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Cuts in Capex and Cash from Hedging Give Appalachian Frackers Positive Free Cash Flow in First Quarter

Cash Flow Remains Negative for Past Twelve Months

An IEEFA analysis reveals that nine shale-focused gas producers in Appalachia generated positive free cash flow (FCF) in the first quarter of 2020. All told, these companies generated $142 million more than they spent on drilling and other capital expenses in the first quarter, as cuts in capex and cash infusions from hedging strategies moved the cash flow needle from red to black.

The positive first quarter results were not strong enough, however, to offset the negative cash flows over the prior year. In the twelve-month period ending in Q1 2020, these fracking-focused companies operating in Appalachia spent $1.52 billion more on drilling and other capital expenditures than they realized from their core business operations. These disappointing financial results were in line with the fracking sector's dismal long-term performance.

Cash flow improvements during the first quarter were largely propelled by significant reductions in capital expenditures (capex). The nine companies in IEEFA's sample spent $2.07 billion in the quarter, down from the $2.9 billion quarterly average since mid-2017.

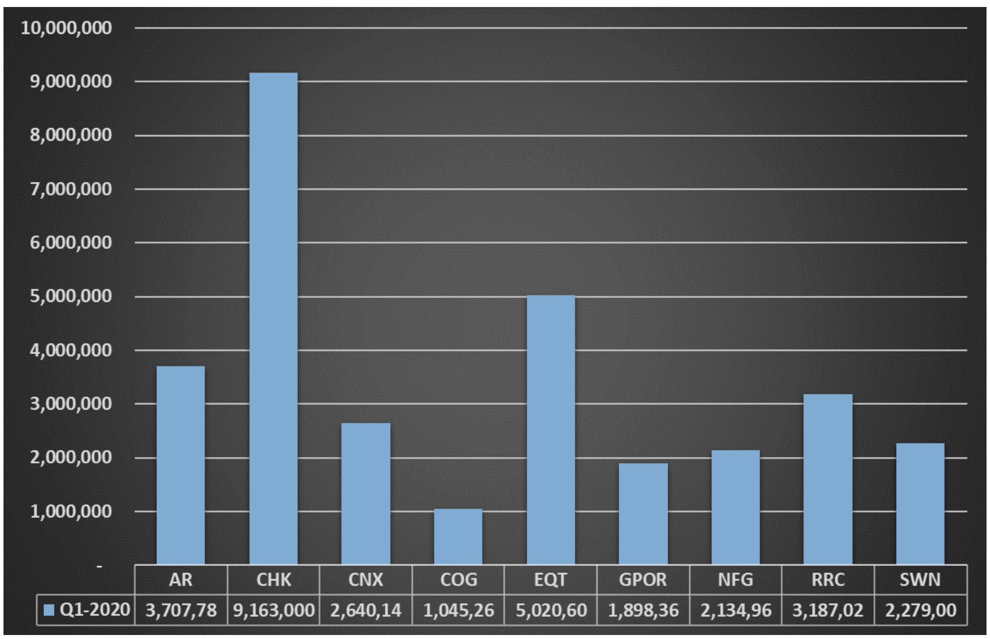
Key Findings

- Nine fracking-focused gas companies in Appalachia reported $142 million in free cash flow in Q 1 2020.
- Over the past year, these companies reported $1.52 billion negative free cash flow.
- In aggregate, capital spending dropped by $832 million during the quarter compared to the past 11 quarters.
- Stock prices have risen on hopes that reductions in associated gas from oil-focused frackers will improve gas prices. Appalachian drillers, however, have not increased capital spending plans for 2020.

Many Appalachian shale producers have used financial hedging strategies to manage market volatility and soften the blow of low gas prices. During the first quarter, at least seven of the companies in the IEEFA sample realized significant cash from their hedging programs. CNX, for example, received more than $150 million in net cash in settlement of commodity derivative instruments, more than half of its $267 million cash flow from operations in the first quarter.[1] Collectively, these companies' free cash flows would have been negative without price hedging.

