# The Permian Basin

## UNLOCKING THE FULL POTENTIAL

PERMIAN
STRATEGIC PARTNERSHIP

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# Executive Summary

**The Permian Basin, located in West Texas and Southeast New Mexico, has risen to become one of the most prolific energy regions in the world. The Permian contains enormous untapped potential, and thanks to its vast reserves, it will remain an energy epicenter and source of energy security for decades to come. With the proper investments in infrastructure, it will continue to produce an abundance of economic benefits for the millions of Americans who call Texas and New Mexico home. Chief among those benefits is the peace of mind of knowing that the Permian basin is lessening our nation's reliance on foreign resources.**

Known for its production of oil, natural gas, solar and wind energy, the Permian Basin has provided low-cost, reliable energy both domestically and abroad. Recent projections showed the region's unique assets poised for growth in the coming decades. A new analysis from researchers at Texas A&M University predicts the region will produce between 3.2 and 5.6 million barrels of oil per day and between 10.1 and 19.7 billion cubic feet of natural gas per day in the years ahead, despite the economic headwinds caused by the COVID-19 pandemic.

Given the uncertain market conditions across the globe due to the pandemic, many experts wonder if demand might return to pre-2020 levels. But, as this report will demonstrate, asking "when" rather than "if" production will return to its previous levels is the more appropriate question. By evaluating historic trends, relevant economic data, and forecasts, we can safely predict that in time demand will return, rig counts will rise, and production will resume its climb. At the same time, technological advancements in hydraulic fracturing and horizontal drilling have allowed producers to become more efficient while reducing surface-level impacts. In short, producers are able to extract more oil and natural gas today than was ever possible even a decade ago.

In addition to the down-trending global economy and impacts from the pandemic, other barriers exist in the region. The Permian Basin's growth over the past decade has created prosperity for not just the immediate area, but statewide in Texas and New Mexico. But that growth comes at a cost – infrastructure investments in the Permian are necessary to unlock the region's full potential. The booming economy and increased activity in West Texas and Southeastern New Mexico has far outstripped the intended capacity of our roads built years ago when local communities were much smaller, leading to unsafe conditions and an increase in motor vehicle accidents and fatalities.

The good-paying jobs found in the Permian Basin are attractive to men and women across the country and globe. But infrastructure investments must keep up with growth. In addition to roads, the Permian's workforce needs affordable housing, good public schools, and hospitals staffed with an adequate number of physicians, nurses, and staff. These are not problems that are solved overnight, but with sufficient funding and investments in the right places, the Permian will be in the best position possible to succeed.

The natural resources found in the Permian Basin have created countless opportunities for families all across Texas and New Mexico. Tax revenues from those resources have benefited public schools and universities; revenue generated from the region has significantly increased the GDP of each state; and the jobs created have given thousands the opportunity to achieve the American dream. Given the importance of this region, now is the time for us to consider where strategic investments are necessary to maximize the benefits of our energy resources while also minimizing the potential risks of inadequate infrastructure.

# Unlocking the Full Potential

**The Permian Basin's abundant natural resources have made it one of the highest producing energy regions in the world.** The region has positively impacted every community in Texas and New Mexico, as is a critical part of ensuring America's energy and economic security. Investment in the Permian's infrastructure today will help unlock its full potential, ensuring continued prosperity in the region and nationwide.

## PRODUCTION AND UNTAPPED POTENTIAL

### THE PERMIAN BASIN HOLDS

**92.3 billion**
**barrels of recoverable oil**

About 38x the proven reserves of Alaska

+

**299.7 trillion ft³**
**of recoverable natural gas**

Enough to meet U.S. household demand for 60 years

## STATEWIDE BENEFITS

**22,000**
oil and gas industry jobs in New Mexico

**203,000**
oil and gas industry jobs in Texas

**$103,866**
average oil & gas industry salary

**$102,378**
average wind industry salary

**THE PERMIAN IS HOME TO:**

**6.1%**
of New Mexico's total population

**1.8%**
of Texas' total population

**BUT CAN CONTRIBUTE UP TO:**

**18.31%**
of New Mexico's total GDP

**10.89%**
of Texas' total GDP

**$3.94 billion in tax revenues and royalties** toward state education funds in 2019

**$1.52 billion**
in New Mexico

**$2.42 billion**
in Texas

**$105.72 billion in potential tax revenues and royalties** toward state education funds in the next 30 years

**$18.5 billion**
in New Mexico

**$87.2 billion**
in Texas

## INVESTMENT IMPACTS: BY THE NUMBERS

### WHAT WOULD $1 BILLION INVESTED IN PERMIAN BASIN ROADS DELIVER?

**4,500**
fewer fatalities and injuries

**2.1 million**
fewer hours in traffic delays

**$1.5 billion**
in economic benefits from increased safety and fewer delays

# Introduction

**Over the past decade, the Permian Basin has increasingly become one of the highest producing oilfields, and in 2019, it claimed the title of being the highest producing oilfield in the world. While exploration activities have resulted in some new discoveries, the implementation of technologies that use hydraulic fracturing and horizontal drilling have opened up new possibilities, tapping into areas that were previously unreachable. These technologies are also more efficient and have improved shale well decline rates by allowing producers to extract more oil from the same deposits, ultimately reducing the need to drill a higher number of wells for the same amount oil.**

Despite the recent economic downturn, the Permian produced on average 4.6 million barrels of oil and 16.4 million cubic feet of natural gas each day in 2020. But not all of the energy produced in the region comes from oil and natural gas. The Permian has also become a leader in renewable energy, using the region's vast and open lands to harness abundant wind and solar energy to complement the work taking place at the wellhead. Wind and solar farms in the Permian are estimated to provide an average $283 million and $77 million, respectively, in output. Some oil and gas producers are using renewables to help power their operations, reducing emissions and increasing efficiency even further. With more than 92.3 billion barrels and nearly 300 trillion cubic feet of untapped oil and natural gas sitting below the surface and a limitless supply of wind and solar, energy production in the Permian Basin is expected to continue to grow for decades to come.

