



ExxonMobil: Permian Leader or Just Another Fracker?

Analysis of Permian Oil Production Raises Troubling Questions About ExxonMobil's Investor Disclosures

Executive Summary

ExxonMobil has suffered through a disappointing decade. Since 2010, the company's profits have faltered, its free cash flow has regularly failed to cover payments to investors, and its stock price has fallen by more than 10 percent—even as the Standard & Poor's 500-stock index almost quadrupled. Central to ExxonMobil's woes was a string of disappointments in the company's previously world-class global upstream portfolio, culminating in write-downs of Canadian oil sands projects, multibillion-dollar impairments of U.S. natural gas assets, and failed ventures in Russia.

The company has now placed the Permian Basin, the largest oil-producing region in the United States, at the center of its upstream turnaround plans. ExxonMobil has made a series of high-profile Permian acquisitions in recent years, relying on high-tech horizontal drilling and hydraulic fracturing (fracking) to boost oil and gas output from the region. Despite bumpy progress and shifting targets over the last few years, the company continues to tout its technical and financial excellence in the Permian, recently projecting that it will roughly double its Permian production by 2025.

ExxonMobil has invited investors to examine the quality of the company's Permian oil wells as a way of assessing the company's prospects for a financial and operational comeback. In two recent investor presentations, the company highlighted the performance of its wells within the Delaware Basin, a subregion of the Permian straddling western Texas and southeastern New Mexico, as evidence of its industry-leading performance within America's top oil-producing basin.

The findings of this analysis raise troubling questions about the quality of ExxonMobil's Permian assets.

IEEFA has undertaken an independent analysis of ExxonMobil's position in the Permian. The findings of this analysis raise troubling questions about the quality of ExxonMobil's Permian assets and their ability to sustain the industry-leading production that the company has been touting to investors.

- Although ExxonMobil has claimed that it occupies a leadership position in the Delaware Basin, the company's actual production per well has slipped since 2018, both absolutely and in comparison with peers.
- In the Midland Basin, ExxonMobil's largest Permian holding, the company's performance is middling, ranking eighth among a peer group of 20, as measured by per-well production.

This analysis raises warning flags for ExxonMobil's Permian ambitions, and highlights the need for the company to provide greater transparency about the operational and financial performance of the company's upstream portfolio in general, and its Permian assets in particular.

At a time when many oil companies and analysts predict that the global economy will gradually reduce its reliance on oil and gas, only the highest-performing oil and gas assets can be developed profitably. ExxonMobil is moving forward with a corporate strategy that places the company's Permian Basin assets at the heart of its operational and financial future. ExxonMobil has touted the exceptional quality of its Permian wells in its drive to reset investor confidence in the company. But IEEFA's analysis suggests that investors should demand greater clarity about the company's ability to sustain profitable, industry-leading development in the Permian.

This year's tumultuous annual meeting, in which shareholders elected three new board members opposed by company management, demonstrated that ExxonMobil's investors demand greater accountability, responsive climate policy, and improved finances. Examining the quality of the ExxonMobil's Permian Basin assets, and their future contribution to the company's finances, should be a key item on the new board's to-do list.

I. Background

This report analyzes production from ExxonMobil's Permian Basin assets, as well as the claims that the company is making to the investment community about its operational excellence and rising oil output in the basin. This analysis takes place against a 10-year financial backdrop of struggling earnings for the company, particularly in the company's U.S. upstream segment, of which the Permian Basin represents a key part. It also takes place after a series of high-profile company investments have underperformed or failed—a noteworthy matter, given ExxonMobil's decades of success with project planning and execution.

A. Permian Basin

The Permian Basin, a region encompassing more than 75,000 square miles in southwest Texas and southeast New Mexico, boasts vast oil and gas reserves.¹ Two subregions within the Permian—the Midland Basin and the Delaware Basin—

¹ U.S. Energy Information Administration. [Permian Basin oil production and resource assessments continue to increase](#). April 26, 2017. Note that the U.S. Geological Survey describes the Permian as comprising in excess of 86,000 square miles. See, U.S. Geological Survey. [Permian Basin Province \(044\)](#). Undated.

currently produce more than four-fifths of the Permian's oil and gas.² (See Figure 1.) The U.S. oil industry drilled its first Permian oil wells in the 1920s, boring thousands of feet into underground reservoirs.³ But by the 1970s, after 50 years of exploration and drilling, oil output from the basin was thought to have peaked.⁴

Figure 1: Map of the Permian Basin



Source: IEEFA.

Yet the region's geology proved well suited to horizontal drilling and hydraulic fracturing (fracking) techniques, which opened a new chapter for the region's oil industry. Since 2010, unconventional oil production has boomed in the Permian, with oil and gas operators drilling nearly 30,000 horizontal wells in just over a decade.⁵ Total oil output from the region rose from less than 1 million barrels per day in 2010 to more than 4 million barrels per day in 2020.⁶ The Permian now provides about 15% of the nation's natural gas and 40% of its oil, with current production of 4.3 million barrels of oil and 17 billion cubic feet of gas per day.⁷

Large-scale fracking reinvigorated production from the Permian Basin. Yet a persistent oversupply of oil and gas has kept prices down, particularly since 2014, leaving Permian operators with subpar financial performance.

Starting in late 2010, ExxonMobil built out its position in the Permian through a series of acquisitions.⁸ The Permian is part of the company's diverse, high-quality global portfolio, and is the company's leading unconventional oil and gas asset. By

² IEEFA analysis of IHS Markit data.

³ Texas State Historical Association. [Permian Basin](#). Undated.

⁴ U.S. Energy Information Administration. [Permian Basin: Wolfcamp Shale Play, Geology review](#). November 2018.

⁵ IEEFA analysis of IHS Markit data.

⁶ U.S. Energy Information Administration. [Permian Region: Drilling Productivity Report](#). April 2021.

⁷ Federal Reserve Bank of Dallas. [Permian Basin: Oil Production](#). Undated.

⁸ ExxonMobil. [Presentations and Q&A Session: 2012 Analyst Meeting](#). March 8, 2012, p. 32.

