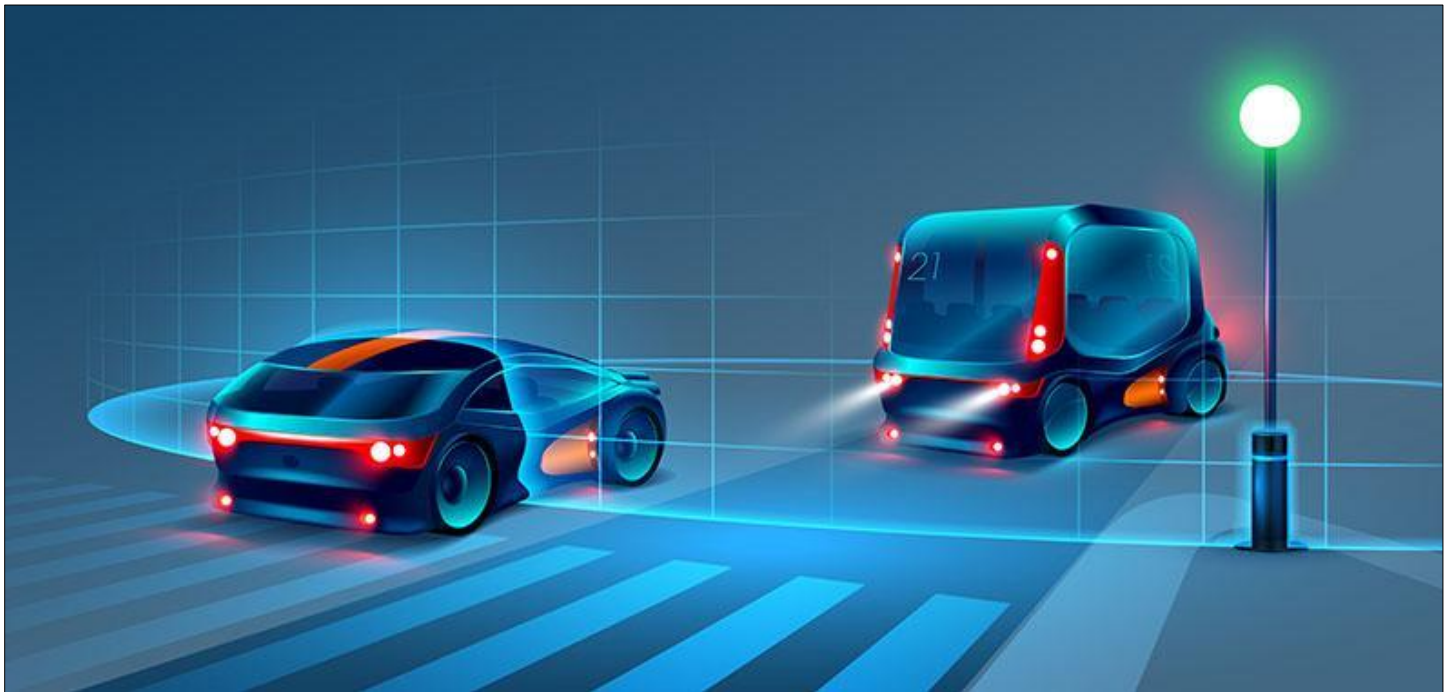


MIDSTREAM

Monitor

AUGUST 25, 2017 | VOLUME 35 | ISSUE 34

FEATURES



Future Shock

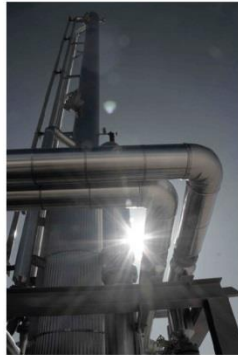
As vehicle innovation emerges, oil and gas companies are strategizing to ride with the trends over the next few years, according to Deloitte analysts.

MARY HOLCOMB | HART ENERGY

Electric vehicles (EV), autonomous vehicles and ride-sharing have played key roles in reshaping the plans of oil and gas companies, according to speakers on Deloitte's recent "The Future of Mobility" webinar. But while the evolution of these transportation technologies will likely impact future gasoline demand, some oil and gas leaders doubt the impact will be substantial according to Thomas Shattuck, lead market insights analyst at Deloitte Services.

