MIDSTREAM Monitor

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Northeast, This Will Cost You

By **PAUL HART**, Hart Energy

What happens if the Northeast doesn't get the new natural gas transmission lines it needs?

It won't be good, according to a new report released by the Institute for 21st Century Energy, an arm of the U.S. Chamber of Commerce. An already economically challenged region will fall further behind the rest of the nation.

The region already has some of the highest electricity rates in the U.S.—and that disadvantage will only get worse, according to the study, published as part of the institute's Energy Accountability Series.

Highest Rates In The U.S.

The report benchmarks the potential economic impact by asking a question: "What if pipelines aren't built into the Northeast?" In the eight states examined— Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont—the report finds that the lack of additional pipeline infrastructure would cost over 78,000 jobs and $7.6 billion in GDP just by 2020.

"Environmental groups seeking to 'keep it in the ground' are fighting to block virtually every project that would bring additional natural gas into in the Northeast," said Karen Harbert, president and CEO of the

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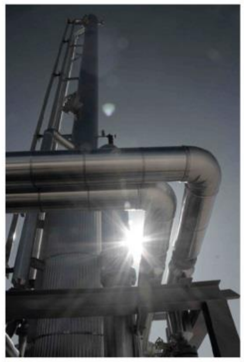

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institute. "As a result, residents in the Northeast are paying the highest electricity rates in the continental United States, with no relief in sight if infrastructure is not built. High energy prices are costing the region jobs and income, so maintaining the status quo will be painful."

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According to the U.S. Energy Information Administration (EIA), Connecticut has the third-highest electricity rates in the nation, while Massachusetts ranks fourth, Rhode Island fifth, New Hampshire sixth, New York eighth, Vermont ninth and New Jersey 10th. Maine fared the best in the region at a still-pricey No. 11.

"Overall, Northeast residents pay 29% more for their gas than the U.S. average and 44% more for electricity," the study found. "Industrial users in the Northeast pay more than double for their natural gas than the U.S. average, and 62% more for electricity," it added. Using EIA's historical price data, the report found Northeast residents can pay as 106% above the U.S. average gas price.

Yet nearby, continued development of the unconventional Marcellus and Utica shales in Pennsylvania, Ohio and West Virginia has helped reduce U.S. dependence on foreign energy, lowered costs and brought back thousands of manufacturing jobs, the report said. However, the lack of access to markets in the Northeast will cost those states jobs and tax revenue.

How Focus On Demand Put Enterprise In Demand

If most midstream operators focus solely on the supply side of the business, well, most midstream operators aren't Enterprise Products Partners LP (NYSE: **EPD**).

"At Enterprise, we spend as much time looking at market choices on the demand side of the equation as we spend looking at the supply side," Enterprise CEO Jim Teague recently told a packed house of upstream executives at the Houston Producers Forum. "To do our job at Enterprise, we have to do both."

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Enterprise, with a market capitalization of about $60 billion, is connected by pipeline to virtually every ethylene plant in the U.S., Teague said, and is rapidly expanding its reach into global markets. That kind of muscle means something to astute producers.

"'Jim, most of you take us to the stadium,'" he said, referring to a conversation he had with a senior executive of an upstream company. "'Enterprise takes us to our seats.'"

The company is able to do that because it aggressively sought out those markets and, significantly, established a presence on the Houston Ship Channel to handle product. In short, it may be dawning on some operators that they literally missed the boat. — **JOSEPH MARKMAN,** Hart Energy

PODCAST

The State of Fracking Bans; Future Outlook

The costs of state regulations that ban hydraulic fracturing are not borne by upstream drillers alone. Midstream operators are targeted by the forces that oppose the oil and gas industry, and the citizens of states that ban fracking miss out.

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FRAC SPREAD

Plenty Of Ethane Will Be Pouring Out Of Permian

By **JOSEPH MARKMAN**, Hart Energy

Ethane prices won't crack 30 cents per gallon (gal) anytime soon and NGL content in natural gas produced in the Permian Basin will double that of the pre-2010 era, Bernstein forecasts in a new report.

