced that Greg D. Kerley will retire as an executive of the company and its subsidiaries effective at the end of the third quarter. In connection with Kerley’s retirement, the company has promoted R. Craig Owen to chief financial officer effective October 1, 2012.

Kerley has served in various roles for over 22 years at Southwestern, beginning in 1990 as controller and chief accounting officer then serving as treasurer and secretary before he was named senior vice president and chief financial officer in 1998 and promoted to executive vice president in 1999.

He became a director of the company in August 2010. Kerley will continue to serve on the board of directors until the 2013 Annual Meeting of Shareholders, at which time he intends to seek reelection to the board.

Owen joined Southwestern in July 2008 as controller and was named chief accounting officer in December 2008 and has served as senior vice president since April 2012. Prior to Southwestern, he was the controller, operations accounting at Anadarko Petroleum Corp. and has held various managerial and financial positions at PricewaterhouseCoopers LLP, ARCO Pipe Line Co. and Hilcorp Energy Co.

## BP Sells Its Distribution Business In The United Kingdom to DCC

BP announced that DCC Plc., the sales, marketing, distribution and business support services group, has agreed to buy its liquefied petroleum gas (LPG) distribution business in the UK.

BP is retaining its automotive LPG business, which will move into BP’s UK Fuels Value Chain, which runs the company’s fuels business including service stations.

The total consideration payable by DCC is \$63 million (GBP40.5 million) on a cash free/debt free basis, to be satisfied in cash at completion.

**SNAPSHOT** | Industry Insight

## Reuse Of Water Expected To Be Key As Industry Moves Forward

BY **GREG MILLER** | SPECIAL TO HART INDUSTRY

Frac water has been at the forefront of lively and passionate national discussions about its safety and cleanliness. But as the shale boom demands more water, scarcity and the cost for treating it will drive the direction of the industry.

New Hampshire-based Cate Street Capital (CSC) is banking hard on water in the oil field as it just announced plans to invest another US \$40 million into one of its subsidiaries, Clean Runner, a water treatment technology company. This is on top of a \$20 million initial investment.

Clean Runner uses a combination of technologies that result in a low-cost, non-polluting method to cleanse and reuse frac water. CSC also has doubled capacity at its Red Desert Water Reclamation facility in Wyoming. Red Desert uses Clean Runner's technology. In addition to expanding Red Desert, CSC has plans to build 10 similar facilities near oil and gas exploration centers around the country in the next two years.

Clean Runner CEO Judson Cleveland said his company combines a lot of proven off-the-shelf technology, from wastewater and frac water treatment, and partners it with new technologies to optimize a process.

"We wanted to make sure our technologies were low enough that they could get down to disposal pricing," Cleveland said. "When I say that it is low-cost, I am not asking for a premium. Operators are still paying what they would pay to have the water taken to an injection well or evaporation facility."

Cleveland and other water treatment companies see an enormous opportunity to repurpose water and send it back downhole. The Eagle Ford play in Texas often experiences drought, making water tough to come by. Water is heavy and trucking is a major expense. Residents in the Marcellus shale play have loudly voiced their distaste for trucks congesting their roads.

"Reusing water will be imperative for the industry going forward," Cleveland said.

Anadarko, BP, and Conoco-Phillips are some of the major players in Wyoming in addition to mid-sized companies like Wil-

liams who have had interactions with Clean Runner. Clean Runner and Red Desert service BP in Wamsutter, which is BP's largest onshore natural gas field. Located in southwestern Wyoming, Wamsutter is about 55 miles long and 35 miles wide.

Water that flows back from fracturing is formation-dependent. In the fields in Wyoming, a greater amount of water flows back compared to a well in the Marcellus. Roughly 80% to 90% returns to the surface. Clean Runner currently processes up to 15,000 bbl of water daily at one site. That's about 437 gal/min.

Clean Runner can treat frac and flowback water to remove heavy metals, bacteria, salt, and hydrocarbons recovering 80% to 90% for reuse. In Wyoming, the solid waste generated is certified as a non-hazardous substance and is acceptable in landfills. Some flowback can be converted into a brine and sold as a well-kill fluid.

Cleveland said the Wyoming Department of Environmental Quality, OSHA, and other agencies have come out to monitor and inspect Clean Runner's operations and hold it to standards and added that it's been a very positive experience.

