

Come Together: Offshore Industry Lands In Houston For 45th Annual OTC

Collaboration was the major theme at this year's OTC conference.

BY RHONDA DUEY AND AMY LOGAN | HART ENERGY

In 1969, The Beatles played their final concert and recorded their last album, *Abbey Road*. Also bookending the 1960s was the first OTC. This year, the Offshore Technology Conference celebrated its 45th year, and welcomed more than 90,000 attendees from all over the world to Houston with a "Come Together" theme that gave a nod to the Fab Four's No. 1 hit of the same name.

"We provide the venue and unique opportunities for leaders, engineers, scientists, professionals, manufacturers, investors and entrepreneurs to come together to see the state-of-the-art of our industry and explore new opportunities," said Doreen Chin of Shell, who served as chairwoman of this year's technical program. "It is a global community of professionals with common needs and challenges."

That global community represents more than 120 countries, Chin said, making OTC "the largest energy-related technology conference in the world." That's what makes this year's theme so fitting, she said.

Putting together such a large conference that entertains the world's offshore elite takes a great coordinated effort. Chin said this year's OTC Program Committee was comprised of 14 subcommittees—24 members representing 12 sponsor organizations, with the chair and



vice chair of 12 subcommittees that comprise more than 200 subcommittee members—in addition to two special task committees.

For OTC 2014, planners brought onboard new sessions, including an event with former astronaut Mike Bloomfield, now vice president and general manager of Oceaneering Space Systems. As more subsea projects come online, companies are looking to NASA to partner with them in the exploration of new frontiers, she said.

But, Chin explained, there was something for everyone at OCT. Speakers presented 48 technical paper sessions on "hot topics, key issues, new technologies, industrial trends and offshore projects," along with nine panels that covered broader topics. All of the events were

 Continued on
Page 11

HIGHLIGHTS FROM TODAY'S EDITION



FRANK NIETO
Senior Editor,
Midstream Monitor
& *MidstreamBusiness.com*
fnieto@hartenergy.com

Serious Consideration

The EIA is studying the possibility of allowing crude exports.

PAGE 4

Increased Emissions

An MIT study found that CNG use would increase GHG emissions.

PAGE 5



Volatile Road

NGL prices are facing short-term headwinds.

PAGE 2

Northeast Processing Expansion

MarkWest announced it will build two processing plants in the Marcellus.

PAGE 7

Great Debate

Two industry experts debate the merits of exporting crude oil.

PAGE 10

NGL PRICES & FRAC SPREAD | Week in Review

NGL Prices Experiencing Short-Term Headwinds

BY **FRANK NIETO** | SENIOR EDITOR, MIDSTREAM BUSINESS

NGL prices continued to trend downward the first week of May as the combination of a natural price downturn related to the shoulder season combined with several ethylene plants that went down for unscheduled maintenance.

Nearly 20% of the U.S. ethane cracking capacity is down for maintenance with Westlake Chemical Corp.'s Lake Charles #1 and both of Dow Chemical Co.'s crackers at Plaquemine, La., down. These joined the planned outages at Equistar Chemicals LP's LaPorte, Texas, Exxon Mobil Corp.'s Beaumont, Texas, and DuPont Co.'s Orange, Texas, plants as well as the continued maintenance work at Williams Cos.' Geismar, La., plant.

| CURRENT FRAC SPREAD (CENTS/GAL) | | | | |
|--------------------------------------|--------|---------------------------|--------------|-----------|
| May 12, 2014 | Conway | Change from Start of Week | Mont Belvieu | Last Week |
| Ethane | 26.40 | | 29.24 | |
| Shrink | 30.50 | | 30.50 | |
| Margin | -4.10 | 19.18% | -1.26 | 16.83% |
| Propane | 105.46 | | 107.38 | |
| Shrink | 42.14 | | 42.14 | |
| Margin | 63.32 | -4.75% | 65.24 | -3.36% |
| Normal Butane | 119.66 | | 123.48 | |
| Shrink | 47.70 | | 47.70 | |
| Margin | 71.96 | -4.25% | 75.78 | -2.00% |
| Isobutane | 165.20 | | 127.50 | |
| Shrink | 45.82 | | 45.82 | |
| Margin | 119.38 | -14.59% | 81.68 | -1.05% |
| Pentane+ | 218.96 | | 219.46 | |
| Shrink | 51.01 | | 51.01 | |
| Margin | 167.95 | -4.15% | 168.45 | -3.09% |
| NGL \$/Bbl | 42.44 | -3.41% | 42.07 | -2.89% |
| Shrink | 16.80 | | 16.80 | |
| Margin | 25.64 | -5.27% | 25.26 | -2.71% |
| Gas (\$/mmBtu) | 4.60 | -0.43% | 4.60 | -3.16% |
| Gross Bbl Margin (in cents/gal) | 58.12 | -5.39% | 57.93 | -2.73% |
| NGL Value in \$/mmBtu (Basket Value) | | | | |
| Ethane | 1.45 | 3.29% | 1.61 | -2.47% |
| Propane | 3.66 | -3.07% | 3.73 | -3.28% |
| Normal Butane | 1.29 | -2.76% | 1.33 | -2.45% |
| Isobutane | 1.03 | -11.09% | 0.79 | -1.82% |
| Pentane+ | 2.82 | -3.31% | 2.83 | -3.11% |
| Total Barrel Value in \$/mmbtu | 10.26 | -3.13% | 10.29 | -2.89% |
| Margin | 5.66 | -5.22% | 5.69 | -2.67% |

