

New Mexico's Risky Reliance on Oil Revenue Must Change

Industry Fundamentals Point To Long-Term Decline

Executive Summary

An unprecedented sea change in energy markets threatens the fiscal health of New Mexico. Through leases, royalty payments and taxes, the oil and gas industry has directly provided a high percentage of New Mexico's annual revenues—ranging from 15 percent to more than 30 percent during the past dozen years. But the industry is in the midst of a long-term financial decline that transcends its usual boom-and-bust volatility. State policymakers must grapple with this new reality and develop a robust response to protect New Mexico's fiscal health.

Record-setting production, robust revenues and projections of steady oil price increases in recent years have created a consensus that the state's heavy dependence on oil and gas revenues was reliable over the long term. High production levels, however, have obscured the industry's underlying problems.

Since at least 2014, the U.S. shale industry has flooded global markets with oil and gas. As investment stimulated the oil and gas economic chain and bolstered public budgets, it also lowered prices and triggered value destruction for investors. New Mexico oil and gas prices have been declining since 2014. From 2010 to 2014, oil prices averaged \$86 per barrel (bbl), but from 2015 to 2019, pre-pandemic prices fell to an average of \$48/bbl, a 44 percent drop.

Even as New Mexico was posting record oil and gas revenues, largely due to the sector's high productivity, the industry itself was experiencing steep losses.

The COVID-19 pandemic brought the industry's fundamental weaknesses front and center. The New Mexico Legislative Finance Committee projects a steep decline in oil and gas revenue through Fiscal Year (FY) 2021. In its most optimistic scenario, the committee puts the average price of oil in New Mexico at only \$43.50/bbl through FY 2022. While an improvement over April's historic lows, this is far below what is needed to return New Mexico to robust fiscal health.

While noting that the federal COVID-19 stimulus improved the state's fiscal condition to some extent, the committee still predicts significant shortfalls from its December 2019 revenue estimate. The stimulus supported sectors of the economy unrelated to oil and gas production. Low oil prices are expected to continue to result in underperformance of the oil and gas sector as a revenue source for the state.

New Mexico will suffer from the effects of low global oil prices for the foreseeable future. Industry experts and some of New Mexico's leading oil and gas producers

have sounded stark warnings, including statements that the oil and gas business model is “an economic disaster” (Scott Sheffield, CEO, Pioneer Natural Resources, 2019) and that the problems were here “even before the current market turbulence” (U.S. Energy Information Administration, 2020). Indicators are unmistakable, and include the following:

- The top oil majors have experienced declining profits for most of the past 10 years. The oil and gas sector held 29 percent of the Standard & Poor's 500 stock index in 1980, but now commands only 2.1 percent.
- ExxonMobil, which does business in New Mexico under its XTO brand, returned only 6.5 percent on capital deployed in 2019, before the pandemic hit, down from 25 percent in 2012. It has a market capitalization of less than \$150 billion, down from \$527 billion in 2007, and it may write off one-fifth of its reserves this year. The five largest publicly traded oil and gas companies—BP, Chevron, ExxonMobil, Royal Dutch Shell and Total—have failed for years to generate enough cash to cover payments to shareholders. They have funded shareholder dividends since 2010 by using stopgap asset sales and new long-term debt to bridge chronic shortfalls.
- Short-term cash positions have deteriorated, asset sales and consolidation transactions are distressed; the industry outlook for both large and small companies is largely negative.

Although oil prices edged up this summer after plummeting to negative numbers in the spring, the increase will not be enough to restore financial strength to the industry. That would require not only an oil price of at least \$80/bbl for several years but also a robust market for reserves; declining debt levels and upgraded credit ratings; use of debt to create revenue-producing assets; a cessation of bankruptcies; fiscal stability of state-owned enterprises and access to rising demand unfettered by competitors. This combined scenario is unlikely to occur.

Major oil and gas companies acknowledge that economic growth requires less energy today. Energy experts now discuss this insight as fact.

- The Energy Information Administration projects that, by 2050, the domestic energy use associated with each dollar of US economic growth will be less than half of what it was in 2005.
- Electric vehicles, fuel efficiency and changing use patterns are curbing demand for gasoline. A new report predicts that the electric share of passenger vehicle sales will rise to 28 percent by 2030 and more than 50 percent by 2040. It concludes that oil demand from passenger vehicles will never recover to 2019 levels.
- Several major utilities and energy planners have rejected natural gas as a “bridge fuel,” announcing plans to replace coal-fired power plants with renewable energy facilities, skipping the use of gas as an interim measure.

- Plastics prices and profits today are far below what they were 10 years ago, and oversupply from the global petrochemical industry buildout is likely to drive them further down.
- Companies are writing down their oil and gas inventories, expecting lower profits and less investment.

All of this spells trouble for a New Mexico that is heavily dependent on oil and gas revenues.

New Mexico must establish a more reliable basis for its revenue base. Short-term cuts and spending restrictions will bide the time but will not, alone, rebuild the state's economy. The state should overhaul its economic development programs to broaden its industrial and commercial base, boosting sectors that produce job growth and rising profitability.

Introduction

New Mexico faced a sharp drop in revenues from FY 2019 to FY 2020, much of which was due to declining oil and gas revenues. In response, the governor and legislature in June trimmed the initial \$7.6 billion FY 2021 budget by roughly \$415 million.¹ At the time of those painful budget negotiations, some state policymakers looked with optimism toward a post-pandemic future, pointing to recent record levels of oil production in the state and ExxonMobil's plan to nearly triple Permian Basin oil output by 2024.² Indeed, a ramp-up in drilling and oil well activity in FY 2019 had resulted in a 47 percent year-over-year increase in oil production in New Mexico.³

But it is a mistake to confuse production with profits. As this report explains, overproduction of oil and gas contributed to the industry's weak finances, even as it masked the fiscal risks New Mexico faces from its heavy reliance on oil and gas revenues. Moving forward, weak demand growth for oil and gas—resulting from significant economic and technological trends described in this report—has created headwinds that will likely impede a rebound. As a result, the sector is likely to face even stricter financial constraints in the future.

These market challenges should not be confused with mere volatility; the oil and gas industry's financial problems will not disappear. The combined effects of high infrastructure costs, over-production and substantial shifts in the energy market have permanently weakened the oil and gas industry's revenues and profitability.

The economic and fiscal challenges that New Mexico faces from declining oil and gas revenues, similarly, cannot be dismissed as a temporary phenomenon. Indeed, this

¹ Office of Governor Michelle Lujan Grisham, Press Release: [Gov. signs budget adjustment bill](#), June 30, 2020.

² See Santa Fe New Mexican, [What if New Mexico oil boom goes bust](#), March 6, 2020.

³ New Mexico Legislative Finance Committee, [Legislating for Results: Policy and Performance Analysis](#), Report to the 54th Legislature, 2d Sess., Vol. 1, January 2020 for the 2021 Fiscal Year, p. 9.

year's fiscal challenges serve as a harsh warning of fiscal stresses to come if the state's heavy dependence on oil and gas revenues remains unchanged. Short-term fixes—including constricting the state budget in the hope of better years ahead—will not solve the long-term problem. New Mexico must take strong, expeditious action now to build a solid fiscal base rooted in the economic trends of today and tomorrow. It can no longer depend on the oil and gas revenues of the past. Energy market trends make it clear that those days will not return.

The Problem: New Mexico's Fiscal Vulnerability Due To Its Dependence on Oil and Gas Revenues Didn't Start With COVID-19 and Will Not End When the Pandemic Subsides

The oil and gas sector's financial problems predate the COVID-19 pandemic. It is true that COVID-19 lockdowns have curtailed oil and gas demand in the United States and abroad. The oil price wars between Saudi Arabia and Russia in early March 2020 only made things worse, as both countries flooded the market with crude oil, bringing already low prices crashing. But the price of oil had become a problem long before the recent disruptions occurred.

Despite booming production, the oil and gas industry has struggled financially for most of the past decade. While the pandemic and attendant oil market disarray have shone a spotlight on the industry's vulnerabilities, fundamental weaknesses were already present, and the economic fallout of COVID-19 will likely accelerate the sector's long-term woes.

