An American flag is draped over a field of golden wheat under a cloudy sky. The flag is the central focus, with its stars and stripes clearly visible. The wheat field extends to the horizon, and the sky is filled with soft, white clouds.

Leading the Charge

How Texas is Making America More Energy Secure

A Texans for Natural Gas Special Report
JUNE 2019

Key Findings

The United States is now producing *more oil and natural gas than any country in the world*, and American oil and natural gas production volumes are at *record highs*.

The United States is poised to *export more energy than it imports for the first time since the 1950s*; during the past decade, the *U.S. energy trade deficit fell by \$363 billion*, while the non-energy trade deficit rose by \$343 billion.

Texas is leading America toward this unprecedented level of global energy dominance and energy security:



The Lone Star State now accounts for 40% of U.S. oil production and 25% of our nation's natural gas production.



In January 2019, Texas monthly oil production was 900,000 barrels per day (b/d) higher than the previous January. That increase is greater than Oklahoma's and Wyoming's total monthly oil production, combined.



The Permian Basin recently overtook Saudi Arabia's Ghawar as world's top producing oilfield and produces the second most natural gas of any field in the United States.



Driven by energy exports, Laredo surpassed Los Angeles as the nation's top trade port in March of 2019.



Texas' Eagle Ford Shale is the second highest producing oilfield in the United States.



Thanks to homegrown, low-cost natural gas, Texas residential consumers saved more than \$7 billion over ten years.

Maintaining U.S. energy security – and the Texas energy revolution – will require more pipelines, expanded export infrastructure, and a stable regulatory environment.



Companies are planning to invest an estimated \$40 billion to build or expand nearly 10,000 miles of pipeline between the Permian and Gulf Coast over the next several years.



Expanding the Houston Ship Channel has the potential to provide significant benefits to both energy exporters and other shippers.

New restrictions on pipelines and other infrastructure would create an unstable investment climate – and could ultimately undermine the Texas energy revolution.

Introduction

The growing development of shale resources over the past decade has transformed both the U.S. energy sector and the entire American economy. The United States is now the world's largest oil and natural gas producer, with production reaching levels never before seen. Leading these efforts is Texas, where record-shattering oil and natural gas production has turned the state into a global energy powerhouse. In fact, the Permian Basin in West Texas recently surpassed the Ghawar in Saudi Arabia as the world's most prolific oil field.¹ However, increased energy production is just one part of how the Lone Star State is changing the world.

More than a decade after the shale revolution began, Texas is playing an outsized role in making the United States more energy secure. Continually surpassing every production estimate and projection, Texas is leading the charge when it comes to providing reliable and affordable energy resources around the country while also reducing our own reliance on imports from overseas. Further, this abundance of resources is being produced more efficiently than ever before, with innovative technologies in the development process helping to reduce emissions even as production grows.

Equally important, the state's incredible level of oil and natural gas production is driving what would have seemed impossible just a few years ago: soaring oil and natural gas exports. With resources from shale development ensuring domestic energy needs are met, the sheer level of Texas production has allowed for greater shipments of American resources to our trading partners. The Texas-led shale revolution is helping to strengthen America's position as a global energy leader, slashing the trade deficit and generating billions of dollars in economic benefits for the state.

However, there are a number of variables that could alter the path toward continued American energy security. One of the most critical is the need for additional pipelines and midstream infrastructure. With production continuing to rise, more infrastructure is necessary to ensure U.S. oil and natural gas reach consumers – domestically and abroad. Pipelines not only ensure that oil and natural gas are transported safely and effectively, they also help protect our environment and roads by replacing the need for additional truck traffic.

Finally, investment in downstream infrastructure such as liquefied natural gas and crude oil export terminals will improve our balance of trade and allow for the United States to be a reliable global supplier of energy resources. But this infrastructure buildout and continued upward trend in shale development are only possible if Texas maintains its predictable and stable regulatory environment. It is thus imperative that lawmakers continue to uphold Texas' low-tax, pro-business environment, while also not imposing burdensome regulation on critical components of energy development such as pipeline infrastructure. Without a stable regulatory environment, companies would be more hesitant to invest billions of dollars in new petrochemical projects and export facilities that will support further growth in the state's energy industry.

¹ <https://www.bloomberg.com/news/articles/2019-04-02/saudi-aramco-reveals-sharp-output-drop-at-super-giant-oil-field>

Texas is the Backbone of U.S. Oil and Natural Gas Production

In the past year, oil and natural gas production nationwide has risen substantially. According to the U.S. Energy Information Administration (EIA), U.S. oil production grew nearly 19 percent year-over-year from January 2018 to January 2019, increasing by almost 1.9 million barrels per day (b/d).² Over the same period, U.S. natural gas production jumped from just under 95.5 billion cubic feet per day (Bcf/d) in January 2018 to over 108 Bcf/d in January 2019 – a more than 13-percent increase.³ Put simply, the United States is producing more oil and natural gas than ever before, and that trend is set to continue for many years.

