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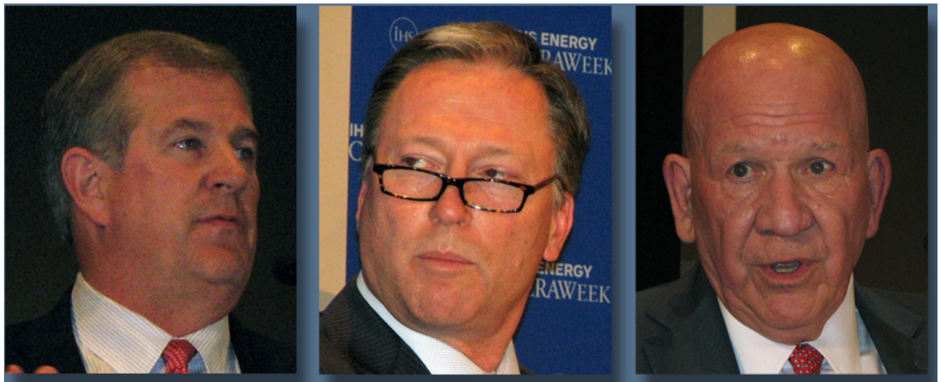
FEATURES

Execs Warn That Some MLPs Won't Survive Downturn

By JOSEPH MARKMAN, Hart Energy

The stretch until mid-year will be brutal for the midstream, but the sector's survivors can expect both stronger commodity prices and a stronger industry.

A trio of leading executives mixed optimism with a cold, hard reality check at IHS CERAWeek: Well-run companies will make it through this rugged downturn intact and others will likely either be absorbed or die.



Greg Armstrong, left, of Plains All American Pipeline LP; Gregory Ebel, center, of Spectra Energy Corp.; and Jim Teague of Enterprise Products Partners LP gave their outlooks for the midstream at IHS CERAWeek. Source: Hart Energy

"The next 120 days probably will be as difficult as anything we've seen in the last 30 years," said Greg Armstrong, chairman and CEO of Plains All American Pipeline LP. "Because of that, I think we come out the other side a little bit healthier as an industry."

Echoing Jim Teague, CEO of Enterprise Products Partners LP, Armstrong insisted that the low prices were not sustainable and would result in production cuts that will trigger a rebound.

"We're actually pretty optimistic in the latter part of '16, first part of '17 that we'll be in the $55 range," Armstrong said. "I don't think we're believers that this is a three-to-four-year cycle."

(*Continued on page 3*)

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The three, which included Gregory Ebel, chairman, CEO and president of Spectra Energy Corp., agreed that strong business structures would endure, while relatively recent, debt-propelled MLPs would struggle.

"You can't use financing vehicles for the wrong purpose," Ebel said. "If you're going to use something that pays out 100% of its cash flow, or even 80% or 90%, you better be darn sure that the cash flow comes in. And when they get abused then you see them get eliminated."

Ebel repeated his long-held prediction that a massive consolidation or elimination of many MLPs in those circumstances would happen at some point, either through mergers, acquisitions, consolidations by general partners or bankruptcy.

Teague's mantra, "We build systems, we don't collect assets," is how he explained the strength of Enterprise Products as an integrated company serving customers along the value chain.

"There are other MLPs out there that have one asset over here and one asset over here and it may be oil here and it may be gas here and processing up there. They're not integrated, but they are of the market, so I think what you'll see is that MLP model is broken."

— Greg Armstrong

"(The product) comes out of our plants, goes into our pipe, goes into our storage and our downstream system," he said. "It gives us the ability to bundle services for either producers and consumers. Our job is to sell the product that the producer wants and the consumer wants and we've got the tools to do that even in this kind of environment. Those companies that can't do that—they are the ones at risk."

The executives hinted that while their companies grew in accordance with solid business plans over time, the newcomers may have had it too easy.

"In 2011, we had about 70 MLPs and today there's over 120," Armstrong said. "The chances of there being, just in that short time period, 50 or 60 MLPs that were developed with very solid business plan and a cohesive asset base and the ability to execute it is pretty slim.

"What happened was, there was a lot of cheap capital out there and all you had to do was spell M-L-P—you didn't even have to get the letters in the right order—to raise a ton of money."

