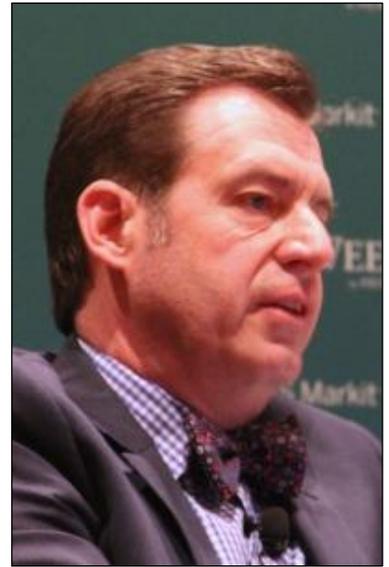


MIDSTREAM

Monitor

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CERAWEEK



Hart Energy photos

John Schultz, president of Direct Energy, left, and Gregg Russell, senior vice president of commercial development for DTE Midstream, at last week's CERAWEEK in Houston.

Delays Threaten Gas Growth

By **JOSEPH MARKMAN**, Hart Energy

Demand for infrastructure continued to be the mantra of CERAWEEK by IHS Markit at a March 8 panel on North American natural gas.

“The supply is there, you can develop the supply economically,” said John Schultz, president of Direct Energy, at the Houston conference. “The fundamental issue of today is one of infrastructure.”

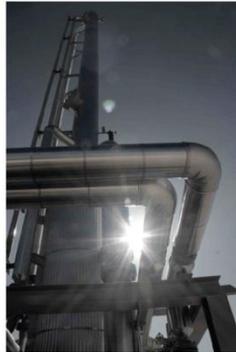
Even with natural gas prices lingering at low levels, U.S. production remains on track to reach the range of 8 billion cubic feet per day (Bcf/d) to 12 Bcf/d in the next five years. And at today's prices, gas is competitive with and sometimes advantageous to coal as a fuel source for electric power generation in many areas.

But moving those infrastructure projects along, especially where they are most needed, is challenging.

A map of Appalachian producing areas tells the story. In the entire region, natural gas production rose by

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about 2 Bcf/d in 2016 but almost all of that growth was in the southwest Marcellus shale play.

“In the northeast core where the Marcellus actually started, growth is stunted,” said Gregg Russell, senior vice president of commercial development for DTE Midstream. “Quite frankly, I don’t think it’s well economics—I think it’s about how easily infrastructure can be built. I think it’s very, very difficult to build new infrastructure in the northeast Marcellus.”

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Russell drew a comparison to the Permian Basin in Texas and New Mexico, an older basin now in the process of being redeveloped. Like the Marcellus and Utica with New England, the Permian is in close proximity to a large demand market in Mexico. Unlike the Northeast shales, the industry finds it much easier to develop infrastructure in the Permian.

“There have been several projects that have been canceled,” Russell said of Appalachia. “Certainly our partners on our system have adequate production that they would like to ramp up.”

While environmentalist opponents of oil and gas would like the hydrocarbons to stay in the ground, they won’t. The problem is that delays related to project opposition and regulations on the state and federal levels mean that the gas might not move where it should.

“If you think about where all that gas is going to go today because it’s trying to push in every direction,” said Schultz. “There are more than 20 expansion projects in just [Appalachia]. I think the most likely directions for gas to push in the future are west and south. Everything is primed to build East because that’s really the golden goose—if you can get gas to the East.” ■

Enbridge CEO, Senator Say Top Need Is Access To Markets

The U.S. senator and the midstream CEO did not exactly break into a duet of the optimistic “Something’s Coming” from “West Side Story,” but they offered similar themes during CERAWeek’s opening dialogue on March 6 about the need for North American energy infrastructure.

“America is clearly on the cusp of a major energy renaissance that can help revive our economy, create tens of thousands of jobs, spur a revitalization of manufacturing and enhance our national security,” said Sen. Dan Sullivan, R-Alaska.

Al Monaco, CEO of Enbridge Inc. (NYSE: **ENB**), showed his appreciation for Sullivan’s turn of phrase.

“We are on the cusp of establishing a global leadership position and I say a cusp because the one thing that’s holding us back is what the senator referred to: creating timely access to markets,” he said. “It’s the biggest issue facing our industry today.” —**JOSEPH MARKMAN**, Hart Energy

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IEA Predicts Tight Oil Market Without Cash Infusion

A “second wave” of U.S. shale oil growth that will bump U.S. light oil production by 1.4 million barrels per day (MMbbl/d) won’t be enough to meet rising global demand without significant investment, the International Energy Agency (IEA) said in its “**Oil 2017**” report.

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That could lead to another round of price volatility, the agency said.

U.S. production growth will depend on price, Fatih Birol, executive director of the IEA, said on March 6 at the annual CERAWeek by IHS Markit conference where the organization released the report, formerly known as the “Medium-Term Oil Market Report.”

“Between now and 2022, we may see an expansion of 3 million barrels per day coming from the U.S.,” Birol said, referring to the report’s high estimate if the price of Brent crude reaches \$80/bbl. A price of \$60/bbl would result in a U.S. production increase of 1.4 MMbbl/d.

—**JOSEPH MARKMAN**, Hart Energy

FRAC SPREAD

CERAWeek Panelists Take Long-Term View Of NGL

By JOSEPH MARKMAN, Hart Energy

Though it lacked the thunder of massive global LNG projects and grand announcements by supermajors about their super-duper investment plans, NGL did manage to sneak into at least one discussion at CERAWeek by IHS Markit this week in Houston.