See **FUTURE** on Page 3

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FUTURE

For the upstream sector, Shattuck's only real concern is whether the current trends will reach the countries that fuel a lot of the global demand growth, such as China and India. Shattuck expects the upstream sector to remain resilient considering U.S. gasoline consumption is a minuscule factor in the dynamic global system for oil and gas.

"[A] major reasons is when you sell oil, you're selling oil on a global market. Secondly, due to just natural depletion of existing resource base there's just going to be constant need for investment," he said.

Furthermore, the midstream sector's long life and upfront investment puts it in a similar position as the upstream sector, Shattuck said. But he said some facilities might face challenges, particularly refineries or pipelines located inland in the Gulf Coast, adding that rethinking the facilities' operational systems is imperative in a continued improvement scenario.

"In a scenario with only moderate gasoline consumption decline the effects would be minimal, there might be some need for capacity rationalization or rethinking exactly where flow is coming from or going to, but the natural flexibility within the market would allow for that," Shattuck said.

However, Shattuck said the oil and gas industry mostly anticipates the transformation to affect the downstream market which includes gas stations, retailers and refiners.

"Ultimately geography [specifically] the urban, suburban and rural divide...each will have different implications for oil and gas," he said.

In urban areas, where it is heavily populated, the demand for autonomous vehicles and ride-sharing services are high, potentially imposing greatly on the downstream sector, he argued. Location could play a small role in upstream and midstream, too. ■



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US Shale Output Pressures Canada Gas Producers

Cheap and plentiful U.S. shale natural gas is putting pressure on Western Canadian producers in U.S. and Eastern Canada markets, with one industry association expressing fears that Canadian production may fall by half by 2030.

Hopes that West Coast LNG would create huge new markets for British Columbia and Alberta producers were dashed when Petronas canceled its 19.2 megatonnes a year Pacific Northwest LNG project last month. Still, there are a few rays of optimism for innovative, low-cost companies.



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"The Canadian Association of Petroleum Producers' expectation is that natural gas exports to the United States will decline as U.S. shale gas production grows—perhaps to about half their current levels by the end of the next decade," is how Mark Pinney, CAPP manager of natural gas markets and transportation, described the gloomiest scenario in an email.

Western Canada's Achilles Heel is geography.

"The bad news side is that it takes cost of production *plus* cost of transport to get to market, and it's the latter where B.C. and Alberta gas has a disadvantage," says Blake Shaffer, an economics PhD. candidate at the University of Calgary. "Shipping on TransCanada to get the product to eastern markets often costs as much as the price of the commodity itself [and this month, many times more]. U.S. shale gas is advantaged in its proximity to market demand and potential for increased LNG and Mexican exports." —**MARKHAM HISLOP** | CONTRIBUTOR

FRAC SPREAD

Ethane Price Eclipses High For Year

JOSEPH MARKMAN | HART ENERGY

The price of ethane established a new high for the year at Mont Belvieu, Texas, in the past week while the hypothetical composite NGL barrel left \$27 in the rear view mirror at both hubs to reach its highest level in six months.

If summer weather has been, statistically, relatively mild compared to a year ago, NGL have been hot. Mont Belvieu ethane is up 42.7% since its low point in January and Conway, Kan., ethane has risen 35.1% since its low for the year in March.