Overall debt levels remained relatively constant during the quarter, with the nine companies collectively owing $31.1 billion, down only slightly from the $31.5 billion these companies owed at the end of 2019. (See Figure 1.) Negative free cash flows have made debt repayment an ongoing challenge for Appalachian gas producers, at least 11 of which have filed for bankruptcy protection over the past five years.[2] Two of the nine E&P companies currently operating in Appalachia, Chesapeake Energy and Gulfport Energy,[3] have recently sought restructuring advisors, and rumors of Chesapeake's impending bankruptcy have roiled the market for weeks.[4]

Figure 1: Long-Term Debt Facing 9 Fracking-Focused Companies in Appalachia (in thousands)

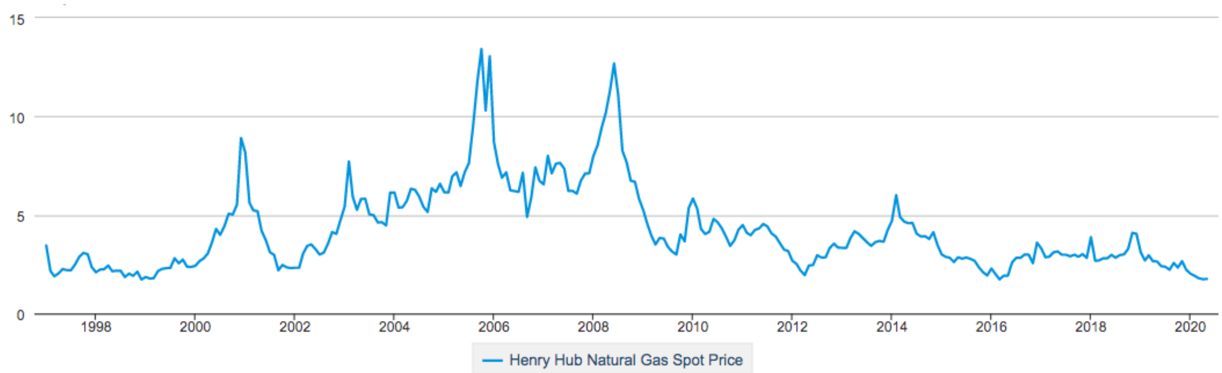


For more than a decade, Appalachian frackers have struggled with low gas prices that resulted from a persistent gas glut that, ironically, was fueled by the fracking revolution itself. As the "shale boom" took off in the mid-2000s,[5] gas production

[1] CNX. Q1 2020 10Q. p. 9.
[2] The 11 shale producers focused on Appalachia that filed for bankruptcy between 2015 and 2019 are: Magnum Hunter (2015); Warren Resources, Penn Virginia, Stone Energy, and Ultra Petroleum (2016); Ascent Resources, Rex Energy, EV Energy Partners, and EXCO (2018); and EdgeMarc, Arsenal Resources (2018), based on an several reports in Marcellus Drilling between 2105 and 2019.
[3] Reuters. Natural gas producer Gulfport Energy taps debt restructuring adviser: Sources. March 18, 2020.
[4] NYTimes. Chesapeake Energy, a fracking pioneer, is reeling. June 9, 2020, and Bloomberg. Chesapeake's demise marks end of shale model that changed the world. June 12, 2020
[5] The Economist. Shale of the century. June 2, 2012. Note, however, that the marquee technologies of the shale boom—horizontal drilling and hydraulic fracturing—had been in use for decades

increased rapidly, particularly in the Permian Basin in Texas and New Mexico and the Appalachian region's Marcellus and Utica Basins. The resulting supply surge flooded North American gas markets, boosted gas storage,[6] and triggered a price collapsed from an annual average of $8.86/MMBtu in 2008 to less than $4.50 per year in every subsequent year.[7] Monthly average gas prices have remained below $4.00/MMBtu for most of the last few year years, and traded below $2.00/MMBtu since February of this year.[8] (See Figure 2.) Persistently low gas prices have contributed to the financial struggles for Appalachian producers, including a full decade of negative cash flows for the cross-section of Appalachian frackers in our study.

Figure 2: Henry Hub Natural Gas Spot Prices, 1997-2020 (Dollars per million Btu)



Analysis

The oversupply of gas in the U.S., which has pushed prices to 25-year lows,[9] can be traced to prolific shale basins throughout the country, especially the Marcellus-Utica basins in Appalachia and the Permian Basin in Texas and New Mexico. In the Permian, gas has become so abundant that it is often viewed as an unwanted by-product of oil production. Earlier this year, oversupply of gas from the Permian pushed prices negative,[10] as some producers had to pay transport their gas to market. Growing volumes of Permian gas are simply flared or vented at oil fields, rather than sold to consumers. Permian flaring reaching an all-time high in the third

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prior to the U.S. shale boom, and Mitchell Energy successfully employed fracking techniques in the Barnett Shale in the late 1990s. See North Texans for Natural Gas. An Energy Revolution: 35 Years of Fracking in the Barnett Shale. June 1, 2016. Many analysts peg 2005, the year as the beginning of the shale boom.

