

Fracturing Moratoria Under the Dormant Commerce Clause: The Need to Shape Rather Than Resist the Shale Gale

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Summary

Opponents of oil and gas exploration using hydraulic fracturing have been advocating bans or moratoria on use of the technology, beginning in Vermont and New York. In the summer of 2013, several state legislatures, e.g., California and Illinois, rejected bans. In November, however, local bans were passed in Colorado and Ohio. This Article explores the breakthroughs that account for the rapid expansion of increased oil and gas production in the United States, returning North America to the energy powerhouse it had been in the 20th century. It briefly surveys various anti-fracker explanations for the phenomena, “big oil” advertising, lack of regulation, the Halliburton exemption from SDWA regulation, and model legislation developed by the American Legal Exchange Council. It then explains why “all-or-nothing” approaches to fracturing such as bans or moratoria may present constitutional difficulties under the Dormant Commerce Clause. .

In the latest reiteration of the Superman saga, “Man of Steel,” the reason the planet Krypton explodes is that its resource-poor inhabitants attempted to “harvest the core” of the planet. Movie critics called this “a sort of intergalactic anti-fracking message.”¹ Newspaper headlines today cry out news related to hydraulic fracturing. For example, in June, it was reported that U.S. crude oil production grew by more than one million barrels per day the previous year, the largest increase in the world and the largest in U.S. history. The *Wall Street Journal* explained that this was simply the latest sign of the shale revolution remaking world energy markets.² Pundits call this “the shale gale.”³ There are national bans on fracking in Bulgaria and France, and there have been temporary suspensions elsewhere.⁴ Though elements of the U.S. environmental community would like to stop fracking, in this Article, we conclude that “all-or-nothing” decisions are ill-advised. The sooner this is realized, the better, Kryptonian folklore to the contrary notwithstanding.

I. Fracking Bans

In the 1970s and 1980s, environmentalists frequently complained about an industry strategy to advocate for caution in regulating economic activity on the grounds that the need for control had not been demonstrated. The tobacco industry claimed that the link between smoking and cancer had not been proven. The utility industry claimed that the link between greenhouse gas emissions and global warming had not been demonstrated. The status quo was lack of regulation. Remarkably similar is the so-called precautionary principle, which has been advocated at the international level. Introduction of a new toxin into the environment, or a new technology such as genetically modified organisms, should be delayed until proponents can demonstrate the “safety” of the introduction.⁵

Hydraulic fracturing is a contemporary example. Several states have followed the environmentalist and European banner to a moratorium on fracking. New York and

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1. E.g., Jay Stone, *Movie Review: Man of Steel*, POSTMEDIA NEWS, June 13, 2013, <http://www.canada.com/entertainment/Movie+review+Steel/8520782/story.html> (last visited Nov. 29, 2013).
 2. Keith Johnson & Russell Gold, *U.S. Oil Notches Record Growth*, WALL ST. J., June 13, 2013, at A1.
 3. E.g., DANIEL YERGIN, *THE QUEST: ENERGY, SECURITY, AND THE REMAKING OF THE MODERN WORLD* 327 (Penguin Press, 2011).
 4. Katarzyna Klimasinska, *European Fracking Bans Open Market for U.S. Gas Exports*, BLOOMBERG.COM, May 23, 2012, <http://www.bloomberg.com/news/2012-05-23/european-fracking-bans-open-market-for-u-s-gas-exports-1.html> (last visited Nov. 29, 2013).
 5. See generally John K. Trotter, *What We Don't Know About Fracking*, ATLANTIC WIRE, May 13, 2013, <http://www.theatlanticwire.com/technology/2013/05/what-we-dont-know-about-fracking/65352/> (last visited Nov. 29, 2013).