The difference between the young MLPs and a company like Plains All American is that the latter offers a business value chain and end-point market. Armstrong said he believed these qualities would allow his company would thrive in any structure.

"There are other MLPs out there that have one asset over here and one asset over here and it may be oil here and it may be gas here and processing up there," he said. "They're not integrated, but they are of the market, so I think what you'll see is that MLP model is broken."

Despite their positions of relative strength, the executives were not enjoying the low-price environment.

"People keep calling it a cycle," said Teague. "I call it pure hell."

By **Frank Nieto,** Hart Energy
Interactive elements by **Joseph Markman**, Hart Energy

Editor's Note: *The following is an excerpt of Midstream Business' latest Midstream Interactive article. The entire text, including interactive features such as video, audio and photo galleries can be found at MidstreamBusiness.com.*

Keeping It Local

When the Marcellus Shale first made headlines, the assumption was that the Northeast's large cities like New York City and Philadelphia would be the primary beneficiaries of production on an end-use basis. As the size of the play's recoverable volumes increased, so did the scope of the potential markets to areas outside of the region such as the Gulf Coast, New England and the Southeast—little attention was paid to local markets. However, there are strong opportunities for this production at home in central Pennsylvania.

"Pennsylvania is in a great position to increase the availability of natural gas and keep prices competitive with other parts of the country," Anthony Cox, director, midstream business development at UGI Energy Services, told Midstream Business.

The company traces its roots in the state to 1882 through its parent UGI Corp. Though the two companies don't operate as closely as other parent-subsidiaries because regulations place constraints over utility-midstream operator parent-subsidiary relationships, the experience in the state still forms a critical part of UGI Energy Services' operations.

"We have a fairly specific geographic focus where we operate in the areas that we are experienced in. UGI has been here a long time. Pennsylvania has a complicated regulatory structure with a lot of nuances and, despite now more than a decade of experiencing shale gas, natural gas delivery is still new to many communities. So,

Originally planned as an import facility, Dominion Resource's Cove Point terminal in Lusby, Md., is being reconfigured to export volumes from the Marcellus Shale to India and Japan. *Source: Dominion Resources Inc.*

having company roots that go back more than 130 years helps build and ensure local trust where we're operating," Cox said.

The biggest opportunities for UGI Energy Services are in bridging the gaps that exist between producing regions in the western and northern parts of the state with the high-demand regions in south central and southeastern Pennsylvania, while also delivering volumes to neighboring states.

Two recent projects with this goal in mind are the PennEast and Sunbury pipelines. PennEast is designed to bring Marcellus gas into the New Jersey market as well as into Manhattan through shipping agreements with Con Edison.

The $1 billion PennEast Pipeline will run 118 miles from Dallas, Pa., to Pennington, N.J., where it will ultimately interconnect with the Transco Pipeline. "There's a lot of gas being moved in the area where PennEast starts, and it will hit some critical delivery points in Pennsylvania very close to power generation as it moves south to New Jersey," Cox said.

The 35-mile Sunbury Pipeline will run from Lycoming County, Pa., to Snyder County, Pa., where 180,000 dekatherms (Dth) per day of its initial capacity of 200,000 Dth per day will be contracted to the Hummel natural gas-fired power plant.

Part 3 of this article, "Market Impact," will be featured in next week's edition of Midstream Monitor.

Historic Cheniere LNG Cargo Departs Sabine Pass

By **DARREN BARBEE**, Hart Energy

Cheniere Energy Partners LP said Feb. 24 that a tanker carrying LNG departed from its Sabine Pass liquefaction project in Cameron Parish, La. Secretary of Energy Ernest Moniz, speaking at an IHS CERAWeek luncheon earlier this week, said the tanker will carry about 3 billion cubic feet (Bcf) of LNG. LNG was loaded onto the carrier *Asia Vision*, which is bound for Brazil and chartered by Cheniere Marketing LLC, the company said.

The LNG vessel *Asia Vision* is loaded with first LNG cargo at Cheniere Energy's Sabine Pass facility. The vessel is currently bound for Brazil. *Source: Genscape*

While speaking at HIS CERAweek, Moniz said he learned that the tanker was fully loaded and would be sailing for Brazil.