The importance of a steady supply of reliable, affordable energy cannot be overstated. Together, the oil, natural gas, wind, and solar industries represent innumerable opportunities for prosperity, growth, and economic development in the region. The benefits provided by these industries strengthen not only the economies of Texas and New Mexico, but the United States as a whole. Last year alone, the Permian Basin's energy industry contributed nearly $7 billion in tax revenues and royalties, up to 550,000 direct and in-direct jobs and $91 billion toward local and state GDP.

Texas and New Mexico families, regardless of where they live, are also beneficiaries of the Permian's production, which for example cumulatively contributed $3.94 billion to New Mexico and Texas school systems and state universities in 2019 alone. These programs and policies ensure that the prosperity of the region is reaching all state residents, particularly those with the greatest needs.

The Permian Basin's energy industry also supports a range of related industries, from local road infrastructure projects to refineries and plants down the supply chain. Through the supply of raw materials and affordable fuel, the region's oil and natural gas industry has sparked a resurgence in domestic manufacturing, thus contributing to additional good-paying jobs, tax revenues, and economic output. The region's abundant energy resources and impressive reach across a range of sectors, industries, and localities are key factors contributing to its national and international standing. Thanks to the Permian Basin, the United States has achieved energy security, ensuring ample access to necessary energy resources and lessening a reliance on foreign resources.

The benefits associated with growth in the Permian Basin are vital to the prosperity of the region and both states. Despite current setbacks, the Permian is poised to continue that growth well into the future. But as the trajectory of the Permian Basin's energy production continues to climb, state and local support is vital. Thoughtful investments in critical infrastructure like roads, pipelines, and affordable housing can improve operations across the supply chain and enhance the associated economic benefits of the industry to the region, states, and nation. And the time for these investments is now. As activity in the Permian slows, it creates an opportunity for the states to get ahead of the next wave of growth, which data show is coming, and address those issues proactively – particularly those impacting road safety.

# Tax Revenues & Royalties

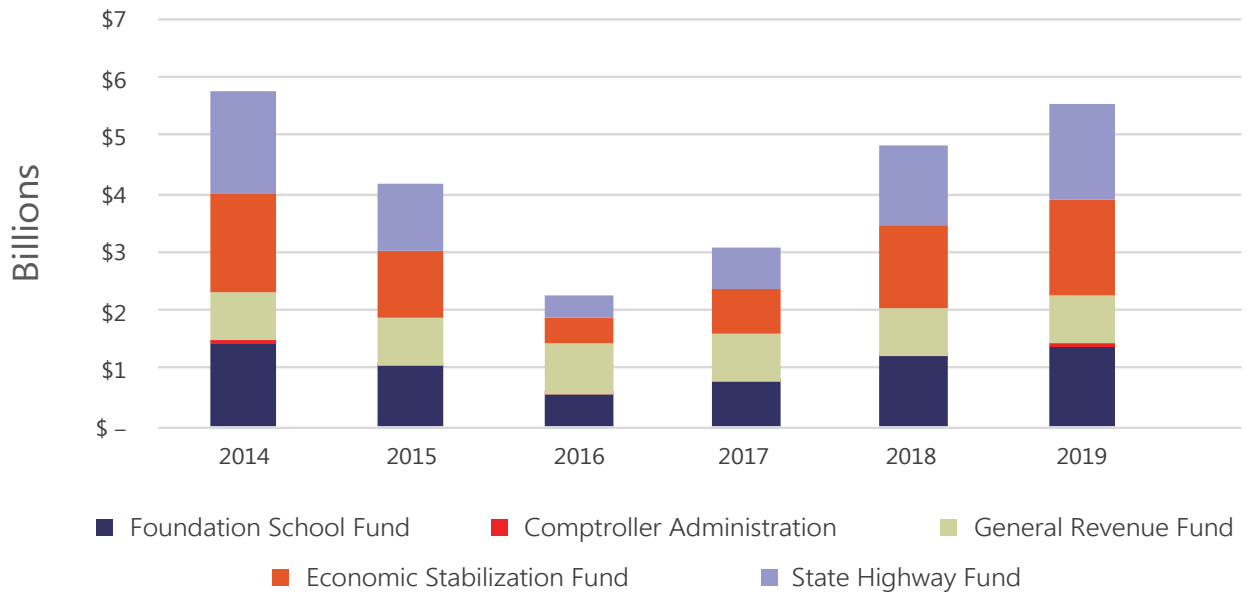
Each year, the Permian Basin's oil and gas industry contributes billions of dollars in local, state and federal taxes and royalties. Together, these revenues help support local schools, state universities, road maintenance, state services and other benefits. Last year alone, the Permian Basin contributed nearly $8 billion to Texas' and New Mexico's state budgets and funds.

