

UPSTREAM

TEXAS

WINTER 2019

A PUBLICATION OF THE TEXAS
INDEPENDENT PRODUCERS AND
ROYALTY OWNERS ASSOCIATION

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TEXAS < ENERGY EXPORTS HIT NEW HIGHS



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Feature:

West Texas Bottleneck Not a
Big Bend Brewing Reference

Legislative Profile:

Texas State Senator Brian Birdwell

Member Profile:

Diamondback Energy CEO and
Director Travis Stice

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Welcome to this edition of *Upstream Texas*!

TIPRO is the voice of Texas' upstream sector and represents members by lobbying at the state and federal levels to ensure they can continue to explore for and produce oil and natural gas. As the official bi-annual magazine of the association, *Upstream Texas* features insights into the opportunities and challenges currently facing the Texas oil and gas industry, as well as profiles on key industry players and regulators.

In this issue, starting on page 5, TIPRO takes a look at increasing exports of Texas oil and natural gas. With oil and gas exports expected to continue to increase in the years to come, discover how new trade opportunities presented from greater exports are solidifying the state and nation's position as a world energy leader.

In addition, read about pipeline infrastructure constraints impacting the Texas energy sector. While production from the prolific Permian Basin is reaching record levels, producers in the region increasingly are being affected by infrastructure limitations. Some have even been forced to load crude on to trucks and drive it hundreds of miles to pipelines in other parts of the state. Pipelines are being built but may not come online fast enough to alleviate bottleneck problems. Get an update on where things stand today by turning to page 7.

Also, inside this edition of TIPRO's magazine, review a special infographic showcasing the economic impact of the state's oil and gas industry, including jobs and tax revenue. See more on page 9.

And, as always, this publication also features profiles of industry and state leaders, including Texas State Senator Brian Birdwell (page 10); EPA Region 6 Administrator Anne Idsal (page 11); and Diamondback Energy CEO and Director Travis Stice (page 12).

TIPRO members, this is your magazine, and we welcome your feedback. Please contact TIPRO's Director of Communications Kelli Snyder [ksnyder@tipro.org] or Content Strategist John McCurdy [jmccurdy@naylor.com] with your ideas, recommendations or comments.

UPSTREAM TEXAS IS PUBLISHED FOR THE **TEXAS INDEPENDENT PRODUCERS & ROYALTY OWNERS ASSOCIATION** 919 CONGRESS AVE. SUITE 1000, AUSTIN, TX 78701 **PHONE** 512.477.4452 **WWW.TIPRO.ORG** **OFFICERS | CHAIRMAN** EUGENE GARCIA **PRESIDENT** ED LONGANECKER **PUBLISHED BY** NAYLOR ASSOCIATION SOLUTIONS 5950 NW 1ST PLACE GAINESVILLE, FL 32607 **PHONE** 800.369.6220 **WWW.NAYLOR.COM** **PROJECT TEAM | GROUP PUBLISHER** HEIDI BOE **EDITOR** JOHN MCCURDY **SALES MANAGER** TAMARA PERRY-LUNARDO **BOOK LEADER** TRACY JONES **MARKETING** AUSTIN DUNN **ADVERTISING DIRECTOR** CELIO RAMOS **ADVERTISING REPRESENTATIVES** SHAUN GREYLING, ANTHONY LAND, DEBBI MCCLANAHAN, SCOTT MCKENZIE, NORBERT MUSIAL, DEBBIE PHILLIPS **PROJECT COORDINATOR** ALYSSA WOODS **LAYOUT & DESIGN** PANKAJ KUMAR BHARTI **PUBLISHED** DECEMBER 2018 | TIP-B0218 | 8675 | © Naylor, LLC. All rights reserved. **NAYLOR** ASSOCIATION SOLUTIONS

TRANSPORTATION AND PIPELINE INFRASTRUCTURE VITAL TO TEXAS OIL AND NATURAL GAS INDUSTRY

Eugene Garcia

CHAIRMAN – TEXAS INDEPENDENT PRODUCERS & ROYALTY OWNERS ASSOCIATION

ONE OF THE PRINCIPLES of any business success is perfecting the sales process. Bringing a product to market is the final and ultimately one of the most critical parts of business development. The Texas oil and natural gas industry faces the same challenge. Aside from the exceptional men and women that make the Texas oil and natural gas industry a critical contributor to our state and national economy, having adequate transportation and pipeline infrastructure in place to support industry operations is among the highest priorities facing all sectors of the industry today. These two components are the vital links in bringing Texas energy to the world market.

As hundreds of people descend on the Permian Basin to take part in the Texas Miracle, workers, visitors and locals who travel roadways like Route 285 through Fort Stockton or Highway 302 outside of Odessa understand the significant challenges facing the state's transportation infrastructure. The Texas oil and natural gas industry ultimately contributes billions of dollars in tax revenue; however, more effective policies are required to ensure oil- and natural gas-sourced revenue is making its way back to the originating counties for transportation infrastructure needs. Building and maintaining quality county roads and state highways benefits local communities and ensures that product can get to market in the safest and most efficient way.

A dynamic factor contributing to the challenge around the state's transportation infrastructure is the creation of high-paying transportation-related jobs in our industry. Workers are gravitating to the oil and gas industry and areas such as the Permian Basin for higher pay. As an example, truck drivers are in such demand that a high school graduate with a commercial driver's license can earn \$120,000 a year (or more with overtime) in the oilfield. Having sound roads and highways is not only of critical importance to support continued oil and natural gas operations but also to facilitate livelihoods and protect the millions of individuals utilizing our roadways. As a result, a significant amount of focus will be put on energy transportation needs during the 86th Legislative Session. In support of this effort, TIPRO continues to seek solutions to better allocate tax revenue generated by oil and gas operations to issues or challenges resulting from exploration and production activity.

