

THE FRACKING DEBATE

By Daniel Raimi

*Reviewed by James B. Blackburn IV**

Although hydraulic fracturing (fracking) has been a proven form of oil and gas extraction for decades, we have just now passed the ten year mark of its use as a key extraction technique that has seen America rise to become a global leader in oil and gas production in what has commonly been referred to as the “shale revolution.” Enough time for a few booms and busts in the oil and gas world, and time to reflect and answer some tough questions about this controversial technique. The rise of fracking is both complicated and consequential, and The Fracking Boom boils its insurgence down to a thoroughly sourced, but an approachable and straight-down-the middle assessment, of how far and fast the industry has come, and how to make sense of it all.¹

Whenever this reviewer tells people he practices energy law, the conversation almost always turns to fracking. What to do about it, what it means, and, often (perhaps unsurprisingly), how to stop it.² Raimi, a senior research associate at Resources for the Future who teaches at the University of Michigan, faced a similar set of questions as he embarked on a series of research projects that took him around the country. In the evenings and off hours during the course of his travels,³ Raimi would strike up a conversation with both locals and out-of-towners, all with wildly diverse viewpoints of fracking and how it was affecting the local community and the nation. Those conversations, along with peer-reviewed research, gave Raimi the source material for his writing of *The Fracking Debate*.

Armed with the most recent data and academic reviews, Raimi seeks to dive into the environmental uncertainties surrounding fracking, while also trying to understand the known risks and benefits associated with the rapid rise in our domestic oil and gas production. The book is digestibly structured around the most common questions and issues one gets asked by those outside the industry. The end result is an unbiased and solid fundamental resource for anyone interested in the

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1. The reviewer notes that he knows Mr. Raimi through personal channels; a friend of a friend of the reviewer is married to Mr. Raimi.

2. Like many readers of this journal, this reviewer does not get his hands dirty with environmental law and does not, in fact, know a great deal about how oil and gas gets out of the ground.

3. Raimi’s initial research project, *Shale Public Finance*, was launched at Duke University and is now being undertaken at Resources for the Future. The project seeks to identify the key public finance issues facing local governments that are dealing with an unpredictable and rapidly changing oil and gas landscape. See <http://www.rff.org/research/collection/shale-public-finance>. Raimi visited 21 separate regions in 16 states. Those states account for 99% and 97% of onshore oil and gas production, respectively. In total, Raimi had structured interviews with more than 250 local government officials representing more than 160 local governments. Raimi also visited several of the most active shale regions (Bakken, Permian, Eagle Ford, Marcellus) multiple times to see how local fiscal effects had changed over time.

topic. In short, it is the answers to the questions your friends ask when they find out you work in energy.

The Fracking Debate devotes the first few chapters to providing an excellent foundation on what fracking is and to answering a few of the more hot-button, but often misguided, questions. Raimi succinctly boils down the first 100 years of conventional oil and gas exploration and extraction into a few pages, before getting into the precise, water-intensive process that is largely responsible for the US producing 5 million barrels of oil per day in 2008 to producing 9.4 million barrels in 2015.⁴ Does fracking contaminate water? The wells themselves generally do not cause contamination, but the industry does have issues with wastewater storage and disposal. Will fracking make you sick? Probably not, but more research is needed. Here, Raimi does an excellent job explaining that good research on the health effects of fracking is difficult to gather and otherwise lacking.⁵

Does fracking cause earthquakes? Not directly; it is the massive volume of wastewater from thousands of new wells across the US that has caused “induced seismicity.” This issue warrants closer examination. In discussing this with my non-energy lawyer co-worker, it became evident that most people think, as it turns out incorrectly, that the act of fracking itself is the direct cause of small tremors. This notion makes sense; the whole point of fracking is to force liquid, sand and chemicals deep underground to break up shale. But it is usually not the fracking itself that is causing the earthquakes, it is the wastewater that comes out of extraction wells that is then injected into disposal wells; wastewater that would come out of any well, whether fracked or not. This is an important distinction given the common misconception directly tying fracking to the rise in earthquakes in places like Oklahoma. However, Raimi’s focus on this distinction may lead him to miss the critical point here. While wastewater may come from any drilled well, fracking caused the dramatic rise in economically viable wells and, therefore, the huge volumes of wastewater that must be disposed of in the first instance. But for the rise of fracking, people in Oklahoma would not have to be fixing their foundations. There is a link between fracking and earthquakes, it is just not as direct as most people assume.

The Fracking Debate then dives into seemingly simple questions with complex answers. Is there any regulation on fracking? Yes, mostly at the state level; and some states are better than others. Is fracking good or bad for climate change? Good, in the short- and medium-term, but probably a net negative in the long-term. Will fracking make the United States energy independent? That is a silly idea that ignores the realities of the interconnected global economy. Is fracking good for the economy? It is generally good for the national economy, but booms and busts can wreak havoc on local economies and government budgets. Will fracking spread around the world? Yes, but slowly; also, land use laws in the United States are unique and have contributed to the rapid rise in oil and gas production in this country.

4. DANIEL RAIMI, *THE FRACKING DEBATE: THE RISKS, BENEFITS, AND UNCERTAINTIES OF THE SHALE REVOLUTION* 28 (2018) [hereinafter Raimi].

5. See, e.g., Raimi at 65 (citing Colorado Department of Health and Environment, *Assessment of Potential Public Health Effects from Oil and Gas Operations in Colorado* (2017) (a 2017 review of the research finding that evidence to date does not warrant immediate additional action to protect public health, but stating that because of the paucity of information, more research of higher quality is needed).

Do people living near fracking love it or hate it? In this penultimate chapter, Raimi capitalizes on his experience travelling around the country. He paints enlightening vignettes about Fairview, Montana; Dimock Township, Pennsylvania; Coalgate, Oklahoma; Williston, North Dakota; Anthony, Kansas; Center Township, Pennsylvania; and Texas' Delaware basin. In places that are actually experiencing the rise in oil and gas exploration and extraction, opinions tend to be mixed, with people appreciating the uptick in economic activity, but frustrated by the strain on local resources and the omnipresent boom and bust cycles.⁶ Interestingly, people in the liberal college towns far removed the oil and gas industry regions where Raimi spends much of his time, have more visceral anti-fracking opinions. Raimi observes that those living closer to fracking activity tend to support the industry, though with nuanced views. On the other hand, those with no firsthand experience tend to support (or not support) fracking based on their political party affiliation.⁷

What's next? Raimi sums everything up with a call to nuance. Too often, proponents and opponents of fracking ignore the other side's valid arguments and fail to recognize the complexities inherent to the debate that has taken place over the past decade. There are tangible benefits and obvious risks, but the difficulty comes with assessing the known unknowns. This is Raimi's bailiwick and where the Fracking Debate really shines. He tees up the issues and explores the uncertainty, without bringing any preconceived attitude or agenda. More importantly, Raimi is an excellent writer, and he effortlessly blends his personal experience with an exhaustive review of the most recent literature,⁸ with a bit of humor to boot. For any energy practitioner, The Fracking Debate is a must read.

6. Raimi, *supra* note 4, at 203 ("The good tends to outweigh the bad").

7. *Id.* at 204 (citing R.C. Steadman et al., *Marcellus Shale Gas Development and New Boomtown Research: Views of New York and Pennsylvania Residents*, 14, no. 4 *Environmental Practice*, 282-393 (2012); C.E. Clark et al., *How Geographic Distance and Political Ideology Interact to Influence Public Perception Unconventional Oil/Natural Gas Development*, 97 *Energy Policy*, 301-309 (2016)).

8. The Fracking Debate averages more than 30 endnotes per chapter.