As staggering as these increases are, the rise in Texas production alone during this same time is even more impressive. Between January 2018 and January 2019, crude oil production in the state grew roughly 24 percent from almost 3.9 million b/d to over 4.8 million b/d.⁴ To put this in perspective, that is the equivalent of adding roughly 1.6 times the daily crude oil production of Oklahoma in a single year. All told, Texas produced an amazing 1.58 billion barrels of oil in 2018, which smashed the previous annual record set in 1973 by 300 million barrels.⁵



Additionally, thanks to a 17.4 percent increase in Texas natural gas production from January 2018 to January 2019, the Lone Star State now accounts for 24 percent of our nation's natural gas production at 25.9 Bcf/d.⁶ This puts Texas natural gas production ahead of Pennsylvania (the second largest producer) and Ohio (America's fifth largest natural gas producer) combined. When it comes to America's record-breaking energy production, Texas is firmly in the driver's seat.

The majority of this impressive oil and natural gas production growth stems from the Permian Basin in West Texas and southeast New Mexico. Now the most prolific oil producing region in the world, the Permian was estimated to produce just over 4.1 million barrels of oil per day in May 2019, representing about a third of the nation's total production.⁷ This is an increase of almost 1 million b/d since the same month in 2018 and a 170 percent increase from the 1.5 million b/d produced in 2014.⁸ Additionally, the region is also the second largest natural gas producing shale region in the country, accounting for about 14.2 Bcf/d.¹⁰

2 <https://www.eia.gov/petroleum/production/#oil-tab>

3 <https://www.eia.gov/petroleum/production/#ng-tab>

4 <https://www.eia.gov/petroleum/production/#oil-tab>

5 http://tipro.org/index.php?option=com_content&view=article&id=258

6 <https://www.eia.gov/petroleum/production/#ng-tab>

7 <https://www.bloomberg.com/news/articles/2019-04-02/saudi-aramco-reveals-sharp-output-drop-at-super-giant-oil-field>

8 <https://www.eia.gov/petroleum/drilling/archive/2014/03/#tabs-summary-2>

9 *ibid*

10 <https://www.eia.gov/petroleum/drilling/>

The Permian Basin recently surpassed the Ghawar oilfield, Saudi Arabia’s most prolific oilfield, in average oil production. According to April 2019 data released by Saudi Aramco, the state-owned oil company in Saudi Arabia, the Ghawar had the capacity to pump about 3.8 million b/d.¹¹ The latest production data for the Permian Basin estimate it produced 4.12 million b/d in May 2019, which not only surpassed the Ghawar, but firmly bested it by over 300,000 b/d.

Other shale regions in Texas also contribute to the state’s record-breaking oil and natural gas production. For example, the Eagle Ford in South Texas is the second-largest oil producing shale region, accounting for about 1.43 million b/d, in addition to being the country’s fourth largest natural gas producer.¹² Combined, the Permian and Eagle Ford represent more than 5.4 million b/d in oil production and 20.2 Bcf/d of natural gas production.

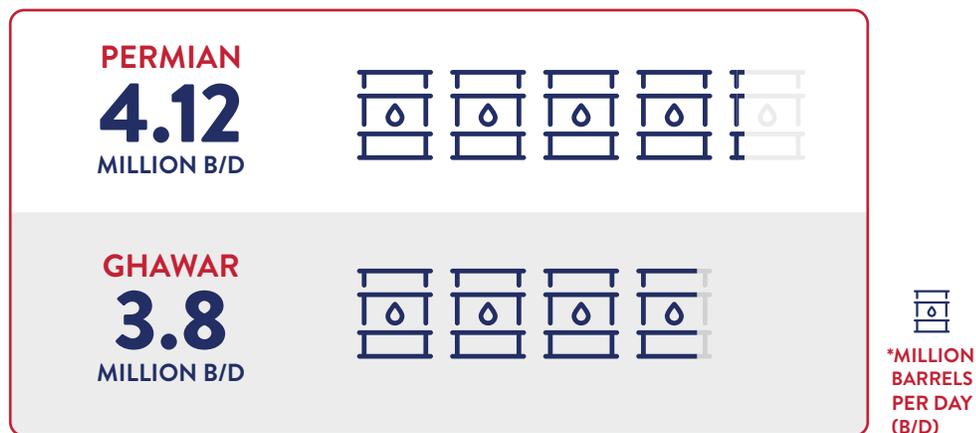
Texas’ position as the country’s top producer is expected to remain strong. According to an assessment from the U.S. Geological Survey (USGS) released at the end of 2018, two formations within the Permian Basin – the Wolfcamp Shale and Bone Spring Formation – are estimated to have the largest continuous oil and natural gas resource potential ever assessed by the agency. The USGS estimated the two formations hold about 46.3 billion barrels of oil and 281 trillion cubic feet of natural gas, along with 20 billion barrels of natural gas liquids.¹⁴

So massive was this finding, in fact, that it compelled the **U.S. Secretary of Interior** to state:

“ Before this assessment came down, I was bullish on oil and natural gas production in the United States. Now, I know for a fact that American energy dominance is within our grasp as a nation. ”¹⁵

Together, the significant amounts of oil and natural gas produced in the Permian and Eagle Ford – along with development elsewhere in Texas – ensure our domestic energy needs are met. By reducing the need for foreign sources of oil and natural gas, Texas, more than any other state, is giving the United States greater energy security.