As an example of this effort, legislation has been introduced for the 86th Legislative Session to direct a percentage of production taxes currently going to general revenue to create a severance tax trust fund for energy counties that would be collected and administered by the Texas Comptroller's office. The Texas legislature may also consider utilizing the Economic Stabilization Fund (the Rainy Day Fund), which is supported almost exclusively by oil and natural gas severance taxes, to invest in transportation infrastructure, road repair and maintenance. Thanks to increasing oil and natural gas production in Texas, the Rainy Day Fund has a balance of approximately \$12 billion over the next biennium. TIPRO remains committed to working with all stakeholders on identifying solutions to improve the quality of state and county roads.

The second vital component to successfully bringing Texas energy to the world market and growing the state's economy is pipeline infrastructure. As production increases in key basins, having adequate pipeline infrastructure to transport oil and natural gas is essential. To address takeaway capacity constraints in West Texas, pipelines are being expanded, built, planned or proposed. However, the bottleneck may not be fully resolved until late 2019, assuming infrastructure projects and production stay on track. New pipeline infrastructure can't get built fast enough in the Permian Basin, where Midland crude was selling at an \$18 discount during the latter part of 2018. New multi-billion dollar pipeline projects are under construction or planned over the next few years to transport crude oil and natural gas to refineries on the Gulf Coast.

Pipelines remain the most efficient, reliable and safest method of transportation for oil and natural gas. Quite simply, pipelines reduce the burden on our transportation infrastructure by curtailing congestion, pollution, traffic accidents and road degradation. Just as critical to our state economy, the observed takeaway capacity constraints in West Texas have choked further oil and gas production and dampened industry employment and additional tax revenue growth. Improved pipeline infrastructure is the solution. Therefore, TIPRO will continue to advocate for a balanced approach to critical infrastructure needs that recognizes the dominance of the mineral estate and existing laws, regulations and private property rights.

With the many challenges and opportunities facing the Texas oil and natural gas industry each and every year, no other organization is as committed or capable of effectively representing independent producers and minerals owners than TIPRO. Since its inception, TIPRO has proudly served this industry, representing members of the association on all legislative and regulatory priorities in order to preserve the ability to explore and produce in the Lone Star State. With your support and involvement, TIPRO will continue with the strong tradition of defending our membership and industry against potentially harmful policies and regulations all while asserting the dominance of the mineral estate. ■



Since its inception,
TIPRO has proudly
served this industry...

TEXAS LEADS AS U.S. BECOMES ENERGY EXPORT POWERHOUSE

Ed Longanecker

PRESIDENT – TEXAS INDEPENDENT PRODUCERS & ROYALTY OWNERS ASSOCIATION

OVER THE LAST TWO years, Texas and the United States have made tremendous gains in securing American energy dominance. The rollback of unnecessary and overly burdensome regulations in recent years has contributed to record U.S. oil production and countless related benefits afforded to our society.

According to the U.S. Energy Information Administration (EIA), the U.S. became the largest global crude oil producer in 2018, officially surpassing Russia and Saudi Arabia. EIA forecasts that U.S. crude oil production will average 11.8 million barrels per day (b/d) in 2019, 300,000 b/d higher than previous estimates.

The higher production forecast for the United States reflects higher-than-expected increases in production, specifically from the state of Texas. Texas continues to lead the U.S. in oil and natural gas production and growth. Crude oil production in the state totaled an estimated 1.5 billion barrels in 2018, with total natural gas production increasing slightly for a total of 8.2 trillion cubic feet of gas.

Meanwhile, U.S. oil and natural gas exports have continued to rise, as domestic producers gain market share with customers abroad as the shale revolution continues to reshape the global energy industry. Oil exports from the Texas Gulf Coast surpassed imports for the first time in 2018. For decades, the Gulf Coast was a net importer of crude oil, pumping money into the pockets of oil producers in the Middle East and other regions. With U.S. exports hitting record levels of over 2 million barrels a day, nearly 75 percent of oil exports move through Texas Gulf Coast ports.

In late 2018, Texas also officially started exporting liquefied natural gas (LNG) to the world with Cheniere Energy's first cargo event. Going into the new year, the U.S. is set to become one of the largest LNG exporters in the world. By the end of 2019, LNG export capacity is expected to jump to 10 billion cubic feet of gas per day. The majority of the increased capacity will come from Texas and Louisiana.

Examples that illustrate the success and growth of the U.S. oil and gas industry overseas include German Chancellor Angela Merkel's decision to open up Germany's market to U.S. gas companies. Merkel announced

in October of 2018 that her government would co-finance a \$576 million LNG shipping terminal in northern Germany. The project had been stalled for years, but the Trump Administration has lobbied hard for European nations to increase LNG purchases from the U.S. while reducing their reliance on Russia.

Additionally, in November of 2018, Energy Secretary Rick Perry finalized a 24-year agreement for the U.S. to supply LNG to Poland. Approximately two-thirds of Poland's gas was supplied by Russian energy giant Gazprom. The deal with the U.S. firm is due to take effect in 2019. Secretary Perry has been vocal on the need for continued efforts to reduce Russia's ability to use its energy production as a coercive weapon.

In signing the energy pact with Poland, Secretary Perry emphasized the deal stood as "a signal across Europe that this is how your energy future can be developed, the security of the country, the diversity of supply – this is a great day for Europe."

Meanwhile, China is the largest importer of oil and the second-largest importer of LNG in the world. With trade negotiations between U.S. and Chinese officials ongoing, the country ceased imports of U.S. oil and LNG in late 2018. The impact of the U.S.-China trade war could be significant for the U.S. oil and gas industry, although China has much more to lose.