As Moniz paused, the crowd erupted in applause at the announcement.

Late on Feb.24, the ship sailed. Petrobas said it is the buyer of the shipment. The company said 160,000 cubic meters of LNG, equivalent to 96 million cubic meters of natural gas. The fuel will be taken to Petrobras' regasification terminal in All Saints' Bay, Bahia. Following regasification at the terminal in Bahia, the fuel will be pumped into Petrobras' network of gas pipelines to supply Brazil's domestic market, mainly for use in thermal power plants.

The shipment signifies the global effects of shale gas production. Cheniere's Sabine Pass terminal was originally meant to convert LNG imports for use in what was a gas-starved U.S.

Cheniere's Train 1 has been producing LNG with a focus on pushing out an LNG shipment. The company is aiming for 3.8 Bcf/d in export capacity. Cheniere is also developing an LNG terminal in Corpus Christi, Texas, with 3.2 Bcf/d export capacity.

Neal Shear, board chair and interim CEO of Cheniere Partners, said the historic event opens a new chapter in energy trade for the country and is a significant milestone for the company's commercial operations.

"This accomplishment would not have been possible without many years of hard work by our employees, our construction partner, Bechtel, other contractors and thousands of workers at the Sabine Pass site," Shear said. "We especially want to thank our federal, state and local agencies, elected officials and community leaders from

across Louisiana and the United States for their continued support and contributions during development and construction."

The Sabine Pass LNG terminal includes five existing LNG storage tanks with capacity of about 16.9 billion cubic feet equivalent (Bcfe). The terminal has two docks that can accommodate vessels with nominal capacity of up to 266,000 cubic meters and vaporizers with regasification capacity of about 4 Bcf/d.

Cheniere Partners also owns a 94-mile pipeline that interconnects the Sabine Pass LNG terminal with several large interstate pipelines. Cheniere Partners' subsidiary, Sabine Pass LNG LP, owns 100% of the Sabine Pass LNG terminal located on the Sabine-Neches Waterway less than four miles from the Gulf Coast.

Cheniere Partners' subsidiary Sabine Pass Liquefaction LLC (SPL) is developing and constructing natural gas liquefaction facilities at the Sabine Pass LNG terminal adjacent to the existing regasification facilities. Cheniere plans to construct up to six liquefaction trains, which are in various stages of construction and development. Each liquefaction train's nominal production capacity will be about 4.5 million tonnes per annum (mtpa) of LNG.

SPL has entered into six third-party LNG sale and purchase agreements (SPAs) that in the aggregate equate to about 19.75 mtpa of LNG. These SPAs will begin on the date of first commercial delivery of Trains 1-5.

Studies Affirm Petrochemical Promise Of Marcellus-Utica

By **JOSEPH MARKMAN**, Hart Energy

PITTSBURGH—A series of four academic studies have concluded that not only can the Ohio-Pennsylvania-West Virginia region support a downstream cluster, but in significant ways the area boasts advantages over the massive petrochemical complex on the U.S. Gulf Coast.

Andrew Thomas of Cleveland State University tells attendees at the Marcellus-Utica Midstream Conference & Exhibition about the potential for downstream development in the tri-state area. Source: Hart Energy

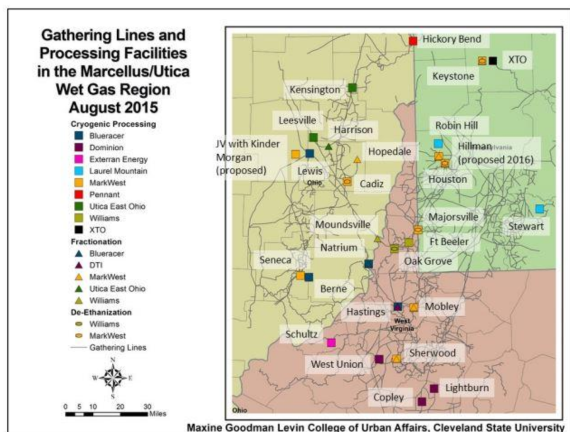
Andrew Thomas, who runs the Energy Policy Center at Cleveland State University as its executive-in-residence, told attendees at Hart Energy's recent Marcellus-Utica Midstream Conference & Exhibition that, despite the buzz in the region about construction of new crackers,

the economic development agencies supporting the research see the potential for long-term growth from a cluster of operations. What they needed to support their claims was hard data that the studies provided.

