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FEATURES



The success that the U.S. has achieved in dramatically increasing production of hydrocarbons has shifted geopolitics, said Meghan O'Sullivan in an interview with Hart Energy's Jessica Morales.



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"Politics are different," said the Jeane Kirkpatrick professor of the practice of international affairs and the director of the geopolitics of energy project at Harvard University's Kennedy School. "If the consumer has more power than the producer, you have producers like Russia, that don't have as much ability to use their energy prowess as a political weapon.

O'Sullivan also addresses the issue of energy independence. Read about

O'Sullivan's take on the interplay between foreign policy and energy.

HARTENERGY 2

Perry: Innovation Is 'New Energy Realism'

HOUSTON—If there was one thing Rick Perry, U.S. Secretary of Energy, wanted the assembled crowd of energy



executives, analysts, media and other interested parties to take away from his keynote address on March 7 at CERAWeek by IHS Markit it was that innovation, not

regulation, has set America on a path toward energy security, and it will continue to do so.

Along the way he backed his boss, President Donald Trump, by saying on several occasions and in several different ways that the rollback of regulations and



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the opening of exports and stricter (or abandoned) trade policies have led to what he called a "new energy realism" while criticizing "old energy pessimism" as harmful to economic prosperity.

"I think all of us can agree on a vital point," he said. "Energy security is a roadmap to economic prosperity. Today, we have the opportunity to reaffirm a new direction.

"America is in the midst of an incredible energy revolution driven by a cascade of technology innovation," he continued.

The lifelong politician and former governor of Texas was quick to point out that such innovation is happening in the industry, not Washington, D.C. "Innovation has been revived beyond the Beltway," he insisted.

- LEN VERMILLION | HART ENERGY

OPEC, IEA Heads Warn Of Low Investment

HOUSTON—The leaders of OPEC and the International Energy Agency (IEA) issued warnings during a joint discussion at CERAWeek by IHS Markit on March 5 that the ongoing lack in upstream spending could result in a future energy crisis.



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Faced with lower for longer oil prices, more and more producers turned to short-cycle projects, i.e., U.S. light-tight oil, in order to survive. The oil industry has yet to recover from the unprecedented two-year drop in investment, falling by about 25% a year in 2015-2016.

Further, the IEA sees little-to-no increase in upstream spending outside of the U.S. in 2018, said Fatih Birol, the agency's executive director.

"This year, while many hope to see a strong rebound, we only see a small increase, about 6%. So we are far, far lower than what we have seen before we hit crisis," Birol said **citing the IEA's Oil 2018 report**, a five-year market analysis and forecast released on March 5.

he weak global investment picture remains a source of concern. "We lose each year one North Sea" or about 3 million barrels per day (MMbbl/d) from declining oil fields, he said.

More investments will be needed to offset these declines while also meet the IEA's forecast for robust demand growth, more than 50% of which will come from China and India.

Boosted by economic growth in Asia and **a resurgent petrochemicals industry in the U.S.**, the IEA predicts global oil demand will increase by 6.9 MMbbl/d to 104.7 MMbbl/d by 2023. — **EMILY PATSY | HART ENERGY**

HARTENERGY 3

FRAC SPREAD

Steel Yourself For NGL Trade War?

JOSEPH MARKMAN | HART ENERGY

This week's nor'easter tearing into the stretch between New Jersey and Maine was barely a blip on the radar at CERAWeek by IHS Markit. Folks at the Hilton Americas-Houston had their eyes on the dark clouds of a trade war on the horizon.

MARCH 9, 2018	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	12.10		23.93	
Shrink	16.75		17.82	
Margin	-4.65	172.85%	6.11	-3.42%
Propane	63.08		72.51	
Shrink	23.14		24.62	
Margin	39.94	-13.59%	47.89	-28.37%
Normal Butane	75.53		83.28	
Shrink	26.19		27.88	
Margin	49.34	-15.39%	55.40	-18.31%
Isobutane	87.62		94.13	
Shrink	25.16		26.77	
Margin	62.46	-12.69%	67.36	-21.69%
Pentane+	136.80		142.96	
Shrink	28.01		29.81	
Margin	108.79	0.48%	113.15	4.35%
NGL \$/Bbl	25.08	-6.15%	28.91	-9.32%
Shrink	9.23		9.82	
Margin	15.86	-10.70%	19.09	-14.04%
Gas (\$/mmBtu)	2.53	2.85%	2.69	1.52%
Gross Bbl Margin (in cents/gal)	35.96	-11.27%	44.02	-15.35%
Ethane	ue in \$/mmBtu 0.67	-17.01%	1.32	0.21%
Propane	2.19	-8.21%	2.52	-20.41%
Normal Butane	0.82	-9.85%	0.90	-12.59%
Isobutane	0.55	-8.73%	0.59	-16.24%
Pentane+	1.76	0.96%	1.84	3.74%
Total Barrel Value in \$/mmbtu	5.98	-7.10%	7.16	-10.27%
Margin	3.46	-13.23%	4.48	-16.12%

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.