In Texas, the oil and natural gas industry pays a severance tax – 7.5 percent tax on natural gas production and 4.6 percent tax on oil and condensate production – as well as royalties on land and mineral leases. In 2019, the Permian Basin oil and natural gas industry paid a record $3.7 billion in severance taxes, accounting for more than two-thirds of the total severance taxes collected by the state. These revenues were then allocated across five funds and offices—the Foundation School Fund, General Revenue Fund, Economic Stabilization Fund, State Highway Fund and the Texas Comptroller of Pubic Accounts to cover administration of the tax revenues—benefitting school districts across the state, supporting state operating costs and projects, and maintaining more than 79,000 miles of roads and highways.[1]

Royalties from oil and natural gas production on state-owned lands also represent a considerable amount of income. These revenues are allocated based on the type of land upon which the production took place and distributed accordingly to state parks and wildlife funds, educational institution funds and highway funds. Since the implementation of advanced technologies like hydraulic fracturing, mineral rights revenues have significantly increased. In 2019, Texas' Permanent University Fund (PUF) collected more than $1 billion in mineral royalties alone. This contributed to the largest distribution in history from the Available University Fund (AUF), which consists of state surface rights incomes and no more than 7 percent of PUF's current value, of more than $110 million, benefiting hundreds of thousands of students in Texas' two largest public university systems.

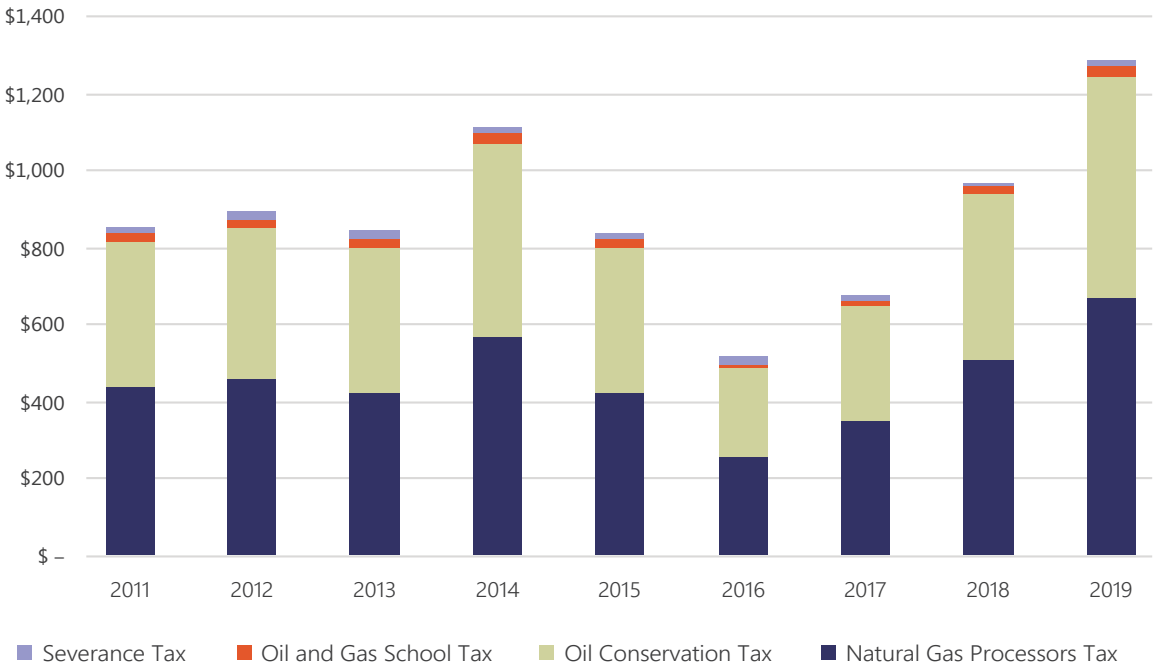
In New Mexico, oil and gas industry revenues are collected through multiple taxes, including the Severance Tax, Oil and Gas Emergency School Tax, Oil Conservation Tax and the Natural Gas Processors Tax. The latter three are all deposited into the New Mexico General Fund to support the state's annual budget and approved projects. Most years, the oil and gas industry contributes nearly, or exceeds, 30 percent of the New Mexico General Fund's total revenue.[2] The Severance Tax, however, is deposited to the New Mexico Severance Tax Bonding Fund to support bonding capacity for capital outlay projects, and the Severance Tax Permanent Fund to allocate

## Texas Annual Severance Tax Allocations




1. http://www.dot.state.tx.us/TPP/hwy/txdotfacts.htm#:~:text=TxDOT%20maintains%20more%20than%2079%2C000,roadway%20than%20any%20other%20state.
2. https://www.nmoga.org/new_mexico_tax_research_institute_state_and_local_revenue_impacts_of_the_oil_and_gas_industry

## New Mexico Annual Oil and Gas Tax Revenues




revenues not needed for the bonding fund. On average, distributions from the Severance Tax Permanent Fund save each New Mexico household $1,000 annually in lower taxes without compromising available government services.[3] In 2019, these taxes collectively contributed more than $1.2 billion to the state of New Mexico.

Similar to Texas, New Mexico receives royalties for oil and natural gas production on state-owned land, supporting the New Mexico Land Grant Permanent Fund, which received $946 million from royalties, land sales and other program revenues in 2019. In addition, the New Mexico General Fund received more than $1 billion from federal mineral leases in 2019. In the same year, the State Land Office received $144 million directly from oil and natural gas activities.