The researchers found that the region's potential for ethane production was better than expected. Some of the earlier data relied on results from wells away from the sweet spots. More recent data, recorded from high-pressure zones of the Utica, allowed projections of about 9.3 billion cubic feet per day (Bcf/d) of wet gas by 2020.

Assuming 6 gallons of liquids per thousand cubic feet of wet gas, and assuming 60% ethane and 20% rejection, the researchers reached a likely production total of about 638,000 barrels per day (bbl/d) by 2020. However, the region's fractionation capacity is only about 371,000 bbl/d.

"That means there's a shortfall for fractionation and we have to reject more of the ethane if we don't build additional fractionation capacity," Thomas said. "From speaking to the industry experts, our conclusions were that if there was a market for the ethane, it would not be difficult for them to add the additional infrastructure and get the de-ethanization up to the 600,000 range for the capacity."



The region's location is a major plus. Researchers used a rule of thumb of one day's truck drive from the region, or about 500 miles, and discovered that 56% of the nation's gross domestic product (GDP) was within that radius. By comparison, only 35% of GDP is generated within a 500-mile radius of the Texas Gulf Coast, only 42% of the Louisiana Gulf Coast and only 7% in the radius of California.

Many of the leading states for bulk chemical commodities are in that radius as well, including Ohio, Indiana, Illinois and North Carolina, not to mention Pennsylvania and New York.

Among other draws for companies wishing to build a cracker, Thomas mentioned:

- **Water access:** "The four crackers that have been proposed for our region are all located on the Ohio River. The reason for this is obviously important for purposes of margin and finished product, but it's also important for bringing in large equipment from Japan. It's easier to barge them in than to try to take them in by pieces in trains."
- **Rail infrastructure** (need 2,000-2,500 rail cars): "A lot of this relates to the legacy in West Virginia and Ohio Valley region in terms of the chemical industry that was once very active there."
- **Competitively-priced electricity:** "This is very important to the chemical industry. We're going to get more and more gas generation which will constrain the cost of electricity."
- **Skilled and educated workforce:** The Gulf Coast also has a skilled and educated workforce, but that it is largely taken up with expansion of that area's petrochemical industry. In the Northeast, the workers are available now.

A significant drawback is the lack of storage available in the region, but midstream operators have developed strategies like pipeline redundancy and line packing to compensate. Ultimately, the proximity of companies that buy the products will sharply reduce transportation costs, resulting in a cost savings advantage of 14 cents to 20 cents per gallon over the Gulf Coast.

FRAC SPREAD

Frac Spread: Altered Perception

By **FRANK NIETO**, Hart Energy

Although crude stocks remain at record levels, prices continue to benefit moderately from the news that several oil producing countries are willing to freeze production as prices have held above $30 per barrel (/bbl). The fact that price level causes any sort of optimism tells the whole story of how far the market has slumped in the past 18-24 months.

In some ways this relative optimism is a case of the market reacting to perception over reality. A freeze in production is unlikely to having any tangible impact on the market unless it includes Iran and Iraq, which seems doubtful.

"The 'freeze' is attractive because it gives the semblance of coherent and credible policy-making, while allowing countries the ability to do what they were going to do anyway," Barclays Capital said in a Feb. 22 research note.

Production is already at a high level so this agreement will only serve to somewhat mitigate the damage that Iraq and Iran's return to the global market will do to prices. If Iran and/or Iraq were part of such an agreement then there would be the potential for equilibrium in the market. So far Iran has said the right things about supporting any efforts to stabilize the market, but added they would not participate in a freeze because they've been out of the widespread global market for some time.