Permian vs. Ghawar: Daily Oil Production



11 <https://www.bloomberg.com/news/articles/2019-04-02/saudi-aramco-reveals-sharp-output-drop-at-super-giant-oil-field>

12 <https://www.eia.gov/petroleum/drilling/>

13 <https://pubs.er.usgs.gov/publication/fs20183073>

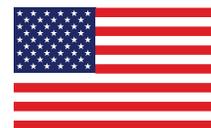
14 Ibid

15 <https://www.usgs.gov/news/usgs-announces-largest-continuous-oil-assessment-texas-and-new-mexico>

What Texas Production Means for Energy Security and Trade

Meeting Domestic Energy Needs Efficiently

Broadly, energy security refers to the availability of (and access to) reliable energy resources. As such, working to increase U.S. oil and natural gas production is a critical component of improving our energy security.



In 2018, natural gas accounted for about 44.4 percent of state energy use in Texas, with the fuel representing over half of all electric generation capacity at 52.4 percent.¹⁶ Nationally, natural gas accounted for 35 percent of total utility-scale electricity generation.¹⁷ That share is expected to increase over the next few years, with EIA projecting that around 37 percent of utility-scale generation will come from natural gas – a 9 percent increase since 2013.¹⁸

Natural gas production growth in Texas has helped to keep electricity costs affordable as the fuel has become a larger part of the generation mix. In fact, a 2018 report estimates that thanks to an abundance of low-cost natural gas, Texas residential consumers saved around \$7.2 billion between 2007 and 2016.¹⁹ Including commercial and industrial users into that equation, the overall savings to Texas consumers from low-cost natural gas use totaled \$60 billion over that same time period.²⁰

Technological improvements, along with vast resources, have allowed the Permian to become one of the most cost-effective regions to produce oil. As a result, companies from around the world have been ramping up operations in West Texas, resulting in greater than expected production.

Importantly, this innovation in development has also made production more efficient and environmentally-friendly overall. According to a report from April 2019 – which analyzed data from the U.S. Environmental Protection Agency and the EIA – annual methane emissions from production in the Permian Basin fell by 200,000 metric tons from 2011 to 2017, even as oil and natural gas production increased by 125 percent.²¹ Overall, methane emissions intensity – emissions per unit of production – in the Permian dropped by 57 percent from 2011 to 2017.²² Nationwide, the combination of more efficient production and increased use of natural gas has helped drive total U.S. greenhouse gas emissions to their lowest level since 1992.²³

16 http://www.ercot.com/content/wcm/lists/172484/ERCOT_Quick_Facts_02.4.19.pdf

17 <https://www.eia.gov/outlooks/steo/report/natgas.php#13> <https://pubs.er.usgs.gov/publication/fs20183073>

18 <https://www.eia.gov/outlooks/steo/report/electricity.php>

19 <https://consumerenergyalliance.org/cms/wp-content/uploads/2018/10/CEA-TX-Report-101218.pdf>

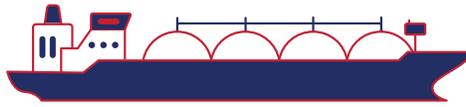
20 Ibid.

21 <https://eidclimate.org/analysis-methane-emissions-intensity-declines-in-top-shale-basins/>

22 Ibid.

23 <https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf>

Net Exporter



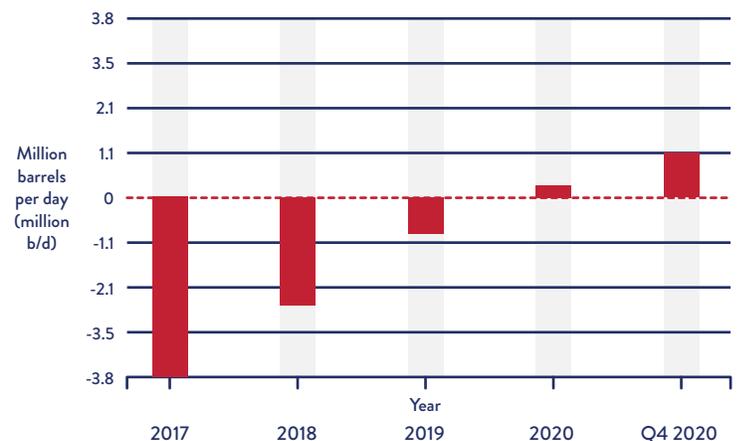
Just a few years removed from Congress lifting the ban on crude oil exports in 2015, the United States is already a major player in global markets. According to EIA, crude oil became the largest U.S. petroleum export in the first half of 2018, averaging 1.76 million b/d from January to June, which was an almost 800,000 b/d increase over the first six months of 2017.²⁴ More recently, the United States hit a record 3.6 million b/d of exported crude in the second week of February 2019, eclipsing the previous record set in November 2018 of 3.2 million.²⁵ That's a three-fold increase from the level of U.S. crude oil exported in the second week of February 2017, and more than nine times larger than the amount of crude exported the same week in 2016.²⁶