Vermont were the first examples.⁶ Litigation in New York suggests that municipalities may be able to ban fracking using local zoning laws even if the state moratorium were to be lifted.⁷ New Jersey would have been a third, except for a veto by Gov. Chris Christie (R).⁸ In June 2013, the Sierra Club got a moratorium bill to the floor in the California Assembly, but lost as Democrats in poor and minority areas of the state joined the Republican minority to defeat the measure.⁹ Illinois also considered a moratorium this past summer.¹⁰ In November, voters in three Colorado cities and one in Ohio passed ballot measures banning or temporarily halting fracking within their borders.¹¹

Environmental groups counsel the “precautionary principle” for fracking. Take the National Park Conservation Association’s website on the topic:

Yet even the experts can’t predict fracking’s impacts. Will it contaminate the air we breathe in national parks? Will it harm native wildlife and the water and forests they depend on for survival? Will it damage the resources we value in our national parks? The answers are just beginning to emerge. Consequently, the National Parks Conservation Association recommends that policymakers require a measured, thoughtful approach to fracking, especially near national parks and in their surrounding landscapes. We must make every effort to understand and anticipate potential consequences—before they become irreversible.¹²

6. Teri Hallenbeck, *Vermont Governor Signs Bill Banning Hydraulic Fracturing*, BURLINGTON FREE PRESS (May 16, 2012), <http://www.nofracking.com/blog/Vermont-Governor-Signs-Bill-Banning-Hydraulic-Fracturing/> (last visited Nov. 29, 2013); Carl Etner, *Vermont First State in Nation to Ban Fracking for Oil and Gas*, VTDIGGER (May 4, 2012), <http://vtdigger.org/2012/05/04/vermont-first-state-in-nation-to-ban-fracking-for-oil-and-gas/> (last visited Nov. 29, 2013); Diana Furchtgott-Roth, *New York’s Fracking Ban Suffocates New Yorkers*, REAL CLEAR MARKETS, June 4, 2013, http://www.realclearmarkets.com/articles/2013/06/04/new_yorks_fracking_ban_suffocates_new_yorkers_100371.html (last visited Nov. 29, 2013); *NY Gov: Fracking Decision to Come Before Election*, WALL ST. J., May 23, 2013, <http://online.wsj.com/article/AP43ab50747c694cc6b96a1026affea35.html?KEYWORDS=fracking> (last visited Nov. 29, 2013); *Many NY Gas Leases Expire as Moratorium Remains*, WALL ST. J., May 13, 2013, <http://online.wsj.com/article/APddc5134ee1734c1aad8c1881288d86bd.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).
7. *Appeals Court Upholds Local Fracking Bans in NY*, WALL ST. J., May 2, 2013, <http://online.wsj.com/article/AP68d05a0103d440fbb23d3b0d508146ba.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).
8. Steven R. Miller, *Hydraulic Fracturing and the Emergent Dormant Commerce Clause*, CONST. L. COMMITTEE NEWSL., SECTION OF ENVIRONMENT, ENERGY, AND RESOURCES, AMERICAN BAR ASSOCIATION, Feb. 2013, at 6, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2215250; see also *Discrimination in the Marcellus Shale: The Dormant Commerce Clause and Hydraulic Fracturing Waste Disposal*, 88 CHI.-KENT L. REV. 213 (2012) (Ohio tax on out-of-state fracking wastes unconstitutional under Dormant Commerce Clause).
9. *Fracturing in California*, WALL ST. J., at A14 (June 8-9, 2013), <http://online.wsj.com/article/SB10001424127887324767004578488821344316236.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).
10. Kerry Lester, *Ill. Passes Nation’s Toughest Fracking Regulations*, USA TODAY, June 1, 2013, <http://www.usatoday.com/story/money/business/2013/06/01/fracking-regulations-illinois/2380847/> (last visited Nov. 29, 2013).
11. Joe Eaton, *Results Mixed on Colorado and Ohio Fracking Ban Initiatives*, NAT’L GEOGRAPHIC DAILY NEWS, Nov. 6, 2013, <http://news.nationalgeographic.com/news/energy/2013/11/131105-colorado-ohio-fracking-ban-election-results/> (last visited Nov. 29, 2013).
12. National Park Conservation Association, <http://www.npca.org/about-us/center-for-park-research/fracking/>.