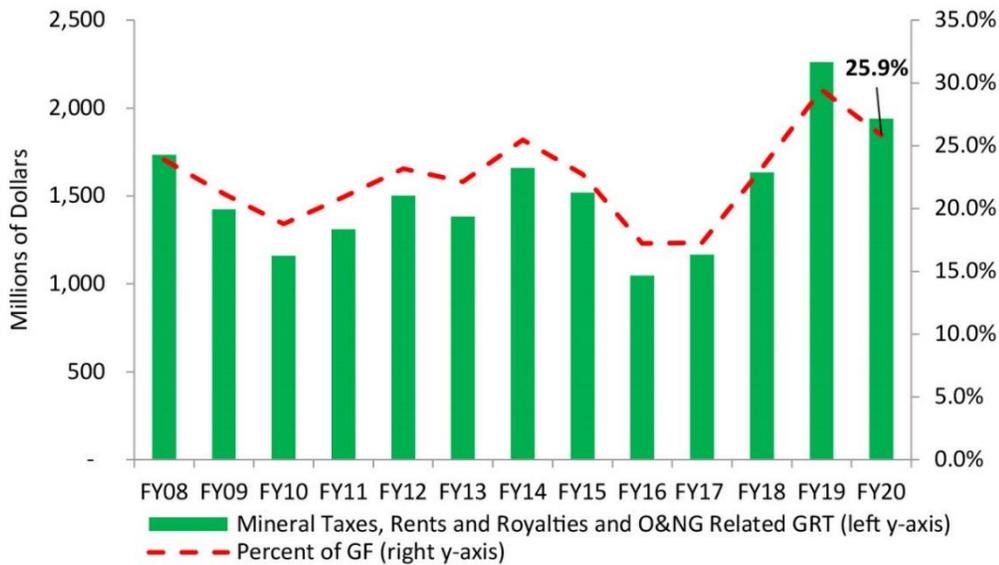
The Current Situation: Price Decline, Revenue Loss and Budget Impacts

New Mexico is heavily dependent on oil and gas revenues.⁴ Its original FY 2020 operating budget was \$7.1 billion, and 25.9 percent of the revenue in support of that budget came from oil and gas leases, royalties and taxes. Oil and gas revenue increases peaked in FY 2019, comprising more than 30 percent of the state's operating budget. Revenues in FY 2019 supported a 13 percent increase in spending from FY 2018, when the state had also benefited from previous increases in revenue. Budget experts had expected these robust results to continue through FY 2020 and beyond.⁵

⁴ New Mexico Legislative Finance Committee, [Legislating for Results: Policy and Performance Analysis](#), Vol. 1, January 2020, p. 1.

⁵ In June 2019 the New Mexico state auditor's economic outlook projected steady increases in oil prices for the next five years. New Mexico State Investment Council, [Report of Independent Auditors](#), June 2019, p. 13.

Figure 1: Relationship of Oil and Gas Revenues to Size of New Mexico's General Fund⁶



Source: New Mexico Department of Finance and Administration.

But in January 2020—just before the onset of the pandemic—the New Mexico Legislative Finance Committee issued a report expressing concern that recent revenue growth was unsustainable.⁷ The committee pointed to stock market declines in the oil and gas industry, the dominant industry supplying revenue to the state. Legislative analysts warned that drilling and production volumes were “expected to decline over the next few years.”⁸

The January report noted that FY 2019 oil and gas production had reached an unprecedented level of 300 million barrels. While growth was expected to continue, the report downgraded the outlook for production from an estimated 400 million barrels in 2020 to 360 million barrels in 2021 and 365 million barrels in 2022.⁹

It also noted that the associated revenue spikes were not sustainable, largely due to the historic problem of price volatility in global energy markets. Volatility, the report emphasized, was at the core of the problem for the state.¹⁰

Six months later, in the midst of the pandemic, the committee revised its assumptions. In a June 2020 memorandum, the committees concluded that declining oil and gas revenues had emerged as a substantial fiscal problem for the

⁶ New Mexico Department of Finance and Administration, *Budget in Brief*, FY 2020, p. 9

⁷ New Mexico Legislative Finance Committee, *Legislating for Results: Policy and Performance Analysis*, Vol. I, January 2020, p. 11.

⁸ *Ibid.*, p.9

⁹ *Ibid.*, p. 11.

¹⁰ *Ibid.*, p. 13

state, requiring reductions in both revenue projections and spending assumptions. The June memorandum summarized the problem facing the state as follows:

"IHS Markit and Moody's forecasts anticipate a prolonged period of low oil prices that has already led Permian basin oil producers to drastically cut investment plans and shut-in wells. This market contraction will be particularly detrimental to general fund revenues. Nearly 70 percent of revenue growth from FY18 to FY19 was tied directly or indirectly to growth in the oil and gas industry, and current low oil prices and associated drilling and production declines could eliminate a significant portion of recurring revenue for years to come.

Notably, even under an optimistic scenario of faster-than-expected recovery in employment and oil prices, FY22 revenues could still be about \$930 million below the December 2019 consensus revenue estimate. Under a pessimistic scenario of a prolonged recession and another collapse in oil prices, FY21 and FY22 recurring revenues could both come in about \$2.4 billion below the December 2019 estimate."¹¹

The June memorandum projected a decline in oil and gas production and revenue from December 2019 through FY 2022. It stated that:

"Low oil prices and declining production will significantly reduce severance tax revenues, federal royalty payments and GRT collections from drilling activity."¹²

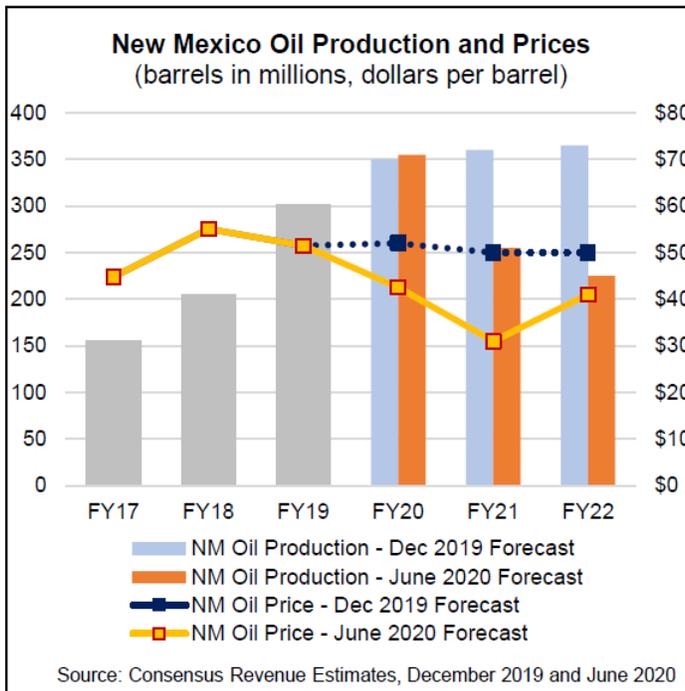
The revised estimate of production decline—from 350 million barrels in 2020 to 225 million barrels in 2022—represents a projected 36 percent decrease, with a projected 36 percent drop in prices for oil from \$70/bbl to \$45/bbl. The committee's September 2020 Consensus Revenue Estimate raised the production numbers through FY 2021 to a range of between 260 million and 320 million barrels.¹³

¹¹ New Mexico Legislative Finance Committee, [Consensus Forecasting Group – June 2020 Special Session Revenue Update](#), June 10, 2020.

¹² *Ibid.*

¹³ New Mexico Legislative Finance Committee, [General Fund Recurring Revenue Outlook](#), September 30, 2020 ("September 2020 Consensus Revenue Estimate"), p. 14.

Figure 2: New Mexico Oil Production and Prices¹⁴



Source: New Mexico Legislative Finance Committee.

The committee's January 2020 report had proposed policy interventions to address the historic problem of volatility in oil prices. The proposed interventions were designed to: 1) increased the transfer of surplus oil and gas revenues to a reserve fund; 2) improve decision-making on the use of surpluses; and 3) identify targeted one-time spending priorities.¹⁵ By June, however, it was abundantly clear that firmer action was needed.

In June, the New Mexico Legislature adopted severe spending reductions to adjust for declining revenues.¹⁶ The Legislature also adopted new revenue projections, based on expectations of sharp reductions in recurring revenues in FY 2021, followed by a slow recovery starting in FY 2022.

The Legislative Finance Committee's September Consensus Revenue Estimate showed that actual revenues for FY 2020 exceeded the June estimates by approximately \$500 million.¹⁷ This revenue improvement was driven for the most part by the impact of fiscal stimulus checks, unemployment benefits and the Paycheck Protection Program. Employment increases occurred in the retail, health

¹⁴ New Mexico Legislative Finance Committee, [General Fund Recurring Revenue Outlook](#), September 30, 2020 ("September 2020 Consensus Revenue Estimate"), p. 14. The percentage figure for FY 2020 was estimated by the New Mexico Department of Finance and Administration at the time that the "Budget in Brief" document was prepared.

¹⁵ New Mexico Legislative Finance Committee, [Legislating for Results: Policy and Performance Analysis](#), Vol. I, January 2020, p. 15.

