

MIDSTREAM

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FEATURES



Pennsylvania Business Leaders Look To Natural Gas For Economic Growth

TERRANCE HARRIS
HART ENERGY

Pennsylvania is one of the world leaders when it comes natural gas fields and natural gas production.

A group of business and civic leaders in Pennsylvania believe the time is now for the state to capitalize on its greatest resource by calling for a new era of growth in Pennsylvania. The group of business leaders, which has created an initiative called "Forge the Future," recently released its **Ideas for Action** report that highlights what the Commonwealth can and should implement to capitalize on its world-class energy assets and grow its way to more revenue, population

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and job growth.

The steering committee includes Chevron Appalachia president Stacey Olson, Peoples Natural Gas president and CEO Morgan O'Brien, Pennsylvania Chamber of Business & Industry president and CEO Gene Barr, Greater Philadelphia Chamber of Commerce president and CEO Rob Wonderling, Pennsylvania Manufacturers Association president David N. Taylor and former CEO of Allegheny Conference on Community Development Dennis Yablonsky.

"We sit on the third largest gas and NGL field on the planet, yet here in Pennsylvania we have only benefitted from a relatively small fraction of the potential economic value," Yablonsky said during a press conference on Oct. 11. "The potential so far has really been on the upstream, the production of gas. We believe and this report shows the facts that it's time to leverage midstream, the storage and distribution as well as the downstream, the usage of gas across the Commonwealth."

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Gene Barr said the state's uncompetitive tax structure (9.999% corporate tax rate) and lack of infrastructure to get gas have been the cause of Pennsylvania losing out on economic opportunities. The report, however, puts forth an agenda to make energy-enabled growth a reality. ■

Utilities Investing Locally In Appalachian Basin

Given the large number of pipelines that have been built in the past decade to transport natural gas and liquids from the Marcellus and Utica shales to other parts of the country, specifically the Gulf Coast end-use markets and the large Northeast power generation markets, you might think there's not much of a local market for this production. You would be wrong.

There is a total of 29 gas-fired power plants with a minimum of 475 megawatts of capacity that have either been recently built or are under construction in Pennsylvania, Ohio and West Virginia. These facilities are supporting a total of 17,800 jobs during construction, approximately \$25.4 billion in total investment, and 26,000 MW of total capacity, according to a recent report from Energy In Depth titled "*Natural Gas Power Plants Bring Major Investment, Jobs to the Appalachian Basin.*"

Pennsylvania is experiencing the most growth with 16 total plants built or under construction at a total cost of about \$14 billion, which is helping to create 8,700 jobs during construction. Ohio is close behind with 10 facilities being built at a cost of \$9.1 billion with 7,200 jobs created during construction. There are only three new gas-fired plants planned in West Virginia, but they represent a total of \$2.3 billion in investment and 1,900 jobs during the construction process.

Not only are these facilities creating new jobs, they're also helping to improve the air quality in these regions by replacing coal-fired plants. Data from the U.S. Energy Information Administration (EIA) shows that the Appalachian Basin was responsible for 18% of the country's entire carbon emissions from 2005 to 2015 with Ohio having the largest emission reductions of any state during that time. —FRANK NIETO | CONTRIBUTOR



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FRAC SPREAD

Train Your Sights On Trade Troubles Ahead

JOSEPH MARKMAN | HART ENERGY

The locomotive that is the U.S.-China trade conflict continues its slow, inexorable journey forward, disturbing no one but those with a clear view of the cliff and the sign that reads: Welcome to 2019.

Recent warnings concern petrochemicals.

"In September, polyethylene export volumes pulled back for the first time in seven months, but have still been