2013, the company portrayed itself to investors as a leader in production in the Permian,⁹ and it continues to promote its leadership in the basin.¹⁰ In the run-up to its recent annual general meeting, the ExxonMobil management described its “world-class Permian resource base with ability to leverage short cycle flexibility.”¹¹ The company recently announced that it would prioritize its investments even as the company reduced overall capital expenditures (capex).¹²

B. Profits from ExxonMobil’s U.S. Upstream Segment

The Permian Basin is part of ExxonMobil’s U.S. upstream reporting segment and contributes to the company’s total earnings.¹³ ExxonMobil’s upstream U.S. portfolio has made a significant positive contribution to the company’s enterprise-wide earnings in only two years since 2014, and the contribution in one of those years was wholly attributable to changes in U.S. tax laws.¹⁴ (See Table 1.) In the aggregate, from 2014 through 2020, the U.S. upstream portfolio produced negative earnings.¹⁵

Table 1: ExxonMobil U.S. Upstream and Companywide Earnings, 2014-2020

Year	U.S. Upstream Earnings (billion \$USD)	Companywide Earnings (billion \$USD)
2014	\$5.20	\$31.52
2015	-\$1.08	\$16.15
2016	-\$4.15	\$7.85
2017	\$6.66	\$19.71
2018	\$1.74	\$20.84
2019	\$0.54	\$14.34
2020	-\$19.39	-\$22.44
Total	-\$10.49	\$87.97

In a 2012 investor presentation, ExxonMobil described the Permian as an integral part of the company’s U.S. upstream portfolio, capturing unconventional product

⁹ ExxonMobil. [Presentations and Q&A Session: 2013 Analyst Meeting](#). March 6, 2013, p. 17.

¹⁰ XTO Energy. [Permian Basin operations](#). July 2, 2019.

¹¹ Exxon Mobil. [Schedule 14A](#). April 2021, p. 24.

¹² S&P Global Platts. [ExxonMobil slashes 2025 production outlook as it focuses on Permian, Guyana](#). March 3, 2021. S&P Global Platts. [ExxonMobil aims to boost Permian oil output in 2021 despite capex cuts](#). October 3, 2020.

¹³ In ExxonMobil’s financial filings, the company subdivides its upstream reporting segment into U.S. Upstream and Non-U.S. Upstream.

¹⁴ In 2017 ExxonMobil declared \$6.6 billion in earnings from its U.S. Upstream portfolio. This positive contribution to earnings was driven by changes in U.S. tax law. Without those changes, ExxonMobil’s U.S. Upstream segment would have posted a loss for the year. See: ExxonMobil. [2017 Form 10-K](#). February 28, 2018, p. 44: “U.S. Upstream earnings were \$6,622 million in 2017, including \$7.6 billion of U.S. tax reform benefits.”

¹⁵ U.S. upstream earnings taken from ExxonMobil 10-Ks for 2015-2021.

and serving to bolster the company's outlook.¹⁶ The prominence of the Permian continues today: Despite companywide capex cutbacks, the Permian Basin remains central to the company's capital allocation strategy.¹⁷ Taken together, the company's Guyana and Permian Basin assets are expected to account for approximately 36% of companywide upstream earnings by 2025—making these two projects the driving factor for the company's upstream earnings growth looking ahead.¹⁸

C. ExxonMobil's Problematic Large-Scale Upstream Investments

ExxonMobil built itself over many decades with a long series of large, successful megaprojects, winning the company a reputation as a best-in-class project developer. But over the last 10 years, its image has been tarnished by several high-profile projects that have either failed in the development stage or floundered, depressing the company's profits and share prices.

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1. Oil Sands Canada

ExxonMobil, through its subsidiary Imperial Oil in Canada, made a series of acquisitions to establish 4 billion barrels of reserves in the Canadian oil sands. ExxonMobil's reserve levels have become a point of controversy, starting with its oil sands holdings in 2016 and extending through the present. Currently, development and growth in the Canadian sands is all but frozen due to weak market conditions. IEEFA published a number of analyses on Canadian oil sands development,^{19,20} a topic that was central to the material risks identified in IEEFA's October 2016 ExxonMobil report. These reports and the more recent cancellation of Teck Resources' proposed Frontier oil sands mining project remain stubborn facts that raise questions about the validity of ExxonMobil's claim that it held 3.5 billion barrels of oil sands reserves can be economically extracted and delivered to markets.²¹

¹⁶ ExxonMobil. [Presentations and Q&A Session: 2012 Analyst Meeting](#), p. 32. March 8, 2012. The Permian Basin continued throughout the period 2010 to 2020 to be an increasingly important part of its U.S. Upstream. See, e.g., ExxonMobil. [2015 Analyst Meeting](#). March 4, 2015, pps. 18, 33, and 48-49.

¹⁷ ExxonMobil. [2021 Investor Day](#). March 3, 2021, p. 52.

¹⁸ *Ibid.*

¹⁹ IEEFA and Oil Change International. [Material Risks: How Public Accountability is Slowing Tar Sands Development](#). October 2014.

²⁰ IEEFA. [Teck Resources: Rough Road on Oil Sands Investments](#). April 2015. See also: IEEFA. [Teck Resources' Frontier Oil Sands Project Shows Reckless Disregard for Financials](#). January 2020.

²¹ ExxonMobil. [2019 Form 10-K](#). February 26, 2020, p. 6.

In February 2017, ExxonMobil de-booked 3.5 billion barrels of its oil sands reserves.²² The events surrounding the de-booking triggered a shareholder lawsuit.²³ ExxonMobil's disclosure at the time suggested that the reserves would be rebooked when market conditions improved. The company did, in fact, rebook the assets with the release of their 2018 annual filing in February 2019.²⁴ But other companies were eager to exit the oil sands. In August 2019, Koch Industries announced the sale of its oil sands assets for an undisclosed price.^{25,26} In February 2020, Teck Resources cancelled its Frontier Oil Sands project due to weak market conditions.²⁷

Later in 2020, ExxonMobil raised investor concerns with its failure to declare any impairments in its second quarter filing, at a time when most of the companies in the industry were doing so.²⁸ Objections focused on the size and value of the company's shale oil and other holdings.²⁹ The company acknowledged at the time that the potential for a 20 percent write-down in its reserves in 2020 if low prices continue through the second half of the year.³⁰ Late last year, the company announced that 300 employees would be laid off from its Canadian operations.³¹ And with the release of its 2020 10-K annual report, ExxonMobil announced the de-booking of oil sands reserves for a second time, creating deep uncertainty about the actual size of the company's oil reserves.³²

2. XTO and Russia

The Company's ongoing issues with oil sands were compounded as the industry realized that lower oil prices would change the industry's outlook and that the political climate was shifting. In 2009 the company bought XTO, a leading US natural gas producer, paying \$24.6 billion in stock for the company while assuming more than \$10.5 billion in debt.³³ By 2017 the poor performance of the XTO assets forced ExxonMobil to take a write-off of \$2 billion.³⁴ ExxonMobil took a second, \$17.1

²² *Ibid.* See also: Financial Times. [ExxonMobil forced to make cuts to reported oil and gas reserves](#). February 22, 2017.