| NGL PRICES | | | | | | |
|-----------------------|-------|--------|--------|--------|--------|---------|
| Mont Belvieu | Eth | Pro | Norm | Iso | Pen+ | NGL Bbl |
| April 30 - May 6, '14 | 29.24 | 107.38 | 123.48 | 127.50 | 219.46 | \$42.07 |
| April 23 - 29, '14 | 29.98 | 111.02 | 126.58 | 129.86 | 226.50 | \$43.32 |
| April 16 - 22, '14 | 29.93 | 112.25 | 127.30 | 131.50 | 228.88 | \$43.70 |
| April 9 - 15, '14 | 29.50 | 111.48 | 124.74 | 131.26 | 229.38 | \$43.44 |
| April '14 | 29.66 | 110.44 | 125.32 | 130.16 | 226.07 | \$43.11 |
| March '14 | 30.89 | 106.20 | 124.77 | 129.25 | 218.19 | \$42.21 |
| 1st Qtr '14 | 34.50 | 129.51 | 137.62 | 141.49 | 212.60 | \$46.16 |
| 4th Qtr '13 | 26.76 | 119.81 | 142.56 | 145.02 | 210.66 | \$44.03 |
| 3rd Qtr '13 | 24.87 | 102.65 | 132.06 | 134.86 | 215.56 | \$41.21 |
| 2nd Qtr '13 | 27.12 | 91.38 | 124.01 | 127.46 | 204.12 | \$38.82 |
| May 1 - 7, '13 | 28.87 | 94.42 | 123.12 | 124.90 | 205.76 | \$39.45 |
| Conway, Group 140 | Eth | Pro | Norm | Iso | Pen+ | NGL Bbl |
| April 30 - May 6, '14 | 26.40 | 105.46 | 119.66 | 165.20 | 218.96 | \$42.44 |
| April 23 - 29, '14 | 25.56 | 108.80 | 123.06 | 185.80 | 226.46 | \$43.95 |
| April 16 - 22, '14 | 25.50 | 111.93 | 124.48 | 179.75 | 230.40 | \$44.49 |
| April 9 - 15, '14 | 24.50 | 113.32 | 121.84 | 163.60 | 230.78 | \$43.94 |
| April '14 | 26.02 | 110.13 | 122.02 | 170.61 | 228.14 | \$43.83 |
| March '14 | 32.20 | 107.10 | 119.02 | 136.50 | 225.70 | \$43.25 |
| 1st Qtr '14 | 25.46 | 169.48 | 132.08 | 147.10 | 216.86 | \$49.93 |
| 4th Qtr '13 | 20.19 | 122.54 | 144.49 | 147.58 | 205.01 | \$43.33 |
| 3rd Qtr '13 | 20.80 | 99.22 | 129.23 | 142.77 | 209.94 | \$40.07 |
| 2nd Qtr '13 | 20.71 | 85.37 | 116.50 | 123.91 | 204.86 | \$36.89 |
| May 1 - 7, '13 | 22.14 | 87.32 | 115.32 | 115.05 | 207.34 | \$37.22 |

(Above) Data Provided by Bloomberg. Individual product prices in cents per gallon. NGL barrel in \$/42 gallons | Source: Hart Energy

(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.

The good news is that the shoulder season is drawing to a close and cooling demand should start to pick up shortly. While the unplanned outages are a major short-term headwind, several major crackers are scheduled to come back online in June. In addition, several of the crackers undergoing unplanned outages are expected to be back in service within two weeks.

There was an immediate impact on Mont Belvieu ethane prices, as they fell 2% to 29 cents per gallon (/gal). While this was the lowest price at the hub in five weeks, it wasn't too far out of the zone that ethane has been trading at the hub since mid-February. Conway ethane prices actually improved 3% to 26 cents/gal, their highest level in a month.

NGL PRICES & FRAC SPREAD | Week in Review

Although it is tempting to credit this improvement to the fact it trades as E-P mix at the hub, isn't quite that simple as propane prices fell another 3% at the hub. In all likelihood ethane prices have plateaued and short of major long-term swings—both positive and negative—it is unlikely they will experience much movement for the short-term. It is still expected that ethane prices will experience a turnaround in the third quarter when the country reaches full cracking capacity, along with increased capacity from expansions, for the first time in more than a year.

Propane prices fell 3% at both hubs to their lowest levels in a month. The Mont Belvieu price fell to \$1.07/gal and the Conway price decreased to \$1.06/gal. Despite this price slowdown, inventory continues to build at PADD II and PADD III. Inventory in the Midcontinent stood at nearly 12 million barrels (MMbbl) on May 2, just below the same level at PADD II last year at the same time. Gulf Coast inventories rose by 2 MMbbl to 19 MMbbl, but this was 7 MMbbl below last year's level. While propane balances may be tighter this winter, unless there is excessive heating demand the market will likely be able to meet normal demand levels.

Heavy NGL prices fell due to stagnant demand despite slightly improved crude prices. The biggest downturn was for Conway isobutane as the price spike rapidly declines because there is no longer a shortage of supplies in the region. The price fell 11% to \$1.65/gal, its lowest price since it was \$1.64/gal the week of April 9. Prices had fallen below \$1.60/gal by the end of the week. The Mont Belvieu price held firm at \$1.28/gal. Alkylation demand is increasing, which should help isobutane prices in the coming weeks.

