Kathy Hipple, IEEFA Financial Analyst
Tom Sanzillo, IEEFA Director of Finance
July 2019

Institute for Energy Economics and Financial Analysis
IEEFA.org

Risks to Fracking Companies in Appalachia Mount

Turbulence and desperation are roiling the struggling fracking industry.

The leadership fight at EQT, the nation's largest independent producer of natural gas, highlights the dilemma between those looking to drill, drill, drill and those relying on traditional supply and demand strategies. Neither approach offers much promise. This chapter of corporate politics may be over—but the book on fracking is still being written.

Between those looking to drill, drill, drill and those relying on traditional supply and demand strategies, neither approach offers much promise.

The epic battle between two Appalachian shale producers, Rice Energy and its acquirer EQT, reached fever pitch last week. Toby and Derek Rice have prevailed in their battle for the board of EQT less than two years after selling their company to EQT in November 2017. The Rice brothers were able to persuade shareholders, led by ISS, the largest shareholder advisory service, that they could steer the company more effectively than current management.

After bleeding almost $8.0 billion in red ink since 2010, a new round leadership for EQT was in order. But the Rices' new ambitious plan[1] to both lower production costs while simultaneously launching new, unproven, expensive technology, electric frack fleets. Rice acknowledged it will be "pricey" and "costs money... We're literally fracking with jet engines. This is like a Ferrari race car." This seems like more of the same—big risky capital expenditures.[2] The Rice brothers have set a benchmark of $500 million free cash flow in two years. Investors are unlikely to forget such a bold claim.

EQT's new management strategy calls for more—but cheaper—drilling, though it's unclear if that expensive new technology will deliver on the cheaper promise.

But other informed players see it differently.

EQT's former CEO, Steve Schlotterbeck, is one of them. He believes pursuing production growth instead of investor returns drives down the price of gas and hurts returns. In other words, he argues more of the same gets you more of the same

[1] S&PGlobal.com. Would-be CEO at EQT details reasons for proxy fight, vision for transformation. Holland, Bill. June 27, 2019.
[2] Ibid.

red ink. He urged shale gas producers[3] in the Marcellus and Utica basins to cut production, raise prices and balance the market. If they don't, he warned, there will be another wave of bankruptcies.

Schlotterbeck had described the natural gas fracking industry[4] as "an unmitigated disaster for any buy and hold investor." He suggested the industry was "self-destructing from the success of the shale gas technologies," and should change direction.

"They continue to believe that volume growth is necessary for them to be successful, although we now have several years of data that demonstrates the opposite," noted Schlotterbeck.

On the face of it, neither of these strategies seem viable.

The Rice plan is betting on better technologies and lower production costs. A leaner cost structure will, in theory, allow EQT to ride out the current low gas price.

The Rice plan is unlikely to succeed as natural gas prices in the United States are expected to remain below $3 mmbtu for the foreseeable future. Finding profits at this price point is unlikely.

Schlotterbeck, by contrast, views restricted supply as the key to higher prices.

But even if natural gas producers coordinate their activities and reduce supply—a highly unlikely prospect—Schlotterbeck's expectation that natural gas prices would inevitably rise is questionable.

The supply and demand factors affecting for natural gas have become far more complex. Several factors will likely dampen increases in natural prices, even if production is curtailed.

Supply and demand factors affecting for natural gas have become far more complex.

1. **Increasing competition from renewables in power generation**. Rising natural gas prices sends a price signal to utilities and customers to press harder and faster with renewable energy solutions. Until recently, natural gas has been the low-cost option, reliable option for utilities. Solar and wind generation costs have dropped, and battery storage has increased, making renewables competitive—even cheaper—than natural gas. In today's market, wind and solar energy will take market share if gas prices rise.

[3] PittsburghBusinessTimes.com. Former EQT CEO: Both sides are pursing wrong strategy. Gough, Paul. June 21, 2019.
[4] S&PGlobal.com, Former EQT CEO: Gas revolution an 'unmitigated disaster' for buy, hold investors. Holland, Bill. June 24, 2019.

2. **Pipeline cancellations.** The industry faces demand reduction pressures. The frackers must keep an eye over their shoulder as states like New York continue to debate the viability of new natural gas pipelines. State officials and utilities are currently deciding New York's future. The state has delayed approval for the Williams pipeline, which would have connected natural gas from Appalachia to New York City. The state must choose whether to approve this and similar pipelines, which would lock in risky investments as market forces are likely to reduce demand for natural gas as a major heating source for New Yorkers.

3. **Petrochemical sector requires low-cost natural gas.** Restricted supply and rising natural gas prices will cut into expanded capacity plans for the petrochemical sector in places like the Ohio Valley.

   The plans to expand investments in petrochemical production and ethane storage hubs become increasingly challenging if natural gas prices rise. Multi-billion dollar, multi-decade investments could no longer count on a permanent, locally-based, low- cost and ample supply of natural gas.