²³ U.S. District Court for Northern District of Texas. [Ramirez v. ExxonMobil et al. Case No. 3:16-cv-3111](#). November 7, 2016.

²⁴ IEEFA. [ExxonMobil's Prodigal Reserves Return: Company Rebooks 3.2 Billion Barrels of Previously De-Booked Canadian Oil Sands Reserves](#). March 2019.

²⁵ Globe and Mail. [Koch Industries sells its oil-sands properties to Paramount](#). August 14, 2019.

²⁶ Environmental Defence. [Seven oil multinationals that are pulling out of Canada's tar sands](#). March 14, 2017.

²⁷ Reuters. [Cancelled Teck oil sands project underscores global climate-energy policy tension](#). February 24, 2020.

²⁸ S&P Global. [More Q2 impairments to come for oil majors; Exxon could be next](#). July 8, 2020.

²⁹ Wall Street Journal. [ExxonMobil resists write-downs as oil, gas prices plummet](#). June 30, 2020.

³⁰ ExxonMobil. [Form 10-Q Second Quarter 2020](#). August 5, 2020, p. 21.

³¹ ExxonMobil. [ExxonMobil plans to reduce staffing levels in Canada](#). Nov. 25, 2020.

³² IEEFA. [ExxonMobil's 2020 financial report: "Re-de-booking" raises questions about actual size of reserves](#). March 2, 2021.

³³ ExxonMobil. [2010 Form 10-K](#). February 25, 2011, p. 101.

³⁴ Reuters. [Exxon boosts capital budget but takes \\$2 billion charge from XTO deal](#). January 31, 2017.

billion impairment of its U.S. upstream assets in 2020, focused on the XTO acquisition.³⁵

In 2018 the company announced that its plan to invest \$3.2 billion in Russia—once seen as among the company’s most promising projects—was scrapped due to problems with sanctions against the Russian government.³⁶

3. Permian Basin

ExxonMobil’s heavy investment in the Permian Basin has yet to meet expectations. IEEFA has published a number of reports that cover ExxonMobil’s efforts in the Permian Basin, including one directly related to the company’s performance and future prospects, and two related to current market issues in the basin.^{37,38} IEEFA published a commentary related to a change instituted by the then-newly appointed CEO Darren Woods regarding the strategic significance of the Permian Basin.³⁹

ExxonMobil’s heavy investment in the Permian Basin has yet to meet expectations.

In early 2017, Woods announced that the Permian would be among the company’s short-cycle cash generators over the next three years. By late 2019, the company had abandoned this quick-cash scenario, and an announcement was made that the Permian Basin was going to be a long-term investment with no precise revenue projections or timeframes. IEEFA noted that the cash had not materialized during the period set out by Woods in his March 2017 announcement.

Despite this underperformance, in 2020 ExxonMobil designated the Permian a “key growth project.”⁴⁰ The company currently targets production of 700,000 barrels of oil equivalent per day (boe/d) by 2025—nearly double last year’s level, yet a sharp reduction from a goal the company set in 2019 of producing 1 million boe/d by 2024.⁴¹ Over the past several years, the company has made significant capital investments in the Permian, including the 2017 purchase of Permian assets from the

³⁵ ExxonMobil. [2020 Form 10-K](#). February 24, 2021, p. 44. See also: Dallas Morning News. [Exxon Mobil warns of possible \\$30 billion writeoff, mainly on XTO-acquired natural gas fields](#). October 30, 2020.

³⁶ The New York Times. [Exxon Mobil Scraps a Russian Deal, Stymied by Sanctions](#). February 28, 2018.

³⁷ IEEFA. [ExxonMobil abandons goal of “quick cash” from Permian fracking](#). November 13, 2019.

³⁸ IEEFA. [Flaring Burns Texas Economy](#). June 2020. Also see: IEEFA. [Comments to the Texas Railroad Commission](#). April 14, 2020.

³⁹ IEEFA. [ExxonMobil abandons goal of “quick cash” from Permian fracking](#). November 13, 2019.

⁴⁰ ExxonMobil. [2020 Investor Day](#). March 5, 2020.

⁴¹ Exxon’s Permian Basin production goals have been a moving target. In June 2018, the company [projected](#) that it would produce 600,000 barrels of oil equivalent per day (boe/d) by 2025. In [March 2019](#) it boosted its projection to 1 million boe/d by 2024. By February 2021, the company had [downgraded](#) its Permian target to 700,000 boe/d by 2025.

Bass family for as much as \$6.6 billion.⁴² The company has also told investors that it is devoting substantial financial, engineering and technical resources to boosting production in the region.

Still, doubts remain about the value of the company's Permian assets. In January 2021 *The Wall Street Journal* reported that the U.S. Securities and Exchange Commission had launched a probe of the company's Permian reserves, after an internal whistleblower raised warning flags about "unrealistic assumptions" about the pace of future drilling.⁴³ The Journal had previously reported on an internal dispute among ExxonMobil staff about the value of the company's Permian reserves. Managers initially pegged the value of the company's Delaware holdings at \$60 billion, but some of the company's employees estimated that it was only \$40 billion; the company settled on a final estimate of about \$50 billion.⁴⁴

II. ExxonMobil Well Quality in the Permian Basin

1. Methods and Data Sources

To showcase the company's industry-leading performance in the Permian, ExxonMobil's 2020 and 2021 investor presentations highlight the first-year oil production from the company's wells, measured as the average number of barrels of oil produced per day during the first 365 days of production. We adopt this standard as a starting point for comparing ExxonMobil's oil wells with its competitors'.