Tax revenues generated by the Permian Basin oil and gas industry will continue to grow in the years ahead, benefiting more than 30 million Texans and New Mexicans regardless of where they live. Based on an analysis by researchers at Texas A&M University, the Permian Basin will pay up to $7.8 billion in severance taxes to Texas and a cumulative $1.4 billion in oil and gas taxes to New Mexico. Additionally, the Permian Basin is expected to contribute up to $13 billion in federal taxes through employee compensation, proprietor income, production and imports, individual taxes and corporate taxes—this is more than the total federal taxes collected from the entire state of West Virginia, another resource rich area, in 2019.[4]

Oil and natural gas production in the Permian Basin plays an outsized role in financing state operations in Texas and New Mexico and contributes a considerable amount in federal taxes as well. The revenues generated by the oil and gas industry would be nearly impossible to replace without significantly increasing the tax burden across all Texans and New Mexicans or negatively impacting the beneficiaries of the programs established by these funds. Without the revenue generated by the Permian Basin's oil and gas industry, public schools would suffer, college tuition would increase, and state services would be eliminated, or their costs would spike – or both.

3. https://www.sic.state.nm.us/severance-tax-permanent-fund.aspx
4. https://www.irs.gov/statistics/soi-tax-stats-gross-collections-by-type-of-tax-and-state-irs-data-book-table-5

# School Funding

## Texas

The roots of Texas's decision to make education a priority for its citizens stretch back to its founding. To ensure public universities were well funded, the state created the Texas Permanent University Fund (PUF) in 1876 to support the Texas A&M System and the University of Texas system. The main funding mechanism for the fund is 2.1 million acres of land set aside and upon which the state is able to generate income through mineral rights, grazing, and – more recently – wind farms.

Founded in the 1870s and 1880s respectively, Texas A&M and the University of Texas have grown to become two of the largest universities in the United States based on enrollment. Combined, the two school systems boast enrollment numbers of more than 100,000 students.

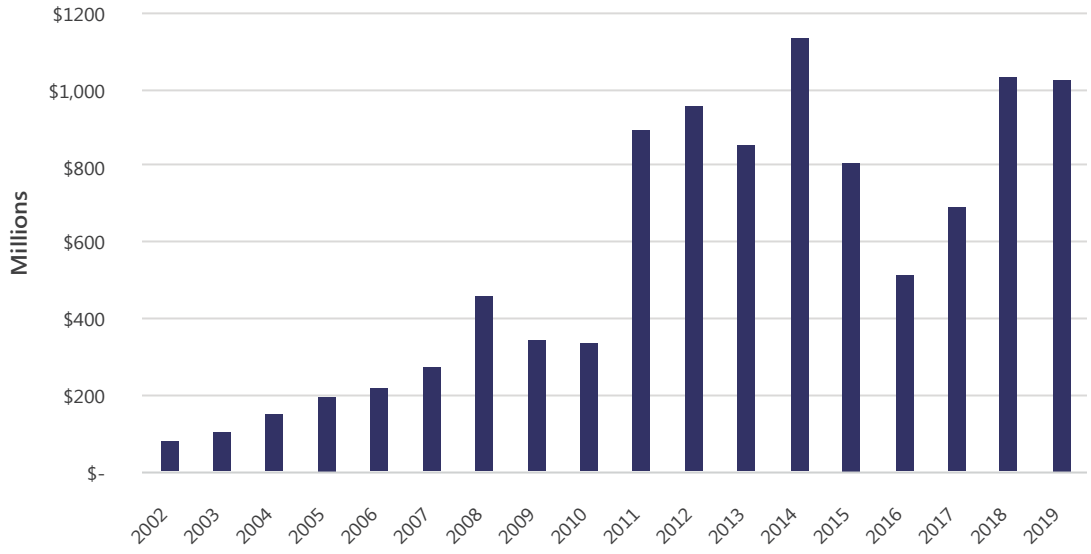
Graduates have gone on to "Change the World," as one of the university's motto says, but that would not have been possible without the state legislature's decision in 1876 to establish the PUF. Mineral incomes have always provided a steady source of funding for the PUF, but hydraulic fracturing in the Permian Basin has substantially increased those revenues in recent years. In 2002, mineral income from PUF lands generated an impressive $80.5 million in revenue. Those revenues climbed for nearly two decades, reaching a peak in 2014 to an astounding $1.13 billion, although revenues in 2018 and 2019 each still eclipsed the $1 billion mark.

The Available University Fund (AUF) consists of distributions made from the PUF. Rules preclude the AUF from exceeding 7 percent of the value of the PUF. In 2010, AUF distributions totaled $13.7 million, rising to $110.8 million in 2019, a more than 700% increase in total funds directly benefiting the state's flagship research institutions and their students.

