

# THE WALL STREET JOURNAL.

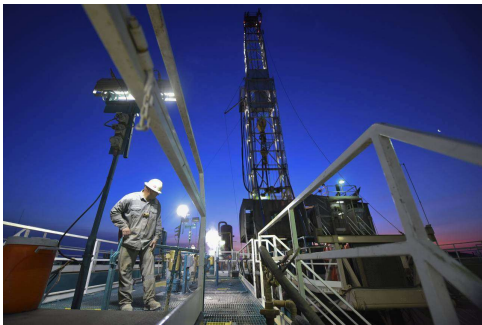
This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.

<https://www.wsj.com/articles/is-the-u-s-shale-boom-choking-on-growth-1524056400>

## MARKETS

# Is the U.S. Shale Boom Hitting a Bottleneck?

Congested pipelines, shortages of materials and workers stand in the way of Permian basin's continued growth



The Permian basin of West Texas and New Mexico has been one of the few growth engines for oil production world-wide.  
PHOTO: JAMES DURBIN FOR THE WALL STREET JOURNAL

By *Alison Sider and Bradley Olson*

Updated April 18, 2018 7:32 p.m. ET

The oil field at the heart of the U.S. shale boom appears to be choking on its own growth, a surprising development with big ramifications for energy profits and global markets.

The Permian basin of West Texas and New Mexico has been one of the few growth engines for oil production world-wide. The region's output is on track to rival that of Iran or Iraq and has lifted American production to all-time highs.

Output is projected to climb from three million barrels a day to more than four million barrels a day within two years. The International Energy Agency forecasts that last year's production level will double by 2023.

But Permian producers are starting to encounter congested pipelines and shortages of materials and workers—bottlenecks that have caused some investors to sour on the region. Some energy executives question whether sky-high forecasts are achievable.

While production is expected to continue rising, the Permian's stumbles could ripple out to the global oil market at a time when OPEC has curtailed output and many companies have cut back on megaprojects. That could become a source of volatility that propels oil prices elsewhere higher.

“It makes sense that the basin with the lowest costs, seeing the biggest increase in growth would also see the most bottlenecks and the most challenges to that growth,” said John Dowd, manager of the Fidelity Select Energy Portfolio. “It's not physically easy to grow production 1 million barrels a day in the U.S.”

After crude prices fell from more than \$100 a barrel in 2014 to less than \$30 two years later, companies in many areas shut down rigs and cut spending.

But in the Permian basin, production never stopped. As oil prices have climbed, the pace of work in the region has become frenetic, with production rising by about 800,000 barrels a day in the past year.

Pipeline capacity is emerging as a problem. Oil is starting to back up in West Texas and has recently sold at a \$6 to \$9 discount to crude prices elsewhere in the U.S. That is a warning sign

that some oil might have to travel by more expensive ways like trucks to market and that producers could be forced to take drastic measures like halt drilling.

Pipelines that carry the natural gas gushing from wells alongside oil are also facing looming constraints. Some producers face the prospect of shutting wells.

“The industry will figure out a way to get through, but there could be some bumps along the road,” said Rich Dealy, chief financial officer of Pioneer Natural Resources Co., in an interview. For smaller companies, “the speed at which they can place wells [online] and move commodities may be delayed.”

Mr. Dealy said it has been hard to get enough workers and find places for all of them to sleep. Pioneer is well prepared, with secured space on pipelines, its own fleet of fracking equipment, and its own sand mine, he said.

A number of major Permian operators reduced their output forecasts last year, often citing weather-related issues—claims that some executives such as shale pioneer Mark Papa have questioned, suggesting that poor acreage, subpar drilling techniques and service constraints are a much more likely culprit. They argue that the bottlenecks could be more severe than some companies have acknowledged.

Even Pioneer, one of the biggest operators in the Permian, lowered its forecast for 2017 output in August, citing “unforeseen drilling delays.” Mr. Dealy said Wednesday that the current logistical challenges in the Permian won’t stand in the way of the company’s objectives there.

Permian operators are likely to see their costs rise up to 15% in the area, an issue that could affect profit margins even as oil prices rise. Investors will be watching the pace of output as companies report earnings in coming weeks.

Several seasoned U.S. oil executives have begun to extol the prospects of other areas. Steve Chazen, the former chief executive of Occidental Petroleum Corp., the biggest producer in the Permian basin, built Magnolia Oil and Gas, a company that drills in South Texas.

“When you get to a certain size, growing at 25% every year becomes a mathematical impossibility,” Mr. Chazen said in an interview. “I think we’re close to where the growth rate is going to decline.”

Many analysts expect prices in the region could tumble further before new pipelines arrive in 2019.

Labor and supply scarcity are adding to the challenges. Operators are scrambling to acquire the sand and water needed for enormous fracking jobs.

About 87% of the supplies and equipment needed for fracking jobs in the Permian are in use, and producers are likely to reach full capacity within months, said Matt Johnson, a principal at Primary Vision Inc., a firm that tracks crews, sand, water and other services needed for drilling across the U.S.

Chris Cuyler, vice president of exploration and geoscience at Elevation Resources LLC, a private oil and gas producer, said his small firm has to schedule fracking crews at least a month in advance—compared with two or three weeks a year ago.

Companies are bringing workers from out of town. John Volke owns companies that find housing for oil-field workers and owns trailer parks known as “man-camps.”

Hotel rates have spiked as high as \$600 a night. Mr. Volke has already ordered 30 new trailers and will likely have to order another 30. Rooms in the trailers Mr. Volke’s firm rents to companies run \$75 to \$95 a night for long-term contracts, depending on the model. That is back to where rates were before oil prices plummeted.

The constraints are taking some of the shine off Permian producers, which were Wall Street darlings in recent years.

The shares in a group of 15 such companies, including Pioneer and Concho Resources Inc., [CXO -0.28%](#) have fallen by an average of nearly 1% this year. A broad index of U.S. producers has risen 1.3% in that time. In 2016, the Permian group rose by more than 60%, almost double the increase to a broad subset of U.S. operators.

The Permian’s growth rate is expected to account for “half of what’s supposed to happen in the whole planet,” said John Groton, director of equity research at Thrivent Asset Management. “If that’s compromised it’s a big deal.”

Write to Alison Sider at [alison.sider@wsj.com](mailto:alison.sider@wsj.com) and Bradley Olson at [Bradley.Olson@wsj.com](mailto:Bradley.Olson@wsj.com)

*Appeared in the April 19, 2018, print edition as 'U.S. Shale Boom Faces Bottlenecks.'*

Copyright © 2017 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers visit <http://www.djreprints.com>.