In its 2020 and 2021 Investor Day presentations, ExxonMobil cites IHS Markit, an international business data and information provider, as the source of data used in charts depicting first-year oil well production. ExxonMobil adds its analysis to the IHS Markit data.

IEEFA used the IHS Markit Dynamic North America (DNA) oil well database to analyze Permian oil production for ExxonMobil and its competitors within the Permian. For each well in the DNA dataset, HIS Markit calculates "the average daily oil volumes of reported production within the first 12 months of the productive life of a well." This value appears to correlate directly to the standard that ExxonMobil uses to highlight oil well performance in its investor presentations. IEEFA adopted this measure as its main standard for comparing the performance of different companies' portfolios of oil wells.

In its investor presentations, ExxonMobil provides no definition of which specific wells are within the Delaware Basin. IEEFA's review of IHS Markit data shows that ExxonMobil operates in three separate oil "plays," defined as areas in the same geographic region governed by the same geological circumstances, that clearly lie

⁴² ExxonMobil. [ExxonMobil to acquire companies doubling Permian Basin resource to 6 billion barrels](#). January 17, 2017.

⁴³ The Wall Street Journal. [Exxon Draws SEC Probe Over Permian Basin Asset Valuation](#). January 15, 2021.

⁴⁴ The Wall Street Journal. [Exxon Used to Be America's Most Valuable Company. What Happened?](#) September 13, 2020.

within the Delaware Basin. IHS Markit labels those plays as the Delaware, Wolfcamp Delaware, and Bone Spring. IEEFA aggregates wells from all three of those plays into a single Delaware Basin grouping, and compares ExxonMobil against its peers within that grouping of wells.

We also used the IHS Markit DNA database to analyze oil production in the Wolfcamp Midland, which contains nearly half of the Permian Basin's horizontal oil and gas wells and nearly two-thirds of ExxonMobil's Permian Basin horizontal wells.

In its investor presentations, ExxonMobil provides no definition of its peer range. In this report, IEEFA defines Exxon's peer group as the 20 operators with the most wells that began production within a specified time period in a given region. We do not provide details of each company's performance within the Permian, but in Appendix 1 we list the companies that we included in ExxonMobil's peer range within the Permian in different basins and years.

Unless otherwise indicated, data for IEEFA's analysis of Permian oil well counts and oil production are taken from the IHS Markit Dynamic North America (DNA) database. IEEFA is responsible for all presentations, findings, analyses and conclusions in this report.

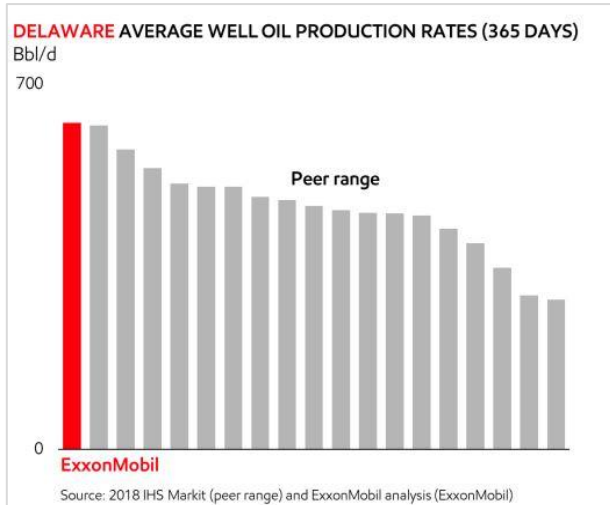
In addition to the sources discussed above, this report has relied upon numerous qualitative and quantitative research from the International Energy Agency (IEA), United States Energy Information Administration (EIA), Rystad Energy, and the Texas Railroad Commission.

2. ExxonMobil Performance in the Delaware Basin⁴⁵

To bolster the company's claims to being a leader in the Permian, ExxonMobil's [2020 investor presentation](#) highlighted the 365-day average oil production for its wells in the Delaware Basin, a portion of the Permian that straddles southwestern New Mexico and western Texas. In a chart, ExxonMobil presented itself as the Delaware Basin's leader in per-well oil production. (See Figure 2a.)

⁴⁵ Where not otherwise cited, data and figures in this section of the report, and for the two following sections, were derived from an IEEFA analysis of IHS Markit Dynamic North America data.

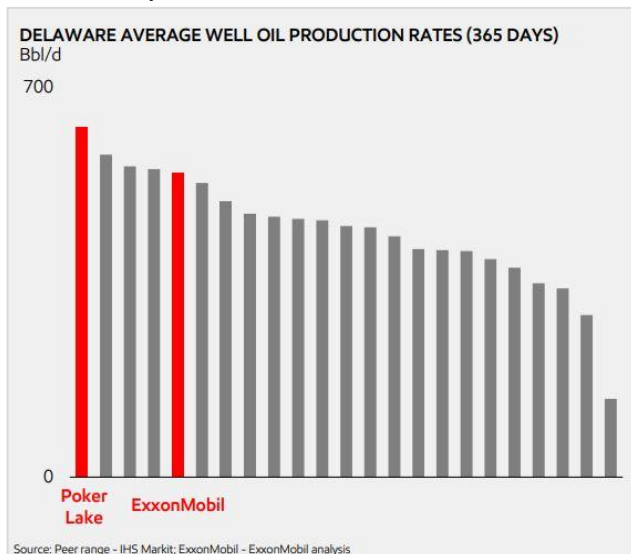
Figure 2a: Average First-year Oil Production per Well for Delaware Basin Producers, ExxonMobil 2020 Investor Presentation



Source: ExxonMobil 2020 Investor Presentation.

A year later, the company once again highlighted its Permian successes, describing “industry-leading well performance” in its Poker Lake development within the Delaware Basin.⁴⁶ (See Figure 2b.)

Figure 2b: Average First-year Oil Production per Well for Delaware Basin Producers, ExxonMobil 2021 Investor Presentation



Source: ExxonMobil 2021 Investor Presentation.