¹⁶ New Mexico Legislature, Session Publications, [Post Session Review](#), July 1, 2020, pp. 1-3.

¹⁷ New Mexico Legislative Finance Committee, September 2020 Consensus Revenue Estimate.

and education sectors as the state recovered 29,000 jobs, after having lost 104,000 jobs in April.

The forecast nevertheless anticipates that the economy and fiscal condition of the state will remain stressed through the end of FY 2021. The improved picture put the new revenue estimate at between \$800 million and \$2.2 billion for FY 2021 and FY 2022, which is below the December 2019 estimate for those fiscal years. The New Mexico outlook remains unclear because of uncertainties with regard to the pace and extent of the economic recovery, the path of the pandemic, federal stimulus actions and oil and gas market recovery. Although oil prices have posted a modest recovery, the September Consensus Revenue Estimate projects that FY 2021 revenues will remain weak.

The newest forecast provides some improvement as New Mexico faces its upcoming budget discussion that starts in January 2021. The difficult fiscal conditions that the state faces, however, signal that New Mexico's leaders need to acknowledge and address the underlying economic changes in the state's oil and gas industry.

The Smokescreen: High Production Levels Have Obscured Fundamental Weaknesses in the Oil and Gas Industry in New Mexico

Over the past several years, record-setting oil production, robust tax revenues, and projections of oil price increases have become mainstays of annual state spending, increasing New Mexico's reliance on the oil and gas industry.¹⁸ These years of robust growth in New Mexico oil and gas output produced elevated revenue levels that masked the fiscal risks the state faces from sustained low oil prices. As recently as January 2020, state budget officials predicted another year of robust growth for the state's oil sector.

While the state's energy sector produced prodigious amounts of oil over the past several years, production is no indicator of profits, and ultimately presents a risk to New Mexico's public revenues. In fact, overproduction lies at the root of the oil industry's financial problems. Since at least 2014, the US shale industry flooded global markets with oil, lowering prices and triggering an unprecedented wave of value destruction across the energy sector.

Two charts that accompanied the New Mexico Legislative Finance Committee's January 2020 report identified a startling trend that was not addressed in the committee's policy analysis and discussion. The charts—entitled “Oil Prices and Volumes: FY 80-FY 19” and “Natural Gas Volumes and Prices FY80-FY19”—revealed that since 2014, oil and gas production had increased rapidly even as prices had declined dramatically. Oil production doubled and natural gas production rose as well—even as prices collapsed.¹⁹ The overall revenue picture for New Mexico's budget improved as a result of the increased leasing and production. To the degree

¹⁸ New Mexico State Investment Council, [Report of Independent Auditors](#), June 2019, p. 13.

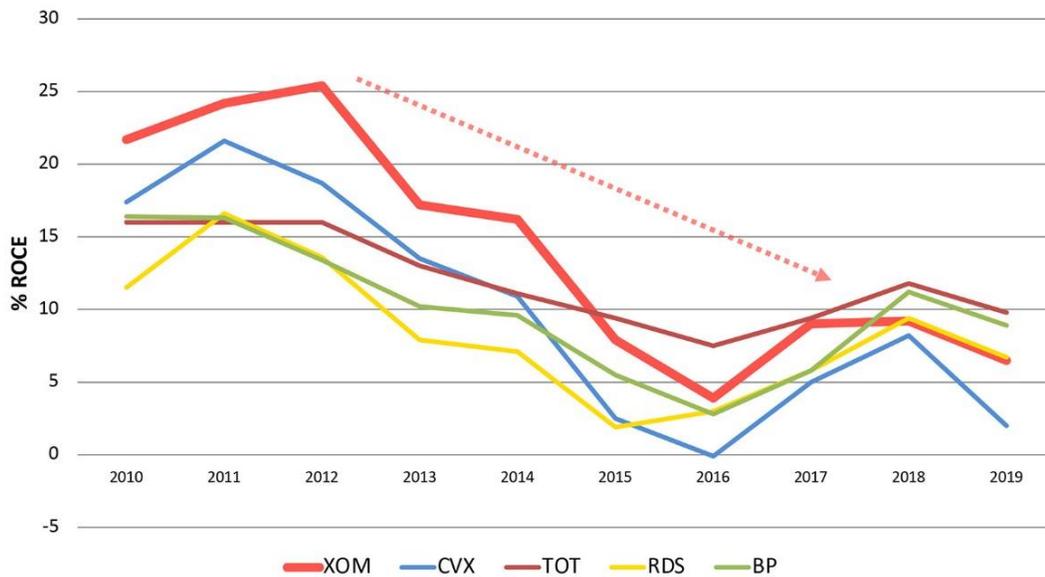
¹⁹ New Mexico Legislative Finance Committee, [Legislating for Results: Policy and Performance Analysis](#), Report to the 54th Legislature, Vol. III, January 2020 for the FY 2021, p. 16.

that budget analysts identified a problem, they seemed to perceive it as volatility rather than a fundamental weakness and long-term decline.²⁰

In short, while New Mexico posted record oil and gas revenues, the oil and gas industry itself was reporting steep losses.

Table VI shows that all of the top oil majors have faced declining profits for most of the past 10 years. ExxonMobil, for example, returned 25 percent to investors in 2012. In 2019 — prior to the pandemic — it returned only 6.5 percent on its capital employed.

Figure 3: Declining Annual Return on Capital Employed (Profits) for Five Oil Majors (2010-2019)²¹



Source: Company reports; IEEFA.

As long ago as December 2017, the Wall Street Journal carried a blunt article, “Wall Street Tells Frackers to Stop Counting Barrels, Start Making Profits.”²² The article

²⁰ When a major revenue source like oil and gas fluctuates dramatically from year to year, it creates imbalances in state revenue estimates and collections. As revenues rise, the demand for greater spending increases even if the oil and gas revenue increase is only temporary.

²¹ See discussion and documentation in IEEFA, [Leader to Laggard—ExxonMobil’s Financial Troubles Intensify](#), October 2020.

²² Wall Street Journal, [Wall Street tells frackers to stop counting barrels, start making profits](#), December 13, 2017. This article was one of many published by the Wall Street Journal on this issue. See [Frackers face harsh reality as Wall Street backs away: Key lifeline for smaller operators fades, as losses pile up and prospects dim for big investment returns](#), February 24, 2019 (“The once-powerful partnership between fracking companies and Wall Street is fraying as the industry struggles to attract investors after nearly a decade of losing money”); [Frackers, chasing fast oil output, are on a treadmill](#), April 8, 2019 (“In effect, frackers have jumped on a treadmill and ratcheted up the speed, becoming ever more dependent on new capital to keep oil production humming, even as Wall Street is becoming more skeptical of funding the industry”); [Frackers](#)

described how the rising production from unconventional drilling (“fracking”) had required significant influxes of capital investment. The problem was that oil and gas producers were not making profits. While many oil and gas producers promised that profits were just around the corner, they were in fact failing to meet financial expectations. Investors were seeing significant losses.

Oil and gas producers have known for decades about the tendency of the fracking production breakthrough and boom to oversupply the market and push prices down.²³ The prospects of massive new drilling opportunities to extract oil and gas from fields previously thought worthless drove growth in employment, tax revenue and local economic activity. But the proposition was always financially risky, and ultimately proved disastrous. Large capital outlays, rapid well decline rates and the tendency to overproduce eroded the value of the hydraulic fracturing technological breakthrough.

“That’s not how it is going to work in the future”

As a business model, this pattern of overproduction is unsustainable. Tim Leach, the CEO of Concho Resources, Inc. (CXO), recently observed that:

“For most of my career, we would reinvest all our cash flow and then show our success by how much we could grow our production. That’s how this industry worked for a long time. Well, that’s not how it’s going to work in the future.”²⁴

Indeed, the results of this business approach can be seen in the decline of the position of the oil and gas sector in the economy as a whole and in the structural decline in the oil and gas industry itself, resulting in a shift in market leadership.

The Reality: The Oil and Gas Industry Is in Long-Term Decline

Low Oil Prices: A Well-Established Pattern of Decline

New Mexico oil prices have been declining since 2014 even as production has continued to climb. Between 2010 and 2014, oil prices averaged \$86/bbl, but from 2015 to 2019, pre-pandemic prices dropped to an average of \$48/bbl, a decline of 44 percent.