[6] RBN Energy. The waiting game, part 2 – Northeast gas production cutbacks tighten regional balance, for now. June 11, 2020.

[7] EIA. Henry Hub natural gas spot prices.

[8] EIA. Henry Hub natural gas spot prices.

[9] EIA. Henry Hub natural gas spot prices.

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

quarter of 2019 (the latest data available).[11] [12] In 2018, Texas oil producers burned a record $749.9 million by flaring or venting their unwanted gas output.[13]

Recent low oil prices, however, have spurred cutbacks in Permian oil output, which has reduced associated gas production as well. Some market analysts speculated that falling Permian gas output would lift U.S. gas prices—a hypothesis that boosted Appalachian gas producers' stock prices above the "historic" lows reached earlier in the year.[14] [15] But despite these hopes for higher gas prices, Appalachian frackers have kept drilling activities restrained and trimmed their production targets. Cabot has announced its production will be flat in 2020. EQT and CNX[16] have reduced production in the first half of the year, hoping for better prices in the future.[17] Meanwhile, new drilling permits in Appalachia have been tepid, at best, with permits for new Pennsylvania gas wells down nearly 50 percent in April compared to the prior year.[18]

Forward prices for natural gas have retreated recently on concerns about declining LNG exports and high storage volumes. Exports of LNG peaked earlier in the year, with more than 8 percent of U.S. gas output going to LNG terminals.[19] But waning international LNG demand has led to wholesale cancellations of LNG shipments, cutting deeply into demand for gas feedstocks and putting a ceiling on gas futures.[20]

Summary

Although international oil and gas markets have erupted in turmoil over the past few months, the financial woes for the Appalachian gas industry began a decade before the global COVID-19 pandemic. The demand destruction resulting from the economic slowdown has only accelerated the gas sector's financial struggles. Last year, energy consultant IHS Markit predicted gas prices would fall to levels not seen since the 1970s.[21] And in late January—long before the coronavirus crisis hit the U.S.—some industry analysts predicted a "gasmageddon" of low prices, increasing

[11] E&ENews.com. Permian Basin flaring hits 'all time high.' November 16, 2019.
[12] Bloomberg.com. Permian's gas-flaring is much worse than previously thought. February 12, 2020.
[13] IEEFA. Flaring burns Texas economy. June 2020.
[14] Pittsburgh Business Times. Why Marcellus shale stocks are lifting, while other basins see drop. April 22, 2020.
[15] Marcellus Drilling. Marcellus/Utica drillers' stock prices near/at historic lows. February 26, 2020.
[16] Pittsburgh Business Times. CNX reduces portion of gas production temporarily. June 12, 2020.
[17] Reuters. EQT cuts US production as coronavirus depresses natgas prices. May 19, 2020.
[18] S&P Global. Pa. shale gas permitting plunged 46% in April. May 12, 2020.
[19] https://www.energy.gov/sites/prod/files/2020/06/f75/LNG%20Monthly%202020.pdf, https://www.eia.gov/dnav/ng/hist/n9070us2m.htm
[20] https://www.reuters.com/article/usa-lng-coronavirus/update-1-coronavirus-demand-destruction-cuts-u-s-lng-exports-to-13-month-low-idUSL1N2DF0LU
[21] IHS Market. U.S. natural gas price will fall to levels not seen since 1970s, IHS Markit says. September 12, 2019.

renewable generation, and reduced exports of liquified natural gas (LNG).[22]

Since the economic slowdown, forecasts have become even more bearish. Globally, gas will experience the "largest recorded demand shock" in history, according to the IEA,[23] and is expected to decline four percent in 2020. Potential growth in demand faces "uncertainty."

The shale revolution has propelled the U.S. into the globe's most prolific gas producer. Yet in financial terms, the gas production boom has been an unmitigated financial bust, with most fracking-focused companies—including Appalachian frackers—regularly reporting negative free cash flows. 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 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.

Looking ahead, Appalachian frackers' financial distress seems far from over. Improving cash flows were fueled largely by reductions in capex and gains from hedging. The industry may attempt to boost its cash performance by cutting capital spending to the bone. Yet capex cuts, in turn, will send clear powerful signals to investors that North America's shale gas producers are not eager to boost production at current gas prices—meaning that the industry is poised to shrink rather than grow.