The theoretical NGL bbl fell 3% in value at both hubs with the Conway price dropping to \$42.44/bbl with a 5% drop

in margin to \$25.64/bbl. The Mont Belvieu price decreased to \$42.07/bbl with a 3% drop decrease in margin to \$25.26/bbl.

Natural gas prices also decreased at both hubs, falling to \$4.60 per million Btu, but the outlook remains solid as the continued focus on

| RESIN PRICES – MARKET UPDATE – MAY 8, 2014 | | | | | |
|--|-----------|-------|-------|----------|-------|
| TOTAL OFFERS: 23,311,676 lbs | | SPOT | | CONTRACT | |
| Resin | Total lbs | Low | High | Bid | Offer |
| HDPE - Blow Mold | 4,857,384 | 0.705 | 0.765 | 0.69 | 0.73 |
| HDPE - Inj | 4,846,924 | 0.69 | 0.76 | 0.69 | 0.73 |
| PP Homopolymer - Inj | 3,957,612 | 0.77 | 1.5 | 0.76 | 0.8 |
| LDPE - Film | 2,474,416 | 0.725 | 0.85 | 0.74 | 0.78 |
| PP Copolymer - Inj | 1,953,680 | 0.725 | 0.815 | 0.77 | 0.81 |
| LLDPE - Film | 1,541,128 | 0.75 | 0.78 | 0.7 | 0.74 |
| LLDPE - Inj | 1,414,576 | 0.77 | 0.81 | 0.705 | 0.745 |
| HMWPE - Film | 1,194,116 | 0.745 | 0.815 | 0.72 | 0.76 |
| LDPE - Inj | 1,071,840 | 0.735 | 0.78 | 0.725 | 0.765 |

Source: Plastics Exchange – www.theplasticsexchange.com

wet gas production is helping to work off the overhang. According to the Energy Information Administration (EIA), liquids extracted from wet gas at processing plants represented 5.2% of the volume of marketed production in 2013. This was up from a low of 4.5% in 2008.

Stable gas prices are having a noticeable impact on frac spread margins with margins down across the board at both hubs, aside from ethane, which remains negative at both Conway and Mont Belvieu.

The most profitable NGL to make at both hubs was C₅₊ at \$1.68/gal at Conway and \$1.69/gal at Mont Belvieu. This was followed, in order, by isobutane at \$1.19/gal at Conway and 82 cents/gal at Mont Belvieu; butane at 72 cents/gal at Conway and 76 cents/gal at Mont Belvieu; propane at 63 cents/gal at Conway and 65 cents/gal at Mont Belvieu; and ethane at negative 4 cents/gal at Conway and negative 1 cent/gal at Mont Belvieu.

Natural gas storage levels increased near the bottom average for injection levels during this time of year, but surpassed 1 trillion cubic feet (Tcf) for the first time this season. According to the EIA's most recent data, storage rose 74 billion cubic feet (Bcf) to 1.055 Tcf the week of May 2 from 981 Bcf the previous week. This was 43% below the 1.852 Tcf posted last year at the same time and 48% below the five-year average of 2.037 Tcf.

Cooling demand is expected to remain limited according to the National Weather Service's forecast for next week which anticipates cooler-than-normal weather throughout much of the Midwest. Only the most eastern of the Eastern Seaboard and the West Coast are expected to experience warmer-than-normal temperatures this week.

| KEY NORTH AMERICAN HUB PRICES | |
|-------------------------------|---------------|
| 2:30 PM CST / May 8, 2014 | |
| Gas Hub Name | Current Price |
| Carthage, TX | 4.61 |
| Katy Hub, TX | 4.64 |
| Waha Hub, TX | 4.55 |
| Henry Hub, LA | 4.74 |
| Perryville, LA | 4.61 |
| Houston Ship Channel | 4.58 |
| Opal Hub, Wyo. | 4.52 |
| Blance Hub, NM | 4.49 |
| Cheyenne Hub, Wyo. | 4.50 |
| Chicago Hub | 4.71 |
| Ellisburg NE Hub | 3.81 |
| New York Hub | 3.95 |
| AECO, Alberta | 4.39 |

Source: Bloomberg

NEWS & TRENDS | Up To Date

EIA Studying Crude Exports

BLOOMBERG



The Energy Information Administration (EIA) wants to start collecting information about the density of oil produced in the U.S. to better inform the debate over lifting restrictions against crude exports.

The agency would begin publishing the average American Petroleum Institute (API) gravity and sulfur content of domestic crude oil on a state-by-state basis in December 2015, under a proposal published today in the Federal Register, according to Jim Kendell, who heads the EIA's Office of Oil, Gas and Coal Supply Statistics.

Companies such as Exxon Mobil Corp. have urged the U.S. government to ease restrictions against most exports of unrefined crude from the U.S. Others, such as Valero Energy Corp., say the U.S. is benefiting from existing rules.

One issue at the center of the debate, the EIA said in its proposal, is the density of U.S.-produced oil. Proponents of lifting export restrictions argue that new U.S. production from shale plays in North Dakota and Texas is light crude, whereas many U.S. refineries are designed to handle lower-quality heavy oil.

Energy Independence: No More 'Love, Trust And Pixie Dust'

BY SUSAN KLANN | HART ENERGY

At a recent stop in Denver to address the Petroleum Club, Gary Doer, Canada's ambassador to the U.S., outlined three priorities for achieving energy independence for North America. "When you reflect back 20 years ago on the lines for gasoline, the meetings every month of

OPEC where the price of gas kept going up even though supply was not being provided to the most important customers, it brings us to the point of opportunity that we've talked about, thought about, dreamed about, never acted on but can today, in 2014.