RESIN PRICES – MARKET UPDATE – FEBRUARY 26, 2016

TOTAL OFFERS: 18,688,576 lbs		SPOT		CONTRACT	
Resin	Total lbs	Low	High	Bid	Offer
LLDPE - Film	4,925,520	0.48	0.57	0.465	0.505
LDPE - Film	2,752,600	0.49	0.6	0.495	0.535
HMWPE - Film	2,204,600	0.485	0.52	0.455	0.495
LLDPE - Inj	2,130,956	0.535	0.59	0.49	0.53
HDPE - Blow Mold	1,669,104	0.43	0.51	0.44	0.48
HDPE - Inj	1,449,748	0.41	0.57	0.46	0.5
LDPE - Inj	1,224,116	0.57	0.595	0.5	0.54
PP Homopolymer - Inj	1,113,840	0.535	0.595	0.57	0.61
PP Copolymer - Inj	882,092	0.565	0.71	0.59	0.63
Scrap/Regrind/Repro	336,000	0.49	0.53		

Source: Plastics Exchange – www.theplasticsexchange.com

Officials contend that Iran didn't cause the oversupplied market and shouldn't unduly suffer from it just as they return to the market. Barclays stated it was possible Iran could participate in such actions in a few months once it re-establishes trade flows.

However, the investment noted that there could be further cuts coming based on past precedent. "Production cuts have been arranged in the past in a step-by-step process. When they have been successful, cuts have come in the face of demand-side challenges, similar to the demand challenges today," the research note said.

CURRENT FRAC SPREAD (CENTS/GAL)				
FEBRUARY 26, 2016	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	12.90		14.51	
Shrink	10.81		11.34	
Margin	2.09	-27.99%	3.17	-4.68%
Propane	33.88		38.08	
Shrink	14.93		15.66	
Margin	18.95	5.99%	22.42	13.07%
Normal Butane	48.36		54.48	
Shrink	16.90		17.73	
Margin	31.46	6.12%	36.75	10.45%
Isobutane	59.80		54.20	
Shrink	16.23		17.03	
Margin	43.57	-2.09%	37.17	9.57%
Pentane+	70.10		69.24	
Shrink	18.08		18.96	
Margin	52.02	8.63%	50.28	12.12%
NGL $/Bbl	15.04	2.08%	15.77	4.40%
Shrink	5.95		6.25	
Margin	9.09	3.93%	9.52	10.71%
Gas ($/mmBtu)	1.63	-0.61%	1.71	-3.93%
Gross Bbl Margin (in cents/gal)	20.45	3.96%	21.90	10.80%
NGL Value in $/mmBtu (Basket Value)				
Ethane	0.71	-6.39%	0.80	-4.10%
Propane	1.18	2.98%	1.32	5.40%
Normal Butane	0.52	3.67%	0.59	5.32%
Isobutane	0.37	-1.69%	0.34	4.94%
Pentane+	0.90	6.08%	0.89	7.22%
Total Barrel Value in $/mmbtu	3.68	1.36%	3.94	3.66%
Margin	2.05	2.98%	2.23	10.36%

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.

While it was a good sign to see Saudi Arabia listed as a possible participant, officials from the country's oil ministry quickly scuttled this talk this week by commenting that they had no intention of cutting production and were prepared to let prices fall to $20/bbl.

"Basically, Saudi Arabia is prepared to use low prices as a weapon to weaken Iran and Russia, even if it causes collateral damage for U.S. shale and Canadian oil sand producers and for their fellow OPEC members," En*Vantage said in its Feb. 25 *Weekly Energy Report*.

While crude prices have ticked upwards in recent weeks, the opposite is true of natural gas as prices continue to trend towards $1.50 per million Btu (/MMBtu) at both the Conway, KS, and Mont Belvieu, Texas, hubs as the realization that winter could not solve the storage overhang has come to fruition. Indeed, as winter is drawing to a close, the storage level is above the five-year average just as the shoulder season is set to begin. Lower gas prices also dragged ethane prices down as they fell 6% at Conway to 13 cents per gallon (/gal), the lowest it has been this year. Similarly the Mont Belvieu fell 4% to 15 cents/gal, its lowest price since mid-January.

In a bit of a surprise the NGL with the most positive story to tell has been propane, which has been gaining in value as storage levels have rapidly declined in just two months. At the beginning of 2016, propane stocks stood at nearly 22 million bbl and had dropped to just under 9 million bbl by Feb. 19.