Together, these charts convey a slippage in ExxonMobil’s leadership position in the Delaware. The second chart suggested that Exxon’s overall per-well production in

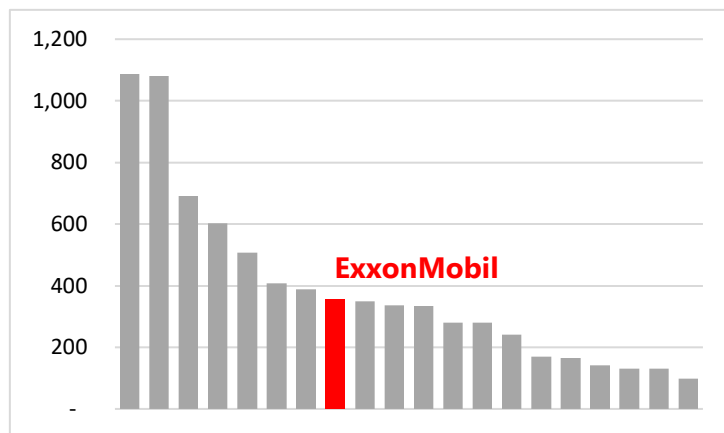
⁴⁶ ExxonMobil. *2021 Investor Day*. March 3, 2021.

the Delaware had fallen in absolute terms, and also slipped behind several of the company's peers.

Additional research by IEEFA raises troubling questions about the quality of ExxonMobil's Permian production. IEEFA's analysis suggests that it is difficult to describe ExxonMobil as an oil production leader in the Delaware, or in the Permian as a whole.

To date, Exxon does not stand out as one of the Delaware's largest operators. All told, the oil and gas industry brought 9,278 horizontal wells into production in the Delaware Basin between 2016 and the end of 2020. Of that total, ExxonMobil operates 354 wells—less than 4 percent of the basin's total, ranking No. 8 among oil producers in the Delaware. (See Figure 3.) Several of the company's competitors in the Delaware had two to three times as many wells as ExxonMobil.⁴⁷

Figure 3: Well Count by Operator in Delaware Basin, 2016-2020



Source: IEEFA analysis of IHS Markit data.

In 2016 and 2017 ExxonMobil remained a minor player in the Delaware Basin, drilling just 15 horizontal wells in 2016 and 12 in 2017. In 2018, the company quickened its pace, bringing 51 new Delaware Basin horizontal wells into production—more than four times its previous year's total, but still only 2 percent of all new wells in the basin that year. While relatively few in number, these wells produced abundantly, earning ExxonMobil the top spot for first-year oil production per well among the basin's 20 most prolific drillers that year.⁴⁸

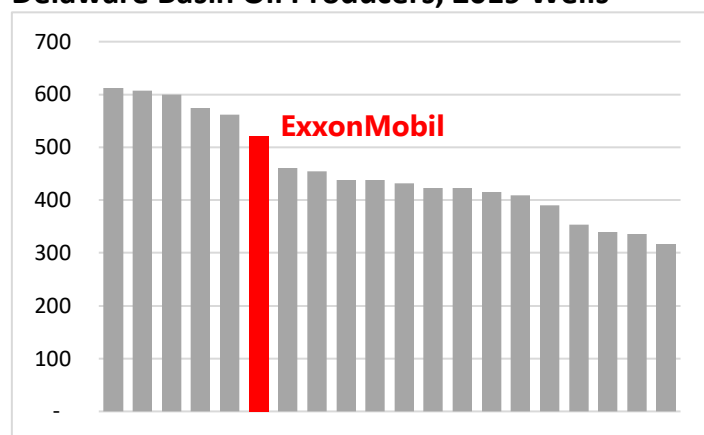
The following year, ExxonMobil picked up its drilling pace once again—but its wells lost ground. ExxonMobil brought 123 Delaware Basin wells into production in 2019, nearly 5 percent of all wells in the basin that year. Yet IEEFA's analysis shows that

⁴⁷ Overall, since 2016 ExxonMobil has ranked third or fourth in oil production in the entire Permian Basin. See Appendix 2: ExxonMobil's Rank in the Permian Basin Oil Production.

⁴⁸ Listed alphabetically, operators in this peer group include: APA Corporation (formerly Apache Corporation), BP, BTA Oil Producers, Callon Petroleum, Centennial Energy, Chevron, Cimarex Energy, Concho Resources, Devon Energy, Diamondback Resources, EOG Resources, ExxonMobil, Marathon Oil, Matador Resources, Mewbourne Oil, Occidental Petroleum, Pioneer Resources, Resolute Oil, Shell and WPX Energy. See Appendix 1 for notes.

the company's per-well oil production sank to sixth place among the 20 largest Delaware Basin operators that year.⁴⁹ First-year oil production fell from an average of 635 barrels per day per well for the company's 2018 wells, down to 521 barrels per day for its 2019 wells. (See Figure 4.)

Figure 4: Average First-year Production per Well (barrels per day) for Delaware Basin Oil Producers, 2019 Wells



Source: IEEFA Analysis of IHS Markit data.

In short, both ExxonMobil and IEEFA's assessments reveal that as ExxonMobil drilled more Delaware Basin wells, the performance of its wells deteriorated year-over-year, both absolutely and in comparison with peers.

Early results for 2020, while incomplete, suggest that the company's Delaware wells have continued to fall behind. Full first-year production is only available for wells completed in early 2020. But peak-month oil production, a measure that historically tends to correlate with average first-year well production, shows further declines for ExxonMobil's Delaware Basin wells during 2020—declines that are not reflected in the basin as a whole.⁵⁰ Additional data will be required to assess the company's performance for the full year.