The Natural Resources Defense Council’s (NRDC’s) website shouts: “Don’t Get Fracked!” and exclaims: “Many fear the effects of drilling on their health, land and quality of life.”¹³ German brewers supposedly even fear that fracking threatens the purity of their water supply.¹⁴ A June 2, 2013, Associated Press story found it remarkable that Pittsburgh’s Heinz Endowment would support the Center for Sustainable Shale Development while at the same time funding “groups that say fracking can’t ever be done safely.”¹⁵

In short, debate in the United States over hydraulic fracturing has become polarized—taking on an all-or-nothing character among partisans. The effects of such litigative dysfunctions have been called “institutional degeneration.”¹⁶ Where important issues degenerate into polarized rhetoric, frequently there is more heat than light. My objective here is to cut through hydraulic fracturing hyperbole. There will be no “final solution” for or against hydraulic fracturing in the U.S. Congress or in state legislatures. Exempting fracking from federal regulation only moves the debate to the states. A state legislature’s or a ballot initiative’s banning of fracking shifts the policy debate to the courts. And courts will require a balancing of burdens and benefits in particular times and places. The time for polarizing moratoria has passed.

II. What’s New About Hydraulic Fracturing?

Hydraulic fracturing, the injection of water, under high pressure, combined with sand and small amounts of chemicals, into shale formations, is a technique that has been used at least since the 1940s.¹⁷ Approximately one million wells have been fracked since that time.¹⁸ The fracturing of the underground rock creates pathways for otherwise trapped natural gas and oil to find a route and flow through a well to the surface. In fact, it is thought that the very first natural gas well in the United States, in Fredonia, New York, in 1821, drew from a shale formation.¹⁹ The problem with the procedure is the expense. In the Internal Revenue Code, this is considered a species of “unconventional natural gas” production (§29), such as the production of gas

13. See <http://www.nrdc.org/health/drilling/>.
14. *German Brewers’ Association Concerned Fracking Could Threaten Water Purity*, WALL ST. J. LIVE, May 24, 2013, <http://live.wsj.com/video/will-fracking-ruin-german-beer-/E1BC6859-060D-4488-912B-97FCC301096B.html?KEYWORDS=fracking#!E1BC6859-060D-4488-912B-97FC-C301096B> (last visited Nov. 29, 2013).
15. *Heinz Endowment Funds Drilling Foes and Backers*, WALL ST. J., June 2, 2013, <http://online.wsj.com/article/AP32c114486e2d469fb421fd0ea0212f9b.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).
16. Niall Ferguson, *How America Lost Its Way*, WALL ST. J., June 7, 2013, at C1, <http://online.wsj.com/article/SB10001424127887324798904578527552326836118.html?KEYWORDS=fracking> (last visited Nov. 29, 2013); see NIALL FERGUSON, *THE GREAT DEGENERATION: HOW INSTITUTIONS DECAY AND ECONOMIES DIE* (Penguin Press, 2013).
17. YERGIN, *supra* note 3, at 327.
18. Susan L. Brantley & Anna Meyendorff, *The Facts on Fracking*, N.Y. TIMES, Mar. 14, 2013, <http://www.nytimes.com/2013/03/14/opinion/global/the-facts-on-fracking.html?pagewanted=all> (last visited Nov. 29, 2013).
19. YERGIN, *supra* note 3, at 326.

from “tight sands.”²⁰ Despite the introduction of 3-D seismic’s improvement of the understanding of subsurface, by the late 1990s, only a few Texas producers had not given up on making the process economical. The major exception was Mitchell Energy, who began to produce gas, even while this enterprise seemed a commercial failure.²¹

In 2001, Larry Nichols, CEO of Devon Energy and developer of capabilities in horizontal drilling, noticed Mitchell’s upsurge in gas production, acquired Mitchell Energy, and began experimenting with a combination of the technologies. By 2003, the “shale gale” in Texas had begun.²² In 2000, shale was just 1% of natural gas supply. By 2011, it was 25%.²³ President Barack Obama in 2011 exclaimed: “Recent innovations have given us the opportunity to tap larger reserves—perhaps a century’s worth—in the shale under our feet.”²⁴ The triggering event for the shale gale was not a technological breakthrough so much as the combination of and experimentation with existing established technologies by Oklahoma and Texas entrepreneurs in particular geologies.