This unexpected decline is attributed to high export levels, which increased by nearly 200,000 bbl/d in the first quarter of 2016 from quarter four 2015. Much of these new exports are due to Enterprise Products Partners LP's propane export terminal coming online along the Houston Ship Channel. Of course, as with most positive news in this down cycle there has been a caveat attached.

"The irony of it all…is that as exports increased and propane stocks declined increasing Mont Belvieu propane prices, export arbs from the Gulf Coast to Europe and Asia have narrowed significantly and are at levels not covering loading and transportation fees, even though shipping costs have fallen 68% from last year's peaks," En*Vantage said.

NGL PRICES						
Mont Belvieu	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 17 - 23, '16	14.51	38.08	54.48	54.20	69.24	**$15.77**
Feb. 10 - 16, '16	15.13	36.13	51.73	51.65	64.58	**$15.11**
Feb. 3 - 9, '16	15.47	36.02	55.98	56.14	66.86	**$15.64**
Jan. 27 - Feb. 2, '16	15.18	34.14	51.94	51.98	70.88	**$15.32**
January '16	14.99	33.52	49.29	49.26	73.66	**$15.20**
December '15	14.83	38.66	56.87	57.47	92.65	**$17.69**
4th Qtr '15	17.50	42.15	60.09	60.57	97.59	**$19.11**
3rd Qtr '15	18.26	40.99	54.16	55.19	100.10	**$18.80**
2nd Qtr '15	17.93	46.30	58.11	59.66	126.14	**$21.48**
1st Qtr '15	18.38	53.01	66.35	67.81	110.53	**$21.94**
Feb. 18 - 24, '15	18.97	59.58	68.58	70.46	118.44	**$23.53**
Conway, Group 140	Eth	Pro	Norm	Iso	Pen+	NGL Bbl
Feb. 17 - 23, '16	12.90	33.88	48.36	59.80	70.10	**$15.04**
Feb. 10 - 16, '16	13.78	32.90	46.65	60.83	66.08	**$14.73**
Feb. 3 - 9, '16	14.10	32.92	50.76	62.10	66.90	**$15.09**
Jan. 27 - Feb. 2, '16	13.92	31.20	48.52	56.00	70.52	**$14.83**
January '16	14.14	30.31	46.42	53.17	72.76	**$14.72**
December '15	13.32	33.23	54.07	60.36	91.32	**$16.79**
4th Qtr '15	14.90	38.06	57.31	64.04	95.84	**$18.20**
3rd Qtr '15	15.47	36.28	48.59	54.34	99.10	**$17.59**
2nd Qtr '15	15.50	40.55	52.40	56.80	121.50	**$19.89**
1st Qtr '15	17.81	49.00	66.13	76.84	106.32	**$21.49**
Feb. 18 - 24, '15	18.82	56.60	67.00	87.06	114.06	**$23.41**

The company stated that while contract cargo cancellations would have been expected under these circumstances, they are likely not being cancelled because of terms that would voice their dock space. If this situation holds up and propane storage is more balanced it could lead to a quicker than anticipated price recovery.

The uptick in crude prices pulled heavy NGL prices up, which when combined with the improvement in propane, saw the theoretical NGL bbl increase at both hubs. The Conway price was up 2% to $15.04/bbl with a 4% increase in margin to $9.09/bbl while the Mont Belvieu price rose 4% to $15.77/bbl with an 11% increase in margin to $9.52/bbl.

The most profitable NGL to make at both hubs was C5+ at 52 cents/gal at Conway and 50 cents/gal at Mont Belvieu. This was followed, in order, by isobutane at 44 cents/gal at Conway and 37 cents/gal at Mont Belvieu; butane at 32 cents/gal at Conway and 37 cents/gal at Mont Belvieu; propane at 19 cents/gal at Conway and 22 cents/gal at Mont Belvieu; and ethane at 2 cents/gal at Conway and 3 cents/gal at Mont Belvieu.

Natural gas storage levels fell by 117 billion cubic feet to 2.584 trillion cubic feet (Tcf) the week of Feb. 19 from 2.701 Tcf the previous week according to the most recent data from the U.S. Energy Information Administration. This was 31% greater than the 1.969 Tcf posted last year at the same time and 29% greater than the five-year average of 2.007 Tcf.