"We are competing with OPEC—forget the love, trust and pixie dust—we're competing for customers in the U.S., and we are taking it to the next level in proclaiming in North America that we can have energy independence in our neighborhood." He thinks this is possible within the next five years.

The first priority echoes former Secretary of State George Shultz's call for energy efficiency as the starting point. New light-duty vehicle emission standards in Canada and the U.S. are key, as is work that is underway on heavy-duty truck standards. Previously, standards varied from state to state and province to province. Massive increases in energy efficiency and reductions in greenhouse-gas emissions are available, he said. With 8 million heavy-duty trucks in the U.S. and 1 million in Canada, using natural gas as fuel for that transportation mode and the benefits of incentives offer significant opportunities, he said.

The second priority is developing renewables. "Easier said than done," he said, "but up to 64% of [Canada's] electricity is produced by renewables ... hydro, geothermal, wind and solar." The biggest challenge is in having traditional energy placed on transmission lines that can be approved. Approvals from one state to another in the U.S. can take seven years, he said. Canada has instituted a new law that requires a decision on projects within two years. "We need to have a larger vision before trying to determine the smaller decisions," he said.

The third priority is the safe development of shale gas, he said. "The latest research shows 300 years of gas supply. This has tremendous benefit for Canada and the U.S., with the potential to in-source more manufacturing back to North America.

"When I listen to American companies and their concerns about the loss of innovation and intellectual property, and theft of intellectual property, the new energy availability and affordability will mean more jobs will come back or will be sourced in North America."

North American oil also presents a tremendous opportunity for independence, Doer said. He lauded Mexico for recent changes to its constitution to allow investment in its oil and natural gas resources.

As for the Keystone XL pipeline debate, he said that while he always expected opposition, "I didn't think the most energy-efficient way of moving oil would be opposed on the basis of environmental concerns." Pipelines have fewer emissions, better safety records and lower costs, according to the U.S. Department of State's report on the project, he said. The report found "28% to 42% higher emissions on

NEWS & TRENDS | Up To Date

rail. ... When people say it's the environment vs. jobs, that's not true. It's more negative for the environment if not approved."

Nor is it a question of whether the oil sands will be developed. "They will be developed," he said. "Oil is coming."

"Since the proposal on Keystone was delayed, contrary to all science and undertakings by the country that science would dictate, Canada is now looking at two pipelines to the West Coast and two to the East Coast"—aiming for Asia and India, respectively.

"If you stop trade and pipelines to the south, you are going to get them to the east and the west and have oil going north as we see the melting of ice and more opportunities there. I believe strongly that the logic of approving the pipeline is there. The debate has never been about the public interest. ... It's a false debate, and we should have the backbone to take it on."

CNG Would Cause Worse Net GHG Over 10-20 Years - Study

BY JACK PECKHAM | HART ENERGY

A new study by researchers at the Massachusetts Institute of Technology (MIT) finds that substituting CNG for gasoline would actually result in worse net greenhouse-gas (GHG) impact over 10 to 20 years.

Similarly-bad results would happen with algae-derived biodiesel because of excess methane (CH₄) emissions in biodigesters—used to boost biofuel process efficiencies—according to the study, published in the April 25 edition of the scholarly journal, *Nature Climate Change*.

For the study, the researchers developed two GHG measurement metrics: the "instantaneous climate impact" (ICI) and the "cumulative climate impact" (CCI), the latter being more conservative in earlier years.

According to an MIT summary of the study, "while the standard figure used for emissions trading and technology evaluation says that, gram for gram, methane is about 30 times as potent a GHG as CO₂, scientists say that's an oversimplification.

"This conversion factor—called the global warming potential, or GWP—may significantly misvalue methane. Getting this conversion factor right is challenging because methane's initial impact is much greater than that of CO₂, by about 100 times.

"But methane only stays in the atmosphere for a matter of decades, while CO₂ sticks around for centuries. The result: After six or seven decades, the impact of the two gases is about equal, and from



then on methane's relative role continues to decline."

The researchers found that "the choice of how to quantify the effect of methane versus CO₂ can have a bigger effect on the ultimate climate outcomes than uncertainties in how much leakage of methane occurs in the natural gas production system.

"While it is generally assumed that the climate impact of natural gas to produce electricity is approximately half that of coal, that comparison depends on timing: The figure is true today, but within three decades, compared with coal-fired power plants, the advantage of natural gas is roughly halved under common stabilization goals.

"Similarly, compressed natural gas as a transportation fuel actually ends up being worse than gasoline within a couple of decades," according to the study.

Algae biodiesel "shows a significantly lower impact than corn ethanol initially, but then surpasses it in 23 to 38 years when applying the ICI and 21 to 35 years when applying the CCI, owing to CH₄ emissions in the production of biogas from algae coproducts," according to the study.

Under the standard 100-year GHG impact calculation, "the U.S. natural gas mix has a slight climate advantage over gasoline, although this conclusion depends on assumptions about the source of the gas and associated emissions, with unconventional natural gas having higher emissions during well construction but conventional gas generally having higher emissions during production," according to the study.

"Based on the ICI and CCI, CNG used today ranges from slightly advantageous to slightly disadvantageous, whereas CNG used in 2040 has a significantly higher climate impact and lower climate-goal-compliant consumption than gasoline.

"Another debate focuses on the climate benefits of various biofuels and coproduct processing techniques. For the processes studied, algae biodiesel seems more favorable than corn ethanol in 2010.