### Table: Annual PUF Income and AUF Distributions ($Millions)[5]

| Year | PUF Mineral Income | AUF Distributions |
|---|---|---|
| 2019 | $1,026.1 | $110.8 |
| 2018 | $1,031.8 | $87.6 |
| 2017 | $688.7 | $58.9 |
| 2016 | $512.3 | $44.9 |
| 2015 | $806.7 | $49.6 |
| 2014 | $1,129.7 | $29.8 |
| 2013 | $856.5 | $25.8 |
| 2012 | $954.5 | $24.0 |
| 2011 | $895.6 | $16.4 |
| 2010 | $337.9 | $13.7 |

### Annual PUF Funding From Mineral Incomes




5. https://www.utimco.org/reports/permanent-university-fund/

Increased production and efficiency in the Permian Basin have transformed the PUF into an exemplary model that is without peer. Based on projections provided by University Lands that account for both current market disruptions and a full recovery in the coming years, PUF mineral incomes will amount to $4.8 billion between 2020 and 2024. With that to serve as a baseline and recognizing the vast reserves contained within the Permian today (about 92.3 billion barrels of oil and 300 trillion cubic feet of natural gas), the mineral income generated in the next 30 years could total up to $28.8 billion. Higher levels of production could boost those numbers even more. For comparison sake, this estimate is more than $2.3 billion higher than the endowment of Stanford University, which boasts one of the largest in the country.[6]

In 2019, the University of Texas announced plans to offer tuition-free scholarships to low-income students. The program is paid for through a $160 million endowment established by the PUF. Eligible students include those whose families make less than $65,000 per year. The program, made possible by revenues generated from oil and gas production, is expected to fully benefit 8,600 students – nearly a quarter of undergraduates. Another 5,700 students will gain access to some financial assistance through the endowment program.[7]

In addition to the funding dedicated to Texas higher education, the state legislature also established the Permanent School Fund (PSF) in 1854 specifically for the benefit of public schools in Texas. Like the PUF, proceeds from the sale and mineral-related rental of these lands provides the basis for the PSF. In 2019 alone, royalties from oil produced on educational lands totaled $1.2 billion, 49 percent of which went to the PSF. Similarly, royalties from natural gas produced on educational institution lands totaled $282.3 million, 72.7 percent of which went to the PSF.

## New Mexico

Similarly, New Mexico's founders placed a high priority on educating its citizens, establishing the Land Grant Permanent Fund (LGPF) in 1912, the same year New Mexico entered the union. While New Mexico's population is much smaller than that of Texas, it has nevertheless created an equally impressive system by which the state funds public education.

According to the New Mexico State Investment Officer, the LGPF provides more than half a billion dollars in benefits to New Mexico's public schools each year. In Fiscal Year 2019, the LGPF provided $946 million to public schools, universities and other beneficiaries.

Not unlike the PUF and PSF in Texas, New Mexico's LGPF would not be capable of producing such robust revenues if not for the royalties, land sales, and other program revenues generated through oil and gas development in the Permian Basin. In Fiscal Year 2019, the New Mexico State Land Office received $144 million in oil and gas related revenue.

New Mexico Gov. Michelle Lujan Grisham announced last year a plan to provide free tuition for in-state students at all public colleges and universities, regardless of student family income. That proposal would be made possible by the substantial state revenues from oil and natural gas production in the Permian Basin and expected to benefit 55,000 students, easing the financial burden of higher education costs for thousands of New Mexican families.[8]

Additionally, the state General Fund received $1.1 billion from federal mineral leasing in Fiscal Year 2019, which includes royalties from any natural resources, not exclusively oil and gas. In total, the state received $2.2 billion in royalty revenue in Fiscal Year 2019, though not all was from oil and gas revenue.

Forecasts provided by Texas A&M University research indicate that oil and gas revenues put toward public education in New Mexico could range from $426 million to $1.4 billion annually. In 30 years, those state education funds could reach at least $12.7 billion, more than the University of Michigan's current endowment. These impressive figures and the life-changing impacts this money has on New Mexico's students is no doubt why advocates argue that any kind of ban on oil or gas production in the state would decimate public education.

"[I]f we shut down oil and gas drilling in New Mexico today, we'd have to shut down our schools tomorrow," New Mexico Rep. Xochitl Torres Small said in a statement in February 2020.[9]

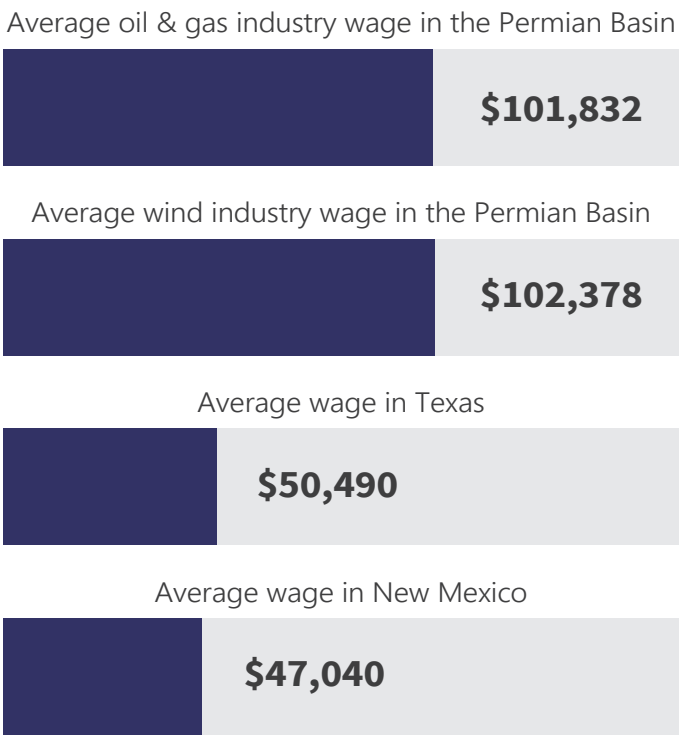
6. https://www.usnews.com/education/best-colleges/the-short-list-college/articles/10-universities-with-the-biggest-endowments
7. https://news.utexas.edu/2019/07/09/regents-make-ut-austin-even-more-affordable-2/
8. https://www.governor.state.nm.us/2019/09/18/gov-lujan-grisham-announces-plan-to-make-college-tuition-free-for-new-mexico-students/
9. https://torressmall.house.gov/media/press-releases/torres-small-statement-hr5857-ban-fracking-now-act

# Jobs and Local Economy

In recent years, energy activity in the Permian Basin has made it one of the fastest growing economies in the country. Through the oil and natural gas industry, the Permian Basin is raising average wages in both states, creating good-paying jobs and contributing to local and state tax coffers. The benefits of the industry's growth in the Permian Basin are felt across the entire supply chain, far beyond just the 25 counties that make up the region.