   Thus the strategic position of fracking companies is in inherent conflict with the petrochemical industry. Their suppliers, the fracking companies, face financial distress if they don't restrict supply and push up prices to stay in business.

   Companies like Shell, which is considering a $6 billion petrochemical investment, must choose: absorb a higher price cost structure for natural gas liquids (NGLs) needed to produce its product, while facing stiff global competition in the petrochemical business. Or, intensify capital commitments and take over the fracking business, hoping to find synergies through integration.

   Both of these scenarios change the risk profile Shell has described to justify its aggressive expansion plans in the Ohio Valley.

   4. **Conflicting visions of economic development**. Expanded fracking will expose the local population to significant environmental sacrifices with uncertain economic and fiscal benefits. This is a recipe for an unstable job and tax base in Western Pennsylvania, Ohio, West Virginia, and Eastern Kentucky. Some areas may decide to pursue other types of economic development.

Bankruptcies Loom for Frackers

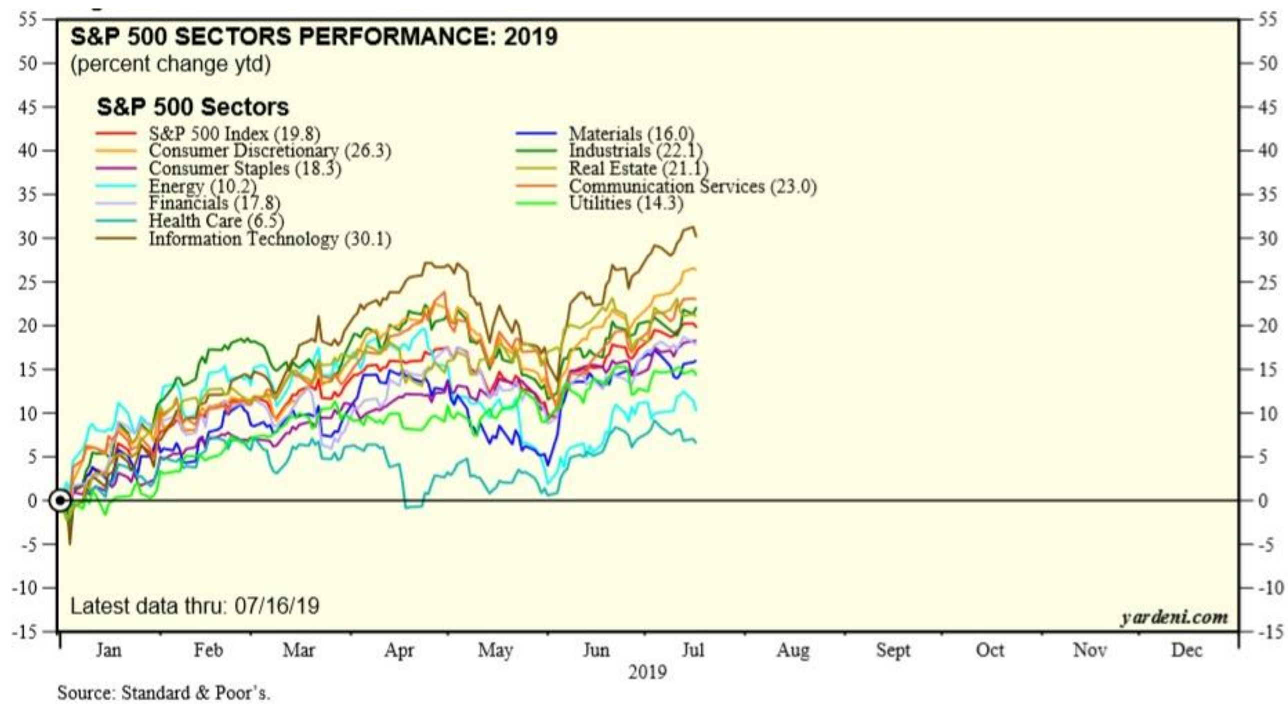
The fracking industry has been riven by a rash of bankruptcies over the past three years, which have continued in 2019.[5] At least 8 oil and gas producers have filed for bankruptcy since January, restructuring more than $3 billion of debt. More bankruptcies are all but certain as oil and gas borrowers must repay or refinance

[5] Haynes & Boone. Oil Patch Bankruptcy Monitor. May 16, 2019.

several hundred billion dollars of debt over the next six months. Similarly, the oilfield services sector[6], which relies heavily on the fracking industry for revenues, has gone through nearly 180 bankruptcies involving more than $64 billion in debt since 2015—including, most recently, the insolvency of Weatherford International, formerly the world's fourth-largest oilfield service company, which plans to restructure $7.6 billion in long-term debt.

Fracking companies have told investors that rebounding oil and natural gas prices will come to the rescue. In the last two years, oil and gas stocks were among the lowest performers of the S&P 500 Index through July 12, 2019. There is little reason lagging stock performance will improve in 2019.[7] Based on the poor performance of the fracking sector—even worse than the financial performance of the broader oil and gas industry—investors no longer believe the frackers.