CURRENT FRAC SPREAD (CENTS/GAL)				
MARCH 10, 2017	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	17.37		21.05	
Shrink	17.56		17.46	
Margin	-0.19	-106.45%	3.59	-45.85%
Propane	56.00		61.54	
Shrink	24.26		24.12	
Margin	31.74	-10.31%	37.42	-12.68%
Normal Butane	72.50		74.31	
Shrink	27.46		27.31	
Margin	45.04	-19.66%	47.00	-34.21%
Isobutane	83.55		78.45	
Shrink	26.37		26.23	
Margin	57.18	-16.15%	52.22	-17.81%
Pentane+	118.70		117.78	
Shrink	29.37		29.20	
Margin	89.33	-3.17%	88.58	-1.42%
NGL \$/Bbl	23.61	-5.89%	24.56	-8.61%
Shrink	9.67		9.62	
Margin	13.94	-12.52%	14.94	-15.68%
Gas (\$/mmBtu)	2.65	5.67%	2.63	5.06%
Gross Bbl Margin (in cents/gal)	31.39	-12.82%	34.38	-15.82%
NGL Value in \$/mmBtu (Basket Value)				
Ethane	0.96	-10.92%	1.16	-9.46%
Propane	1.94	-4.03%	2.14	-6.49%
Normal Butane	0.78	-11.64%	0.80	-23.74%
Isobutane	0.52	-10.31%	0.49	-11.36%
Pentane+	1.53	-1.12%	1.52	0.11%
Total Barrel Value in \$/mmbtu	5.73	-6.20%	6.10	-8.68%
Margin	3.09	-14.45%	3.47	-16.92%

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. then you're exposed to world dynamics," Archila said. "The way we see it right now is that in the southern United States you have one of the world's largest processing capacities."

Archila said BHP did expect a very steep cost curve rise in oil prices but not gas prices. There, he anticipates a cost curve that is flat.

The hypothetical NGL barrel took hits of 8.6% at Mont Belvieu, Texas, and 5.9% at Conway, Kan., in the past week as butane prices continued to plummet. With the exception of C₅₊, all components lost ground. ■

One perspective came from an upstream representative from a company operating in Appalachia.

"As a producer what we simply do is look at the economic signals and say, 'Do I really need to extract all of the ethane or should I simply blend it?'" Blue Jenkins, chief commercial officer of EQT Corp. (NYSE: **EQT**), said during a panel on new gas supply.

"There is a large component of producers in the Northeast that still have that flexibility," he said. "If the ethane

prices jumped materially, we would look to pull 10,000 to 30,000 barrels a day of our production and amortize that."

Jenkins said his company evaluates on a month-to-month and season-to-season basis. EQT anticipates that demand growth will come when crackers are completed and come online. He expects price stabilization, at least, to come with it; more likely will be some level of upward price movement.

But what about exports? Alex Archila, asset president for shale at the Australian energy giant BHP Billiton Ltd. (NYSE: **BHP**), responded to a question about the Permian Basin's possible role and seemed content to stay within the comfortable confines of the U.S. Gulf Coast.

"You would certainly need more transport capacity from the Permian to the water, and

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OPEC Chief Dismisses Price War

During the nearly two years since oil prices first nosedived there have been a lot of accusations of price wars between the U.S. shale industry and OPEC thrown around.

At CERAWEEK by IHS Markit in Houston on March 7, OPEC Secretary General Mohammad Barkindo decided to clear the air: “For the record, we didn’t have any war.”

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Instead, Barkindo said he and OPEC viewed the U.S. shale revolution as a welcomed relief due to lost production at

the time from Libya, Iran and Nigeria—his home country. Without U.S. shale, he said the global economy probably would’ve faced a “deep crisis.”

“We only wish that [the U.S. shale revolution] was done in an orderly fashion without triggering this severe cycle that we are still battling to come out of it,” he added.

In December, Barkindo spearheaded an agreement between OPEC and non-OPEC producers to cut oil output by 1.8 million barrels per day (MMbbl/d) in hopes to accelerate a market rebalancing.

Commitment to the deal started strong with the International Energy Agency (IEA) reporting record initial compliance of 90% in January.

Barkindo said so far compliance remains high and that the February production numbers promise to be “much higher than January conformity.”

OPEC will meet again to discuss the possibility of extending the agreements in May. —EMILY PATSY, Hart Energy

TOP STORIES

Ammy Awards Honor Richard Kinder

Kinder Morgan Co-founder and Executive Chairman Richard Kinder was named to Alerian’s Ammy Hall of Fame at the 2nd annual Ammy Awards, held March 6 at Houston’s Prohibition Theater. In his acceptance remarks, Kinder encouraged the audience to “let the public know the value” of the nation’s midstream infrastructure and the energy industry.

“Renewables have a place but they can’t do it all,” Kinder added, pointing out the U.S. reduced air emissions between 1993 and 2015 even as the nation’s economy grew substantially because of the growing use of natural gas.

In all, Alerian announced 20 winners and eight Hall of Fame inductees at the event, formally the 2017 Alerian MLP Awards. Gabriel Hammond, a co-founder of Alerian and now CEO of Broad Green Pictures, a Los Angeles-based movie studio, hosted the program.

— PAUL HART, Hart Energy

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