Eliminating overly burdensome regulations and supporting pro-American energy policies has allowed the U.S. oil and natural gas industry to increase production, exports, tax revenue and employment while decreasing our country's dependence on foreign oil. The longer-term outlook for domestic production could be impacted by strained trade relations with China, pipeline constraints in West Texas and rising costs for oil and gas operators and critical infrastructure projects due to steel and aluminum tariffs.

As the U.S. oil and gas industry continues to expand its global footprint, favorable international trade relations become critical to sustain production growth. These important milestones are a reminder of how influential Texas is with the world economy and also generate billions of dollars in economic benefit for the state. ■



The higher production forecast for the United States reflects higher-than-expected increases in production, specifically from the state of Texas. Texas continues to lead the U.S. in oil and natural gas production and growth.



TEXAS ENERGY EXPORTS HIT NEW HIGHS

NOT EVEN FIVE YEARS ago was it conceivable the record amount of Texas oil and gas that's hitting global markets today. After all, just a few years back, the United States still had laws on the books that restricted exports of domestic crude oil. Infrastructure limitations also prevented substantial exports of natural gas produced in the Lone Star State and elsewhere in the country.

Fortunately for members of the Texas Independent Producers & Royalty Owners Association (TIPRO) and the oil and gas industry, the current landscape looks very different. Policy changes, combined with the construction of new export terminals, have presented enormous opportunities for Texas and the United States that promise to provide significant economic benefits

and solidify America's position as a global energy leader.

How We Got Here

At the end of 2015, the U.S. government lifted its 40-year ban on oil exports, giving domestic producers new freedom to send oil pumped from American shale formations abroad. In a relatively short timeframe, this has led to historic quantities of U.S. oil being exported to nations around the world and reaching nearly 40 destinations all across the globe – from China to Italy. In fact, in the summer of 2018, a new monthly record for U.S. crude oil exports was set after the country exported 2.2 million barrels of oil a day, according to the U.S. Energy Information Administration (EIA). This threshold was up from the average of 1.1 million barrels of oil exported from the U.S.

per day in 2017, which already was double the level of oil exports recorded in 2016. Projections by research entity S&P Global Platts, as well as financial services firm Raymond James, indicate crude oil exports from the United States not only will continue to rise in the near future, but are likely to grow to as much as 4 million barrels a day by the year 2020.

As the top producing state of oil and natural gas in the nation and with open access to the Gulf of Mexico, Texas has been at the heart of the action when it comes to exports of energy resources. The Port of Corpus Christi, for one, handles over half of the United States' growing exports of domestically produced crude oil. In the first nine months of 2018, the port reported sustained growth in its tonnage numbers, largely attributing the rise in exports

to crude oil sales (which saw an 11 percent increase) and assorted petroleum products (which experienced an 8 percent increase). Altogether, the port expected to facilitate the shipment of over 200 million barrels of crude in 2018, as well as 5.6 million barrels of liquefied petroleum gases and 101 million barrels of refined petroleum products.

Other ports along Texas' coastline also have seen ample growth in crude oil exports in recent times. As a result, Texas is now exporting more crude oil than it is importing, an unbelievable achievement being celebrated by the oil and gas sector.

Meanwhile, exports of liquefied natural gas (LNG) from the United States also are shattering records, further boosting America's energy dominance and opening new doors for trade. The EIA reports that U.S. exports of LNG reached 1.94 billion cubic feet per day (Bcf/d) in 2017, up from 0.5 Bcf/d in 2016. More than half (approximately 53 percent) of U.S. LNG exports in 2017 were shipped to three countries: Mexico, South Korea and China. Outside of buyers in Asia and North America (Mexico), European nations largely accounted for the remaining share of imports of LNG from the United States.

"The United States is now the fifth-largest LNG supplier," says Anatol Feygin, executive vice president and chief commercial officer of Cheniere Energy.

Cheniere, a member of TIPRO, has been at the forefront of LNG exports, operating the first and largest LNG export terminal ever built in the United States. In February 2016, Cheniere became the first company to ship LNG from a commercial facility in the contiguous United States. Cheniere's facility, which is located along the Sabine Pass River on the border between Texas and Louisiana in Cameron Parish, Louisiana, already has exported more than 475 cumulative cargoes and delivered to nearly 30 countries and regions worldwide.

Meanwhile, Cheniere also has constructed a second LNG export terminal in Corpus Christi, located on the La Quinta Channel on the northeast side of Corpus Christi Bay in San Patricio County, Texas. The facility

first produced LNG in mid-November and is expected to achieve substantial completion in the first quarter of 2019. Cheniere's new Corpus Christi LNG terminal is the first for Texas, representing an investment of more than \$15 billion in Texas energy infrastructure.

TIPRO Board Member Jud Walker, president of EnerVest, the fourth-largest producer of natural gas in Texas, also has a vested interest in growing LNG export capacity. EnerVest recently executed an agreement to sell 70,000 one million British Thermal Units (MMBtu) from the Nora Field in Virginia for liquefaction at Cove Point.

"EnerVest is interested in securing similar LNG contracts in regard to our large portfolio of low-decline gas assets in Texas," notes Walker.

Other LNG projects in the works will further expand U.S. LNG export capacity to 9.6 Bcf/d by the end of 2019, analysts with the EIA estimate. With enhanced export capabilities, the United States is projected to become the third-largest LNG exporter in the world by 2020, surpassing Malaysia and remaining behind only Australia and Qatar.

Future Growth Hinges on Infrastructure Expansion

Industry players, along with most officials, recognize that expansion of Texas ports will be necessary to enable exports of even greater volumes of energy resources from the United States to trading partners around the world.