"However, using the ICI and CCI we observe that by 2040 the climate impact of algae biodiesel surpasses that of corn ethanol, owing to CH₄ leakage in biogas production from algae coproducts, which partially offsets the energy requirements of algae production and processing.

"Although these [energy] offsets make biodigesters attractive, with applications in corn ethanol production and other biofuels, result-

NEWS & TRENDS | Up To Date

ing CH₄ emissions may make this process less advantageous over time. An alternative catalytic-hydrothermal gasification process may achieve much lower CH₄ emissions,” according to the study.

OTC: Economic Forecasts Predict Energy's Future

BY **JENNIFER PRESLEY** | HART ENERGY

Questions are like opinions in that everyone has them and rarely are either in short supply, especially in the oil “bidness.” The task of finding answers to some of the big questions—like possible U.S. energy independence and the growth or shrinkage of markets—falls to economists.

These modern-day soothsayers consult not tea leaves but their less-exotic spreadsheets and reports for possible clues in forecasting.

One such forecast is BP’s “Energy Outlook 2035.” According to Mark Finley, BP Plc’s general manager of global energy markets, the report reflects the company’s effort to describe a “most likely” trajectory of the global energy system, based on its views of likely economic and population growth as well as developments in policy and technology.

“Like the BP ‘Statistical Review of World Energy’—which will see the 63rd annual edition published later this year—we hope that the energy outlook will be a useful reference for those with an interest in the energy industry and also governments, academia and the media,” Finley said.

A lot can happen in a year, and the company adjusted its views through this update of its year-old “Outlook 2030” report.

“By looking five years farther down the road, we were able to see some interesting changes: India is likely to surpass China as the largest source of energy demand growth; renewable energy will no longer be a minor player, surpassing nuclear energy; and OECD countries will have started to ‘crack the code’ of sustaining economic growth while reducing energy demand,” Finley said.

“We have [once again] revised our forecast higher for U.S. shale gas and tight oil,” he said. “The dramatic increase in domestic production in recent years has made the U.S. the world’s largest producer of natural gas and liquid fuels and has allowed the U.S. to cut its import dependence sharply [in the case of oil, by half]. For the past two years, the U.S. has had the biggest increase in oil production in the world and the biggest increase in our own history.”

Long-term energy trends demonstrate that achieving sustainable growth remains a challenge despite energy efficiency improvements

as energy demand in developing countries, and therefore global CO₂ emissions, continues to grow.

“Virtually all [95%] of the growth in global energy demand will be in the rapidly-growing emerging economies, especially in Asia,” Finley noted. “We believe that the U.S. and other mature economies will eventually figure out how to achieve continued economic growth without growing their energy demand. That partly is due to significant improvements in energy efficiency. We estimate that by 2035 the amount of energy needed globally to produce a dollar of economic output will have fallen by 36%.”

Energy efficiency, combined with what the company finds to be adequate hydrocarbon resources, will fuel continued growth for many decades to come, he said.

“In our ‘Statistical Review of World Energy,’ we have tracked global proved reserves for oil and natural gas for more than 30 years, and the data rise strongly over time,” he said. “One reason we are optimistic the world can have sufficient energy is that we see competition and innovation driving rapid growth of new forms of supply, such as shale gas and tight oil.”

The U.S. will continue to dominate global production of tight oil and shale gas—even in 2035—due to factors specific to the country, according to Finley.

“The ‘above ground’ factors that have driven the rapid growth of shale output in the U.S.—including a large and highly competitive domestic industry and a system of private ownership of property—are difficult to duplicate elsewhere,” he said. “And it’s important that we not take the success of these factors here in the U.S. for granted.”

EQT Midstream Partners To Acquire Jupiter Gathering System

EQT Midstream Partners LP (EQM) agreed to acquire the Jupiter natural gas gathering system from EQT Corp. for \$1.18 billion. \$1.12 billion will be paid in cash with the remainder paid in common and general partner units. The Jupiter acquisition is expected to be immediately accretive to EQM’s distributable cash flow per unit.

The Jupiter system was constructed to gather EQT’s Marcellus production in Greene and Washington counties, Pa. The system includes 35 miles of natural gas gathering pipeline and two compressor stations with 225 million cubic feet per day (MMcf/d) of compression capacity—150 MMcf/d at the Callisto station and 75 MMcf/d at the

NEWS & TRENDS | Up To Date

Jupiter station. The Jupiter system has a total pipeline capacity of 970 MMcf/d, and six interconnections with EQM's transmission and storage system.

EQM plans several expansion projects for Jupiter during 2014 and 2015. Expansions for 2014 are the addition of 350 MMcf/d of compression capacity and the installation of gathering pipelines at an expected cost of \$106 million, to be completed in the fourth quarter. The 2015 expansion plans will add gathering pipelines and another 200 MMcf/d of compression capacity, to enter service in late 2015. The cost is estimated at \$76 million.

The Jupiter assets are supported by an agreement with EQT that includes 10-year firm capacity reservation commitments. Once planned expansions are complete, revenues generated under the firm reservation charges are projected to be \$173 million annually. EQT will also pay a per unit fee on volumes above the contracted compression capacity. EQM expects revenues from the Jupiter system to be about \$130 million in 2014 and \$160 million in 2015. Ongoing expenses, excluding depreciation and amortization, are estimated at \$28 million per year. Expected maintenance expenditures are less than \$2 million per year.