Energy industry wages are often higher in the Permian Basin than average state wages. In fact, from 2015 to 2019, individual average wages in the oil and gas industry ranged from $55,517 to $148,147 per year. Additionally, individual average wages in the Permian's wind industry ranged from $91,998 to $112,758. Most of the energy jobs pay significantly higher than state averages in both Texas and New Mexico.

When broken down by state, the numbers are more impactful. For the 23 counties in Texas located in the Permian Basin, the average income across all industries is nearly 30 percent higher than the Texas state-wide average. In New Mexico, the average income across all industries is nearly 14 percent higher in Lea and Eddy counties, compared to New Mexico's statewide average income. Due to the successful oil and natural gas industry in the region, the Permian Basin has recently experienced a population boom. Even with higher population numbers in recent years, the region had one of the lowest unemployment rates in the country, a mere 1.7 percent in Midland, Texas in April 2019. Just as it has across the country, unemployment has risen slightly due to the ongoing COVID-19 pandemic. But a return of activity in the region, which is guaranteed due to the vast proven reserves in the region, will likely push unemployment back down.




Yet despite its recent growth, the Permian Basin still only makes up a small portion of total populations of Texas and New Mexico. And yet, the region provides a disproportionate economic benefit to each state. In Texas, the counties that make up the Permian Basin can contribute up to 10.89 percent of the state's GDP, even though they only constitute 1.8 percent of the state's population.

Similarly, Lea and Eddy counties in New Mexico can account for 18.31 percent of New Mexico's GDP, yet they only comprise a little over six percent of the state's population. The region is also home to seven percent of all New Mexico jobs. Put differently, one out of approximately every 14 jobs in New Mexico is located in just two counties.

The impacts of the region also apply to the entire supply chain. As oil and natural gas produced in the Permian Basin moves through Texas and New Mexico to reach the Gulf Coast, the economic impact increases. Refining and production totals of the Permian Basin in Texas added an average $31 billion in value to the Texas economy from 2015 to 2019. The entire supply chain also made up 310,800 jobs derived specifically from production and refining from the Permian Basin's Texas counties. During that same time, New Mexico's two Permian Basin counties added more than $6 billion in value to the economy and 22,000 jobs.

The Permian Basin's impact on the economy cannot be overstated. The oil and natural gas industry is a tremendous economic driver in the region in both Texas and New Mexico. Higher wages are positively impacting families both close to the region and as far away as the Gulf Coast, and the economic value created has benefited schools, wildlife, infrastructure, and many more social services in the state, improving communities across each state.