[scrounge for cash as Wall Street closes doors](#), June 7, 2019 (“Fracking companies are feeling intense pressure from investors to live within their means after years of losing money”); [Frackers float ‘shale bonds’ as traditional investors flee](#), October 20, 2019 (“Desperate for cash, shale companies are trying to court investors with a new and potentially risky financial instrument that resembles mortgage bonds”); [Coronavirus delivers another blow to embattled shale drillers](#): Frackers already faced financial woes in 2020, even before the virus threatened oil demand, February 29, 2020 (“Shale drillers were already braced for a tough year. Now the new coronavirus is putting them under even greater financial pressure”).

²³ Daniel Yergin, *The New Map: Energy, Climate, and the Clash of Nations*, 2020.

²⁴ Seeking Alpha, [Concho Resources Inc. \(CXO\) CEO Tim Leach on Q2 2020 results—earnings call transcript](#), July 30, 2020, p. 9.

Table I: New Mexico²⁵ and WTI²⁶ Prices: Five Year Averages 2005-09, 2010-16 and 2015-19, and 2020 through September (\$/barrel)

Period	New Mexico Crude	West Texas Intermediate (WTI)
2005-2009	\$67.00	\$71.20
2010-2014	\$86.10	\$91.90
2015-2019	\$48.12	\$52.90
2020 thru September	\$34.80	\$38.00

Source: Energy Information Administration.

In early 2020 New Mexico fiscal planners were still projecting robust increases in annual oil production despite the economic slowdown and the oil industry's weakness. By mid-year 2020, with the onset of the coronavirus and the sharp demand decline, prices collapsed. New Mexico Crude averaged \$34.80/barrel through September.²⁷

Some price improvement is reasonably likely to occur. The September Consensus Revenue Estimate expects an increase in oil prices from its low June 2020 estimate of \$31/barrel, but only to \$37 to \$40 barrel through FY 2021.²⁸ In the longer term, WTI oil futures prices are projected to climb to \$50/bbl by 2028.²⁹ The Energy Information Administration Annual Energy Outlook supports a WTI price of \$68.00 by 2028. Neither projects a return to prices in an \$80/bbl price range, however, which suggests that production levels will not recover.

Clear Indicators: New Mexico Oil Producers and Industry Experts See a Fundamentally Weaker Oil and Gas Sector Going Forward

Several key indicators mark the decline of the position of the oil and gas sector in the economy:

- The oil and gas sector held 29 percent of the Standard & Poors 500 stock index in 1980.³⁰ It now commands only 2.1 percent.³¹ Once the world's financial powerhouse, the oil and gas industry now holds the smallest position of any sector in the stock market.³²

²⁵ Energy Information Administration, [New Mexico Crude Oil First Purchase Price](#), visited September 23, 2020.

²⁶ Energy Information Administration, [Cushing, Ok WTI Spot Price FOB](#), visited September 23, 2020.

²⁷ [September 2020 Consensus Revenue Estimate](#), p. 13.

²⁸ [September 2020 Consensus Revenue Estimate](#), p. 13.

²⁹ CME Group, [WTI West Texas Crude Oil Prices](#), visited September 23, 2020.

³⁰ Sibilis Research, [S&P 500 Sector Averages 1979 to 2020](#) (proprietary; available upon request).

³¹ S&P Index, [S&P 500 Index/Factsheet](#), September 30, 2020.

³² *Ibid.*

- For most of the past 10 years the energy sector lagged in the Standard and Poors index, and placed at or near the bottom of stock market performance (see Table 2 below).
- ExxonMobil, which does business in New Mexico under its XTO brand, hit an industry-leading high market capitalization of \$527 billion in 2007,³³ but today its market capitalization is less than \$150 billion.³⁴ By the end of this year, the company reports, it may write off one-fifth of its current reserves because they are no longer extractable.
- Seven of the top 10 companies listed in the Standard and Poor's Index once were oil and gas companies. None remain on the top ten list today. ExxonMobil, which had held a top ten position for 90 years, lost its position on that list in 2019.³⁵
- ExxonMobil also lost its position in the Dow Jones Industrial Average, a portfolio of leading industrial stocks, in 2020. The index had included ExxonMobil for almost a century.³⁶

The oil and gas industry is in a structural decline and is experiencing a shift in market leadership:

- Fundamental changes in the economy now support growth strategies that require less dependence on fossil fuels.
- Major oil and gas companies, like ExxonMobil,³⁷ acknowledge that economic growth will require less energy. Energy experts now discuss this insight as fact and chart corporate strategies to address the decoupling of economic growth from fossil fuel growth.³⁸
- The combined impacts of broad changes in production, technology, business models, finance, competition, profits, and global political relations, as well as climate change, have disrupted the institutional alignments that once maintained the oil and gas sector at the top of world financial and energy markets.
- Today, a cumulative set of financial conditions beset the industry—its short-

³³ Macrotrends, [Exxon Market Cap](#), visited September 25, 2020.

³⁴ YahooFinance, [ExxonMobil Corporation \(XOM\)](#), visited October 9, 2020.

³⁵ Bloomberg, [Exxon poised to drop from S&P 500's top ten for first time ever](#), August 30, 2019.

³⁶ WorldOil, [ExxonMobil exits exclusive Dow Jones industrial average club as focus shifts to tech firms](#), August 24, 2020.

³⁷ ExxonMobil's annual Energy Outlook charts worldwide growth of GDP through 2040, with a declining amount of BTU's per unit of GDP as part of that growth trajectory. The trend is evident in every region of the world at varying levels. See ExxonMobil, [2019 Outlook for Energy](#), August 28, 2019, p. 53.

³⁸McKinsey, [The Decoupling of GDP and Energy Growth: A CEO Guide](#), April 24, 2019.

term cash positions have deteriorated,³⁹ asset sales and consolidation transactions are distressed and the outlook is largely negative.

- Financial market leadership is now coming from new sectors in formation and older sectors in transformation. The oil and gas sector has been displaced as a financial leader.

Table 2: Standard & Poor's 500 Sector Performance (2011 to the Present)⁴⁰

2011	2012	2013	2014	2015	2016	2017	2018	2019	1H '20
UTIL 19.9%	FINL 28.8%	COND 43.1%	REAL 30.2%	COND 10.1%	ENRS 27.4%	INFT 38.8%	HLTH 6.5%	INFT 50.3%	INFT 15.0%
CONS 14.0%	COND 23.9%	HLTH 41.5%	UTIL 29.0%	HLTH 6.9%	TELS 23.5%	MATR 23.8%	UTIL 4.1%	TELS 32.7%	COND 7.2%
HLTH 12.7%	REAL 19.7%	INDU 40.7%	HLTH 25.3%	CONS 6.6%	FINL 22.8%	COND 23.0%	COND 0.8%	FINL 32.1%	TELS -0.3%
REAL 11.4%	TELS 18.3%	FINL 35.6%	INFT 20.1%	INFT 5.9%	INDU 18.9%	FINL 22.2%	INFT -0.3%	S&P 31.5%	HLTH -0.8%
TELS 6.3%	HLTH 17.9%	S&P 32.4%	CONS 16.0%	REAL 4.7%	MATR 16.7%	HLTH 22.1%	REAL -2.2%	INDU 29.4%	S&P -3.1%
COND 6.1%	S&P 16.0%	INFT 28.4%	FINL 15.2%	TELS 3.4%	UTIL 16.3%	S&P 21.8%	S&P -4.4%	REAL 29.0%	CONS -5.7%
ENRS 4.7%	INDU 15.4%	CONS 26.1%	S&P 13.7%	S&P 1.4%	INFT 13.9%	INDU 21.0%	CONS -8.4%	COND 27.9%	MATR -6.9%
INFT 2.4%	MATR 15.0%	MATR 25.6%	INDU 9.8%	FINL -1.5%	S&P 12.0%	CONS 13.5%	TELS -12.5%	CONS 27.6%	REAL -8.5%
S&P 2.1%	INFT 14.8%	ENRS 25.1%	COND 9.7%	INDU -2.5%	COND 6.0%	UTIL 12.1%	FINL -13.0%	UTIL 26.4%	UTIL -11.1%
INDU -0.6%	CONS 10.8%	UTIL 13.2%	MATR 6.9%	UTIL -4.8%	CONS 5.4%	REAL 10.9%	INDU -13.3%	MATR 24.6%	INDU -14.6%
MATR -9.6%	ENRS 4.6%	TELS 11.5%	TELS 3.0%	MATR -8.4%	REAL 3.4%	ENRS -1.0%	MATR -14.7%	HLTH 20.8%	FINL -23.6%
FINL -17.1%	UTIL 1.3%	REAL 1.6%	ENRS -7.8%	ENRS -21.1%	HLTH -2.7%	TELS -1.3%	ENRS -18.1%	ENRS 11.8%	ENRS -35.3%

Source: Novel Investor; IEEFA calculations.

