

In Extremis: Crisis Mounts for Appalachian Shale Producers

Eight Frackers Spill \$73 Billion Red Ink in “Lost Decade” as Persistently Low Gas Prices Pummel Sector

Summary

2019: Another year, another gusher of red ink.

Each year for the past decade, oil and gas exploration and production (E&P) companies with significant operations in Appalachia have failed to produce positive free cash flow, according to an IEEFA analysis. In total, eight of Appalachia’s largest producers collectively spent \$73.4 billion more on drilling and other capital expenses than they realized by selling natural gas during the decade.

Faced with persistently low gas prices, these eight companies continued to struggle financially in 2019, recording negative cash flows of \$427 million in the fourth quarter alone.

Negative cash flows for the full year, at \$466 million, actually represented the decade’s best performance for these companies. Yet only two of the eight firms in the IEEFA sample, Cabot Oil and Gas and EQT, were cash flow positive for the year. Five of the eight companies—Antero Resources, CNX, Chesapeake, Gulfport, and Range Resources—reported negative cash each year throughout the decade. Southwestern’s cash flow was negative in nine of the 10 years, including 2019.

Free cash flow—the amount of cash generated by a company’s core business, minus its capital spending—is a crucial gauge of financial health. Positive free cash flows enable firms to pay down debt and reward stockholders. Negative

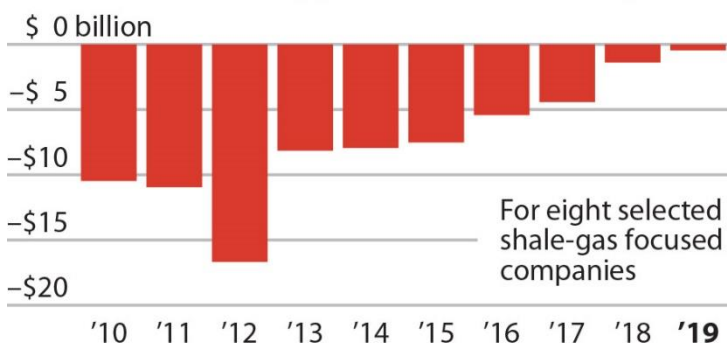
Key Findings

- The largest eight E&P companies in Appalachia reported \$73.4 billion in negative free cash flow during the past decade.
- From 2010 to 2019, these companies reported negative free cash flows each year.
- Despite capex reductions in 2019, companies’ negative cash flow continued, spilling \$466 million in the year, and \$427 million in Q4 alone.
- At the end of 2019, the 8 frackers held nearly \$30 billion of long-term debt. Their current market cap has declined to \$10.5 billion.
- Two of the eight companies, Chesapeake and Gulfport, have sought restructuring advisers in the past month as mounting debt and persistently low gas prices continue to pummel the sector.

free cash flows, by contrast, force companies to fund their operations by dipping into cash reserves, selling assets, or raising new money from capital markets.

The Appalachian frackers' disappointing financial performance stands in sharp contrast to rapid growth in natural gas production, both regionally and nationally. Total U.S. natural gas output grew 10 percent in 2019,¹ hitting an all-time high. These production increases have been enabled by unconventional techniques, particularly horizontal wells and hydraulic fracturing, or fracking. Much of America's gas production is from Appalachia, primarily from the Marcellus and Utica shale basins. Among Appalachian states, Pennsylvania led the way, ending 2019 as the second-highest gas producer in the U.S., trailing only Texas.

Free Cash Flow at Appalachian Shale Companies



Sources: Morningstar; company reports

Yet, paradoxically, as gas production boomed, financial distress mounted for Appalachian frackers. Much of these struggles have stemmed from low natural gas prices.² On an annual basis, U.S. benchmark gas prices peaked in 2008, at \$8.86/MMBtu. But prices have dropped dramatically since then, falling to just \$2.56/MMBtu on average in 2019,³ and well below \$2.00 recently.

Analysts expect natural gas prices to remain depressed for the foreseeable future. The market roiled in September of 2019, when IHS Markit predicted⁴ that the natural gas benchmark prices in 2020 would be the lowest level in decades due to persistent oversupply. This forecast, made before the oil price war and the economic impacts of the coronavirus, was both prescient, and, quite likely, overly optimistic.