Mitchell Energy and Devon Energy first used “slickwater fracturing” to break the Barnett Code in Texas.²⁵ As a phenomenon of Oklahoma and Texas, hydraulic fracturing is nothing new. Its novelty was thereafter in the return to energy production of areas of the country, such as the Ohio Valley and Pennsylvania, where conventional oil and gas had largely played out, as well as the expansion of oil and gas development to remote rural areas such as the Dakotas. Range Resources began to drill in the Marcellus Shale formation in Pennsylvania in 2007, following the Barnett Shale drilling in Texas. By 2010, over 2,100 wells had been drilled into the Marcellus. Each of these shale gas basins is different, and each has a unique set of exploration criteria and operational challenges.²⁶

A good argument can be made that what is most novel about this new hydraulic fracturing is not the secret chemical cocktail used, or even the combination of horizontal drilling with fracturing, but instead the use of inexpensive information technologies and remote sensing to find and frack oil and gas efficiently. The Breakthrough Institute, in attempting to explain the rapid development over recent years, points to three-dimensional microseismic imaging, developed at Sandia National Laboratories, for work in coal mines. “The new seismic tools and mapping software allowed drillers to visualize the shale formations and locate the natural fractures and unevenly-distributed gas deposits. Without microseismic, shale drillers were blind, and it is unlikely either public or private R&D

efforts could have proved fruitful without the critical imaging technology.”²⁷ The Breakthrough Institute sees Mitchell Energy’s use of this imaging technology as critical to “cracking the Barnett.”²⁸

Geology is destiny. The U.S. shale gale has come about because a number of factors favoring development came together in the United States at the same time: qualified people familiar with the technology for a long time; a lot of developed support maintenance suppliers that could supply everything that shale developers needed; and plenty of land available with few inhabitants.²⁹ Vermont’s Lake Champlain Islands is a possible site for gas exploration: Utica Shale. But there is no gas industry operating there yet, so it is unclear who would have standing to challenge the moratorium Vermont imposed in 2012.³⁰ A similar situation exists in New Jersey, where the legislature also passed moratorium legislation, subsequently vetoed by the governor.³¹

III. Changing the Subject: “Big Oil,” Halliburton, ALEC, or Texas

What is the problem with hydraulic fracturing? Anti-frackers suggest the usual suspects, beginning with “big oil.” “Oil giant Exxon Mobil spent \$2 million on a pro-drilling advertising campaign en route to becoming New York’s second-highest spender on lobbying last year,” gushes Gannett.³² Environmentalists decry that Exxon-Mobil advertises that fracking is “safe and innovative,” asserting that it “can deplete and contaminate local drinking water supplies, damage the environment and threaten public health.”³³ Instead of arguing on the merits, they urge CNN to take Exxon’s ad off the air. Perhaps, the resentment to big oil is in a different sense. North American oil production will dominate worldwide supply growth over the next five years.³⁴ The shale boom seems on the way to making the United States the world’s largest oil producer by 2020, larger than Saudi Arabia.³⁵ The *Wall Street Journal* reported last year: “The recent increase in U.S. oil and gas drilling

20. *Id.*

21. *Id.* at 328.

22. *Id.* at 328-29.

23. *Id.* at 329.

24. Teddy Muhlfelder, *The Shale Gale*, IHS CERA, 2009 (as quoted in Yergin, *supra* note 3, at 330).

25. Michael Shellenberger, Interview with Dan Steward, Former Mitchell Energy Vice-President, *The Breakthrough*, Dec. 11, 2011, available at http://thebreakthrough.org/archive/interview_with_dan_steward_for.

26. UNITED STATES DEPARTMENT OF ENERGY, MODERN SHALE GAS DEVELOPMENT IN THE UNITED STATES: A PRIMER, Apr. 2009, at ES-2.

27. Alex Trembeth et al., *Where the Shale Gas Revolution Came From: Government’s Role in the Development of Hydraulic Fracturing in Shale, Breakthrough Energy Institute and Climate Program*, May 2012, <http://thebreakthrough.org/energy.shtml> (last visited Nov. 29, 2013).

28. *Id.*

29. Klimasinksa, *supra* note 4.

30. See generally Miller, *supra* note 8, at 11-12.

31. *Id.* at 8-11.

32. *Exxon Mobil Spent \$2 Million on Pro-Fracking Ad Campaign*, PRESSCONNECTS.COM, <http://www.pressconnects.com/article/20130330/NEWS11/303300030/Exxon-Mobil-spent-2-million-pro-fracking-ad-campaign> (last visited Nov. 29, 2013).

33. *Take Exxon-Mobil’s Fracking Ad Off the Air*, SAVEOURENVIRONMENT.ORG, http://soe.salsalabs.com/o/1/p/dia/action/public/?action_KEY=220 (last visited Nov. 29, 2013).