With its availability of ports, vast resources and a pro-business environment, Texas has been at the forefront of American energy exports. Between January 2018 and January 2019, the monthly value of Texas crude oil exports increased from about \$2.22 billion to over \$3.82 billion – a more than 72 percent increase.²⁷ This uptick is a boon for not only the state economy, but for regional economies along the Texas coast. According to U.S. Census Bureau data, the monthly value of crude exports from the Houston-Galveston Port District grew over 100 percent from January 2018 to January 2019, increasing from about \$1.37 billion to almost \$2.77 billion in that period.²⁸

These exports, along with growing production, are helping to shift the state away from being a net importer of petroleum products. In April 2018, the Houston-Galveston Port District became a net exporter of crude oil for the first time ever, exporting a net 15,000 b/d that month.²⁹ That amount grew the following month, jumping to an average of 470,000 b/d of net exports of crude oil in May 2018.³⁰ This growth in exports helped the United States briefly become a net exporter of oil and petroleum products in November 2018 for the first time in almost 70 years.³¹ In short, growing production and exports have loosened OPEC's hold on the global market, with Texas driving the United States toward energy dominance.

Average U.S. Crude and Petroleum Product Net Trade

EIA estimates that U.S. crude and petroleum product net imports fell from an average of 3.8 million b/d in 2017 to an average of 2.4 million b/d in 2018.³² This trend is expected to continue, with the agency projecting that U.S. net imports will fall to an average of 900,000 b/d in 2019, and then flipping to an average net export level of 300,000 b/d in 2020.³³ Amazingly, in the fourth quarter of 2020, EIA estimates that U.S. net exports of crude oil and petroleum products will reach 1.1 million b/d.³⁴



24 <https://www.eia.gov/todayinenergy/detail.php?id=37092>

25 <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WCRESUS2&f=w>

26 Ibid.

27 <https://usatrade.census.gov/>

28 Ibid.

29 <https://www.eia.gov/todayinenergy/detail.php?id=36932&src=email>

30 Ibid.

31 <https://www.houstonchronicle.com/business/energy/article/U-S-becomes-net-exporter-of-oil-for-first-time-13448647.php>

32 https://www.eia.gov/outlooks/steo/report/global_oil.php

33 Ibid.

34 Ibid.

Meanwhile, U.S. natural gas exports jumped significantly in 2018, with net exports in the first half of the year averaging 0.87 Bcf/d – more than double the 0.34 Bcf/d average daily net exports during 2017.³⁵ This increase stems from increased capacity at the Sabine Pass LNG export facility in Louisiana, along with a four percent increase in pipeline exports to Mexico.³⁶ In fact, this growth in liquefied natural gas (LNG) exports, along with a jump in pipeline exports and growing domestic production, meant the United States became a net exporter of natural gas in 2017 for the first time in 60 years.³⁷

As new LNG export facilities come online over the next several years, U.S. natural gas exports are expected to skyrocket. With a recently opened LNG export terminal in Corpus Christi, along with three other facilities currently under construction, American LNG capacity is set to more than double by the end of 2019, reaching 8.9 Bcf/d.³⁸ Six of the anticipated LNG export facilities in the United States are planned for the Gulf Coast, further positioning the Lone Star State as the leader in U.S. LNG exports.

Each of these projects represents billions of dollars in economic activity for the Texas economy. The Golden Pass LNG terminal near Sabine Pass, Tex., which received its final investment decision in February 2019, represents \$10 billion in direct investment from ExxonMobil and Qatar Petroleum.³⁹ Moreover, this one project is estimated to generate nearly \$35 billion in U.S. economic gains over the lifetime of the project, while creating more than 45,000 direct and indirect jobs during the five-year construction period.⁴⁰

Notably, it's not just ports along the Gulf Coast where energy exports are bolstering the Texas economy. According to statistics released by the U.S. Commerce Department, the Port of Laredo overtook the Port of Los Angeles as the nation's top trading center in March 2019, thanks in large part to energy exports.⁴¹ From January through March 2019, shipments of gasoline, diesel, liquefied natural gas and other fuels from the United States to Mexico through the Port of Laredo topped almost \$786 million – an increase of almost 70 percent from the year prior.⁴²

Shrinking the Trade Deficit

In addition to shifting the United States toward net exporter status, record levels of production and exports are helping to slash the U.S. trade deficit. This impact is especially apparent when examining the change in the U.S. petroleum trade deficit over the past decade. According to the U.S. Census Bureau, petroleum's share of the total trade deficit (vs. non-petroleum products) has dropped from 66 percent of the trade deficit in April 2011 to just 2.1 percent in December 2018.⁴³