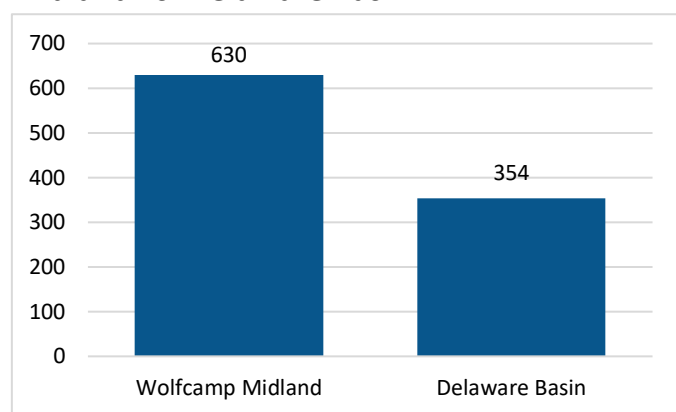
⁴⁹ Listed alphabetically, operators in this peer group include: APA Corporation, BP, BTA Oil Producers, Callon Petroleum, Centennial Energy, Chevron, Cimarex Energy, Concho Resources, Devon Energy, Diamondback Resources, EOG Resources, ExxonMobil, Marathon Oil, Matador Resources, Mewbourne Oil, Occidental Petroleum, Patriot Resources, Pioneer Resources, Shell and WPX Energy. See Appendix 1 for notes. Note that IEEFA's analysis of ExxonMobil's wells in 2018 and 2019 tracks closely with the charts that ExxonMobil presents in their 2020 and 2021 investor presentations. Differences between IEEFA's analysis and ExxonMobil's may stem from different geographic definitions or peer groups, which ExxonMobil does not define for investors.

⁵⁰ For 2019, Exxon's wells peaked at an average of 132 barrels of oil per 1,000 lateral feet. But for its 2020 wells, the average peak-month production fell to 107 barrels per 1,000 lateral feet—a 17 percent year-over-year decline.

3. ExxonMobil in the Wolfcamp Midland

ExxonMobil's investor presentations spotlight the company's Delaware Basin operations. Yet the large majority of the company's Permian horizontal wells lie in the Wolfcamp Midland play, to the east of the Delaware Basin. From 2016 through 2020, ExxonMobil brought 630 Wolfcamp Midland wells into production, compared with just 354 in the Delaware Basin. (See Figure 5.) Over that period, ExxonMobil brought more wells into production in the Wolfcamp Midland than all but two other companies.

Figure 5: ExxonMobil Wells Entering Production 2016-2020, Wolfcamp Midland vs. Delaware Basin



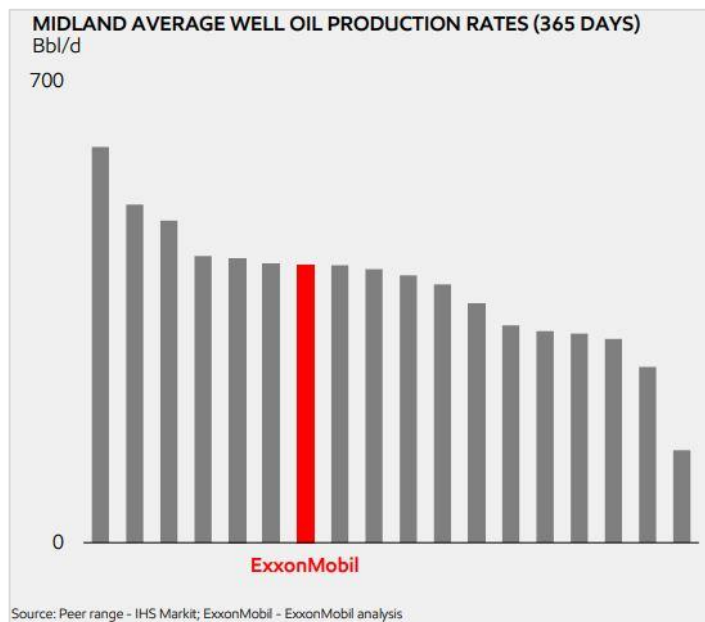
Source: IEEFA analysis of IHS Markit data.

Yet compared with the company's largest peers, ExxonMobil's wells in the Wolfcamp Midland showed undistinguished performance. For wells brought into production from 2016 through 2019, for example, IEEFA's analysis shows that ExxonMobil's wells ranked eighth in first-year production per well among the 20 largest Wolfcamp Midland operators.⁵¹

The middling performance of ExxonMobil in the Wolfcamp Midland is corroborated by the company's 2021 Investor Day Presentation, which shows that ExxonMobil ranked seventh in first-year production, among an unspecified peer group and during an unspecified timespan. (See Figure 6.) A second chart on the same page the company shows that the company's production performance has been increasing over the past three years in this basin, but does not compare ExxonMobil's trends with those of its competitors.

⁵¹ Listed alphabetically, operators in this peer group include: APA Corporation, Callon Petroleum, Chevron, Concho Resources, CrownQuest Operating, Diamondback Resources, Discovery Energy, Endeavor Energy Resources, ExxonMobil, FDL Operating, Hunt Oil, Laredo Petroleum, Ovintiv, Occidental Petroleum, Pioneer Resources, QEP Resources, RRP Operating, SEM Operating, SM Energy and Surge Energy. See Appendix 1 for notes.

Figure 6: Average First-year Oil Production per Well for Midland Producers, ExxonMobil 2021 Investor Presentation



Source: ExxonMobil 2021 Investor Presentation.

4. Normalizing Horizontal Wells for Lateral Length

In communications with investors, publicly-traded companies must balance the need to comply with SEC disclosure rules with a desire to put the company's financial and operational performance in the best possible light. ExxonMobil is no exception. ExxonMobil's most recent investor presentations have highlighted a particular measure of well quality—total first-year production of oil per Delaware Basin well—that played to the company's strengths.

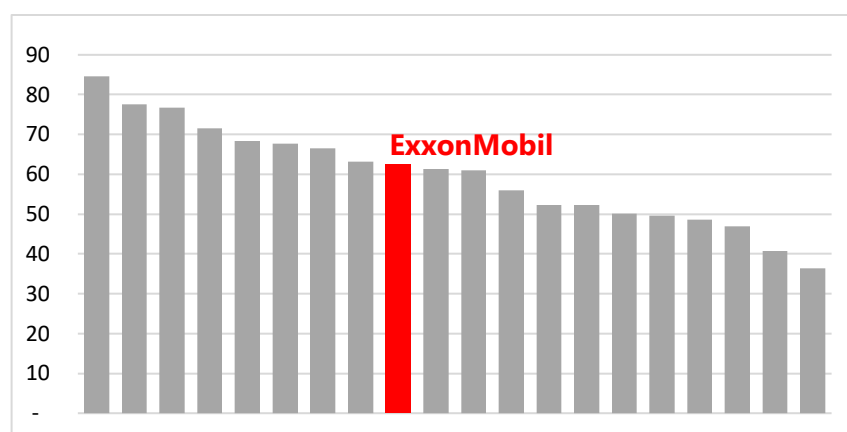
Yet a key reason why ExxonMobil often performs comparatively highly on this metric is that the company drills relatively long wells. In the Delaware Basin, for example, ExxonMobil ranked fourth among the top 20 operators in well length from 2016 through 2020, with wells that were nearly 1,000 feet longer than the median among its peer group.