"In order to maintain the U.S. energy dominance we are experiencing, our country's energy infrastructure must continue to receive necessary investments," advises Port of Corpus Christi CEO Sean Strawbridge. "Not only to maintain itself, but also to continue expanding to keep pace with booming domestic production. This will ensure the longevity of American economic power and strengthen our hand at the international bargaining table."

State leaders and members of the Texas congressional delegation have been vocal proponents of improvement projects at Texas ports, promoting their crucial role in maintaining and expanding trade flows vital to the Texas and U.S. economies.

Even President Donald Trump has acknowledged the importance of expanding Texas ports, including the Port of Corpus Christi, in order to meet growing export needs from Texas producers. In late October, the president asked members of his cabinet to work with local and state officials in Texas to ensure completion of needed infrastructure projects that would allow Texas – and the United States – to sell more oil abroad.

"Whatever you can do for the great state of Texas – this way they can bring the giant ships right in, fill them up and they go out, and it'll be a tremendous difference," commented President Trump. "We'll sell a lot more oil."

The Corpus Christi Ship Channel Improvement Project, which already has received backing from the U.S. Army Corps of Engineers, is part of such efforts. Federal funding by the Corps was approved in fiscal year 2018 for the channel project, which will widen and deepen the port's ship channels to allow for the safe and efficient passage of deep draft vessels and provide for greater transport of Texas oil and gas. The port is hoping to complete the project by 2021.

The Port of Corpus Christi also is looking at other ways to expand capabilities to export more Texas oil and gas to America's trading partners. At the end of October, the port announced a new partnership formed with The Carlyle Group to build a world-class crude oil export terminal on Harbor Island, connecting growing crude oil production in the United States with global markets. The terminal would be the first onshore location in the U.S. capable of providing export service to fully-laden Very Large Crude Carriers (VLCCs) and would further advance the port's position as the preeminent global crude oil export hub.

"As Texas oil and gas production levels continue to surge, it is reassuring to see such proactive initiatives underway that will accommodate additional transport of Texas energy products around the globe," concludes TIPRO President Ed Longanecker. "This will afford our energy companies new opportunities for growth and success and further strengthen our national and economic security." ■

WEST TEXAS BOTTLENECK NOT A BIG BEND BREWING REFERENCE

AS PRODUCTION SOARS IN the Permian Basin, pipeline infrastructure continues to struggle to keep pace. To address takeaway capacity constraints, pipelines are being expanded, built, planned or proposed. However, the bottleneck may not be fully resolved until late 2019, assuming infrastructure projects and production stay on track. The impact to the operators and state in the interim illustrates the importance of having critical infrastructure in place to support further oil and gas production, transportation and industry employment, as well as to sustain an important tax revenue base that supports all aspects of the state economy.

Ramifications

The takeaway problem is manifested in several ways, including a price, or basis, differential between Midland and Cushing WTI, with the average Permian Basin differential ranging from 37 cents in the first quarter of 2018 to over \$15 later in the year. This has directly impacted the bottom line for operators – particularly smaller producers that may have a higher breakeven point or less contracted takeaway capacity – while conversely providing a benefit to local refiners (who can buy cheaper crude) and pipeline owners whose systems are running very full.

As West Texas production increases, more and more of the incremental barrels must make

their way to the U.S. Gulf Coast for export. Space on the pipelines that can facilitate that movement is particularly tight, and operators without contracted capacity are forced to discount their production to compete with other operators and legacy volumes for that space. As a result, depressed WTI-Midland price differentials will continue into 2019 and are likely to stay low enough to cover the more expensive transport options like rail and trucking.

Current pipeline capacity available for Permian oil producers in West Texas and New Mexico is approximately 3.1 million barrels per day (bpd), compared to combined production of 3.5 million bpd from the basin in both states and 2.5 million bpd coming from West Texas. If some projections are accurate, Permian Basin oil production could grow by more than 50 percent by the year 2023, from 3.5 million bpd to 5.4 million bpd, which would push the basin past all countries for production except Saudi Arabia and Russia. Further, the U.S. Energy Information Administration (EIA) forecasts that shale oil from the Permian Basin in Texas alone will account for 50 percent of all new global oil production over the next five years.

“If the industry is unable to respond effectively to these market challenges, current production levels and future growth will be unsustainable, which will have a significant and reverberating

impact felt throughout the state, including many important budget items over the next biennium,” observes Eugene Garcia, president of Hurd Enterprises and chairman of the Texas Independent Producers & Royalty Owners Association (TIPRO).

Given the high rig count and limited takeaway capacity, the drilled but uncompleted (DUC) well count has also climbed steadily. Of those wells that were drilled more than six months ago, approximately 590 Delaware and 497 Midland wells remain uncompleted to date. This means that there is a pent-up potential for rapid production increases when the takeaway capacity comes online.

Improvement Efforts

As midstream companies rush to add additional capacity to ease bottlenecks, several have accelerated their pipeline infrastructure projects. Plains All American Pipeline, for instance, previously announced that two West Texas crude oil projects would begin partial operations ahead of their original schedules, including the Sunrise expansion project in the fourth quarter of 2018 and the Cactus II line that is expected to start partial service in the third quarter of 2019.

The Sunrise pipeline will move oil from the Permian up to a hub in Texas, where it can connect to other systems to reach the main oil storage hub in Cushing, Oklahoma. Sunrise

should be able to transport 360,000 bpd in the first quarter of 2019, with full capacity slated to be as much as 500,000 bpd. Plains All American Pipeline's Cactus II should begin partial service by the third quarter of 2019 before starting full service of 670,000 bpd by April of 2020.

Plains All American Pipeline is also partnering with ExxonMobil on a joint venture to build a new oil pipeline in the Permian that will transport more than 1 million bpd produced by Exxon and others to the coast. The project is part of Exxon's long-range planning to grow its Permian output fivefold by 2025.