According to an analysis from the Center for Strategic and International Studies released in July 2018, the U.S. annual energy deficit fell by \$363 billion between 2008 and 2017.⁴⁴ This deficit, which peaked in 2008 at \$418 billion, fell to \$54 billion in 2017. Notably, over this period, net imports of crude oil fell by \$230 billion. A separate report from IHS Markit found that thanks to falling U.S. petroleum imports, the U.S. merchandise trade deficit is \$250 billion lower than what it would have otherwise been if imports remained at their previous level.⁴⁵ Further, the report estimates the U.S. petroleum trade balance will improve by an additional \$50 billion between 2017 and 2022.⁴⁶

35 <https://www.eia.gov/todayinenergy/detail.php?id=37172>

36 Ibid.

37 <https://www.eia.gov/outlooks/steo/report/electricity.php>

38 <https://www.eia.gov/todayinenergy/detail.php?id=37732>

39 <https://www.energy.gov/articles/secretary-perry-joins-minister-al-kaabi-and-exxonmobil-golden-pass-lng-signing-ceremony>

40 Ibid.

41 <https://www.houstonchronicle.com/business/energy/article/Energy-exports-help-Laredo-to-become-top-U-S-13899665.php>

42 Ibid.

43 <https://www.census.gov/foreign-trade/statistics/graphs/PetroleumImports.html>

44 <https://www.csis.org/analysis/can-energy-close-americas-trade-deficit>

45 <https://ihsmarkit.com/Info/1118/trading-places-shale-revolution.html>

46 Ibid.

More recent data are equally impressive.⁴⁷ From January 2018 to December 2018, the U.S. monthly petroleum trade balance declined by about \$5.7 billion, from \$6.88 billion to \$1.2 billion.⁴⁸ Over this same period, the value of monthly petroleum imports declined by roughly \$3.28 billion, or about 17.5 percent.⁴⁹ Meanwhile, the value of monthly U.S. petroleum exports jumped by \$2.4 billion – an increase of more than 20 percent – from January to December 2018.⁵⁰

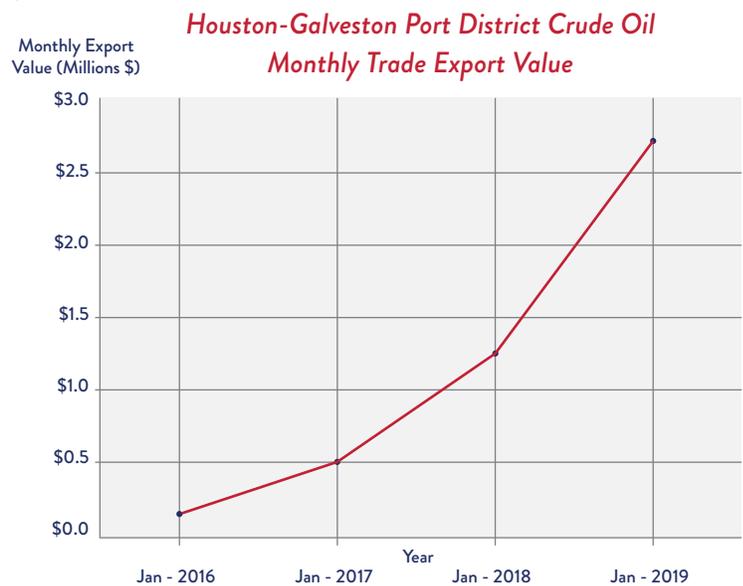
At the state level, the monthly value of Texas crude exports rose more than 1,780 percent in less than three years, increasing from just under \$203 million in January 2016 to \$3.82 billion in January 2019.

The majority of Texas crude is being shipped out of regional ports, such as Houston and Corpus Christi, both of which are encompassed within the Houston-Galveston Port District (along with Freeport, Texas City, Port Lavaca, and Galveston). Together, this port district saw monthly crude exports soar from \$157.5 million in January 2016 to almost \$2.77 billion in January 2019. These exports reached a record high in February 2019, accounting for over \$3 billion in crude oil shipped to trading partners that month.

The benefits of energy exports to the Texas economy are even more clear when compared to the state’s declining import levels. In January 2016, crude oil, petroleum products, and natural gas imports at the Houston-Galveston Port District outpaced exports by a margin of more than \$869 million. By December 2018, that margin had flipped, with the port district becoming a net exporter by a margin of more than \$1 billion.⁵¹

The Port Arthur Port District experienced a similar shift, moving from a net importer of crude, petroleum, and natural gas in January 2016 to a net exporter by December 2018. Census data show the petroleum, crude and natural gas trade balance for the port district was a net importer of \$507 million in January 2016, but by December 2018 that balance flipped to net exporter status by \$75 million, as total exports topped more than \$1 billion that month.

In addition to exports, record production in Texas is driving billions of dollars in investment into the state for manufacturing and midstream infrastructure, a welcome contrast from the perception that the United States is losing its manufacturing edge to rivals abroad. It is estimated that companies are planning to invest more than \$40 billion to build or expand nearly 10,000 miles of pipeline between the Permian and Gulf Coast over the next several years.⁵² Additionally, since 2010, Texas has seen \$69 billion in announced, under construction or completed petrochemical projects due to the massive supplies of oil and natural gas produced in the region.⁵³ That’s about one-third of all shale-related petrochemical project investment in the United States over this period.