CURRENT FRAC SPREAD (CENTS/GAL)				
APRIL 28, 2017	**Conway**	**Change from Start of Week**	**Mont Belvieu**	**Last Week**
Ethane	19.32		23.66	
Shrink	19.17		20.74	
Margin	0.15	-90.53%	2.92	-19.77%
Propane	60.10		64.73	
Shrink	26.49		28.66	
Margin	33.61	-10.25%	36.07	-10.03%
Normal Butane	74.23		76.33	
Shrink	29.99		32.44	
Margin	44.24	-10.35%	43.89	-11.52%
Isobutane	81.35		79.23	
Shrink	28.80		31.16	
Margin	52.55	-7.91%	48.07	-7.47%
Pentane+	112.10		111.33	
Shrink	32.07		34.70	
Margin	80.03	-4.27%	76.63	-5.32%
NGL $/Bbl	24.00	-6.00%	25.02	-4.40%
Shrink	10.56		11.43	
Margin	13.43	-8.95%	13.60	-8.63%
Gas ($/mmBtu)	2.89	-1.97%	3.13	1.17%
Gross Bbl Margin (in cents/gal)	30.40	-9.23%	31.39	-8.82%
NGL Value in $/mmBtu (Basket Value)				
Ethane	1.06	-8.44%	1.30	-1.99%
Propane	2.09	-6.78%	2.25	-5.39%
Normal Butane	0.80	-7.14%	0.82	-6.54%
Isobutane	0.51	-5.89%	0.49	-4.25%
Pentane+	1.45	-3.62%	1.44	-3.39%
Total Barrel Value in $/mmbtu	5.90	-6.31%	6.30	-4.32%
Margin	3.01	-10.13%	3.17	-9.17%

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.

Bernstein expects the wave of new ethylene crackers on the Texas Gulf Coast to add 715,000 barrels per day (Mbbl/d) of ethane demand as they come online between December 2016 and December 2020. PADD III, which includes the Permian and the Eagle Ford Shale, will grow output by 520 Mbbl/d by 2020.

Assuming competition with rejected ethane from outside of Texas, the price will remain at under 30 cents/gal, Bernstein predicts. And if the price rises above that, expect the crackers to switch to propane as a feedstock.

"Notably, the Northeast ethane market is disconnecting from the Gulf Coast ethane market," the analysts wrote. Enterprise Product Partners LP's (NYSE: **EPD**) 1,192-mile ATEX is the only pipeline that connects the Marcellus-Utica shales to Mont Belvieu, Texas, and by next year will reach its 145 Mbbl/d capacity.

Bernstein questioned whether all investors are cognizant of the significantly higher NGL content in Permian Basin gas from unconventional shale wells compared to conventional wells drilled before 2010. Measured in gallons per thousand cubic feet (gal/Mcf), the "old Permian" averaged 3 gal/Mcf whereas the "new Permian" averages 6 gal/Mcf.

What this higher content translates to is an additional 400 Mbbl/d of Permian ethane production between now and 2020, resulting in a 2020 average of 700 Mbbl/d and rising to 850 Mbbl/d in 2022. The Eagle Ford's NGL content is slightly higher than the Permian's, and its production is expected to rise from its 2017 trough. Nevertheless, its growth from 290 Mbbl/d in 2016 will peak at 430 Mbbl/d in December 2020.

Early Data: Sabine LNG Exports Are Swing Cargoes In Global Markets

NEW YORK—The 100th shipment of LNG from Cheniere Energy Inc.'s (NYSE MKT: **LNG**) Sabine Pass, La., terminal earlier this month signaled how North American natural gas has already established itself as a swing provider in global consuming markets, **Haynes and Boone LLP** and global shipping analysts **Poten & Partners** said during a joint press conference April 20.

Notably for U.S. and Canadian producers and midstream operators, the volumes welcomed as reliable supply worldwide have meant that prices at the wellhead and upon delivery to the liquefaction terminal are now an accepted variable in the final delivered price for LNG at the regasification market. That means that, within wide boundaries, gas producers, pipelines, and processors do not have to worry greatly that nominal increases in their prices would hamper the development of the LNG export business.

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Granted, these are early days and 100 cargoes from one terminal are hardly a statistically robust sample out of a global market. However, macroeconomic models predicted that North American LNG would be welcomed into the global market and the early results are proving out most of the expectations of a much more liquid global commodity market. **— GREGORY DL MORRIS,** Contributor

TOP STORIES

US East Coast Refiners Eye Texas Oil From Permian, Eagle Ford

U.S. East Coast refiners are looking to buy increasing volumes of domestic crude oil from the Gulf Coast, two sources said, the latest twist in a trade flow upheaval in the wake of the opening of the Dakota Access pipeline.

Major U.S. East Coast refiners profited from railing hundreds of thousands of barrels of discounted Bakken crude to their plants daily from 2013 until 2015. But as more and more pipelines were built in North Dakota, the discount began to disappear, and so did the rail cars.

— REUTERS

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