Atlas Pipeline Partners Starts Up Stonewall Processing Plant

Atlas Pipeline Partners LP brought into service the Stonewall plant in the Arkoma section of the Woodford Shale. The plant was constructed under the Centrahoma joint venture with MarkWest Energy Partners, in which Atlas owns 60%. The facility is processing liquids while in start-up mode and will be fully operational in the coming days.

The Stonewall plant adds capacity to Atlas' SouthOK system and has a processing capacity of 120 million cubic feet per day (MMcf/d). Due to increasing activity in the Arkoma Basin and South Central Oklahoma Oil Province, Atlas plans to accelerate an 80 MMcf/d expansion at the Stonewall plant to bring the capacity up to 200 MMcf/d. The additional capacity will be achieved through added refrigeration and compression at the plant and will require \$8 million to \$10 million capital. The SouthOK system's gross processing capacity will be 580 MMcf/d after the expansion.

Regency Will Build New Processing Plant, NGL Pipeline

Regency Energy Partners LP announced that it will build a new cryogenic processing facility and NGL pipeline at Regency's Dubberly facility in north Louisiana.

The facility will have a processing capacity of 200 million cubic feet of natural gas per day and accept gas from Regency's recently constructed Dubberly gathering trunk line. The Regency Intrastate Gas System will be the residue outlet for the facility. Regency will also construct a 160-mile, 8- and 10-inch NGL pipeline from Dubberly for delivery to fractionation facilities. The pipeline will have initial capacity of 25,000 barrels per day and will be expandable through additional pump stations.

The cost for the projects is estimated at \$260 million. Both projects are backed by fee-based contracts. The estimated completion date is mid-2015.

MarkWest To Expand Processing Capacity In Marcellus Shale

MarkWest Energy Partners LP will increase its processing capacity in the Marcellus Shale with the addition of two new cryogenic processing plants at its Sherwood complex in Doddridge County, W.Va., and its Mobley complex in Wetzel County, W.Va. Both plants are anchored by long-term, fee-based contracts and are expected to be complete by second-quarter 2015.

The new plant at the Sherwood complex will increase production there by 200 million cubic feet per day (MMcf/d), bringing total production at the complex to 1.2 billion cubic feet per day. The plant's construction is at the request of Antero Resources Corp.

At the Mobley complex, total processing capacity will increase to 920 MMcf/d with the new 200 MMcf/d plant being constructed at the request of EQT Corp. Currently the plant's total production capacity is 520 MMcf/d, but it will increase to 720 MMcf/d during the fourth quarter when MarkWest begins operations at another plant.

NEWS & TRENDS | Up To Date

Castleton Commodities Acquires San Juan Gas Plant

BUSINESS WIRE

Castleton Commodities International LLC announced May 1 that a subsidiary has acquired a gas processing facility in Kirtland, N.M., and about 225 miles of gathering pipelines from a wholly owned subsidiary of Anadarko Petroleum Corp. The transaction amount was not disclosed.

The San Juan Plant has a capacity of 75 million cubic feet per day (MMcf/d) and is able to process sour gas that is high in sulfur as well as recover NGL through its 20 MMcf/d cryogenic processing unit. About 150 of its 225 miles of gathering pipelines connect into Castleton's existing Lisbon gas plant based in Stamford, Conn.

"We are pleased to add the San Juan Plant to our growing portfolio of energy assets and expand our footprint in the Four Corners area," Brad Burmaster, Castleton vice president of midstream operations, said in a May 1 press release. "The San Juan acquisition is a logical expansion of CCI's existing upstream and midstream assets in Colorado, Utah and New Mexico."

Stabilis Completes Acquisition Of Encana's US-Based LNG Unit

Stabilis Energy closed the acquisition of substantially all of the U.S.-based assets of Encana Natural Gas Inc. (ENGI) of Denver. Terms of the transaction were not disclosed.

ENGI, a subsidiary of Calgary-based Encana Corp., is a distributor of LNG fuel to domestic high horsepower engine operators in the oilfield, mining, rail, marine, over the road transportation and industrial sectors. The transaction is part of Encana's transition strategy launched in 2014 to grow liquids production by 90%. The company said in December 2013 it would invest about 75% of its 2014 capital into five high-return oil and liquids-rich plays: the Montney, Duvernay, D-J Basin, San Juan Basin and Tuscaloosa Marine Shale.

Stabilis, of Beaumont, Texas, agreed to purchase ENGI's fleet of cryogenic rolling stock assets including storage and regasification trailers, mobile fueling units and other related equipment. Stabilis will fulfill all of ENGI's existing customer obligations including its existing contracts.

Ferrellgas To Acquire Sable Environmental

Propane distributor Ferrellgas Partners LP entered into definitive agreements to acquire Sable Environmental LLC and a related entity for \$124.7 million. Sable is a privately held fluid logistics provider in the Eagle Ford Shale.

Ferrellgas President and CEO Steve Wambold said, "Sable will provide a new platform for growth, both organically and through acquisition, and we anticipate its existing operations will contribute \$20 million of annual adjusted EBITDA, or 11 cents of accretion to distributable cash flow per common unit."

After closing, Sable's ownership group will continue to operate and drive the growth of Sable's assets with Sable employees joining Ferrellgas. The group will also purchase \$50 million of Ferrellgas' common units to signify their confidence in the partnership's new direction. Ferrellgas' CFO and Executive Vice President Ryan VanWinkle will lead the Sable team in the newly created position of president, midstream operations.

SEACOR, Avista Enter Joint Venture

SEACOR Holdings Inc. and private equity firm Avista Capital Partners entered into a joint venture to operate and construct several vessels for shipping crude oil, petroleum and specialty chemical products. Avista invested about \$150 million in cash for a non-controlling interest in SEACOR subsidiaries operating seven U.S.-flag Jones Act vessels.