47 Unless noted, the following U.S., state level and port district trade balance data were pulled from the U.S. Census Bureau’s USA Trade Online database in May 2019.

48 https://www.census.gov/foreign-trade/Press-Release/current_press_release/ft900.pdf

49 Ibid.

50 Ibid.

51 For port district trade balance figures, December 2018 was used as an end date as it was the latest data available when compiling this report.

52 <https://www.houstonchronicle.com/business/energy/article/Once-sleepy-pipeline-sector-now-at-center-of-the-13376659.php>

53 <https://www.americanchemistry.com/ACC-Shale-Gas-Texas.pdf>

Ensuring a Path Forward for U.S. Energy Security

More Pipelines

An estimated 2.6 million miles of pipeline crisscross the United States, with more than 466,000 miles of pipeline in Texas alone.⁵⁴ This infrastructure is vital for transporting oil and natural gas to consumers and businesses across the country. It also makes transport safer and more efficient, as one pipeline could replace hundreds or even thousands of truck trips to move the same amount of resources. That's particularly true in Texas, where record levels of oil and natural gas production in the Permian and the Eagle Ford are shipped every day to refineries, petrochemical manufacturing facilities and export terminals along the coast.

Despite this extensive network of pipelines, however, further investment is necessary to keep Texas energy growth alive. An Interstate Natural Gas Association of America report estimates that through 2035, the U.S. Southwest – which includes Texas – will see the greatest increase in oil and natural gas investment, with a total capital expenditure of \$193 billion, representing about 24 percent of the total infrastructure investment in North America.⁵⁵ This amounts to about \$9.4 billion in infrastructure investment annually through 2035, with pipeline and export facility investment estimated to be between \$3.7 billion and \$4.5 billion annually.⁵⁶

Estimated Infrastructure Investment in the U.S. Southwest Through 2035



The need for additional pipeline expansion was made obvious in 2018 by the growing bottleneck in takeaway capacity in the Permian Basin. Since 2018, a number of massive pipeline projects have been announced or started construction to create additional connections between the Permian and export terminals or refineries on the Texas Gulf Coast.⁵⁷ As of March 2019, 13 oil, natural gas or natural gas liquids pipeline projects are expected to come online over the next two years between the Permian and Gulf Coast. The five crude oil pipelines that have been announced from the Permian to the Gulf are estimated to add over 3.5 million b/d of crude oil takeaway capacity from the region.⁵⁸

54 <https://www.rrc.state.tx.us/pipeline-safety/reports/texas-pipeline-system-mileage/>

55 <https://www.chron.com/business/energy/article/Port-of-Corpus-Christi-takes-step-forward-on-13724379.php>

55 <https://www.ingaa.org/File.aspx?id=34703>

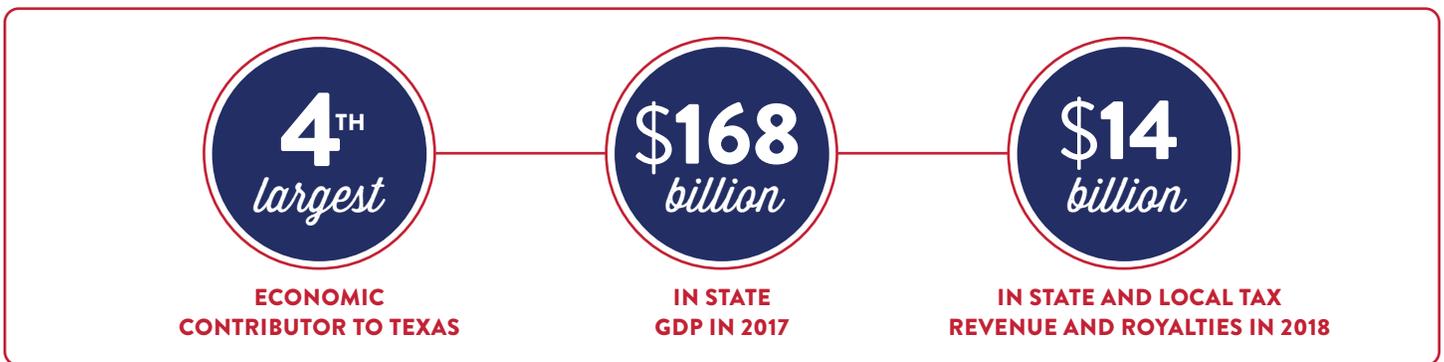
56 *Ibid.*

57 <https://www.permian.texasfornaturalgas.com/permian-pipelines>

58 *Ibid.*

By allowing for greater production, pipeline expansion means the economic benefits from oil and natural gas production can continue to grow. The mining, quarrying, and oil and natural gas extraction sector is the fourth largest contributor to the Texas economy, accounting for nearly \$168 billion in added value to the state GDP in 2017.⁵⁹ That year, oil and natural gas contributed more than \$11 billion in local and state tax revenue and royalties – a figure that jumped to \$14 billion in 2018 as oil and natural gas production increased.⁶⁰ Considering oil output from the Permian Basin is expected to double to 8 million b/d in only four years, further pipeline buildout will be especially critical to maintain the economic growth supported by shale development.⁶¹

Benefits of Oil and Gas in Texas



Expanding Export Infrastructure

Just as pipelines are key to facilitating continued growth in Texas oil and natural gas development, so too is oil and natural gas export infrastructure. By providing an outlet for the abundance of resources being produced in Texas every day, exports are an increasingly important piece of American energy security and the state economy. In addition to representing billions of dollars in investment, these projects help to bring hundreds of millions or even billions of dollars flowing into the Texas economy each month. For example, as noted above, oil exports from the Houston-Galveston Port District brought in \$2.77 billion in January 2019. This influx of money flowing back into Texas from overseas will continue to grow as the United States strengthens its position as a major oil and natural gas exporter.