Much of the U.S. gas supply glut can be traced to the Permian Basin in Texas and New Mexico, where gas is often an unwanted by-product of oil production. Permian gas has become so uneconomic that some oil producers simply burn their natural gas rather than selling it, with Permian flaring reaching an all-time high in the third quarter of 2019 (the latest data available).^{5,6} Earlier this year, Permian gas prices turned negative,⁷ as some oil producers actually paid to have their gas transported

¹ EIA.gov. [U.S. natural gas production grew again in 2019, increasing by 10%](#). March 20, 2020.

² EIA.gov. [Henry Hub natural gas spot price](#).

³ Ibid.

⁴ IHSMarkit.com. [U.S. natural gas price will fall to levels not seen since 1970s, IHS Markit says](#). September 12, 2019.

⁵ E&ENews.com. [Permian Basin flaring hits 'all time high.'](#) November 16, 2019.

⁶ Bloomberg.com. [Permian's gas-flaring is much worse than previously thought](#). February 12, 2020.

⁷ Reuters.com. [UPDATE 1-U.S. natgas glut swells, prices turn negative at Texas Waha hub](#). March 3, 2020.

out of the basin. But since both gas and oil come from the same Permian wells, oil companies continue to overproduce gas, further saturating the market.

Over the past year, investors have severely punished stock values throughout the E&P sector—and Appalachian frackers were no exception. Throughout 2019, stock prices of Appalachian frackers badly underperformed the broader market. Investors sent prices even lower after global oil and gas markets erupted in turmoil over the past few weeks, as the twin shocks of falling demand due to the coronavirus, and rising supply due to the Saudi-Russia price war, have sent oil and gas prices plummeting, triggering a sell-off in oil and gas stocks to their lowest levels in well over a decade.

The oil and gas industry's dismal financial performance, however, began long before the advent of the latest crisis. The S&P energy sector—which includes oil and gas companies, but excludes renewable energy—was far and away the worst performer in the S&P 500 over the 2010-2019 decade, placing dead-last among all sectors for stock price returns in both 2018 and 2019.

For a brief period during the March 2020 stock market meltdown, some Appalachian-focused gas producers saw their stock prices improve, even as stocks for other oil and gas companies plummeted. This bounce was propelled by an emerging narrative that lower oil prices would curtail drilling in the Permian, translating into reduced gas production from the U.S.'s most prolific shale basin. Lower Permian gas production, the theory went, would help raise gas prices in Appalachia.⁸ This comparative improvement in some Appalachian producers' stock performance lost steam by late March, as natural gas prices continued to decline along with the price of oil, hitting \$1.60/MMBtu.

Appalachian frackers, pummeled by low natural gas prices, heavy debt loads and investor demands to improve cash flows, reduced their capex dramatically in 2019. Collectively, the companies in IEEFA's sample trimmed capex last year to \$9.8 billion, compared to the 10-year average of \$16.8 billion. But even with those cutbacks, these fracking-focused companies ended 2019 with negative cash flows for the year.

The past month has seen announcements of further capex reductions as the companies struggle to address their massive debt loads and impending debt maturities.⁹ At the end of 2019, the eight Appalachian E&P companies in IEEFA's sample faced \$29.4 billion in long-term debt, yet their combined market capitalization, as of March 23, 2020, was just \$10.5 billion. Bankruptcy risks are rising for these companies; two of the companies in the IEEFA sample, Chesapeake Energy and Gulfport Energy, have sought restructuring advisers in the past month.

Moving forward, the Appalachian gas sector's financial distress seems poised to accelerate. Although Appalachian frackers' cash flow losses have improved substantially compared with earlier in the decade, equity investors have concluded

⁸ S&PGlobal.com. [Permian cutbacks have investors flocking to some Appalachian shale gas stocks](#). March 19, 2020.

⁹ IEEFA.org. [Bankruptcies in fracking sector mount in 2019](#). January 2020.

that this heavily indebted industry has to do better than simply narrow its losses. To regain investor confidence, fracking-focused companies must instead prove that they can produce sustained, robust positive free cash flows that will allow them to pay down debt and reward shareholders—something that they have failed to achieve for more than a decade, regardless of the price of oil and gas. Moving forward, even if oil and gas markets are able to stabilize, prudent long-term investors will continue to view the Appalachian fracking industry as a speculative venture with a poor track record, an unproven business model, and shaky prospects.