MORE TOP STORIES

OPEC Warns: No Drilling Now, No Oil Supply Later

By **LESLIE HAINES**, Hart Energy

HOUSTON—Oil supply was on everyone's lips at the 35th annual IHS Energy CERAWeek in Houston: too much now is crushing prices, but maybe there will not be enough down the road when demand has grown.

A variety of speakers, including the secretary-general of OPEC, the head of the International Energy Agency (IEA) and corporate CEOs, warned that in this downturn the dramatic lack of investment in drilling will come back to haunt the world's consumers later, presaging higher oil prices to come. More dialogue is needed between consumers and producers, they said.

Secretary-General Abdalla Salem el-Badri engages in a frank discussion with oil and gas industry members at IHS CERAWeek. Source: IHS

"No investment now, no supply in the future. It's that simple," declared Abdalla Salem el-Badri, secretary-general of OPEC, during the opening plenary session of IHS CERAWeek.

"The lower the oil price, the less attention is paid to oil security," said Fatih Birol, executive director of the IEA. The agency debuted its new medium-term oil outlook report at the conference, where Birol warned that just to offset natural declines every year, the world has to find an incremental 3 million barrels of oil per day (MMbbl/d), plus another 1 MMbbl/d to satisfy rising global demand.

Daniel Yergin, chairman of IHS CERAWeek and vice chair of IHS Energy, began the session by asking both men that most crucial but simple question: What's happening with the oil price?

OPEC's el-Badri said nobody can tell what's going on in the market, and that OPEC did not anticipate the price to fall as low as it has. "For several years we enjoyed a high price, as high as $100 and sometimes more, but this was a high price that was not sustainable. Let's see what happens. "OPEC, we are willing to cooperate to find a solution," he added.

When Yergin asked the secretary-general if he talks to other producers about cooperation, El-Badri replied, "we talk to the EU, we talk to the IEA, we talk to Russia, India—we talk to almost everybody except the United States. But we want to talk to you—let's have a dialogue." Laughter ensued in the hall, as Yergin pointed out that some U.S. government officials were in the audience.

Dialogue with the world's major producers is ongoing, el-Badri said. "OPEC started talking to Mexico, to Brazil, to Russia, to Oman…just to see how we could come up with a solution. We met twice. Let us just freeze production now and maybe we can take other steps in the future … I don't know; let's see how things develop," el-Badri said.

Although OPEC represents producers and the IEA represents consumer nations—two sides across from each other at the same table—Birol said the lines have blurred.

"Let me point out something," he said. "In the last five years, oil production growth was five times more in the consuming nations than it was in the producing ones [such as in U.S. shales], and consumption rose more in the producing nations [such as in the Middle East] than it did in the consuming nations.

"So the lines are no longer black and white between the consuming countries and the producing countries." The IEA sees a slow rebound in price through 2017 or 2018—but does not think it will get back to $80/bbl until 2020, Birol said, citing the huge storage overhang "that's going to put big pressure on the oil market in 2016." El-Badri agreed, saying this downturn is different than prior ones because it is supply-driven. "I hope we can solve this problem by 2017, but this cycle is very nasty."

Both men cautioned that if oil prices come back up strongly, production in the higher-cost areas such as U.S. shales will come back—possibly capping the oil price once again. "With shale oil in the U.S., I don't know how we are going to live together," el-Badri admitted. "I agree that U.S. shale will come back—it's very difficult to cut production. Normally when prices are so low, companies—and countries—start to increase their production to compensate. So let's freeze production and wait three or four months.

"If the price of oil goes up by $10, then in two or three months the price will go down by $20 or $30," el-Badri added.

The IEA is putting a lot of emphasis on energy efficiency and diversity of oil supply for its members because it believes oil security is very important in the years to come, Birol said. "Even though we see a lot of oil coming from the U.S., the Middle East is, and will still be, the heart of global oil production."

For the Middle East, however, the situation has changed, according to el-Badri, who advised producers there to diversify their income stream; it is no longer prudent to depend only on oil and gas revenues.