In the three years following the lifting of the crude oil export ban in December 2015, U.S. oil exports grew more than five-fold, reaching 2.5 million b/d in December 2018.⁶² The Texas Gulf Coast accounts for 80 percent of the nation's crude shipments.⁶³

59 <https://www.statista.com/statistics/304890/texas-real-gdp-by-industry/>

60 <https://www.chron.com/business/energy/article/Port-of-Corpus-Christi-takes-step-forward-on-13724379.php>

61 <https://www.ingaa.org/File.aspx?id=34703>

62 Ibid.

63 <https://www.houstonchronicle.com/business/energy/article/Houston-leads-as-Texas-ships-out-80-of-nation-s-13696641.php>

To continue the state's dominance in oil exports, companies are investing in new export terminals along the coast, with at least eight crude export projects capable of loading supertankers proposed for the U.S. Gulf Coast already.⁶⁴ For example, the Port of Corpus Christi is well on its way to building a crude oil export terminal capable of handling Very Large Crude Carriers (VLCCs), positioning the fifth largest port in the United States as a necessary hub for oil exports from the Permian.⁶⁵ These facilities, such as the \$800 million Texas Crude Offshore Loading Terminal (COLT), and the continued buildout of export capacity is not only expected to bring in billions of dollars in investment to the state, it will crucially help to ease the bottleneck preventing crude from flowing out of the Permian and further shift the state toward net oil exporter status.⁶⁶

Over the course of 2018, and into the beginning of 2019, LNG development also saw a significant leap forward. In late 2018, the Lone Star State's first LNG export terminal – Cheniere's \$15 billion Corpus Christi LNG project – began operation, shipping its first cargo in December.⁶⁷ This project kicked off a number of major steps forward for LNG over the following months. The \$10 billion Golden Pass LNG export terminal in Sabine Pass, for example, received a final investment decision in February 2019, adding to the Texas-based LNG projects set to come online over the next several years.⁶⁸ Multiple LNG export projects in Brownsville, Tex., are also proceeding.

Just as important as continued development of oil and natural gas infrastructure is supporting expansion of Gulf Coast ports themselves. In particular, widening and deepening the Houston Ship Channel has the potential to provide significant benefit to energy exporters and shippers overall. With oil and natural gas activities generating over \$43 billion per year in gross state product, widening the shipping channel would increase that number to an estimated \$60 billion per year by 2025, while also helping to keep the Texas energy boom alive.⁶⁹

Currently the channel is too narrow to allow for two-way traffic when extremely large vessels (over 1,100 feet) enter, causing costly delays. It's estimated that if energy exports are restricted in the Houston Shipping Channel, Texas could lose about \$111 billion in economic activity and up to 250,000 jobs between now and 2025.⁷⁰

The expansion of export infrastructure is key to keeping the Texas economy strong, as well as strengthening America's position as a global leader in both production and exports. Without these projects, the state's oil and natural gas development could be stifled, reducing employment growth, threatening state and local tax revenue and leaving the United States more dependent on foreign countries to meet its energy needs.

Stable Regulatory Environment

Considering the massive scale, cost, and time associated with oil and natural gas export projects and new pipeline infrastructure, a strong workforce and wealth of resources only provide part of the equation in enticing these investments to our state. Equally important is a stable regulatory environment. The current low-tax, pro-business environment in Texas is an example of how to support the companies that provide the jobs, tax revenue and economic activity that have allowed the state to thrive. Still, with other states shifting toward over-regulation – particularly with respect to pipelines and other infrastructure – it is important to make sure Texas does not suffer a similar and potentially disastrous fate.

64 <https://www.reuters.com/article/us-jupitermlp-pipeline-apollo-glo-mgmt/apollo-in-talks-to-back-jupiters-u-s-crude-pipeline-export-projects-sources-idUSKCN1SG26G>

65 <https://www.chron.com/business/energy/article/Port-of-Corpus-Christi-takes-step-forward-on-13724379.php>

66 <https://www.naturalgasintel.com/articles/116765-enbridge-kinder-oiltanking-ponying-up-for-texas-offshore-vlcc-facility>

67 <https://www.reuters.com/article/us-cheniere-energy-lng-corporus/cheniere-opens-texas-corporus-christi-lng-export-plant-idUSKCN1NK30H>