CURRENT FRAC SPREAD (CENTS/GAL)				
AUGUST 25, 2017	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	23.48		27.16	
Shrink	18.98		19.20	
Margin	4.50	22.09%	7.96	8.25%
Propane	72.80		75.73	
Shrink	26.22		26.53	
Margin	46.58	-2.26%	49.20	-1.07%
Normal Butane	90.88		90.02	
Shrink	29.68		30.03	
Margin	61.20	6.98%	59.99	6.55%
Isobutane	99.35		96.50	
Shrink	28.51		28.85	
Margin	70.84	6.30%	67.65	5.76%
Pentane+	108.23		108.79	
Shrink	31.75		32.12	
Margin	76.48	-1.48%	76.67	-0.81%
NGL \$/Bbl	27.28	1.37%	27.88	1.26%
Shrink	10.46		10.58	
Margin	16.82	1.51%	17.30	1.64%
Gas (\$/mmBtu)	2.86	1.15%	2.90	0.65%
Gross Bbl Margin (in cents/gal)	38.64	1.30%	40.43	1.52%
NGL Value in \$/mmBtu (Basket Value)				
Ethane	1.29	4.59%	1.50	2.76%
Propane	2.53	-1.06%	2.63	-0.47%
Normal Butane	0.98	5.00%	0.97	4.50%
Isobutane	0.62	4.77%	0.60	4.18%
Pentane+	1.40	-0.72%	1.40	-0.38%
Total Barrel Value in \$/mmbtu	6.82	1.40%	7.10	1.26%
Margin	3.95	1.59%	4.20	1.68%

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 Midwest region, Mont Belvieu based on Houston region. Shrink is defined as Btus that are removed from natural gas through the gathering and processing operation.

Energy Information Administration's (EIA) storage figure should be below the five-year average. ■

ethane is up 42.7% since its low point in January and Conway, Kan., ethane has risen 35.1% since its low for the year in March.

The NGL barrel passed \$27 for the first time since February at Conway and has stayed at that mark for three straight weeks at Mont Belvieu. The Mont Belvieu price is 38.4% higher than it was last year at this time, with the Conway price 39.9% higher.

"NGLs have been heating up this year because of improved fundamentals, while oil and natural gas prices have been depressed," wrote **En*Vantage Inc.** analysts in a report.

Ethane inventories are high, but so are exports and increased cracking demand as well as market anticipation of demand from crackers lining up to begin operations. These factors support the steady uptick in price at both hubs.

But back to the weather.

Bearing down on the Texas Gulf Coast this past week was Harvey, a major storm expected to make landfall as a Category 3 hurricane. Storms of this magnitude that make landfall in the U.S. tend to have bearish consequences on natural gas markets, En*Vantage noted, but the second half of August is projected to be above the 30-year normal.

Compounding the heat are expectations of lower gas injections into storage. By the first week in September, En*Vantage said, the U.S.



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India's New Renegotiation Focus: US Liquefaction

The new price environment of the LNG industry has been a painful reality for buyers across the globe. Contracts with links to long-term moving averages of oil prices still often yield higher prices than those on the spot market. In response to this, and using the global oversupply



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of LNG as leverage, buyers of growing importance have taken a hard stance toward renegotiating those existing deals. Using its power as an emerging importer of LNG, major Indian buyers have been at the forefront of these efforts.

At first, Petronet targeted Qatar's supply. The Gulf state's fully integrated project allowed for Qatargas to control their price more than most global producers; because of its low costs and the acknowledgement that the Indian market would be important going forward, Qatar capitulated to Petronet and renegotiated their contracts to better reflect the current spot market.

—**GEORGE POPPS** | STRATAS ADVISORS

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TOP STORY

Canada To Consider GHG Emissions For Energy East

CALGARY, Alberta—The review of TransCanada Corp.'s (NYSE: **TRP**) proposed Energy East pipeline will consider its indirect greenhouse gas contributions, Canada's National Energy Board (NEB) regulator said on Aug. 23, expanding the scope of the assessment.

In determining whether the pipeline is in the public's interest, the NEB will weigh the emissions from extracting and refining the oil shipped on the pipeline.

Energy East, which would take crude from Alberta to the Atlantic coast, would attain higher prices for Canadian producers whose landlocked product trades at a discount to the West Texas Intermediate benchmark.

However, Energy East's importance has somewhat diminished for TransCanada since President Donald Trump this year signed an order reviving the company's Keystone XL pipeline, which would run from Alberta's oil sands to U.S. refineries.

Considering Energy East's associated emissions makes the upcoming regulatory review for the pipeline more onerous and had been opposed by TransCanada, which had called it "completely redundant and unnecessary." —**REUTERS**

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