All else being equal, longer wells tend to produce more oil than shorter ones. They also can yield drilling cost efficiencies.⁵² Yet longer wells cost more to drill and represent a larger overall capital investment. In short, higher production per well doesn't necessarily mean more profitable wells; sometimes it just means longer, more expensive wells.

⁵² Rystad Energy. [Should well productivity benchmarking take costs into account?](#) November 2019.

To isolate the effect of horizontal well length on production, many oil industry analyses normalize wells to a standard lateral well length.⁵³ Normalizing production per lateral foot offers an important lens for gauging well quality: Higher oil yields per horizontal foot are often taken as an indicator of higher-quality acreage or more effective drilling and completion practices. For example, by default the IHS Markit DNA database adjusts production per 1,000 feet of lateral length of wells when gauging the both the quality of horizontal wells and of the quality of acreage near already-drilled wells.⁵⁴ Similarly, Rystad Energy, a competitor to HIS Markit, notes that: “In benchmarking well productivity, it has become common practice to evaluate wells based on production per lateral foot of perforated length.”⁵⁵

Figure 7a: First-year Oil Production, Barrels per 1,000 Lateral Feet, 2019 Wells, Delaware Basin



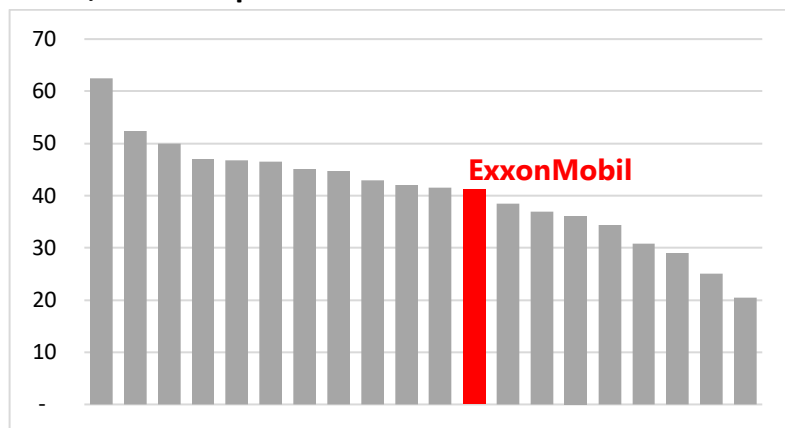
Source: IEEFA analysis of IHS Markit data.

⁵³ See, *inter alia*: IHS Markit Reservoir Engineering Solutions. [Episode #25 - Normalize Type Well by Lateral Length](#). July 29, 2019. National Energy Technology Laboratory. [Evaluation of Shale Gas Production Drivers by Predictive Modeling on Well Completion, Production, and Geologic Data](#). August 20, 2018. See also: Battlecat Oil & Gas. [A Scientific Approach to Developing Eagle Ford Acreage: Presentation to the Society of Petroleum Engineers](#). November 8, 2016. See also: Hart Energy. [Leveraging Statistical Analysis for Economic Efficiencies](#). June 1, 2018. See also: BTU Analytics. [Changes in Permian Spacing to Strand DUCs?](#) Undated.

⁵⁴ IHS Markit. [Dynamic North America: Glossary](#). Undated.

⁵⁵ Rystad Energy. [Should well productivity benchmarking take costs into account?](#). November 2019.

**Figure 7b: First-year Oil Production, Barrels per 1,000 Lateral Feet, 2019
Wells, Wolfcamp Midland**



Source: IEEFA Analysis of IHS Markit data.

IEEFA’s analysis shows that, when normalized per 1,000 feet of lateral well length, ExxonMobil’s 2019 Delaware wells ranked ninth in productivity among the top 20 companies in the Delaware Basin—suggesting middling performance on this metric.⁵⁶ (See Figure 7a.) On the same metric, ExxonMobil ranked 12th among its top 20 Wolfcamp Midland peers during 2019.⁵⁷ (See Figure 7b.) So, when adjusted for well length, ExxonMobil’s wells show middling performance among its large peers in both the Delaware and Wolfcamp Midland.

This middling production profile may not translate into middling economic performance. ExxonMobil may still excel at optimizing well economics if it is able to drill more cheaply than its competitors or take advantage of efficiencies that are unavailable to other companies. Still, ExxonMobil’s middling performance on this metric raises questions about the valuation and durability of the company’s competitive position versus its peers.

⁵⁶ Listed alphabetically, operators in this peer group include: APA Corporation, BP, BTA Oil Producers, Callon Petroleum, Centennial Energy, Chevron, Cimarex Energy, Concho Resources, Devon Energy, Diamondback Resources, EOG Resources, ExxonMobil, Marathon Oil, Matador Resources, Mewbourne Oil, Occidental Petroleum, Patriot Resources, Pioneer Resources, Shell and WPX Energy. See Appendix 1 for notes.

⁵⁷ Listed alphabetically, operators in this peer group include: APA Corporation, Birch Resources, Callon Petroleum, Chevron, Concho Resources, CrownQuest Operating, DE3 Operating, Diamondback Resources, Discovery Energy, Earthstone Energy, Endeavor Energy Resources, ExxonMobil, FDL Operating, Hunt Oil, Laredo Petroleum, Ovintiv, Pioneer Resources, QEP Resources, SM Energy and Surge Energy. See Appendix 1 for notes.

Conclusion

Collectively, these findings raise questions about the quality of ExxonMobil's disclosures to investors about its upstream portfolio, particularly about its Permian operations.