The joint venture also contracted to build three 50,000 deadweight tonnage product tankers with National Steel and Shipbuilding Co. Delivery on the vessels is expected in May 2016, October 2016 and March 2017. The tankers will be managed and crewed by SEACOR subsidiaries in accordance with ship management and crew management agreements.

Williams Partners Returns Opal Gas Processing Plant To Service

Williams Partners' Opal, Wyo., gas processing plant has returned to service after the full shutdown caused by a fire on April 23, processing about 1.1 billion cubic feet per day of natural gas. Four of the

NEWS & TRENDS | Up To Date

plant's five cryogenic processing trains are operational. The fifth, where the fire occurred, is still out of service.

The company said the current processing capacity is sufficient to meet the plant's operating needs. The two units placed most recently back into service have a combined processing capacity of 700 million cubic feet per day (MMcf/d) of gas. Two others were put back in service last week and have a combined processing capacity of 395 MMcf/d.

Kinder Morgan To Expand CO₂ Production

Kinder Morgan Energy Partners LP will invest \$671 million to grow its CO₂ infrastructure in southwestern Colorado and New Mexico. Kinder Morgan plans to expand its CO₂ production operations in the Cow Canyon area of McElmo Dome source field in Montezuma County, Colo., and expand the 500-mile Cortez CO₂ transportation pipeline from southwestern Colorado to eastern New Mexico and West Texas for use in EOR projects.

Capital expenditures for the Cow Canyon expansion are estimated at \$344 million and will increase CO₂ production there by 200 million cubic feet per day (MMcf/d). Planned expansions include 3-D seismic acquisition, new wells, activation of one production well and one produced water disposal well, water separation facilities, one central compressor station and associated gathering and produced water disposal pipelines. The company expects that 100 MMcf/d of new CO₂ production will come online by July 2015, with the remainder in service by the end of 2015.

The Cortez pipeline expansion is expected to cost about \$327 million. The pipeline's capacity will increase from 1.35 billion cubic feet per day (Bcf/d) to 2 Bcf/d with the addition of a 64-mile loop in New Mexico, two new pump stations in New Mexico and one in Colorado and the expansion of five existing pump stations. The northern portion of the expansion has an expected completion date in July 2015, while the southern portion should be complete by mid-2016.

Manhattan Construction Acquires Pipeline-Construction Firm

Oklahoma-based Manhattan Construction Group, which specializes in civil, road and bridge construction, expanded its operations to include pipeline construction services with the acquisition of Danny Wright Dozer & Pipeline Inc. (DWDP).

The newly acquired firm will be known as Manhattan Pipeline LLC. All 90 employees of DWDP will have the opportunity to transition to Manhattan Pipeline.



Midwestern Gas Withdraws FERC Application

ONEOK Partners LP's subsidiary Midwestern Gas Transmission Co. withdrew its application with the Federal Energy Regulatory Commission to enter into pre-filing for the announced development of a 15-mile natural gas pipeline lateral in Ohio and Muhlenberg counties, Ky. Midwestern Gas was unable to reach an agreement with its customer regarding the proposed pipeline lateral.

SNAPSHOT | Industry Insight

Debate: Lift The Ban On Crude Oil Exports?

Harold Hamm, of the Domestic Energy Producers Alliance and Continental Resources, debated Jeff Warmann, the president and CEO of Monroe Energy, over lifting the crude export ban.

LIFTING THE BAN: YES

The US is already exporting petroleum, but who profits?

In October 2011, the Domestic Energy Producers Alliance put a stake in the ground and predicted American energy independence by 2020. America's independent oil and gas producers have unlocked the technology and resources that make this a reality. As a result, we can today mark the recent 40th anniversary of the OPEC oil embargo by ending the era of energy scarcity in America and, along with it, ending the last of shortsighted regulations passed during that period.

Thankfully, in response to dramatic changes in our global energy industry, legislators have repealed nearly all post-embargo regulations save two: the Energy Policy and Conservation Act of 1975 and the Export Administration Act of 1979, which essentially ban crude oil exports. As the world has changed and other similar, post-embargo legislation has been phased out, the question has to be asked, "Why does the U.S., a nation historically very supportive of free trade, continue to impose export barriers for domestic crude oil and natural gas?"

The popular belief is that we're not exporting petroleum. Nothing could be further from the truth. Major oil companies export refined petroleum products like gasoline and diesel with no limitations. Why shouldn't independent producers be allowed to do the same? This would be like telling American farmers they can't export their wheat, yet allowing Pillsbury to export all the flour it wants. It's disingenuous for the government to ban exports of crude oil, yet allow exports of gasoline, diesel and propane. By imposing trade restrictions on a single segment of the energy industry, our government is arbitrarily subsidizing refineries by giving them the ability to buy American oil at artificially low prices yet sell petroleum products into higher-priced global markets. In fact, the U.S. is exporting 4 million barrels per day of refined petroleum products.

So it isn't a question of whether we should allow petroleum exports—we already are. The real question is why should one link in the chain benefit arbitrarily from distortions caused by laws restricting free commerce?



When you consider the potential for job creation, it really puts these distortions into perspective. Refining doesn't create jobs. Once a refinery is built, it takes the same number of employees to run it at 75% of capacity as it does at 100%. Jobs can only be added through the upstream industry. Lifting export

regulations would enable our domestic oil exploration and production industry to achieve its full potential, boosting job growth at home and oil supply around the world; the latter of which improves global refined product balances that ultimately translate to lower gas prices in the U.S. According to a recent American Petroleum Institute study, U.S. oil exports could save American consumers \$5.8 billion annually.