34. Sarah Kent & Justin Scheck, *North America to Drive Oil Supply*, WALL ST. J., May 15, 2013, at A8, <http://online.wsj.com/article/SB10001424127887323716304578482263734847782.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).

35. Benoit Faucon & Keith Johnson, *U.S. Redraws World Oil Map*, WALL ST. J., Nov. 13, 2012, <http://online.wsj.com/article/SB10001424127887323716304578482263734847782.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).

has led to a backlash that is particularly strong among people who supported Mr. Obama.”³⁶

Anti-frackers claim, as Daniel Yergin has noted, “that drilling is an unregulated activity.”³⁷ But in areas of the country with long-standing oil and gas regulation, this is obviously untrue. To carry out its regulatory responsibilities over the state’s oil and gas wells for prevention of waste and protection of correlative rights, the Texas Railroad Commission, for example, grants drilling permits based on established spacing and density rules. In addition, each month (1) the Commission assigns production allowables on oil wells and gas wells; (2) receives operators’ production reports on oil leases (an oil lease may contain multiple oil wells) and gas wells; and (3) audits the oil disposition path to ensure production did not exceed allowables. Allowables are assigned according to factors such as tested well capability, reservoir mechanics, market demand for production, and past production.

Fracking opponents do not seem interested in these forms of regulation. They are focused on such “loopholes” as the so-called Halliburton loophole, which exempts the underground injection of fluids or propping agents from the Safe Drinking Water Act’s (SDWA’s)³⁸ underground injection program.³⁹ The environmental defense center, for example, complains: “Under this exemption, oil and gas companies can now inject anything other than diesel in association with fracking operations without having to comply with SDWA provisions intended to protect our nation’s water supplies.”⁴⁰ The allegation is that the exemption leaves “drinking water sources unprotected from the host of toxic chemicals used during fracking.”⁴¹

From their websites, one might think that the exemption sprang from whole cloth from the Bush era’s Energy Policy Act of 2005. This ignores the background of the exemption. The 1974 SDWA had specified that underground injection control (UIC) regulations could not interfere with the injection of brine from oil and gas production or recovery unless underground sources of drinking water would be affected.⁴² In 1997, the U.S. Court of Appeals for the Eleventh Circuit ruled that hydraulic fracturing of coal beds for methane production constituted underground injection and had to be regulated.⁴³ This decision led to a U.S. Environmental Protection Agency (EPA) study, which in 2004 concluded that the injection of hydraulic fracturing fluids into coal-bed methane (CBM) wells posed little threat to underground sources of drinking water and required no further study.⁴⁴ This seems particularly significant because

unlike most hydraulic fracturing, which occurs deep underground, CBM fracturing is much closer to the surface, which would seem more likely to threaten drinking water supplies. The Legal Environmental Assistance Foundation (LEAF) suit also led to congressional enactment of the 2005 express exemption. While EPA did not react to the exemption for several years, in May 2012, the Agency issued UIC permitting guidance for hydraulic fracturing activities where diesel fuels are used as fluids or propping agents, an area outside the exemption and therefore within EPA’s continued jurisdiction.⁴⁵ As critical, a 2012 National Academy of Science Study concluded that there was no link between hydraulic fracturing and groundwater contamination in northwestern Pennsylvania.⁴⁶ In short, LEAF’s suit backfired to create the “loophole” that it now decries.

The loophole designation is also misleading to the extent that it implies that the federal government through EPA lacks any authority over underground injection in connection with oil and gas operations. EPA approves state underground injection programs.⁴⁷ These programs include injection associated with oil or natural gas production or natural gas storage. The substance of the special nature of such operations is that there is a less stringent alternative way through which the states may demonstrate the effectiveness of their programs to EPA.⁴⁸ Under this alternative, the state still must demonstrate that “the underground injection will not endanger drinking water sources,” and includes “inspection, monitoring, recordkeeping, and reporting requirements.”⁴⁹ EPA has a fairly elaborate guidance regarding its approval of state UIC programs under this alternative.⁵⁰ Without saying as much, the loophole of greater environmentalist concern may be the potential absence of citizen suits though which they may challenge state UIC program. State oil and gas programs may not include citizen suits; the SDWA’s citizen suit provision could be a major expansion of litigation opportunities should the exemption disappear.⁵¹ In any event, it is quite

36. *Id.*

37. YERGIN, *supra* note 3, at 351.

38. 42 U.S.C. §§300f to 300j-26, ELR STAT. SDWA §§1401-1465.