Data and Methods

This IEEFA analysis was based on the financial performance of eight US-focused oil and gas exploration and production companies with significant focus on the Appalachian shale basins, Utica and Marcellus. Two of the companies in the sample, Chesapeake Energy and Gulfport Energy, have operations in other shale basins in the U.S., such as the Permian and Bakken. Financial data were downloaded from Morningstar in mid-March 2020, and were supplemented by and cross-checked with data from 10-Q filings and 10-K filings.

Appendix

Table 1: Selected Financial Data, Eight Appalachian Shale-Focused Companies (in millions USD)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Basic Information | | | | | | | | | | |
| Total Revenues | \$20,361 | \$22,740 | \$22,797 | \$32,023 | \$39,191 | \$23,215 | \$17,439 | \$25,212 | \$30,936 | \$27,137 |
| Total Costs excluding tax provision | \$13,011 | \$14,672 | \$14,826 | \$21,921 | \$26,491 | \$20,680 | \$16,761 | \$17,926 | \$20,615 | \$20,378 |
| Net Income | \$3,093 | \$4,173 | (\$977) | \$3,009 | \$5,050 | (\$20,525) | (\$11,101) | \$3,914 | (\$1,841) | (\$4,097) |
| Long Term Debt | \$21,791 | \$21,862 | \$25,085 | \$27,108 | \$29,466 | \$30,774 | \$31,853 | \$34,649 | \$29,442 | \$29,389 |
| Distributions | | | | | | | | | | |
| Dividends Paid to Stockholders | (\$111) | (\$173) | (\$171) | (\$173) | (\$182) | (\$277) | (\$205) | (\$320) | (\$94) | (\$91) |
| Net Stock Issuance (Buybacks) | \$2,405 | \$330 | \$741 | \$2,899 | \$2,418 | \$4,302 | \$6,065 | \$565 | \$12 | \$2 |
| Net Inflows from (Distributions to) Investors | \$2,294 | \$157 | \$570 | \$2,726 | \$2,236 | \$4,025 | \$5,860 | \$245 | (\$82) | (\$89) |
| Cash End of Period Balance | \$221 | \$1,701 | \$762 | \$2,532 | \$5,824 | \$2,643 | \$5,522 | \$2,185 | \$280 | \$253 |
| Free Cash Flow | | | | | | | | | | |
| Operating Cash Flow | \$9,893 | \$11,634 | \$7,846 | \$10,840 | \$12,939 | \$7,322 | \$4,185 | \$8,259 | \$11,779 | \$9,375 |
| Capital Expenditure | (\$20,366) | (\$22,584) | (\$24,529) | (\$18,993) | (\$20,886) | (\$14,846) | (\$9,613) | (\$12,684) | (\$13,169) | (\$9,839) |
| Free Cash Flow (FCF) | (\$10,473) | (\$10,951) | (\$16,683) | (\$8,154) | (\$7,947) | (\$7,524) | (\$5,427) | (\$4,424) | (\$1,392) | (\$466) |

Source: Morningstar, company reports.

Table 2: Selected Financial Data, Eight Appalachian Shale-Focused Companies (in millions USD)

| | 2017 Q3 | 2017 Q4 | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2019 Q1 | 2019 Q2 | 2019 Q3 | 2019 Q4 |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Basic Information | | | | | | | | | | |
| Total Revenues | \$5,468 | \$6,725 | \$7,488 | \$6,623 | \$7,471 | \$9,353 | \$7,558 | \$7,283 | \$6,072 | \$6,225 |
| Total Costs excluding tax provision | \$4,029 | \$5,797 | \$4,994 | \$5,077 | \$5,109 | \$5,446 | \$5,240 | \$5,055 | \$5,092 | \$4,998 |
| Net Income | (\$171) | \$1,591 | (\$562) | (\$201) | \$22 | (\$1,101) | \$1,982 | \$1,097 | (\$1,559) | (\$5,617) |
| Long Term Debt | \$31,223 | \$34,649 | \$35,802 | \$35,802 | \$35,913 | \$29,442 | \$28,781 | \$30,392 | \$29,194 | \$29,389 |
| Distributions | | | | | | | | | | |
| Dividends Paid to Stockholders | (\$57) | (\$92) | (\$27) | (\$23) | (\$24) | (\$24) | (\$23) | (\$25) | (\$23) | (\$21) |
| Net Stock Issuance (Buybacks) | \$313 | \$0 | \$2 | \$6 | \$3 | \$1 | \$0 | \$0 | \$0 | \$0 |
| Net Inflows from (Distributions to) Investors | \$256 | (\$92) | (\$25) | (\$17) | (\$21) | (\$23) | (\$23) | (\$25) | (\$23) | (\$21) |
| Cash End of Period Balance | \$2,419 | \$2,185 | \$2,362 | \$1,704 | \$502 | \$280 | \$772 | \$485 | \$148 | \$253 |
| Free Cash Flow | | | | | | | | | | |
| Operating Cash Flow | \$2,753 | \$1,999 | \$3,527 | \$2,423 | \$3,006 | \$2,823 | \$3,648 | \$2,048 | \$2,030 | \$1,648 |
| Capital Expenditure | (\$2,949) | (\$2,298) | (\$3,045) | (\$3,567) | (\$3,514) | (\$3,041) | (\$2,531) | (\$2,625) | (\$2,610) | (\$2,075) |
| Free Cash Flow (FCF) | (\$194) | (\$267) | \$482 | (\$1,145) | (\$506) | (\$219) | \$1,119 | (\$577) | (\$580) | (\$427) |