Despite the improvements during the first quarter, cash flows among the nine Appalachian frackers were negative over the past year, as they have been for nearly all of the past decade. Even before the economic slowdown, high debt levels in the energy sector raised concern for debt ratings agencies.[24] In January, Moody's agency downgraded EQT, the largest of the Appalachian frackers, citing "the persistent weak natural gas price environment."[25] Gas prices have remained low throughout the year, and the outlook for gas producers remains bleak.

Faced with low prices, an economic slowdown and a declining export market for LNG, the Appalachian frackers are touting capital discipline and curtailing production. They remain cautious about their future prospects. Investors would be wise to follow their lead.

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[22] Natrual gas intel. "Gasmageddeon" is here, with natgas prices averaging $1.99 in 2020, say analysts. January 29, 2020.
[23] IEA. Gas 2020.
[24] Moody's. Energy defaults are on the rise again, clouded economic outlook calls for a higher US speculative grade default rate. October 31, 2019.
[25] Moody's. Moody's downgrades EQT to Ba1; outlook remains negative. January 13, 2020.

Appendix

Table 1: Appalachian Frackers' Free Cash Flow (in millions)

Ticker	Company Name	2018-06	2018-09	2018-12	2019-03	2019-06	2019-09	2019-12	2020-03	TTM
AR	**Antero Resources Corporation**	(266)	(146)	288	67	(124)	(93)	(169)	(111)	**(497)**
CHK	**Chesapeake Energy Corporation**	(232)	(57)	(126)	(74)	(178)	(264)	(124)	(121)	**(687)**
CNX	**CNX**	(73)	(58)	(127)	10	(77)	(31)	(114)	115	**(106)**
COG	**Cabot Oil & Gas Corporation**	43	(18)	69	389	101	72	95	56	**324**
EQT	**EQT Corporation**	(327)	(253)	(351)	500	49	(172)	(127)	244	**(6)**
GPOR	**Gulfport Energy Corporation**	(95)	22	32	(5)	(108)	79	33	17	**21**
NFG	**National Fuel Gas**	87	(83)	(74)	28	(67)	18	(30)	26	**(53)**
RRC	**Range Resources Corporation**	(115)	20	26	48	(15)	(75)	(24)	(17)	**(131)**
SWN	**Southwestern Energy Company**	(82)	(17)	(30)	184	(227)	(95)	3	(68)	**(387)**
Total, selected companies		***(1,060)***	***(590)***	***(293)***	***1,147***	***(646)***	***(561)***	***(456)***	***142***	***(1,522)***

Table 2: Appalachian Frackers' CapEx: Q3 2017-Q1 2020 (in millions)

		2017-09	2017-12	2018-03	2018-06	2018-09	2018-12	2019-03	2019-06	2019-09	2019-12	2020-03	Average
AR	**Antero Resources Corporation**	(522)	(499)	(546)	(563)	(567)	(534)	(472)	(342)	(292)	(316)	(312)	(451)
CHK	**Chesapeake Energy Corporation**	(635)	(387)	(440)	(595)	(501)	(461)	(530)	(575)	(593)	(565)	(518)	(527)
CNX	**CNX**	(150)	(233)	(232)	(264)	(297)	(322)	(299)	(329)	(336)	(228)	(152)	(259)
COG	**Cabot Oil & Gas Corporation**	(193)	(178)	(156)	(231)	(260)	(247)	(196)	(226)	(199)	(168)	(149)	(200)
EQT	**EQT Corporation**	(480)	-	(729)	(964)	(1,157)	(882)	(371)	(395)	(491)	(345)	(256)	(552)
GPOR	**Gulfport Energy Corporation**	(335)	(287)	(306)	(280)	(198)	(123)	(245)	(177)	(229)	(74)	(114)	(215)
NFG	**National Fuel Gas**		(143)	(119)	(142)	(180)	(178)	(209)	(200)	(202)	(198)	(197)	(177)
RRC	**Range Resources Corporation**	(310)	(389)	(334)	(290)	(209)	(190)	(213)	(200)	(178)	(157)	(142)	(237)
SWN	**Southwestern Energy Company**	(324)	(325)	(302)	(382)	(324)	(282)	(258)	(328)	(291)	(222)	(228)	(297)
Total, selected companies		(2,949)	(2,441)	(3,164)	(3,711)	(3,694)	(3,220)	(2,793)	(2,772)	(2,811)	(2,273)	(2,067)	(2,900)

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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