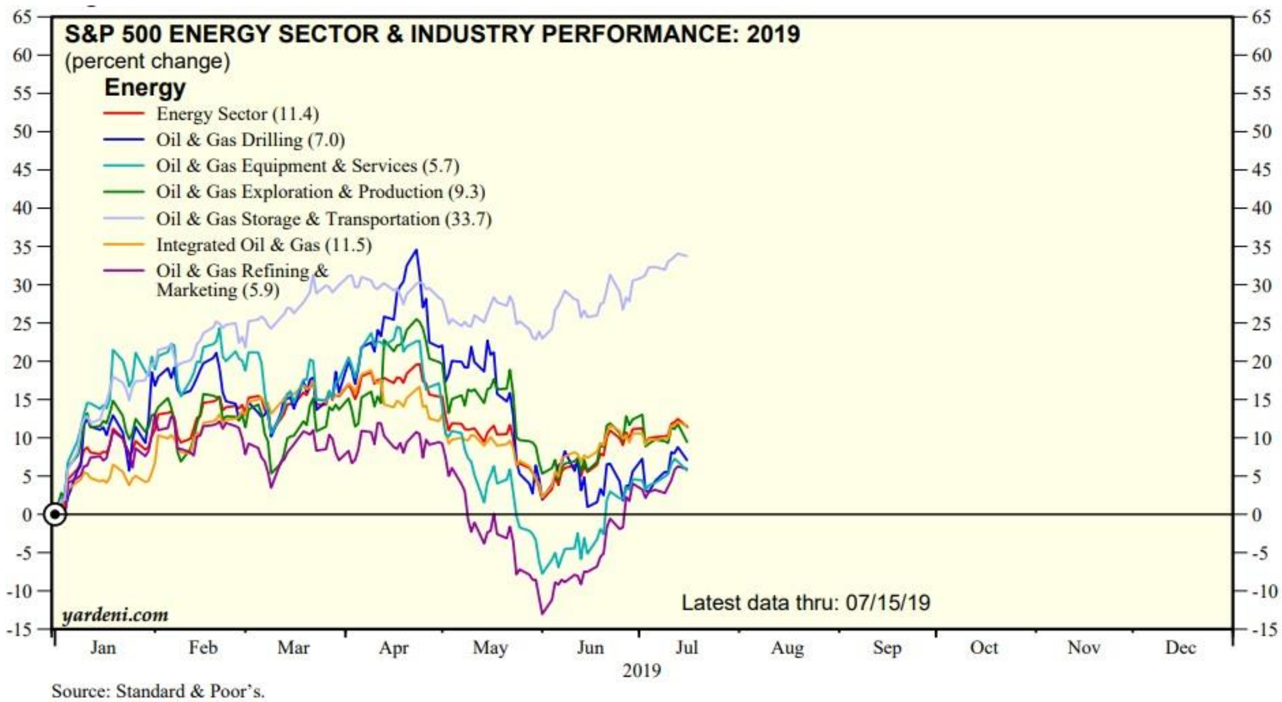
Figure 1: S&P 500 Sectors Performance: 2019



Source: Yardeni Research, Inc. Performance 2019 S&P 500 Sectors & Industries. July 12, 2019.

[6] Haynes & Boone. Oilfield Services Bankruptcy Tracker. May 16, 2019.
[7] Yardeni Research, Inc. Performance 2019 S&P 500 Sectors & Industries. July 12, 2019.

Figure 2: S&P 500 Energy Sector & Industry Performance: 2019



Source: Yardeni Research, Inc. Performance 2019 S&P 500 Sectors & Industries. July 12, 2019.

Some investors have concluded that continued investment in oil and gas exploration will produce more natural gas and oil than profits for the foreseeable future. Broad confidence in the sector as a whole has given way to the need to consider the complex explanations and quite granular strategies of each individual company. The variation in company strategies is growing. This requires institutional investors who want to continue to hold these stocks to invest substantial effort to become knowledgeable about oil and gas reserve holdings at the basin and well level, geological conditions, engineering and high tech application of production systems to understand which of the companies is better positioned.

The Norwegian Fund recently moved to divest from 100 exploration and production companies. The $1 trillion fund found that the risk factors just don't add up anymore as the stocks have become increasingly speculative.

Investors now demand that frackers cut costs and rein in capex to generate positive free cash flow to reward their shareholders. They seek a simple bottom line answer. In Q1, EQT did generate roughly $500 million free cash flow. New management, however, doesn't expect this trend to continue this year. The consensus forecast is that cash flow for the year will be less than $200 million.[8] Investors are told to wait two years for significant positive cash flow.

The EQT leadership debate is less about personalities than about corporate and industry direction. Investors are rightly worried. The industry is stuck between a

---

[8] Bloomberg.com. EQT's battle is over but the shale war goes on. Denning, Liam. July 10, 2019.

rock and a hard place. The business model for fracking remains unproven, whether the old boss is in charge or the new boss is in charge.

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

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.

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.