Source: Morningstar, company reports.

Table 3: Free Cash Flow, Selected Fracking Companies (in millions USD)

| | 2015 | 2016 | 2017 | 2018 | 2019 | Total, 2015-2019 |
|--|------------------|------------------|------------------|------------------|----------------|-------------------|
| Antero Resources Corporation | (\$1,332) | (\$1,254) | (\$210) | (\$129) | (\$319) | (\$3,244) |
| Chesapeake Energy Corporation | (\$2,537) | (\$2,324) | (\$1,747) | (\$267) | (\$640) | (\$7,515) |
| CNX Resources Corp | (\$329) | \$292 | \$16 | (\$231) | (\$212) | (\$464) |
| Cabot Oil & Gas Corporation | (\$206) | \$22 | \$134 | \$210 | \$657 | \$817 |
| EQT Corporation | (\$1,217) | (\$1,525) | (\$302) | (\$756) | \$249 | (\$3,551) |
| Gulfport Energy Corporation | (\$1,271) | (\$420) | (\$1,753) | (\$121) | (\$1) | (\$3,566) |
| Range Resources Corporation | (\$414) | (\$123) | (\$391) | (\$31) | (\$65) | (\$1,024) |
| Southwestern Energy Company | (\$218) | (\$95) | (\$171) | (\$67) | (\$135) | (\$686) |
| Total, Selected Companies | (\$7,524) | (\$5,427) | (\$4,424) | (\$1,392) | (\$466) | (\$19,233) |

Source: Morningstar, company reports.

About IEEFA

The Institute for Energy Economics and Financial Analysis conducts research and analyses on financial and economic issues related to energy and the environment. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

About the Authors

We gratefully acknowledge the research efforts of PJ Connolly, who provided invaluable assistance with data collection, quality assurance, and financial analysis.

Kathy Hipple

Kathy Hipple, a financial analyst at IEEFA, teaches the finance sequence at Bard's MBA in Sustainability and is the founding partner of Noosphere Marketing. Hipple has written extensively about sustainable, responsible and impact finance and investing. As Vice President at Merrill Lynch for 10 years, she placed fixed income securities with international institutional clients, and advised international life insurance companies and pension funds. She later founded Ambassador Media, a local search firm in New York City, and served as its CEO. She has served on several boards, including the national Local Search Association and Bennington County's Meals on Wheels.

Clark Williams-Derry

IEEFA Energy Finance Analyst Clark Williams-Derry served as director of energy finance and research director for the Sightline Institute, a multi-issue sustainability think-tank based in Seattle for 18 years, where his research focused on U.S. and global energy markets. He was also a senior analyst for Environmental Working Group.

Tom Sanzillo

Tom Sanzillo, director of finance for IEEFA, is the author of several studies on coal plants, rate impacts, credit analyses and public and private financial structures for the coal industry. He has testified as an expert witness, taught energy-industry finance training sessions, and is quoted frequently by the media. Sanzillo has 17 years of experience with the City and the State of New York in various senior financial and policy management positions. He is a former first deputy comptroller for the State of New York, where he oversaw the finances of 1,300 units of local government, the annual management of 44,000 government contracts, and where he had oversight of over \$200 billion in state and local municipal bond programs and a \$156 billion pension fund.

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