39. 42 U.S.C. §300h(d)(1)(B)(ii).

40. See http://www.edcnet.org/learn/current_cases/fracking/federal_law_loopholes.html.

41. Loopholes for Polluters, available at http://www.shalegas.energy.gov/resources/060211_earthworks_fs_oilgasexemptions.pdf.

42. SDWA §1421(d). See H.R. REP. NO. 109-58, H.R. 6, §322.

43. Legal Environmental Assistance Foundation, Inc. v. EPA, 118 F.3d 1467, 27 ELR 21385 (11th Cir. 1997).

44. U.S. EPA, *Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Resources*, June 2004.

45. Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels—Draft: Underground Injection Control Program Guidance #84, 77 Fed. Reg. 27451 (May 10, 2012). The draft describes how UIC Class II requirements may be tailored to address the risks of diesel fuel injections.

46. Steven M. Siros, *NAS Concludes No Link Between Fracking and Groundwater Contamination*, Jenner & Block Corporate Environmental Lawyer Blog, July 11, 2012, http://environblog.jenner.com/corporate_environmental_1/2012/07/nas-concludes-no-link-between-fracking-and-groundwater-contamination.html (last visited Nov. 29, 2013).

47. 42 U.S.C. §300h-1.

48. 42 U.S.C. §300h-4.

49. 42 U.S.C. §§300h(b)(1)(B)-(C).

50. U.S. EPA, *Guidance for State Submissions Under Section 1425 of the Safe Drinking Water Act*, Ground Water Program Guidance #19, at 20, available at http://www.epa.gov/safewater/uic/pdfs/guidance/guide_uic_guidance-19_primacy_app.pdf.

51. See 42 U.S.C. §300j-8 (SDWA’s citizen suit provision); Mary Tiemann and Adam Vann state: “State administered oil and gas program may not have such provisions, so this could represent an expansion in the ability of citizens to challenge administration of statutes and regulations related to hydraulic fracturing and drinking water, were the hydraulic fracturing exemption provision to be repealed.” Mary Tiemann & Adam Vann, *Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues*, Congressional Research Service, Jan. 10, 2013, at 8-9, available at <https://www.fas.org/sgp/crs/misc/R41760.pdf>.

clear when it amended SDWA in 1980 that Congress did not want additional federal requirements over this area of state regulation, well before the Bush era and the advent of the express exemption.⁵²

To the extent that groundwater contamination is a real concern, it would seem that the concern has little to do with the hydraulic fracturing technology. Instead, the concern has to do with oil and gas drilling through an overlying aquifer, and casing, cementing, and completing the well.⁵³ A Congressional Research Service (CRS) study put the matter as follows: “In cases that have been investigated, regulators typically have determined that groundwater contamination was caused by failure of well-bore casing and cementing, well operation problems, or surface activities, rather than the hydraulic fracturing process.”⁵⁴ Forcing EPA to regulate activities under the SDWA that do not threaten drinking water sources misdirects the regulatory effort. The Act’s regulatory regime does not address the aspects of oil and gas operations that are likely to prove most controversial, such as surface management of chemicals and drilling wastes,⁵⁵ or the treatment and disposal of produced water.⁵⁶ As the CRS concludes: “If such surface activities were determined to be the sources of most water contamination incidents associated with unconventional oil and gas development, then federal regulation of hydraulic fracturing under the SDWA may have limited environmental and public health benefits.” *Gasland* may be good theatre, but the video is largely beside the point. The focus on underground injection also distracts attention from matters such as the disclosure of fracking chemicals.