In addition, Phillips 66 Partners and Andeavor have teamed up to build the Grey Oak Pipeline, which could move as much as 800,000 bpd to the Gulf Coast. The companies plan to spend \$2 billion to build the pipeline, which should come online by the end of 2019. That line would bring oil to refineries in the region and to a new export dock under construction by Phillips 66 Partners and Andeavor.

Yet another project underway includes a joint venture between Energy Transfer Partners and Magellan Midstream Partners to build the Permian Gulf Coast pipeline, a 600-mile line that will transport oil to Energy Transfer's Nederland terminal and Magellan's East Houston terminal, which is set to become operational by 2020.

In addition to seeking increased capacity from pipelines, railroads are looking for ways to help ease the bottleneck in the near term by shipping some crude by rail, but increased investment in such facilities is unlikely, as operators are not looking to ship via rail out of the Permian in the long term.

"Pipelines remain the most efficient, reliable and safest method of transportation for oil and natural gas. Pipelines also reduce burdens on our infrastructure, lessening congestion, pollution, traffic accidents and road degradation," says one Midland producer.

Impacts on Natural Gas & NGLs

Further evidence of the problem is the fall in prices for Permian natural gas. As more crude is produced, more associated natural

gas is also produced. Existing natural gas pipelines besieged with increasing supply are unable to transport growing volumes of gas. Since flaring is restricted, if there is no gas takeaway, then producers have to cut back on their crude production.

Permian gas production is expected to increase nearly 40 percent – by nearly 3 billion cubic feet of gas per day (bcf/d) – by the end of 2023. Roughly seven projects have been proposed to help increase takeaway capacity out of the Permian, with capacity additions totaling almost 13.8 bcf/d, but the timing for completion of these projects remain a challenge.

Williams Partners Operating, LLC is developing a Texas intrastate natural gas pipeline project to create incremental year-round firm transportation connecting supply from the Permian Basin to growing Gulf Coast markets. The proposed Bluebonnet Market Express (BMX) project will consist of approximately 476 miles of 42-inch diameter greenfield pipeline commencing at the BMX Waha Header in Pecos County, Texas, and terminating at interconnects with existing interstate and intrastate pipelines, including Transco at the BMX Katy Header in Fort Bend County, Texas. The target in-service date is first quarter of 2021.

Another element to consider is the rapidly increasing production of natural gas liquids (NGLs) in the United States, particularly in the Delaware Basin in West Texas, which is ushering in numerous new builds or expansions of crackers and petrochemical facilities to take advantage of the historically inexpensive feedstock. Exxon Mobil's new Baytown cracker is demonstrating effects that new crackers can have on the market by bringing in 90,000 barrels per day (MBbl/d) of new ethane demand after starting up in late July of 2018.

Meanwhile, projects like the Shell cracker in Monaca, Pennsylvania, will help take a load off of ethane differentials in the Northeast, as shippers on the project will be able to receive better in-basin pricing instead of having to pay 15 to 20 cents to ship to the Gulf Coast. This also relieves pricing for others who aren't involved in the project, as they are not competing for space on other state pipelines like Mariner East or ATEX.

With the increased use of ethane as feedstock for steam crackers, companies are increasingly looking at the feasibility of shifting to propane dehydration plants (PDH) to produce propylene and create more demand for propane.

Enterprise Product Partners is constructing the Shin Oak NGL pipeline to transport NGLs from Enterprise's fractionation and storage facility in Gaines County, Texas, to its fractionation and storage complex in Mont Belvieu, Texas. An initial capacity of 250 MBbl/d was originally planned, but EPD recently announced 550 MBbl/d was the new target. It is expected to be in service in the second half of 2019.

In addition, Targa Resources is constructing the Grand Prix NGL pipeline. The Permian part of the pipeline will hold 300 MBbl/d of capacity out of the Permian Basin and has an expected completion in the second quarter of 2019.

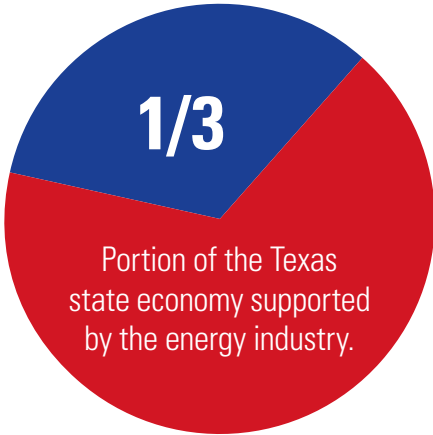
Ongoing Process

Adding additional pipeline capacity will help alleviate the bottleneck in West Texas, but relief will not be immediate and not without its own challenges.

"Because of Texas' population growth, the development of critical infrastructure represents an essential component for sustainable growth, whether it be pipelines, powerlines, water and sewer lines, telephone/internet lines or roads," explains Ed Longanecker, president of TIPRO. "The Texas oil and gas industry will continue to work with all stakeholders in a transparent manner to find effective solutions to meet growing demand and support further economic prosperity for Texas while protecting private property rights and the dominance of the mineral estate in Texas." ■

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TEXAS ENERGY INDUSTRY'S IMPRESSIVE NUMBERS



879,446,339

MCF produced in House District 81, making it the state's top district in 2017 for natural gas production. Tracy O'King represents this district.

\$128,000

Average annual wages for an industry job in Texas.

11,681

Oil and gas-related businesses in Texas, the most in the nation.

132%

Percent higher average salary for oil and gas jobs in Texas when compared to the average private sector job in Texas.

104 million

Barrels of oil produced in House District 82, the most in the state in 2017. The district is represented by the Honorable Tom Craddick.