"Overseas exports are the only thing balancing natural gas and NGL markets, and increasingly crude oil also relies on exports to clear light-sweet volumes from U.S. shale plays," wrote Rusty Braziel of **RBN Energy LLC** early in the week. The titans of global energy repeated the sentiment from the conference's ballroom stage again and again.

"We buy not only pipe, but we buy valves and things that aren't manufactured in the United States," said

Greg Armstrong,
CEO of Plains All
American Pipeline LP
(NYSE: PAA), on the
first day of the
event. "And so we
don't think that it
would be
appropriate to put a



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tariff on something that you can't buy here in the United States."

China, the world's largest steel producer, supplies about 2% of U.S. consumption. However, China is also one of the largest importers of U.S. crude, LNG and propane, Braziel noted. The possibility (read: certainty) of retaliation was unsettling in the polite ambience of the Hilton as well as in corporate energy strongholds just blocks away from the conference in downtown Houston. Remember that LNG export powerhouse Australia is a neighbor in the hemisphere.

Fluctuations in the markets didn't help any. The near-month New York Mercantile

Exchange Henry Hub price rose 9 cents per MMBtu during the five-day tracking period, but propane at Mont Belvieu, Texas, plunged 20% to its lowest point since last July.

The butanes continued to bob and weave as they have in recent weeks. Butane at Mont Belvieu fell 13% and isobutane tumbled 16%. Butanes can be thinly traded sometimes, **En*Vantage** said in a report. The analysts speculated that an international trader could have been caught short at the end of February, which led to a upward jolt last week. Ethane edged up just slightly and C₅₊ saw a 4% upturn.

Ex-CIA Cyber Risk Expert: It's All About People

HOUSTON—John Bass, who spent 27 years at the CIA's National Clandestine Service studying the methods and motives of people who would do harm to the U.S., told a tale of how spies work.



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You "bump into" a KGB agent, he said at the recent Duff & Phelps/Amegy Bank of Texas Private Capital conference. You find that you have things in common, invite him out for a cup of coffee on the outskirts of Moscow. You tell him how much you admire the contributions of Russian culture to the western world. You mention how our president is interested in making contact with Russian patriots like him so there can be an understanding and the two countries can avoid a future conflict.

A year goes by. Trust is gained. You mention that you just returned to Washington where you spoke to people very close to the president. They were interested in his insight and guidance. So many in Washington and Moscow are looking for conflict, but the president

believed that engaging with patriots like him could forge a new kind of relationship between the countries.

But you told those Washington contacts that agreement was not enough. You had to be able to offer this KGB friend something. They agreed. Perhaps a stipend? Or a nice cottage in the woods outside Stockholm? You let him know that you went out on a limb for him. Were we set?

And thus began a relationship with a source inside the KGB that could last three or four decades. The oil and gas executives in the room were enthralled, at least until Bass, now a director in Duff & Phelps' **global data risk** practice, ended with the moral of the story.

"That's not entirely different than how competitors, terrorists and activists might choose to target your personnel in Equitorial Guinea, in Mauritania, in Saudi Arabia," he said. — JOSEPH MARKMAN | HART ENERGY

TOP STORY

Saudi Aramco Signs Preliminary Gas Deal With Shell

State oil giant Saudi Aramco signed a preliminary deal to pursue international gas opportunities with Royal Dutch Shell Plc (NYSE: RDS.A) on March 8 as part of top crude exporter Saudi Arabia's diversification drive before the listing of Aramco.

The memorandum of understanding (MoU) signed in London between the two companies was during the official visit of Saudi Crown Prince Mohammed bin Salman to Britain, and would include gas upstream and liquefaction projects.

"It is a discussion that began some time ago and now we have signed a memorandum to work on gas projects from upstream to downstream across the world and in Saudi Arabia. Concrete projects would be announced in due course," Shell CEO Ben van Beurden told Reuters after the signing ceremony.

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