The majority vote by shareholders on recent climate and lobbying resolutions, and their election of three new directors over management objections, suggest the start of a new period of heightened investor scrutiny for the company. Questions about the Permian Basin's status go to the heart of the company's valuation, governance, and its future prospects as an oil and gas producer in a declining market.

ExxonMobil's equity investors lack detailed, transparent access to the company's operational and financial results. Instead, they must rely on the company itself to present a fair and accurate portrayal of its future prospects. ExxonMobil has chosen to tell its investors that it is a clear leader in the Permian Basin, a large-scale development venture that will serve as the linchpin for long-term leadership among U.S. oil producers. ExxonMobil bases this claim on a relative handful of wells in 2018 and 2019.

Yet by the company's own preferred standards—first-year production per well—ExxonMobil's Delaware assets show a troubling year-over-year decline in performance from 2018 to 2019. Early data shows further declines in 2020. The middling performance of the Midland basin, ExxonMobil's largest holdings in the Permian, raises further questions about the quality of the company's Permian position and its expected economic returns.

Overall, IEEFA's findings do not reveal evidence that ExxonMobil stands out as a Permian leader. Instead, the company appears to be just another fracker: A mid-tier company with a mixed track record in an industry that has suffered through a decade of disappointing results.

ExxonMobil has offered investors a shifting narrative about the role of the Permian in its long-term strategy. The company has projected short-term cash generation that did not materialize. It has projected longer-term future robust cash flows from its Permian assets but, as for most other fracking-focused enterprises, those returns remain speculative. Meanwhile, the company has decreased its overall production targets and timelines in the Permian.

**Instead of standing out as
a Permian Basin leader,
ExxonMobil appears to
be just another fracker.**

Yet through these shifts, the company has steadfastly portrayed its Permian assets as central to the company's long-term financial and operational plans. Ultimately, however, ExxonMobil's investors care more about profits and cash generation more

than they care about oil and gas production volumes; the two are not synonymous.⁵⁸ Most fracking-focused companies have never been able to simultaneously boost production and produce robust cash flows.⁵⁹

ExxonMobil's confidence in robust financial results from its Permian operations might be justified if the company's Delaware and Midland assets consistently outperformed its peers in well productivity. Since a close analysis raises questions about ExxonMobil's claims of industry-leading oil well performance in the Permian, investors have reason to question whether ExxonMobil can produce the financial returns it has promised from its Permian operations.

⁵⁸ The Wall Street Journal. [Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits](#). December 13, 2017.

⁵⁹ Institute for Energy Economics and Financial Analysis. [In a Tumultuous 2020, Shale Firms Slashed Capex to Generate Cash](#). March 21, 2021.

Appendix 1: ExxonMobil's Peer Groupings

For this report, we compare ExxonMobil's performance against that of the 20 operators of the most wells that began operation in the relevant region and during the relevant time period. Members of peer groupings used in this report are listed alphabetically below. IEEFA reports operator names in the IHS Markit Dynamic North America database, as updated as of May 31, 2021. IHS Markit updates its oil and gas well data frequently; revisions may affect results from prior years. Note that operator names listed below may not reflect recent mergers, acquisitions, property exchanges, or name changes. For example, WPX Energy and Devon Energy completed a merger in 2021; Concho Resources was acquired by ConocoPhillips in 2021.

Top 20 Delaware Basin well operators, based on number of new horizontal wells brought into production in 2018: APA Corporation (formerly Apache Corporation), BP, BTA Oil Producers, Callon Petroleum, Centennial Energy, Chevron, Cimarex Energy, Concho Resources, Devon Energy, Diamondback Resources, EOG Resources, ExxonMobil, Marathon Oil, Matador Resources, Mewbourne Oil, Occidental Petroleum, Pioneer Resources, Resolute Oil, Shell and WPX Energy.

Top 20 Delaware Basin well operators, based on number of new horizontal wells brought into production in 2019: APA Corporation, BP, BTA Oil Producers, Callon Petroleum, Centennial Energy, Chevron, Cimarex Energy, Concho Resources, Devon Energy, Diamondback Resources, EOG Resources, ExxonMobil, Marathon Oil, Matador Resources, Mewbourne Oil, Occidental Petroleum, Patriot Resources, Pioneer Resources, Shell and WPX Energy.

Top 20 Wolfcamp Midland well operators, based on number of new horizontal wells brought into production from 2016 through 2019: APA Corporation, Callon Petroleum, Chevron, Concho Resources, CrownQuest Operating, Diamondback Resources, Discovery Energy, Endeavor Energy Resources, FDL Operating, ExxonMobil, Hunt Oil, Laredo Petroleum, Ovintiv, Occidental Petroleum, Pioneer Resources, QEP Resources, RRP Operating, SEM Operating, SM Energy and Surge Energy.

Top 20 Wolfcamp Midland well operators, based on number of new horizontal wells brought into production in 2019: APA Corporation, Birch Resources, Callon Petroleum, Chevron, Concho Resources, CrownQuest Operating, DE3 Operating, Diamondback Resources, Discovery Energy, Earthstone Energy, Endeavor Energy Resources, ExxonMobil, FDL Operating, Hunt Oil, Laredo Petroleum, Ovintiv, Pioneer Resources, QEP Resources, SM Energy and Surge Energy.

Appendix 2: ExxonMobil's Rank in the Permian Basin Oil Production

On its website, the Texas Railroad Commission, the state's oil and gas regulatory agency, lists the top 10 oil producers within the Permian Basin, by year. These rankings include all plays and sub-basins within the Permian, including production from both conventional (vertical) and unconventional (horizontal) wells. Within the Permian, the ExxonMobil's wells are listed as being operated by XTO Energy Inc. According to the Texas Railroad Commission, ExxonMobil ranks as the third-largest Permian oil producer in 2020, and the fourth-largest Permian oil producer in 2016 through 2019.

Table: ExxonMobil's Rank in Permian Basin Oil Production⁶⁰

Year	ExxonMobil Ranking
2016	4
2017	4
2018	4
2019	4
2020	3

⁶⁰ Texas Railroad Commission. [Permian Top 10 Complete](#). 2020.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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