1,199,830,151

MCF produced in Senate District 21, represented by Judith Zaffirini, placing it at the top of the rankings for production in 2017.

330,000

Direct jobs in Texas supported by the oil and gas industry.

222,922,400

Barrels of oil produced in Senate District 31, represented by Senator Kel Seliger. This was the highest quantity for any district in the state in 2017.

\$11.9 billion

Amount forecasted to be in Texas' Rainy Day Fund by the end of fiscal year 2019, which would set a new record high. The Rainy Day Fund is almost exclusively supported by the oil and gas industry.



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BRIAN BIRDWELL

Texas State Senator

IN A SETTING WHERE people launch campaigns, avoid ambushes and take no prisoners as they battle for or against certain bills, retired Lieutenant Colonel Brian Birdwell knows all about the real thing. The native Texan and decorated military veteran of more than two decades is a survivor of the 9/11 terrorist attack on the Pentagon and has represented Texas' 22nd state Senate district since he won a special election in 2010.

According to Birdwell, 2017 – when Texas last held its legislative session – was a positive year in the Texas Senate.

“We were able to pass good, conservative legislation that has helped Texans,” he says. “There were disagreements on several key topics between the House and the Senate, but overall, we passed a fiscally responsible budget for our state, legislation to protect our police officers, [reforms for] the Department of Family and Protective Services and many other pieces of legislation that helped affirm a strong conservative agenda.”

Birdwell notes that his part in advancing that program included seeing the Senate pass a number of bills, such as:

- A resolution making Texas one of the states calling for an Article V convention of states;
- A state constitutional amendment to limit the period in which Senate-confirmed appointees may remain in holdover status;
- Legislation repealing 17 outdated or unnecessary boards and commissions; and
- A bill that, had it become law, would have protected clerks' and magistrates' religious liberty with regard to issuing marriage licenses and conducting marriage ceremonies.

“Each of these items shared the theme of affording the citizens the ability to control their government, one of the key concepts of our founding,” says Birdwell.

Heading into Texas' 2019 Legislative Session, Birdwell identifies property taxes as a much talked-about topic among his constituents, adding that other key issues likely to command attention include school safety, updates to the Teacher Retirement System, school finance, religious liberty and Hurricane Harvey recovery. Among the initiatives he plans to sponsor during session, Birdwell points to a few matters close to his heart.

“I also plan to work on several good government bills dealing with the Texas Ethics Commission, as well as [reform] some of our economic development programs,” he adds.

Of course, some say many elements of economic development pertain to the state's regulatory role. Birdwell is not one to argue.

“We should search for efficiencies in all processes in which the state is involved, especially permitting,” he advises.

Birdwell goes on to cite lessons from interim hearings on regulatory barriers, which, he says, revealed a desire to expand the Texas Commission on Environmental Quality's (TCEQ) expedited air permitting program, a priority that TCEQ shares.

“Many of the state's permitting programs ensure federal requirements are met, but it is the state's obligation to do so in the most efficient manner while ensuring human health and safety and the environment are properly protected,” he says.

After all, emphasizes Birdwell, energy production is vitally important.

“Not only does Texas lead the country in energy production, providing more than one-fifth of U.S. domestically-produced energy, we have more than one-third of all of the nation's proven crude oil reserves and one-fourth of the natural gas reserves. Our state is on track to produce more oil than Iraq and Iran combined, which would place Texas as the third-largest oil producer in the world if we were a separate country.”

As he demonstrates a knowledgeable perspective of the industry's place in the big picture, the senator cites its contribution to employment, affordable energy and the \$11 billion-plus in state and local taxes and state royalties contributed by the energy sector in fiscal year 2017.

“I realize how important the industry is to our state and nation and their respective economies,” he says. “I want to ensure that any legislative changes are necessary, protect the rights of citizens and are as minimal as possible to provide the regulatory certainty that industry needs to continue operating successfully.”

Therefore, he acknowledges, the state is obligated to remove obstacles to the industry's success.

“Fundamentally, the state must seek to ensure that there are no unnecessary barriers to capital investment so that the needed infrastructure development can occur as the market dictates,” Birdwell declares. “As for workforce development, our state and community colleges must offer curriculum and training that looks to both current and future industry requirements.” ■



ANNE IDSAL

Regional Administrator for U.S. EPA Region 6 District

IN AN ERA IN which no corner of life seems free of political bitterness, many probably shudder at the thought of a career in government. For Anne Idsal, however, it has been an opportunity to contribute to her family's legacy. As the granddaughter of Anne Armstrong, whose resume includes a stint as U.S. ambassador to the United Kingdom, and daughter of Katharine Armstrong, whose experience includes chairing the Texas Parks & Wildlife Commission, Idsal had two shining examples.

"My two greatest role models are my mother and grandmother, both of whom insisted on excellence in their own public service and derived great purpose from serving others," Idsal says. "From a young age, they instilled in me the importance of public service and subsequently encouraged and supported my career choices that led me to the U.S. Senate, Texas Commission on Environmental Quality (TCEQ), Texas General Land Office (GLO) and now U.S. Environmental Protection Agency (EPA) Region 6."

The career path to which Idsal alludes includes working for U.S. Senator John Cornyn (R-Texas), serving as general counsel at the TCEQ and later general counsel for and eventually chief clerk of the GLO.

While Idsal's legal training and skills helped her excel in those positions, when the newly-elected Trump Administration offered her the role of regional administrator for EPA Region 6 – covering Texas, Oklahoma, Arkansas, New Mexico and Louisiana – Idsal gladly accepted.

"It is a tremendous honor and privilege to serve the Region 6 states and tribal partners in this unique capacity," she describes. "Furthermore, the current administration is deeply and seriously committed to the principles of cooperative federalism and partnering with the states to ensure that EPA continues to improve human health and the environment. I strongly believe that this collaborative approach will yield greater benefits and improvements to human health and the environment, because we are engaging all stakeholders. In other words, it's a very exciting and positive time to be at the EPA."