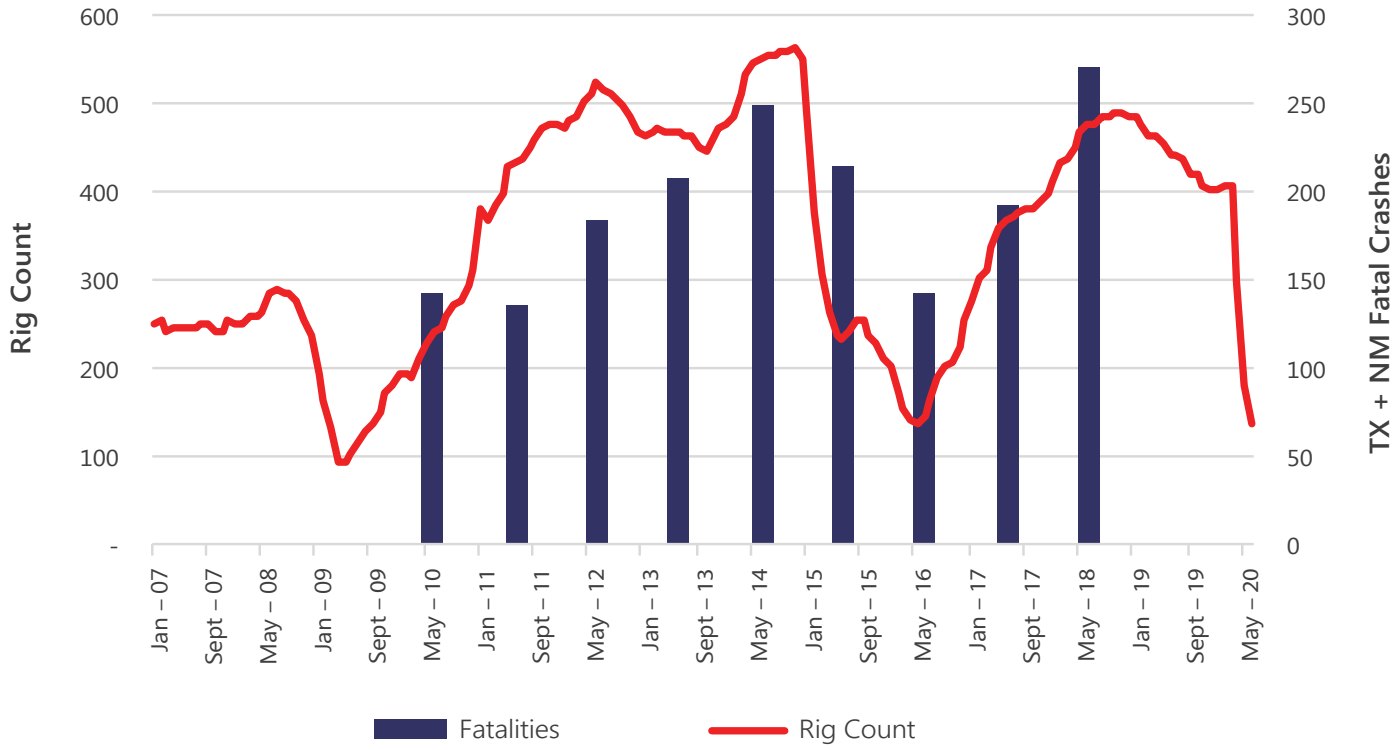
# Permian Infrastructure

Transportation infrastructure is vital to keeping our nation's economy running smoothly and efficiently. The roads and highways that crisscross the United States allow supplies and products to get from point A to point B, and support the millions of Americans who go to work, visit the grocery store and take their kids to school every day. In the Permian Basin, more than 17 thousand centerline miles of road and highway span the region, and each year more than 47 million vehicle miles are traveled, nearly 30% of which are by trucks and commercial vehicles supporting the Permian's oil and natural gas industry.

The majority of the Permian Basin's infrastructure was built decades ago when the area's population was far smaller than it is today, and the region's oil and natural gas industry had yet to shift from conventional, vertical wells to horizontal wells, made possible by hydraulic fracturing. This dramatic shift in processes brought rapid growth and activity to the region and sent production soaring. In return, the increased activity quickly outstripped the capacity of existing infrastructure.

As rig counts go up, so do the number of vehicles needed to move equipment and supplies to the oil field and trucks to move product out. Hydraulic fracturing requires large quantities of sand and water to extract oil and natural gas from shale formations. Once the sand and water have done their job, the next challenge is managing and moving the high volumes of oil, natural gas, and produced water. On average the total number of truck trips required to develop a horizontal well range from 4,000 to 7,000 times per well in a matter of 45 to 75 days.[10] With a rig count of more than 550 at the Permian Basin's peak, the trip count to the fields can quickly swell to more than 3.8 million. Horizontal drilling allows for greater production with fewer rigs, which also means comparatively fewer trucks, but the fact remains: existing Permian infrastructure is inadequate for future growth in the Permian.

The region's booming oil and natural gas industry, coupled with local communities' growing population, have led to a high volume of vehicles on the road every day. As a result, fatal and serious-injury crashes have increased dramatically.




10. https://txdot.app.box.com/s/yir0c405pocdoh3vtjwv33ul2zwnijql

In 2018, the Permian Basin experienced more than 18,300 vehicle accidents, 5,000 of which incurred injuries and 271 of which resulted in fatalities. This is seven percent of the total number of fatal crashes in 2018 in both Texas and New Mexico combined, despite the basin only making up 1.8 percent and 6.1 percent of Texas and New Mexico's populations, respectively.[11] One Permian Basin highway, U.S. 285, has even received the name "Death Highway" for the extreme number of fatal accidents that take place on the road every year, a product of both increased traffic volumes and the need for additional investment to widen and improve the road itself.[12]

Investment in the Permian Basin's roads and highways can make a difference. A recent study by researchers at Texas A&M University found that a $1 billion investment in the Permian Basin's transportation infrastructure, including widening roads and adding passing or turn lanes, will result in safer, more efficient roadways for the region. Over the course of 30 years, this kind of investment would prevent more than 4,000 crashes and nearly 180 fatalities. Additionally, these improvements would reduce traffic delays by more than 270,000 hours annually. All told, a $1 billion investment in transportation infrastructure would provide $1.5 billion in economic benefits due to increased safety and a reduction in traffic delays.

Traffic crashes and fatalities are a direct result of increased population and activities in the region. Production in the Permian Basin will eventually return and exceed pre-2020 levels, exposing the region to possibly even more traffic accidents and delays. It is imperative that New Mexico and Texas make these critical investments in highway and road infrastructure to protect the individuals and families who live and work in the region. Without it, the Permian risks losing more lives and foregoing a host of economic benefits.