Obsessed with the Halliburton loophole, proposed legislation such as the FRAC Act and the Bureau of Land Management’s new proposed rule on fracking on federal lands do not address the issue of chemical disclosure of fracking fluids.⁵⁷ How is the owner of a water well to know whether a fracking fluid has contaminated his well when she does not know what chemicals for which to test? In 2011, the Groundwater Protection Council Interstate Oil and Gas Compact Commission established a public registry where companies may voluntarily identify chemicals

used in hydraulic fracturing.⁵⁸ Many states, including, Louisiana, Ohio, Oklahoma, Pennsylvania, and Texas require chemical disclosure and use FracFocus.⁵⁹ There have been a number of surveys.⁶⁰

Some fracking opponents have focused on the disclosure issue. The NRDC, for example, last year surveyed the states, classifying states as having or not having a “pre-disclosure” rule, i.e., a requirement that an operator disclose chemicals prior to beginning fracking operations.⁶¹ The U.S. Department of Energy’s Shale Gas Production Advisory Committee has recommended disclosure on a well-by-well basis, with some protection of trade secrets. The rhetoric is: “If frack fluids are so harmless, why do they hold on to these trade secrets so strongly?”⁶² For example, the Obama Administration has been smeared for endorsing the American Legislative Exchange Council’s (ALEC’s) model language on trade secrets.⁶³ The rhetoric about ALEC’s work product is truly remarkable guilt by association. Consider this gem:

Environmentalists’ objections to the bill were amplified when they learned it was taken from an ALEC model—the group was under increased scrutiny at the time after it was found to be a key player in pushing state ‘Stand Your Ground’ laws, the statute at play in the controversial killing of Florida teenager Trayvon Martin.⁶⁴

Such press releases and “articles” frequently do not even discuss the content of ALEC’s model Disclosure of Hydraulic Fracturing Fluid Composition Act.⁶⁵ While the Model Act raises a number of interesting issues, such as limits on the standing of those who can challenge a trade

52. Section 1425 was added by the SDWA Amendments of 1980, Pub. L. No. 96-502. The U.S. House of Representatives committee report accompanying the legislation that added §1425 noted:

Most of the 32 states that regulate underground injection related to the recovery or production of oil or natural gas (or both) believe they have programs already in place that meet the minimum requirements of the Act including the prevention of underground injection which endangers drinking water sources. This is especially true of the major producing states where underground injection control programs have been underway for years. It is the Committee’s intent that states should be able to continue these programs unencumbered with additional Federal requirements if they demonstrate that they meet the requirements of the Act.

U.S. House of Representatives, Committee on Interstate and Foreign Commerce, *Safe Drinking Water Act Amendments*, H. REP. NO. 96-1348 to accompany H.R. 8117, 96th Congress, 2d Session, Sept. 19, 1980, at 5.

53. Tiemann & Vann, *supra* note 51, at 4-5.

54. *Id.* at 5.

55. 42 U.S.C. §§11001-11050, ELR STAT. EPCRA §§301-330; 42 U.S.C. §§6901-6992k, ELR STAT. RCRA §§1001-11011.

56. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.

57. *Id.* at 25.

58. See <http://www.fracfocus.org>.

59. Tiemann & Vann, *supra* note 51, at 26 (fig. 4).

60. Brandon J. Murrill & Adam Vann, *Hydraulic Fracturing: Chemical Disclosure Regulations*, Congressional Research Service, June 19, 2012, available at <http://www.fas.org/sgp/crs/misc/R42461.pdf>.

61. NRDC Issue Brief, July 2012, IB:12-06-A, Matthew McFeeley, *State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison*, available at <http://www.nrdc.org/energy/files/Fracking-Disclosure-IB.pdf>.

62. Ben Elgin et al., *Frack Secrets by Thousands Keep U.S. Clueless on Wells*, BLOOMBERG.COM, Nov. 30, 2012, <http://www.bloomberg.com/news/2012-11-30/frack-secrets-by-thousands-keep-u-s-clueless-on-wells.html> (last visited Nov. 30, 2013).

63. Steve Horn, *Obama Administration Approves ALEC Model Bill for Fracking Chemical Fluid Disclosure on Public Lands*, DESMOG BLOG, May 21, 2013, <http://truth-out.org/news/item/16513-obama-administration-approves-alec-model-bill-for-fracking-chemical-fluid-disclosure-on-public-lands> (last visited Nov. 29, 2013).