68 <https://www.reuters.com/article/us-global-lng-golden-pass-exclusive/exclusive-qatar-exxon-to-proceed-with-10-billion-texas-lng-project-sources-idUSKCN1PQ4OZ>

69 The Perryman Group.

70 Ibid.

The consequences of stifling energy infrastructure are acutely apparent in the Northeastern United States. About 48 percent of New England's electric generation uses natural gas as its primary fuel, while another 11 percent list natural gas as a secondary fuel.⁷¹ This dependence on natural gas for electric generation has grown dramatically over the past several years, increasing from just 15 percent in 2000.⁷² Considering natural gas is a cheaper, cleaner-burning alternative to other fuels, as well as the region's proximity to the natural gas-rich Appalachian Basin, reliance on natural gas seems a no-brainer for New England. Yet, because of anti-pipeline policies in the region, the six New England states are among the top 11 most expensive for natural gas prices.⁷³

In fact, New England is so constricted by limited infrastructure and anti-pipeline regulation that it was forced to import natural gas from Russia in 2018 to meet demand.⁷⁴ Efforts by state governments to block natural gas pipelines in the region, such as Governor Andrew Cuomo's campaign to stop new interstate pipelines in New York over the past several years, have had other serious implications. In New York for example, the government's anti-pipeline policies have caused such a shortage of natural gas availability that Consolidated Edison announced a moratorium on new natural gas service to Westchester County in March 2019 – even as more consumers are relying on the fuel to heat and power their homes.⁷⁵ Anti-pipeline policies in the Northeast have made the region more dependent on foreign resources, even while the United States is experiencing record oil and natural gas production.

While it might seem unlikely that Texas would implement policies that would ban production or infrastructure buildout, it is not completely out of the question. SB 421, a bill that was considered by the Texas legislature during the 2019 session, would have made building pipelines in Texas dramatically more difficult by adding new, unnecessary regulations.⁷⁶ The bill also would have impacted reliability by limiting pipeline development and empowering anti-oil and natural gas activists to bring more lawsuits against pipeline operators. It is likely that anti-pipeline forces will support a similar measure in future legislative sessions, which could have a chilling impact on future investment in Texas.

Major regulatory changes on pipelines or any part of oil and natural gas development could reverberate throughout the Texas economy – even outside the energy sector. The manufacturing sector, for example, employs an estimated 878,000 people in Texas and relies on low-cost natural gas for both its energy needs and as a feedstock for petrochemicals.⁷⁷ Adding unnecessary regulation to the pipelines that feed these facilities could raise their energy costs, threatening employment, future projects and growth in the sector. Moreover, as research published by the Texas Oil and Gas Association shows, the oil and natural gas industry generates approximately \$38 million in revenue every day for Texas schools, universities, first responders and infrastructure.⁷⁸

Similarly, Texas families could find themselves paying more at the pump, and households that currently enjoy low power prices could wind up with higher monthly bills. That is particularly concerning as the state's grid operator is already warning about tight reserves in the hottest months of the 2019 summer.⁷⁹

71 <https://www.iso-ne.com/about/key-stats/resource-mix/>

72 Ibid.

73 <https://www.eia.gov/state/rankings/?sid=NY#series/28>

74 https://www.washingtonpost.com/business/economy/tanker-carrying-liquefied-natural-gas-from-russias-arctic-arrives-in-boston/2018/01/28/08d3894c-0497-11e8-8777-2a059f168dd2_story.html?noredirect=on&utm_term=.f224e848848d

75 <https://www.reuters.com/article/us-consolidated-ed-natgas-new-york/no-new-natural-gas-hookups-in-new-yorks-westchester-county-con-ed-says-idUSKCN1QW2IS>

76 https://www.texansfornaturalgas.com/senate_bill_421

77 https://www.texansfornaturalgas.com/manufacturing_texas

78 <https://www.txoga.org/texas-oil-and-natural-gas-industry-paid-more-than-14-billion-in-taxes-and-royalties-in-2018-up-27-from-2017/>

79 <http://www.ercot.com/news/releases/show/176704>

Conclusion

Texas oil and natural gas development is an integral part of U.S. energy security. With unmatched levels of production coming from places like the Permian Basin and the Eagle Ford, the Lone Star State is providing the resources we need domestically, while also supplying our trading partners with a reliable source of affordable energy. Soaring production from Texas has also lowered petroleum's share of the U.S. trade deficit to almost zero, as growing exports help to shift the country from a net importer to a net exporter. This transition means billions of dollars in revenue, an improved balance of trade and a substantially decreased reliance on foreign countries for our energy needs.

For this energy revolution to continue, however, it's crucial that the build-out of pipelines and export infrastructure continues. Doing so will mean continued job growth and improved positioning for Texas within the global energy market. But this infrastructure expansion is not possible without a stable regulatory environment. While Texas has proven the ideal location for energy development with its pro-business and low-tax environment, adding burdensome regulations would have dire consequences on production and the Texas economy.

Texas is known around the world for its prolific energy production, and as global demand for oil and natural gas increases in the coming decades, the Lone Star State is well-positioned to capitalize on that opportunity – helping to make America even more energy secure in the process.