From some of the largest oil and gas producers in New Mexico to the analysts at the U.S. Energy Information Administration, a consensus has emerged that the robust oil and gas markets of the recent past will not be the future.

“An economic disaster”

Scott Sheffield, the Chief Executive Officer of Pioneer Natural Resources, which operates in Lea County, N.M., urged a Texas agency in 2019 to curb excessively high oil production levels because they were wreaking financial havoc on the industry.

He stated:

³⁹ IEEFA, [Living Beyond Their Means: Cash Flows of Five Oil Majors Can't Cover Dividends, Buybacks](#), January 16, 2020.

⁴⁰ Novel Investor, [2020: First Half Returns](#), July 3, 2020 (IEEFA adjusted chart to cover last ten years).

"It has been an economic disaster, especially the last 10 years. Nobody wants to give us capital because we have all destroyed capital and created economic waste."

Sheffield warned that if the government did not curb excess oil production, "we will disappear as an industry, like the coal industry."⁴¹

The problems were here "even before the current market turbulence."

The U.S. Energy Information Administration reports that:

"The oil and natural gas industry was already headed toward relying on capital from cash flow instead of debt and equity, and it was capital constrained even before the current market turbulence. The current economic downturn has accelerated and exacerbated this trend, leaving producers much more dependent on internal sources of capital because outside sources are less available or may require higher rates of return."⁴²

"...we don't think we'll ever really get back to the 12.8 million barrels per day before the pandemic."

Bill Thomas, the Chief Executive Officer of EOG Resources, a top operator in New Mexico, stated during an online Barclays CEO-Power conference in 2020, "We don't believe yet that the U.S. will grow year-over-year for years to come. Certainly, we don't think we'll ever really get back to the 12.8 million barrels per day before the pandemic."⁴³

Tim Leach, the Chief Executive Officer of Concho Resources, Inc., another top operator in New Mexico, stated with regard to the company's first-quarter losses, "The operating environment has changed considerably since our last update, and we expect a sustained period of low commodity prices."⁴⁴

During the company's second-quarter earnings call, he amplified this concern, stating that "the second quarter was maybe the worst quarter we've ever had as an industry, as far as the oil price movement."⁴⁵ He added that:

"[A]s consolidation takes place and the major producers get their shops in order, I think everybody is going to have to be more aware of supply and demand fundamentals in the world."⁴⁶

⁴¹ Texas Monthly, [The "mother fracker" reckons with the mother of all oil busts](#), July 2020.

⁴² U.S. Energy Information Administration, [Trends and Expectations Surrounding the Outlook for Energy Markets](#), August 2020, p. 12.

⁴³ Seeking Alpha, [EOG CEO sees U.S. oil output continuing to decline for years](#), September 9, 2020.

⁴⁴ Reuters, [Shale producer Concho takes \\$12.6 billion charge, cuts 2020 spending again](#), April 30, 2020.

⁴⁵ Seeking Alpha, [Concho Resources Inc. \(CXO\) CEO Tim Leach on Q2 2020 results—earnings call transcript](#), July 30, 2020, p. 6.

⁴⁶ *Ibid.*, p. 9.

“We don't envision returning rigs to the Permian Basin unless oil prices recover well into the \$50s.”

A dearth of capital stands to make the Permian—where fracking operations require substantial capital investment—a less attractive area for operations.

John Christmann, President and Chief Executive Officer of Apache, explained during the company's second-quarter earnings call that:

“[W]hile our Permian operations have been delivering highly competitive economics within the basin, other areas within our portfolio offer more attractive investment options in a capital-constrained environment. Therefore, we don't envision returning rigs to the Permian Basin unless oil prices recover well into the \$50s.”⁴⁷

He also cautioned that, “If oil prices rise above \$50, we will be very measured with our capital increases, and the first column, that incremental free cash flow, will be returned to investors initially with debt reduction.”⁴⁸

Tim Leach, the Concho Resources chief executive, commented during the company's second-quarter earnings conference call that:

“Private equity seems to be closed, public equities closed, the debt markets are tougher. So, I think that is a key signal. And I think there will not be as much sloppiness in the future as there has been in the past.”⁴⁹

“International demand for LNG is highly uncertain both in the medium and long term and was even before the effects of COVID-19 containment measures.”

While some may look to liquefied natural gas (LNG) exports as a solution to domestic gas market uncertainty, the U.S. Energy Information Administration's in-depth examination of market trends released in August reported that “International demand for LNG is highly uncertain both in the medium and long term and was even before the effects of COVID-19 containment measures.”⁵⁰

Oversupply, Reduced Investment, and Profit Decline Will Likely Continue for the Foreseeable Future

The economic factors that have driven oversupply in the oil and gas markets for several years⁵¹ are increases in capacity and production from hydrofracking in the United States and the expansion of the number and types of oil producers, including

⁴⁷ The Motley Fool, [Apache \(APA\) Q2 2020 earnings call transcript](#), July 30, 2020.

⁴⁸ *Ibid.*

⁴⁹ Seeking Alpha, [Concho Resources Inc. \(CXO\) CEO Tim Leach on Q2 2020 results](#), July 30, 2020, p. 10.

⁵⁰ U.S. Energy Information Administration, [Trends and Expectations Surrounding the Outlook for Energy Markets](#), August 2020, p. 13.

⁵¹ Oilman Magazine, [Petroleum markets react to oversupply](#), July 8, 2020.

in Russia and Canada.

Those same dynamics that drove oversupply before the pandemic still persist, and the urgent need for cash by oil-producing nations and private companies has accelerated them.

Temporary cutbacks in supply may occur as private producers slash capital spending to preserve cash and OPEC enforces production agreements. As prices rise, however, cash-strapped producers immediately flood the market again and drive down prices. This cycle leads to a persistent risk of oversupply and is the chief determinant of the long-term lower price scenarios amplified by oil companies, state-owned operations and oil forecasters.

Current industry-wide reductions in new capital expenditures (“capex”) portend a slowdown in future production. Announcements in the wake of the pandemic amounted to \$85 billion in capex reductions among large integrated oil and gas, independent, midstream, oil services and national oil companies.⁵²

The deleterious impact of these trends on corporate profitability has been evident in shareholder dividend payments for nearly a decade. IEEFA in early 2020 scrutinized financials of the five largest publicly traded oil and gas companies—ExxonMobil, BP, Chevron, Total and Royal Dutch Shell—and found that since 2010, the companies have been funding their shareholder dividends by using stopgap asset sales and new long-term debt to bridge chronic shortfalls. In other words, they have failed to generate enough cash from their primary business of selling oil, gas, refined products and petrochemicals to cover payments to shareholders.⁵³

An IEEFA analysis of the second quarter of 2020 finds that the five supermajors—ExxonMobil, Royal Dutch Shell (Shell), BP, Chevron, and Total—collectively paid \$16.9 billion more to shareholders than they generated from their core business operations, plugging the gap with borrowing and asset sales. The supermajors also continued a trend of downgrading the value of their assets during the quarter. Shell wrote down \$16.8 billion in assets; BP, \$11.7 billion; Total, \$8.1 billion; and Chevron \$4.8 billion.⁵⁴

Large oil and gas companies like ExxonMobil are recognizing that the future of their companies is smaller, with less global reach.⁵⁵ ExxonMobil announced last month that if prices remain stagnant for the rest of the year, it could end up writing off 20 percent of its worldwide assets. In anticipation of lower profits and less investment

⁵² Offshore, [Capex cuts reach more than \\$85 billion](#), March 31, 2020.

⁵³ IEEFA, [Living Beyond Their Means: Cash flows of five oil majors can't cover dividends, buybacks](#), January 2020.

⁵⁴ IEEFA, [IEEFA Brief: Second quarter results show that shareholder dividends pushed oil supermajors deep into red](#), August 25, 2020.