CURRENT FRAC SPREAD (CENTS/GAL)				
OCTOBER 19, 2018	Conway	Change from Start of Week	Mont Belvieu	Last Week
Ethane	13.33		39.00	
Shrink	21.75		21.41	
Margin	-8.42	8.18%	17.59	-27.14%
Propane	83.37		98.18	
Shrink	30.04		29.58	
Margin	53.33	5.11%	68.60	-8.23%
Normal Butane	100.25		111.23	
Shrink	34.01		33.49	
Margin	66.24	-7.91%	77.74	-14.45%
Isobutane	123.60		112.58	
Shrink	32.67		32.17	
Margin	90.93	-6.80%	80.41	-13.63%
Pentane+	143.35		152.70	
Shrink	36.38		35.82	
Margin	106.97	13.71%	116.88	-6.49%
NGL \$/Bbl	30.40	4.58%	36.90	-8.12%
Shrink	11.98		11.80	
Margin	18.42	3.50%	25.10	-11.68%
Gas (\$/mmBtu)	3.28	6.29%	3.23	0.48%
Gross Bbl Margin (in cents/gal)	42.24	3.40%	58.64	-11.69%
NGL Value in \$/mmBtu (Basket Value)				
Ethane	0.73	5.13%	2.15	-14.19%
Propane	2.89	5.53%	3.41	-5.77%
Normal Butane	1.08	-3.54%	1.20	-10.44%
Isobutane	0.77	-3.66%	0.70	-10.02%
Pentane+	1.85	11.73%	1.97	-4.94%
Total Barrel Value in \$/mmbtu	7.33	4.45%	9.43	-8.58%
Margin	4.05	3.02%	6.20	-12.68%

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.

surprisingly resilient in the face of the Chinese tariffs," said **The Plastics Exchange**. "Even at September's lower export tally of 1.15 billion pounds, which was about 130 million pounds below the all-time record just made in August, exports have ratcheted up to a new norm."

So far, so good. Whether it stays that way is another issue. Many investors and economists have viewed the buildup of tariffs as a temporary annoyance that would dissolve ahead of the U.S. midterm elections in November. Their logic was that the two countries would not risk the economic damage of a prolonged trade war.

However, that is not how it is playing out.

"There is quite a lot of talk now that this is going to be a permanent new situation, that we are heading for a new cold war," Patrik Schowitz, global strategist at J.P. Morgan Asset Management, **told CNBC**. "So, I think people are starting to price in the worst possible outcome."

J.P. Morgan's expectation is that the Trump administration will impose tariffs on all Chinese imports, which will precipitate "real painful economic events in 2019," said Haibin Zhu, the bank's chief China economist at a recent conference in Hong Kong.

The slow-motion escalation of tensions began with lists of products to be tariffed totaling about \$34 billion that were released by both countries on July 6. No products on the list from China included chemical or plastic products exported by the U.S. ■



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Exec: 'Being Human Will Not Be Profitable'

HOUSTON—With technology set to revolutionize the energy sector, humans will not be able to stack up against automation, at least not the ordinary ones. That was the sentiment John Gibson, chairman of energy technology at Tudor, Pickering, Holt & Co., shared with attendees at Rice Energy's "Reminder for Revolutions in Energy? The Roles of Markets, Technology and Policy" on Oct. 11.

"One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man," Gibson said quoting American writer Elbert Hubbard.

In his speech, Gibson listed the differing characteristics between humans and automation that place humans more in the liability circle than the asset circle when compared to robots.

"Humans tend to be unreliable, inconsistent, hard to train, attrite, unpredictable and difficult to improve," he said. "Also, data capture from them is often extremely hard, they fatigue quickly, they are injury prone, litigious, high maintenance, costly to relocate and they require supervision and demand wages."

To accommodate those faults, Gibson said companies have to design their companies and regulations around people and how they work like lost time incident rate, benefits, overtime and fatigue issues. Those measures are very important for work environments with human labor but completely inessential for robotic ones, which begs the question if people will still be the best option in the long run. —MARY HOLCOMB | HART ENERGY



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MIDSTREAM CONNECT

Port Is Well-Positioned For The New Export Paradigm

"The Port of Corpus Christi is really an infrastructure play," Sean Strawbridge, CEO of the Port of Corpus Christi, told Hart Energy at the recent DUG Eagle Ford Conference in San Antonio.

Complementing prolific oil and gas plays like the Permian Basin and Eagle Ford Shale, Corpus Christi is a preferred gateway to international markets, Strawbridge said.

"Only 5% of the global markets are here in the United States, so that means that 95% of consumer demand resides outside the United States," he said. That's a great opportunity for this country to reduce its trade deficit and Corpus Christi is certainly at the apex of that new paradigm."

The port's location relative to the Eagle Ford and Permian, as well as to deep water sets the port apart, Strawbridge said. The facility's improvement projects to, particularly its \$350 million proposal to deepen and widen the Corpus Christi Ship Channel, has attracted bipartisan support at both the state and federal levels.



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