That emphasis on cooperative federalism has encouraged Idsal to recall her state-level experience from the federal perch. Her state government experience has, indeed, provided valuable lessons, she affirms.

"First and foremost, each state and tribe has a unique perspective that deserves respect and attention," she says. "Second, a one-size-fits-all approach doesn't work. And third, if we closely engage with the individual states and tribes within the region, the EPA can be a better partner in finding tailored solutions to human health and environmental challenges."

According to Idsal, although Region 6 and the respective state natural resource agencies have enjoyed strong working relationships since long before her arrival, she detected room for improvement.

"The relationships that have developed and grown between the leadership and staff at the federal and state agencies are professional, respectful and strong," she says. "The federal and state response to Hurricane Harvey was exemplary of our ability to work closely and effectively together to best leverage our respective resources and expertise to tackle such an enormous response and recovery effort."

And that strong, collaborative relationship extends to TCEQ's oversight of the oil and gas industry, reflects Idsal.

"The EPA under the Trump Administration believes that we can collaboratively work with our state, tribal and regulated partners to ensure compliance with federal regulations by looking to state and market-driven solutions first," she says. "If states have sufficient regulations on the books, or industry is making strides on a voluntary basis, we want to encourage and allow for that proactive approach. If we need to step in and assist states in building the capacity to effectively regulate or drive compliance, we will work with the state to do so."

"If a sector of the regulatory community needs clarification from the EPA as to what constitutes compliance with our regulations, we will provide clear direction and certainty," adds Idsal. "If the aforementioned efforts don't yield the necessary compliance to protect human health and the environment, then EPA will step in and work with the states in our enforcement capacity to fulfill our statutory obligations. In that spirit, we meet with our TCEQ counterparts at least quarterly to discuss compliance and enforcement initiatives and plans to address emerging environmental challenges and to learn from our joint experiences." ■



TRAVIS STICE

Chief Executive Officer and Director of Diamondback Energy

WHEN TRAVIS D. STICE became chief executive officer and director of Diamondback Energy in 2012, the Midland-based company's focus was staying afloat.

"Our early days were really marked by survival," he recalls. "Our inherited 2011 execution metrics were bottom quartile, our costs were too high, and we were fully drawn on our bank line, essentially out of money for future investments."

In one half-month span that year, Diamondback executives pitched the company to prospective buyers and came away 0-for-8.

"After two weeks of intensive marketing, not one single company we presented to thought Diamondback was even worthy to submit a bid," Stice says.

Nevertheless, the reaction – or lack thereof – ultimately prompted the company to go public, he indicates, which proved to be the right decision. As it sought to transition from surviving to thriving, Stice recollects, Diamondback scrutinized its operating and cost metrics, as well as its company culture.

According to Stice, Diamondback decided to pivot away from vertical Wolfberry projects, boldly transitioning to horizontal wells and reloading inventory with equity instead of debt.

"The final goal was to become significant – not in terms of size, but rather by how we prosecuted our development plan relative to others in the Permian Basin," he says. "Compounding our growth through continued execution, while at the same time improving efficiencies and driving down costs, began to separate Diamondback, which then allowed us to continue to grow through selective, accretive acquisitions."

At the same time, Diamondback instilled a company-wide culture of trust, Stice describes, which is only achievable with a dependable team.

"I'm fortunate to be surrounded by individuals that are absolutely at the top of their games," he observes. "The level of trust we have with each other, in some cases gained over decades of working together at different companies, is a real differentiator between us and other executive teams. We often use the mantra of 'operating at the speed of trust.'"

And that, Stice reflects, creates opportunities for the company's leadership to let Diamondback's talent shine.

"Our culture is pretty unique," he says. "We delegate a great deal of decision-making down into the organization, which is

empowering – and we follow up with an accountability system to consistently measure our decisions for improvement."

Ultimately, he suggests, a flat organization that eschews silos enables the rapid decisions often necessary in the oil and natural gas business.

"Our culture centers around integrity and treating each other – both co-workers and business partners – like we want to be treated," Stice adds.

After acquiring Energen Corporation in August, Diamondback brought its holdings to 390,000 net acres, which Stice says are split almost evenly between the Permian's Midland and Delaware sub-basins. Considering the parallels between resource plays and manufacturing, the company continues to focus on the most efficient resource development at the lowest cost, he indicates. Some of the opportunities he identifies through which the company seeks to fulfill that include a shift to pad development, the implementation of locally-sourced sand and the development of critical infrastructure assets within Diamondback's lease boundaries.

In Stice's perspective, acquiring Energen offered a rare opportunity to greatly enhance Diamondback's size and scale in the Permian Basin while also high-grading its portfolio in a way that would allow the company to maintain focus on maximizing long-lateral and efficient pad development of premium locations.

"Aside from those critically important factors, the real value proposition for our investors is that the integration of Energen's operations into the Diamondback corporate umbrella will generate synergies well in excess of \$2 billion," Stice says. "After closing of the transaction, Diamondback will be the eighth-largest U.S. independent oil and gas company, and we truly believe that we will be able to further establish our leadership in the Permian with a continued focus on low-cost operations and best-in-class execution, both of which facilitate our long-term strategy of return on, and return of, capital."

The company's TIPRO membership, Stice reflects, is also a matter of smart strategy.

"TIPRO is an organization that leverages Diamondback's involvement in important issues faced by our industry," he says. "Without organizations like TIPRO, Diamondback would likely be less efficient and successful in attempting to influence the collaborative process that is required to develop effective governmental and regulatory decisions." ■



TIPRO WELCOMES NEW MEMBERS

Aamir Amin

Sable Bay Energy, LLC

Sid Arora*

University of Houston

Terri Bachand

Cheniere Energy, Inc.