⁵⁵ Reuters, [Exxon downsizes global empire as Wall Street worries about dividend](#), September 15, 2020.

in oil and gas projects, major oil interests are writing down their oil and gas inventories.⁵⁶

While oil prices edged up this summer after plummeting to negative numbers in the spring, those recent increases will not be enough to restore financial strength to the industry. A robust recovery would require not only an oil price of at least \$80/bbl for several years but improvements on other fronts as well. Those improved conditions include a robust market for existing reserves; declining debt levels and upgraded credit rating; debt used to create revenue-producing assets; a cessation of bankruptcies; fiscal stability of state-owned enterprises and access to rising energy demand unfettered by competitors. This combined scenario is unlikely to occur.⁵⁷

The Outlook: Energy Market Forces Will Continue To Slow the Rate of Demand Growth for Oil and Gas

The markets for most oil and gas products are weakening, causing the rate of growth in demand for oil and gas to drop. BP's *Statistical Review of World Energy 2020*, which analyzed pre-pandemic trends, reports that primary energy consumption, globally, rose by 1.3 percent globally in 2019, which was less than half of the 2.8 percent growth seen in 2018 and was lower than the 10-year average of 1.6 percent. More importantly, the biggest driver of this growth—contributing 41 percent to the total increase in energy demand—was renewable energy.⁵⁸

The Energy Information Administration's *Annual Energy Outlook 2020* projects that U.S. energy consumption will grow more slowly than gross domestic product (GDP) through 2050 as energy intensity (the amount of energy used in producing one dollar of GDP) continues its decades-long trend of decline through the forecast period. In the report's "reference case," total U.S. energy consumption increases at an average annual rate of 0.3 percent from 2019 to 2050, while the GDP annual growth rate will be six times higher, increasing at an annual rate of 1.9 percent. This indicates a 1.5 percent average annual decline in energy intensity during the forecast period. EIA also predicts that by 2050, the domestic energy consumption associated with each dollar of U.S. economic growth will be less than half of what it was in 2005.⁵⁹

⁵⁶ JDSupra, [2020 oil and gas impairments: what's behind the numbers](#), February 14, 2020.

⁵⁷ See IEEFA, [Flaring burns Texas Economy: Commission's failure to stop waste runs risk of letting the state's financial future go off the rails](#), June 2020.

⁵⁸ BP, *Statistical Review of World Energy 2020*, June 2020, p. 4.

⁵⁹ Energy Information Administration, *Annual Energy Outlook 2020*, January 29, 2020. Also see EIA [projects U.S. energy intensity to continue declining, but at a slower rate](#), February 20, 2020.

Competition From Alternative Energy Use in Electricity and Transportation Challenges Fossil Fuel Producers' Long-term Growth Projections—and Investment in Petrochemical Products Entails Market Risks

Several fast-growing sectors of the economy are now in competition for market share with slower-growing oil and gas products, and investors are paying attention. S&P Global Ratings Managing Director Tom Watters reported during a recent event that he was seeing “a massive sea change in how investors are looking at this industry going forward,”⁶⁰ noting investor concerns about profitability in the oil and gas sector.” He said:

“Investors have gotten pretty fed up with this...They’re looking for more stability, and they want to see a greater percentage of capex budgets being spent into renewables.”

Vehicular demand for gasoline, which is the largest end-use market for oil, can reasonably be expected to decline for three reasons—improved fuel efficiency,⁶¹ a likely overall increase over pre-pandemic levels in working and shopping from home,⁶² and competition from electric vehicles on which, the Wall Street Journal reports, investors are “increasingly placing bets.”⁶³

While the electric vehicle share of total passenger vehicle sales globally was only 2.7 percent in 2019, a new Bloomberg NEF report predicts that this share will rise to 10 percent by 2025, and to 28 percent by 2030. The report projects that more than half of all passenger vehicle sales will be electric vehicles by 2040. It predicts that oil demand from passenger vehicles will never recover to 2019 levels, and that growth in heavy commercial vehicles will keep international road transport demand for oil growing only until 2031, while road transport oil demand in the U.S. and Europe has already peaked.⁶⁴

⁶⁰ S&P Global Market Intelligence, [Oil, gas companies must transform to succeed in post-pandemic market – S&P panel](#), October 6, 2020.

⁶¹ Fuel efficiency continues to improve. The U.S. Environmental Protection Agency reports that in model year 2018, fuel economy increased by 0.2 miles per gallon to 25.1 mpg, achieving a record high. Fuel economy in 2019 is projected to increase 0.4 mpg to 25.5 mpg. As old cars “turn over,” these newer cars’ fuel-savings will have a greater and greater downward influence on oil demand. U.S. Environmental Protection Agency, [Automotive Trends Report 2019](#), March 2020.

⁶² KPMG, LLP, predicts that the pandemic-precipitated trends of more people working and shopping from home “will continue – and could cut U.S. annual VMT [vehicle miles traveled] by up to 270 billion miles.” It predicts that 10-20 percent of workers will continue to work from home after the pandemic subsides, while shopping trips will decline from pre-pandemic levels by 10-30 percent. KPMG, LLP, [Automotive’s New Reality: Fewer trips, fewer miles, fewer cars?](#), July 2020. The oil and gas industry itself reportedly found that telecommuting is resulting in productivity increases, according to a report by Deloitte Insights. S&P Global Market Intelligence, [70% of oil, gas jobs lost this year might not return by end of ’21](#), October 6, 2020.

⁶³ Wall Street Journal, [Auto makers charge ahead with electric vehicle plans](#), July 19, 2020.

⁶⁴ Bloomberg NEF, [Electric Vehicle Outlook 2020](#). New Mexico, among other states, has a climate change policy to expand adoption of low emission and electric vehicles. Gov. Michelle Lujan

The impact of the pandemic on transportation fuel demand has been most severe for jet fuel, and the outlook for jet fuel sales over the long term is uncertain.⁶⁵ Business travel in particular, may see a permanent impact as people become more accustomed to virtual meetings. While short term sales remain low based largely on the pandemic and travel restrictions, the full long-term effects of the pandemic on new patterns in business and personal travel are yet to be measured.⁶⁶ Also, corporate policies are shifting toward alternatives to jet fuel. Several airlines have officially committed to a goal of net zero carbon emissions by 2050. The first was British Airways, which in 2019 announced plans to invest in sustainable fuel, make use of carbon offsets, and replace older aircraft with more efficient jets.⁶⁷ Since then, 13 airlines have committed to achieve net zero carbon emissions by 2050.⁶⁸ Qantas announced in November 2019 that it would cap its carbon emissions at 2020 levels and plans to invest \$50 million over 10 years to help develop sustainable fuels.⁶⁹ More recently, Finnair announced that it plans to achieve net zero carbon emissions by 2045.⁷⁰

IHS Markit has stated that the use of wind and solar energy for electricity generation, together with energy efficiency, is likely to result in diminished demand for natural gas as the economy begins to recover from the pandemic.⁷¹ Recent IEEFA research shows renewable energy gaining market share at the expense of natural gas in several states⁷² Similarly, recent cancellations of gas pipeline projects indicate a slowdown in the growth of natural gas use for home heating, while alternative energy and energy efficiency strategies for home heating are on the rise.⁷³

This competitive trend in electricity has become so compelling that several major utilities and energy planners have rejected natural gas as a “bridge fuel” and moved straight from coal or oil to renewables and energy efficiency. IEEFA notes that in June 2020, utilities in Arizona, Colorado and Florida announced plans to close one or more of their coal plants and build new renewable energy facilities—without adding any new gas-fired generation to serve as a “bridge.”⁷⁴ This is consistent with choices

Grisham, [Executive Order 2019-003: Addressing Climate Change and Energy Waste Prevention](#), January 29, 2019.

⁶⁵ S&P Global (Platts), [COVID-19 puts brakes on oil demand, jet fuel recovery to lag](#) – Vitol execs, September 14, 2020.

⁶⁶ ICIS, [U.S. jet fuel recovery uncertain as demand hits unprecedented lows](#), May 12, 2020.

⁶⁷ British Airways, [Press Release: British Airways to offset carbon emissions on flights within the UK from 2020](#), October 10, 2019.

⁶⁸ Business Traveller, [Oneworld member airlines commit to net zero carbon emissions by 2050](#), September 14, 2020. These airlines include American Airlines, British Airways, Cathay Pacific Airways, Finnair, Iberia, Japan Airlines, Malaysia Airlines, Qantas, Qatar Airways, Royal Air Maroc, Royal Jordanian, S7 Airlines and SriLankan Airlines.

⁶⁹ Qantas, [Press Release: Qantas Group to slash carbon emissions](#), November 11, 2019.

⁷⁰ Reuters, [Finnair steps up efforts to be carbon neutral by 2045](#), March 5, 2020.

⁷¹ National Journal, [Coronavirus crisis could fuel move to renewable energy](#), October 11, 2020.

⁷² IEEFA, [U.S. utilities are now skipping the gas bridge in transition from coal to renewables](#), July 1, 2020.

⁷³ IEEFA, [Three major pipelines are scrapped in short order](#), July 2020.