US Banks Holding Over $100 Billion In Energy Loans

By **JOSPEPH MARKMAN**, Hart Energy

As JP Morgan Chase & Co. braces for losses on energy loans that could total $2.8 billion this year, major U.S. banks must nervously ponder an estimated $123 billion that they have lent the industry. *Bloomberg Gadfly* columnists Lisa Abramowicz and Rani Molla came up with that figure based on analyst reports of 14 major institutions, including JP Morgan, Bank of America, Citigroup, Wells Fargo, Morgan Stanley and Goldman Sachs. The number may not fully reflect the risk, the writers acknowledged, or it may substantially overstate it.

JP Morgan announced on Feb. 23 that it had added $500 million to its reserves—making a total of $1.315 billion—to protect against oil and gas sector loan losses in first-quarter 2016. If West Texas Intermediate (WTI) prices remain in the range of $25 per barrel (bbl) for another 18 months then the bank said it would need to set aside an additional $1.5 billion.

This followed Goldman Sachs' announcement on Monday that 40% of its energy loans were to oil and gas companies with junk credit ratings.

But U.S. banks appear to be in a considerably stronger position that counterparts in Europe, including Credit Suisse, Deutsche Bank, UBS and HSBC, according to an online report by*CNBC*. European banks are reported to be on the hook for over $100 billion in loans to the energy sector.

Woodside, Sempra Enter PDA For Port Arthur LNG Facility

Woodside Energy (USA) Inc. (WUSA), a subsidiary of Australia-based Woodside Energy, entered into a project development agreement (PDA) with San Diego-based Sempra LNG & Midstream concerning the potential Port Arthur LNG natural gas liquefaction facility in Port Arthur, Texas.

In June 2015, the parties signed a nonbinding memorandum of understanding, and through the PDA they will continue discussing and assessing the project. The PDA allows them to share costs for technical design, permitting and commercial development

The Port Arthur LNG project is at a site previously permitted for a LNG regasification terminal east of Houston along the Sabine-Neches Ship Channel. The project will include two liquefaction trains with about 10 million metric tonnes per annum (mtpa). This is about 517 billion cubic feet per year, according to Sempra.

Additionally, a 3-mile portion of Highway 87 between the Intracoastal Waterway and Keith Lake Pass would be relocated and upgraded to accommodate the construction of a marine terminal berth for docking and loading of LNG ships, Sempra said

"This is what the U.S. financial system does so much better than its European counterparts: It tries to quantify problems with relative speed and then address them rather than let them simmer and hope they go away," Abramowicz and Molla wrote.

Could defaults triggered by low oil prices spark a new banking industry crisis? Unlikely, wrote Gene Epstein in *Barron's* this week in an optimistic piece about the economy in general. Energy sector loans do not account for more than 4% of all U.S. bank lending, he wrote, quoting economist Carsten Valgreen, and historically, spikes in oil prices precede recessions, not declines.

Summit Midstream Boosts Volume With Dropdown

Summit Midstream Partners LP said it has entered into an agreement with Summit Midstream Partners LLC to acquire all its operating assets through a dropdown. The total transaction is estimated at $1.2 billion. Consideration is structured as a $360 million initial payment and a deferred payment estimated at about $800 million to $900 million due in 2020.

The assets include all of the issued and outstanding membership interests of Summit Utica, Meadowlark Midstream and Tioga Midstream. In addition, SMLP will acquire a 40% equity interest in each of Ohio Gathering and Ohio Condensate.

The transaction will enhance SMLP's growth profile with 80% to 90% of the adjusted EBITDA contribution coming from the high-growth Utica Shale.

"With this transaction, SMLP is being transformed from a dropdown story into an organic growth story with more than 20% of SMLP's expected 2016 adjusted EBITDA originating from our fee-based gathering services in the Utica," Steve Newby, president and CEO of SMLP, said.

According to Newby, the dropdown also diversifies the company's customer base and enhances relationships with, or adds, several strong and well capitalized counterparties into SMLP's customer portfolio. Customers will include Gulfport Energy Corp., XTO Energy Inc., EOG Resources Inc. and Hess Corp. The transaction is expected to close in March.

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