### Other Companies Seeing Dollar Signs

Dean Themy, general manager for Houston-based Rockwater Energy Solutions has received incredible response from the oil and gas industry the past three years. Themy founded Neohydro Corp., a pioneer in the water treatment business, and last month he merged his company with Rockwater. His technology uses electrochemistry to treat frac flowback and produced waters for reuse.

"This onsite treatment of produced water for reuse is a billion dollar industry," he said. "Only 10% of the companies are in a water reuse program."

According to the 2005 US Geological Survey, 410,000MM gallons of water were withdrawn each day for use in the U.S. The shale boom has increased these already staggering numbers. Water reuse companies may soon be called into other industries and municipalities like San Diego, which imports 90% of its water.

Red Desert has been running virtually around the clock, and Cleveland said his company has spent more than 18 months evaluating oil and gas basins to assemble a very detailed plan for site selection because of the demand he has experienced for the service.

Cleveland said his eye is on the Eagle Ford because operators there can benefit from water reuse. Other basins under consideration are in Colorado, North Dakota, and New Mexico.

**LEAD STORY** | From The FrontContinued from  
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“Longer term, clearly the petrochemical industry gets it and they are moving rapidly to significantly expand their facilities in the U.S. The debottlenecks, expansions and conversions are taking place at a rapid pace. But supply and demand trends never follow a straight line, and a buildout of this magnitude doesn’t happen overnight,” Jim Teague, the company’s executive vice president and COO, said during the call.

“NGL supplies continue to grow largely because natural gas prices are low. Producers have quickly moved their drilling focus to rich gas and oil. While this has been good for Enterprise in the midstream sector because it generates new infrastructure opportunities, the result of this rich gas drilling has been increasing NGL supplies. Ultimately, if supply growth continues, some type of supply rationing will take place in the field until petrochemicals catch up,” Teague continued.

He noted that this rationing is likely to take place in the Marcellus since incremental liquids such as ethane can be left in the gas stream so as to match supply and demand levels.

The good news for Enterprise is that its diversified infrastructure portfolio has managed to help the company weather the drop in both natural gas and NGL prices, as its crude operations performed strongly in the second quarter. In addition, this diversity has provided additional flexibility when it comes to prices.

Teague stated that Enterprise was one of the companies rejecting ethane in the Rockies in the second quarter since it was more profitable to buy ethane out of Conway and move it to Mont Belvieu via the Mid-America and Seminole pipelines.

“If we can buy ethane or propane in Conway at 30¢-plus per gallon at times off of Mont Belvieu prices, that’s better than making 10¢ per gallon on our ethane out of the Rockies,” he said.

Even as prices improved in the quarter, the company’s transportation and storage services reported higher demand due to increased

production out of Texas, Oklahoma and the Rockies. This provides the company with an ability to perform well financially even as the market moves in different directions. Teague stated that there may be further opportunities throughout the remainder of 2012 to move Conway ethane, propane and butane to Mont Belvieu and secure better margins.

The company’s transportation and storage services are expected to continue to grow as the company brought its 24-inch Eagle Ford crude pipeline online in June, which will have the capacity to transport up to 350,000 b/d of crude to its Gulf Coast refining complex and its new ECHO terminal in Houston.

The ECHO terminal is expected to come online in the third quarter of 2012.

“We think that ECHO has the potential to be a real jewel, and we have a plan that we can build out approximately 6.5 million barrels of storage on acreage we currently own. We will have connectivity to every pipe and refinery in the Beaumont/Port Arthur/Houston area, so we’re pretty excited about its future,” Teague said.

**Opportunities Rather Than Challenges**

Creel anticipates that these diversified assets, along with the company’s liquidity and strong balance sheet will help it continue to weather a challenging environment in the second half of the year. “The outlook for the remainder of the year looks somewhat challenging given the weak overall economy and NGL prices, as well as financial uncertainty in European markets; however, our balance sheet and liquidity is as strong as ever going into the second half of the year. We have a substantial amount of capital projects that we expect to complete during the remainder of this year and next year, and I am confident our team of dedicated employees will continue to execute on our growth plans.”

These plans include the addition of its second and third processing trains in the Eagle Ford in Q3 2012 and Q1 2014, respectively.

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