⁷⁴ IEEFA, [IEEFA U.S.: Utilities are now skipping the gas bridge in transition from coal to renewables](#), July 1, 2020. A month later, the New Mexico Public Regulation Commission (NM PRC)

made in previous years in New York and Indiana.⁷⁵ Globally, the growth in consumption of natural gas in 2019 averaged two percent, which was below the 10-year average and a sharp drop from the 5.3 percent growth of 2018.⁷⁶ Renewable energy can reasonably be expected to make greater inroads going forward.⁷⁷

The potential for petrochemical products to offset this loss of market share is weak. IEEFA recently found that plastics prices have fallen 40 percent over the last decade. IEEFA also found that oversupply from the present global industry-wide petrochemical industry buildout is likely to drive prices—and revenues—further down.⁷⁸

The oil and gas industry's market share of the plastics sector also faces the prospect of increased competition from recycled materials. McKinsey, which has outlined the trajectory of future demand for plastics (produced from natural gas products) in recent reports, sees worldwide plastics demand rising by five percent annually, but only a 1 percent rise in the demand for virgin plastics. McKinsey sees recycled plastics accounting for most of the growth in the plastics market through 2030. Recently, major corporations that utilize plastics have announced support for long term efforts to incentivize the recycling market.⁷⁹

Private and Government-Owned Oil and Gas Enterprises Are Locked in a Competitive Downward Spiral of Overproduction and Declining Prices

Diverging interests among oil and gas producers has resulted in a breakdown of market discipline, creating a market dynamic toward oversupply for which no solution has emerged.⁸⁰ During past periods of expansion, oil and gas interests worked together as annual economic growth rates papered over differences. As

approved a plan replacing energy from the San Juan Generating Station with 100% renewable resources, rather than a plan that would have apportioned some of the generation to natural gas. See NM PRC, [Minutes of Open Meeting, July 29, 2020](#); and Farmington Daily Times, [San Juan Generating Station renewable energy plan gets approval from PRC, July 29, 2020](#).

⁷⁵ The Long Island Power Authority ("LIPA") [determined in its 2017 Integrated Resource Plan](#) that "energy efficiency, net-metering, feed-in-tariffs, the decoupling of economic growth and energy use, and lower econometric growth projections" had reduced demand such that it scrapped its 2010 plan to build gas-fired power plants and instead would invest in energy demand management, renewable energy and other systems to address its needs through 2035. Similarly, the Northern Indiana Public Service Company ("NIPSCO") announced in its [Integrated Resource Plan](#) in November 2018 that it was phasing out its coal-fired electrical plants, replacing them with energy efficiency and renewables.

⁷⁶ BP, [Statistical Review of World Energy 2020](#), June 2020, p. 6.

⁷⁷ IEEFA recently identified three forces driving the expansion of wind power nationally, including record-breaking increases in wind generation in Texas: Rising corporate demand (including from corporate giants such as Walmart, AT&T, Facebook, Google and Kimberly Clark); growing investor interest; and strong bipartisan political support. IEEFA, [As Oil and Gas Wane, Texas Wind Industry Ascends](#), August 2020.

⁷⁸ IEEFA, [Proposed PTTGC Petrochemical Complex in Ohio Faces Significant Risks](#), March 2020.

⁷⁹ [Plastics News, U.S. Plastics Pact targets big growth in recycling, September 7, 2020](#).

⁸⁰ [CNBC, Pioneer Natural Resources CEO warns independent oil companies could go bankrupt if production continues amid coronavirus, March 26, 2020](#).

decline has set in, however, new interests have emerged and old alliances have broken down. State-owned operations⁸¹ are now in conflict, where OPEC cooperation could previously have been assumed. Competition in the oil and gas sector between oil majors, and between large producers and independents, has resulted in political fragmentation.

Recent price wars show that political conflict is likely to drive production strategies based on national interests and local political needs. This threatens to destabilize market balance, even as such strategies result in financial distress for those involved. New political alignments are occurring in the industry, and where OPEC once governed successfully, its relative demise is being filled by an uneasy dynamic among the U.S., Saudi Arabia and Russia.⁸²

Popular Opposition To Fossil Fuels Based on Environmental and Climate Concerns Is Spurring New Policies That Curb Demand and Limit Supply.

New Mexico's fiscal distress is taking place at a time when popular concern over climate change and fossil fuel use is rising. Citizen and governmental actions create further risk for long-term development of oil and gas reserves. The risk to New Mexico is that short-term market and climate concerns are combining to further depress global prices and demand for fossil fuels. Longer-term institutional changes regarding the use of fossil fuels may diminish or eliminate the value proposition that rising prices and production will continue to support the state's budget with robust contributions.

This is not a future risk, but rather a part of the current landscape of oil and gas investing. Its origins are in pre-pandemic market forces. The pandemic has only accelerated value deterioration. For financial (discussed above) and climate-related reasons, oil and gas projects are being abandoned,⁸³ postponed, delayed,⁸⁴ written off,⁸⁵ and sold at distressed prices.⁸⁶ Many of those that are moving forward do so facing diminished profit potential.⁸⁷

Popular concern over climate change has moved from a debate over the scientific validity that human actions are both a cause of, and can mitigate, the adverse effects of carbon emissions on the planet to discussions of the latest climate-related catastrophic events. More and more intense hurricanes and forest fires are causing

⁸¹ NSEnergybusiness.com, [Major state-owned oil and gas companies in the world](#), March 29, 2019.

⁸² For a contemporary discussion of changing political dynamics see: Daniel Yergin, *supra*.

⁸³ Reuters, [Teck drops C20.6 billion oil sands frontier project to take writedown](#), February 23, 2020.

⁸⁴ S&P Global, [Argentina's fracking activity in Vaca Muerta slowed to zero in April](#), May 5, 2020

⁸⁵ Wall Street Journal, [Big oil writedowns](#), January 8, 2020.

⁸⁶ World Oil, [Shell sells Appalachia assets to National Fuel for \\$541 million](#), May 4, 2020.

⁸⁷ Inside Climate News, [Market headwinds buffet Appalachia's future as a center for petrochemicals](#), March 21, 2020.

the loss of human life, destruction of property and disruption of communities as well as the economies they support.

Popular concern over climate change is a material risk⁸⁸ that must be part of any calculation of the viability of long-term reliance on oil and gas revenues.⁸⁹

- The concern over climate change is **permanent**—and is increasingly driven by events that show the power and force of its destructive path.
- Efforts to further articulate the problem and compel more discussion of alternative policies and investments are **resourced by public and private policy and investment**. The Paris Agreement remains an important focus of policy and discourse as advocates urge countries to meet its goals.⁹⁰ Policy responses that curtail investment in fossil fuel use have produced a steady stream of corporate,⁹¹ investor⁹² and government plans and implementation schedules. Corporate, governmental and private philanthropic investments continue to develop initiatives that are practical in reducing emissions and mitigating destruction and consensus projecting as new markets and organizations form to spur solutions.⁹³
- Leaders in the climate change movement are **skilled**. They have developed increasingly sophisticated responses to the oil and gas sector's development plans⁹⁴ using financial, legal and public participation opportunities to exert influential pressure at the policy level. These efforts are creating new venues at financial institutions, governmental entities, company boards, new market formations and community organizations.
- Work to mitigate climate change is further validated by the negative financial performance of the oil and gas industry. Each new story of financial disarray brings further evidence of a loss in the industry's attractiveness,⁹⁵

⁸⁸ IEEFA and Oil Change International, [Material Risks: How public accountability is slowing tar sands development](#), October 29, 2014.

⁸⁹ See, Moody's Investors Service, [Shifting environmental agendas raise long-term credit risk for natural gas investments](#), September 30, 2020; Energy Wire, [Pipeline, CO2 fights could cut gas use for decades—report](#), October 2, 2020.

⁹⁰ The Guardian, [Paris climate deal: World not on track to meet goal amid continuous emissions](#), December 4, 2019.

⁹¹ [United Nations Global Compact: Uniting Business and Governments to Recover Better](#), May 18, 2020.

⁹² S&P Global, [Wave of institutional divestment from coal mining generation develops in 2019](#), December 20, 2019.

⁹³ Philanthropy News Digest, [Philanthropies pledge 4 billion to combat climate change](#), September 2017.

⁹⁴ U.S. Chamber of Commerce, [Analysis demonstrates massive costs of keep it in the ground anti energy movement](#). Also see IEEFA, [IEEFA Response to Chamber of Commerce KIITG Movement Analysis](#), February 2019.

⁹⁵ Rigzone, [Oil has a millennial problem](#), August 2, 2019.

size,⁹⁶ value,⁹⁷ and political power. The loss of market confidence in fossil fuels is amplified as energy stock prices plummet at the same time the global economy continues to expand.