Beyond its economic benefits, supporting domestic oil and natural gas production is vital for our national security. Energy independence doesn't mean being isolationist. As we've seen in Cuba, Venezuela and North Korea, closed societies don't work. Energy independence means energy security. It means a chance for America to step back into a global leadership role by creating a world of balanced interdependency as opposed to dysfunctional interdependency. And it means no one can choke off supply, turn off the tap or otherwise distort the market.

If we are to be an energy leader this century, we can't continue to hide behind a crude oil export ban. America's greatest economic and diplomatic tool is oil exports, which could be utilized today if the export ban were repealed.--Harold Hamm

LIFTING THE BAN: NO

American workers and consumers stand to gain the most if domestic crude remains at home

As the U.S. increases its oil production for the first time in decades, a debate has been brewing on whether lifting the ban on crude oil exports is good for the country and American consumers. While oil interests advocate sending U.S. crude overseas, it's clear that prohibition on crude exports plays an important role in allowing the U.S. to increase energy independence, benefiting consumers and creating jobs for American workers. Lifting the ban will send a precious natural resource into a market dominated by OPEC, which means job losses, growing dependence on foreign oil and that Americans will pay higher prices at the pump.

[READ FULL ARTICLE ONLINE](#)

LEAD STORY | From The Front

Continued from
Page 1

designed to educate the throng in attendance, but Chin said everyone could benefit from having attended at least one of the four networking events for the opportunity “to engage closely with the industrial leader on the hot topics in a more relaxed atmosphere.”

Conference chairman Ed Stokes said that in the days leading up to the show, his own excitement was palpable.

“OTC today isn’t just the planning for and the annual execution of the conference in Houston. It is the management of four global conferences,” he said, adding, “I’m excited about the anniversary since it signifies and confirms the great visions that people who created OTC had in the late ‘60s. Furthermore, it shows that the collaborative model among engineering and geoscience societies and trade organizations is still meeting the needs of our society members, exhibitors and attendees.”

After serving two years as vice chairman, Stokes took the reins of the chairmanship at the closing of the 2013 conference.

“I’m now the one out in front and the one leading and making many decisions for the organization,” he said. “As chairman of the board, you become the point of focus both internally and externally. It’s humbling to have the faith and support of my fellow board members.”

OTC Vice Chairman Joe Fowler said the conference’s long-term success is a result of cooperation among the 13 professional societies and two industry groups that sponsor it.

“Rarely, if ever, in the engineering profession does such a broad and diverse group of technical people and trade groups come together to share the latest, greatest and most important technical achievements of the entire industry,” he said. “To me, the greatest duty of the officers is to continue that cooperation.”

OTC has no doubt thrived on that sense of collaborating, and it has permitted conference planners to expand its offerings over the years. Stokes noted the addition of the annual dinner, at which OTC Distinguished Awards are distributed. Proceeds from the event sup-



Doreen Chin (left), Ed Stokes (center) and Joe Fowler (right) helped put together this year’s OTC conference in their respective roles as chair of the technical program, conference chair and vice chair. (Source: OTC)

port “a national or international charity that is making a difference in the world,” he said. Other additions included networking events, such as “Women in the Industry Sharing Experiences (WISE), and three global conferences: OTC Brasil, the Arctic Technology Conference and OTC Asia.”

And, Stokes said, OTC directors are already looking forward to 2015, when OTC will launch “the next big thing.”

While no one knows what the next 45 years will bring, the near term appears strong for the offshore industry.

“Over the next 25 years, energy demand is estimated to increase by about 30%,” Stokes said. “This additional energy will have to come from many places. Deepwater is going to be one of them. There is simply no other choice but for us to continue to do all we can to help stimulate the growth of our industry by facilitating the exchange of knowledge through networking, sharing lessons learned, encouraging the development of new technology and educating young people [who are] considering joining our industry, as well as the public in general. Through this we will be able globally to provide the energy the world needs and do it in a safe, sustainable and environmentally friendly way.”

Contact Information:

FRANK NIETO Senior Editor

fnieto@hartenergy.com

Contributing Editors: Velda Addison, Darren Barbee, Nissa Darbonne, Deon Daugherty, Rhonda Duey, Caroline Evans, Leslie Haines, Mary Hogan, Paul Hart, Nicole Johnson, Susan Klann, Caryn Livingston, Amy Logan, Mike Madere, Joseph Markman, Richard Mason, Emily Moser, Jack Peckham, Larry Prado, Jennifer Presley, Chris Sheehan, Kristie Sotolongo, Steve Toon, Theresa Ward, Scott Weeden, Peggy Williams

Graphic Designer: Felicia Hammons

ORDER TODAY!

Call: 1-212-608-9078 | Fax: 1-212-608-9357

HART ENERGY

1616 S. Voss, Suite 1000 • Houston TX 77057-2627 • USA

Copyright 2014. All rights reserved. Reproduction of this newsletter, in whole or in part, without prior written consent of Hart Energy is prohibited. Federal copyright law prohibits unauthorized reproduction by any means and imposes fines up to \$100,000 for violations. Permission to photocopy for internal or personal use is granted by Hart Energy provided that the appropriate fee is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Phone: 978-750-8400; Fax 978-646-8600; E-mail: info@copyright.com.