Ava Bao

AGASOIL

Peter Barnes

American Fuel &
Petrochemical Manufacturers

Kristina Barton

Pioneer Natural Resources

Joe Bashara

Bashara Corp.

James Beck

Tiger Eye Resources LLC

Robert Bertagne

MAREX Petroleum Corp.

Lowell Boswell

Inca Oil & Gas

David Bowman

Rockcliff Energy, LLC

RaNae Dawn*

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University – Texas

Katharine Denby

Hilcorp Energy Company

Daniel Deneen

Infineum

Katie Disher

Apache Corp.

Todd Ennenga

Halliburton Energy Services

Stephen Flaherty

Cimarex Energy Co.

Crispin Franco

My Drivers, LLC

Laura Freeman

Highpoint Global Capital

Matt Gallagher

Parsley Energy, Inc.

Sean Gao

Flying Tigers Hot-Tapping

Mike Gibson

Associated Resources, Inc.

Clarke Gillespie

42 Interests, LLC

Zachary Glaub*

Oklahoma State University

Cotton Graham

G2 Petroleum

Natalie Grindle

Shell Energy North America

Roger Guerrero

Micotan Petroleum Software

Sasha Gumprecht*

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Stag Land Services

Julio Hernandez*

Texas A&M University

Steve Hicks

Evolution Petroleum Corp.

Brent Honeyman

Repsol Energy North America

Rachel Huang

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Exigo

Delwyn James**David Joe**

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Water Bridge Resources

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John Yurkanin

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*Indicates student member



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January 9, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

February 13, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

February 13-15, 2019

NAPE Summit
George R. Brown Convention Center
Houston, Texas
For more information, call (817) 847-7700.

February 26-28, 2019

TIPRO's 73rd Annual Convention
Sheraton Hotel at the Capitol
Austin, Texas
For more information, call (512) 477-4452.

March 13, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

April 10, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

May 8, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

June 12, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
Houston, Texas
For more information, call (202) 857-4733.

July 10, 2019

IPAA/TIPRO "Leaders in Industry" Luncheon
Houston Petroleum Club
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August 7-9, 2019

TIPRO's Summer Conference
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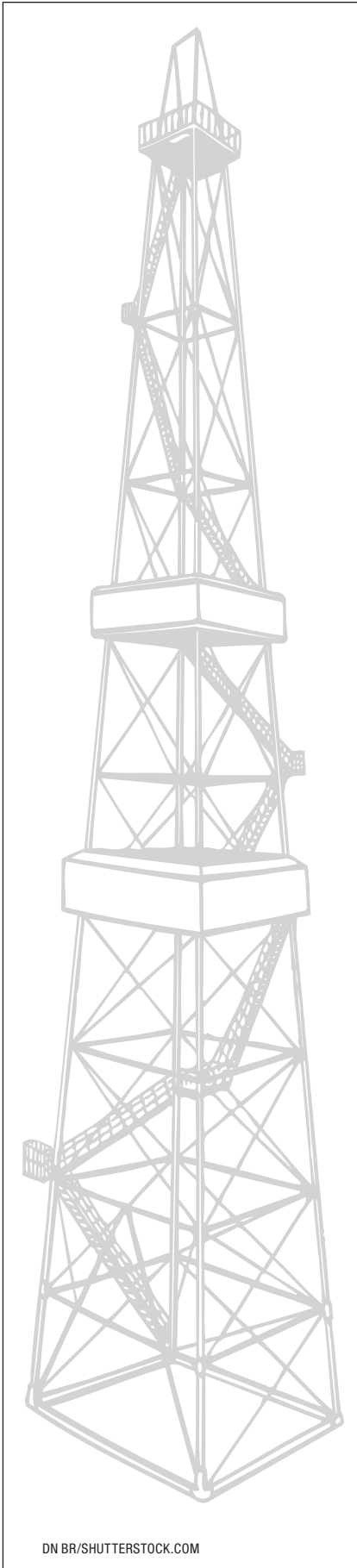
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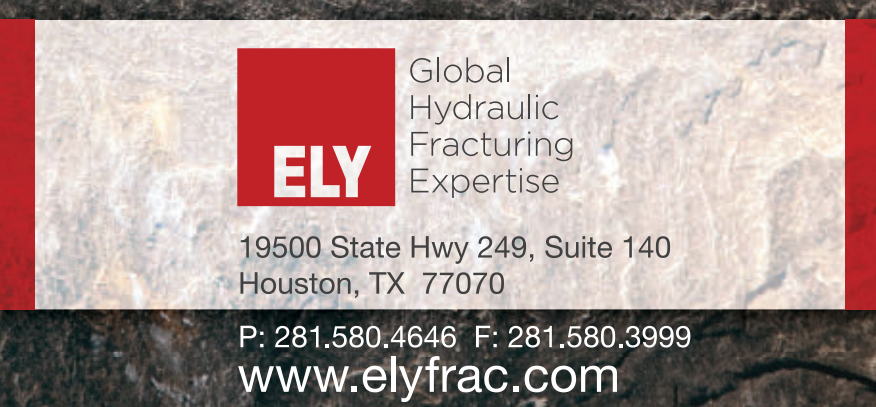
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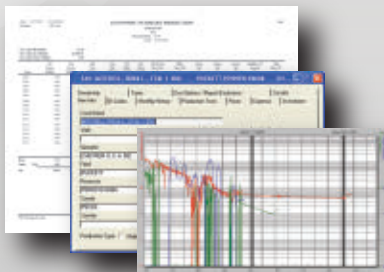
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