- Climate change efforts are also empowered by the growth in policy consensus regarding—and concomitant rising levels of capital allocation to—renewable energy,⁹⁸ energy efficiency,⁹⁹ alternative transportation¹⁰⁰ and recycling.¹⁰¹

The combination of climate change events, financial decline and the growth of a permanent, institutional challenge to the fossil fuel sector have altered traditional concepts of financial, political and regulatory risk.¹⁰² Last year BlackRock, one of the world's leading investment houses, made headlines by positing a simple idea: Sustainable investing improved financial performance. It marked a substantial change from the market's long-term perspective that sustainable investing impairs financial performance.¹⁰³

What New Mexico's Budgetary Situation Has in Common With Norway's—and How Norway Is Pivoting To Address the Coming Decline in Oil and Gas Revenues

The Norwegian experience has particular relevance for New Mexico. The oil and gas industry provides approximately 25 percent of the revenues for Norway's national budget and comprises roughly 25 percent of the country's Gross Domestic Product (GDP).

After having relied heavily for 40 years on oil and gas revenues, however, the government of Norway is now projecting structural budget deficits through 2060. Acknowledging the slower growth in revenues from oil and gas sales, it is making adjustments to fiscal and economic policy to respond to the shifting circumstances. Its 2020 Budget Summary states:

"In recent years, fiscal policy has entered a new phase. The era of large increases in petroleum revenue spending since the fiscal rule was introduced in 2001 is coming to an end. Petroleum revenue spending as a share of mainland

⁹⁶ S&P Global, [Interactive Infographic: Fossil fuels shrinking share of global energy mix after 2020 shock](#), June 23, 2020.

⁹⁷ Independent, [Oil companies wipe \\$87bn off value of fossil fuel reserves as demand plunges during pandemic](#), Ben Chapman, August 18, 2020.

⁹⁸ Statista, [Value of investments in renewable energy in the U.S. from 2004 to 2019](#) (visited October 7, 2020).

⁹⁹ McKinsey, [Energy Efficiency: A Compelling Global Resource](#), 2010.

¹⁰⁰ Reuters, [Global carmakers to invest at least 90 billion in electric vehicles](#), January 15, 2018.

¹⁰¹ Environment & Energy Leader, [The Coca Cola Company Invests in Enhanced Recycling Technologies](#), December 2018.

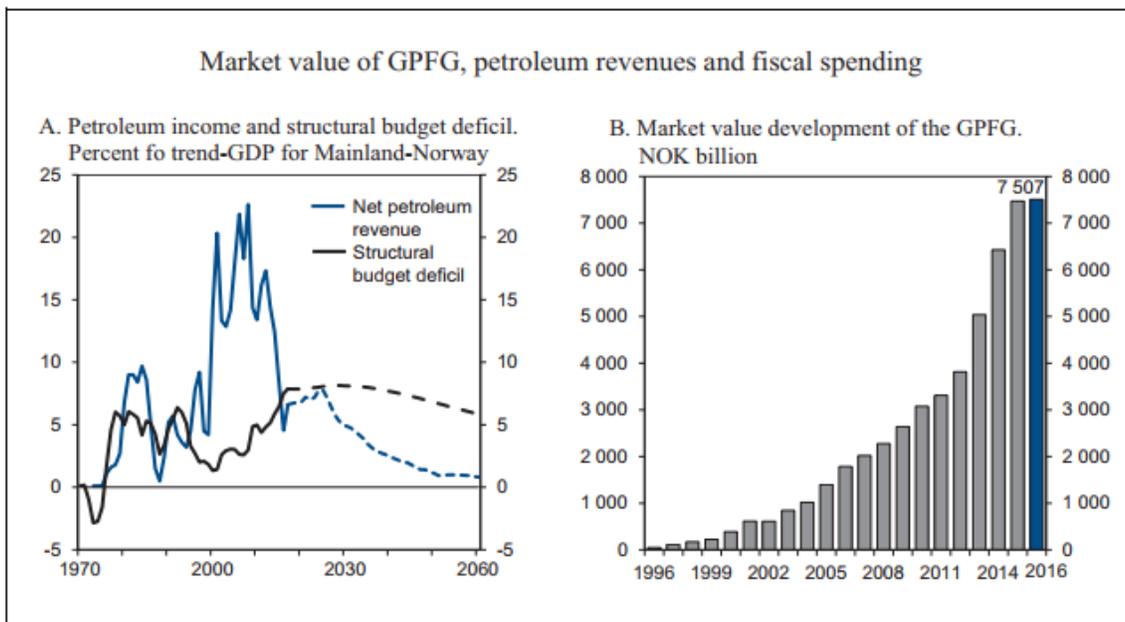
¹⁰² See Moody's Investor Service, [Shifting environmental agendas raise long-term credit risk for natural gas investment](#), September 30, 2020.

¹⁰³ New York Times, [Blackrock CEO Larry Fink: Climate crisis will reshape finance](#), January 14, 2020.

GDP has been kept rather stable in the last few years. Going forward, growth in the Government Pension Fund Global (GPF) is expected to slow. Petroleum revenues will gradually start to decline, and in a decade from now the revenue from the Fund as a share of mainland GDP will most likely be on a downward path. Consequently, the scope for further expanding petroleum revenue spending is severely limited.”¹⁰⁴

Like New Mexico, the government of Norway has recognized the volatility of the industry and sought to manage its revenues to address it. Norway's Sovereign Wealth Fund, one of the world's largest, as well as the country's internal budgeting rules, were established with the premise that the country's vast oil reserves eventually would become depleted or obsolete. The chart below shows that, over decades, Norway was able to curtail annual spending and also contribute to its fund, now worth more than \$1 trillion.

Figure 4: Developments in Petroleum Revenues, Budget Deficits and The Market Value of The Fund



Source: Ministry of Finance.

Nevertheless, even though Norway now has almost 30 years of experience drilling for oil and gas and selling it in world markets, the country sees its future reliance on oil and gas substantially diminished and recognizes the need for broader budgetary reforms and economic diversification. In other words, its long-term dependence on oil and gas revenue is coming to an end.

Like Norway, New Mexico has benefited from robust oil and gas revenues that have

¹⁰⁴ Norwegian Government, [Budget Summary 2020](#), visited September 25, 2020.

allowed it to increase spending and build the wealth of its investment funds,¹⁰⁵ but it can no longer expect such a level of benefits to continue.

Conclusion

New Mexico's recent budgetary restrictions are only stopgap measures. Short-term cutbacks cannot build the state's future because a major shift in energy markets—and thus energy revenues—is at the root of the problem. A comprehensive analysis of options is outside the scope of this report, but two potential areas of activity would be helpful. First, New Mexico should expedite efforts to diversify its land-leasing program, given that state public lands have for decades been broadly targeted for oil and gas extraction. Second, the state should comprehensively and aggressively overhaul its economic development programs to encourage greater diversification of its industrial and commercial base. To protect its fiscal future, New Mexico must take strong action now to establish a more sustainable, reliable revenue base.

¹⁰⁵ For a short description of this funding arrangement see: New Mexico Legislative Finance Committee, [Finance Facts: Oil and Gas Revenue](#), May 2018.

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

About the Authors

Tom Sanzillo

Tom Sanzillo, director of finance for IEEFA, is the author of numerous studies on the oil, gas, petrochemical and coal sectors in the U.S. and internationally, including company and credit analyses, facility development, oil and gas reserves, stock and commodity market analysis and public and private financial structures. Sanzillo has experience in public policy and has testified as an expert witness, taught energy industry finance and is quoted frequently in the media. He has 17 years of experience with the City and the State of New York in senior financial and policy management positions. As the first deputy comptroller for the State of New York Sanzillo oversaw the finances of 1,300 units of local government, the annual management of 44,000 government contracts, and over \$200 billion in state and local municipal bond programs as well as a \$156 billion global pension fund.

Suzanne Mattei

Suzanne Mattei, Energy Policy Analyst, is an attorney (Yale Law School) with 30 years of experience in public interest law and policy. She is also a former regional director for the New York State Department of Environmental Conservation.

This report is for information and educational purposes only. The Institute for Energy Economics and Financial Analysis ("IEEFA") does not provide tax, legal, investment, financial product or accounting advice. This report is not intended to provide, and should not be relied on for, tax, legal, investment, financial product or accounting advice. Nothing in this report is intended as investment or financial product advice, as an offer or solicitation of an offer to buy or sell, or as a recommendation, opinion, endorsement, or sponsorship of any financial product, class of financial products, security, company, or fund. IEEFA is not responsible for any investment or other decision made by you. You are responsible for your own investment research and investment decisions. This report is not meant as a general guide to investing, nor as a source of any specific or general recommendation or opinion in relation to any financial products. Unless attributed to others, any opinions expressed are our current opinions only. Certain information presented may have been provided by third-parties. IEEFA believes that such third-party information is reliable, and has checked public records to verify it where possible, but does not guarantee its accuracy, timeliness or completeness; and it is subject to change without notice.