11. http://ftp.dot.state.tx.us/pub/txdot-info/trf/crash_statistics/2018/05.pdf; https://gps.unm.edu/gps_assets/tru_data/Crash-Reports/Annual-Reports/annual-report-2018.pdf
12. https://www.dallasnews.com/business/energy/2018/07/30/death-highway-in-texas-permian-basin-sees-accidents-fatalities-pick-up-as-oil-price-rises/

# Energy Security

Led by the Permian Basin, the United States has risen to claim the title as the top oil and natural gas producer in the world. The benefits of increased U.S. energy production are felt across our entire economy, allowing us to power factories, small businesses and Americans' homes. The American energy sector has done more to advance the prosperity of U.S. manufacturing than any other industry in recent years, providing raw materials for production and spurring hundreds of billions of dollars in new investments.[13]

Due to technological advancements like hydraulic fracturing, the Permian Basin is one of the most cost-effective regions to produce oil in the world. The region has played a massive role in providing the United States with affordable, reliable energy. In April 2020, the Permian Basin reached record production levels of more than 4.8 million barrels of oil and 17.1 billion cubic feet of natural gas per day. When compared to the United States' consumption of oil, the Permian Basin alone provided in one day nearly one-third of the country's oil consumption for the entire month of April.[14]

| | **Oil production** thousand barrels/day | **Gas production** million cubic feet/day |
|---|---|---|
| **Region** | **April 2020** | **April 2020** |
| Anadarko | 517 | 7,198 |
| Appalachia | 149 | 32,555 |
| Bakken | 1,468 | 3,065 |
| Eagle Ford | 1,344 | 6,851 |
| Hayensville | 39 | 12,447 |
| Niobrara | 766 | 5,692 |
| Permian | 4,792 | 17,171 |
| 2020 | 9,075 | 84,979 |

In its entirety, the Permian Basin accounts for more than half of the total oil production and 20 percent of the total natural gas production from the United States' major shale formations. In recent years, Eddy and Lea counties alone have contributed 95 percent of New Mexico's total oil production, while Texas' side of the Permian Basin accounted for 63 percent of the state's total oil production.[15] Combined with the output from other domestic shale formations, U.S. oil and natural gas production has far exceeded our consumption, allowing the U.S. to become a net exporter and thus a key player in international markets. And with about 92.3 billion barrels of recoverable oil and 299 trillion cubic feet of recoverable natural gas, the Permian Basin will play a key part in America's energy security for decades to come.

Today, the United States is satisfying the energy needs of countries around the world. Just recently, China committed to importing at least 20 million barrels of U.S. oil in August and September 2020.[16] Meanwhile, Europe has increasingly relied on U.S. liquified natural gas (LNG) since October 2018, reaching record imports of 12.7 billion cubic feet of U.S. natural gas per day in November 2019.[17] The United States' role as a key supplier of energy to foreign markets has spurred major investments in export facilities here in the United States, with projects ranging from $3.7 billion to $4.5 billion annually through 2035 and further contributing additional economic benefits to local and state economies.[18]

Without the oil and natural gas supplied by the Permian, the United States would be forced to turn to costlier foreign oil and natural gas to fulfill our country's energy needs. Reliance on other countries opens the door to a host of risks including interference by foreign actors to these crucial energy resources and unexpected spikes in costs to both industries and consumers. News in recent years that New England had imported cargoes of liquefied natural gas from Russia[19]– and the public backlash[20] it created – only reinforces the fact that a strong domestic energy industry is critical for our country's future.

To maintain U.S. energy security and global position, it is crucial to continue to bolster the Permian Basin's oil and natural gas industry. Through thoughtful and proactive investments in the region, the Permian Basin will be able to reach its full potential, strengthening the United States' energy security and presence in international oil and natural gas markets.

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# Conclusion

Despite current market conditions and uncertainty surrounding COVID-19, the data are clear: the Permian Basin's future is prosperous and bright. The region contains more than 92.3 billion barrels of oil and nearly 300 trillion cubic feet of natural gas sitting below the surface – about 38 times the proven oil reserves of Alaska and enough gas to meet U.S. household demand for 60 years. When these resources are combined with the concerted effort to harness more wind and solar to power fast-growing states as well as local operations, it's easy to see why the Permian Basin will remain an energy epicenter for decades to come. Historic trends and data demonstrate that production will not only return to pre-2020 levels but surpass previous records, further solidifying the Permian Basin's position as one of the top energy producing regions in the world.

While continued energy production growth in the Permian Basin is a certainty, the investments in local infrastructure necessary to accompany that growth are less certain. Without smart and proactive investment in the region's roads, pipelines, schools and housing, we will face a number of increased risks – from vehicular incidents to overcrowded schools. While some of these investments may be more complicated or take more time than others, they will all pay dividends to the families, communities, and industries operating in this region, particularly as it relates to ensuring their safety. And just as importantly, the economic activity generated in the Permian Basin will be better aligned to benefit all Texas and New Mexico residents, and provide greater energy security to all Americans.

The time to act is now. Critical infrastructure projects are necessary to bolster the Permian Basin's ability to thrive and maintain projected growth for years to come. Infrastructure investment delays, even by just a few years, could have significant and catastrophic repercussions felt not just in the industry but communities as well. To be clear, the cost of doing nothing is not zero – the data in this report clearly show that when industry activity begins to rise, so too will fatalities associated with inadequate and outdated infrastructure. But with proper funding, these terrible outcomes can and should be avoided.

In a state that has experienced as much growth as Texas has in recent decades, it's often said that proper planning could have helped mitigate congestion and fatalities. When it comes to infrastructure investment in Texas, the Permian is an opportunity for state officials to get ahead of the problem before it occurs. The last thing we need is to look back at this moment a few years from now and regret that we did not take more action, even though we recognized the issues that would materialize.

The Permian Basin's energy industry will continue to play a vital role in supporting Texas' and New Mexico's growing populations and economies, and providing energy security for the entire country. The current opportunity in the Permian to plan and begin work on critical infrastructure projects is monumental. With smart, proactive investments in infrastructure, the Permian Basin will stand prepared and continue to benefit from the region's abundant energy resources for generations to come.

PERMIAN

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