64. Ellen M. Gilmer, *Fracking Fluid Suppliers Defend Trade Secrets on West Coast*, E&E PUBLISHING LLC, Mar. 12, 2013, <http://www.eenews.net/stories/1059977675> (last visited Nov. 29, 2013); see also Carol Currier, *ALEC and Exxon-Mobil Push Loopholes in Fracking Chemical Disclosure Rules*, PROPUBLICA, Apr. 27, 2012, http://www.alternet.org/story/155171/alec_and_exxonmobil_push_loopholes_in_fracking_chemical_disclosure_rules (last visited Nov. 29, 2013) (“One apparent proponent of the trade secrets caveat? The American Legislative Exchange Council, better known as ALEC, a nonprofit group that brings together politicians and corporations to draft and promote conservative, business-friendly legislation.”). Bill Moyers promotes the ALEC conspiracy with two PBS programs on “The United States of ALEC,” available at <http://billmoyers.com/segment/united-states-of-alec/>.

65. ALEC, *The Disclosure of Hydraulic Fracturing Fluid Composition Act*, <http://www.alec.org/model-legislation/the-disclosure-of-hydraulic-fracturing-fluid-composition-act/> (last visited Nov. 29, 2013).

secret claim, such details do not seem of interest to anti-fracking rhetoricians.

Current methods of hydraulic fracturing require large amounts of water, typically two million to four million gallons depending on the basin and formation characteristics. This may be small compared to some uses of water such as agriculture or electrical generation, but it is a lot of water. Water produced along with the natural gas must be managed, which can include underground injection, treatment and discharge, and/or recycling. The underground formations also sometimes include radioactive materials that can end up being contained in the flowback waters.

The prospects for water contamination from hydraulic fracturing vary tremendously by basin. For example, hydraulic fracturing in Texas typically occurs one mile or more below aquifers, with many thousands of feet of isolating rock in between freshwater zones and the hydrocarbon-bearing zones that are hydraulically fractured. For example, freshwater zones vary throughout the Barnett Shale region, which can range from the surface to a depth of 2,000 feet. Before you get to the Barnett Shale formation, there is another 4,000 to 6,000 feet of isolating rock protecting the fresh water zones. The tight shale hydraulic fracturing that is occurring in the Barnett Shale is more than one mile deep at depths of between 6,000 and 7,500 feet.⁶⁶ This beneficial geology may not exist in other basins.

It is seductive to blame the states for a “race to the bottom” in regulating fracking. Where there is no gas to be extracted, in places such as New Jersey and Vermont, it is unsurprising that a moratorium can attract. In large states with an established energy industry, such as California or Texas, abandonment is problematic. A state like New York could be expected to stay on the fence as long as possible. In most places, the body politic will have to balance the advantages of energy development with the environmental externalities that are likely to come with an expanded oil and gas industry. Without federal leadership, states will reach a balance, and litigation over the appropriate balance is inevitable. Let us briefly discuss a potential judicial role is striking that balance.

IV. Balancing Fracking Under the Dormant Commerce Clause

In a policy area such as fracking where Congress appears to have decided to leave regulation largely to the states, under the Dormant Commerce Clause, the federal courts nonetheless balance the benefits of national economic activity with the local benefits of limiting such activity.⁶⁷ As the U.S. Supreme Court explained in 1949:

Our system, fostered by the Commerce Clause, is that every farmer and every craftsman shall be encouraged to produce by the certainty that he will have free access to every market in the Nation, that no home embargoes will withhold his export, and no foreign state will by customs duties or regulations exclude them. Likewise, every consumer may look to the free competition from every producing area in the Nation to protect him from exploitation by any. Such was the vision of the Founders; such as been the doctrine of this Court which has given it reality.⁶⁸

Prior to the Revolution of 1937 (the New Deal “switch in time that saved nine”), fracking bans might well have survived a Dormant Commerce Clause challenge on the grounds that the gas, like wild animals, was property of the state until reduced to capture, and, as such, subject to state control as a valid aspect of the state’s police power.⁶⁹ An embargo on natural gas resources already developed might be problematic, however, even prior to 1937, because of the private-property rights to the gas of the surface owners.⁷⁰ In any event, the pre-New Deal method of analyzing the Dormant Commerce Clause plainly was abandoned in *Hughes v. Oklahoma*.⁷¹ In *Hughes*, the Court overturned an Oklahoma law prohibiting the transport of minnows caught in the state for sale outside the state. While acknowledging the legitimacy of the state’s purported purpose of ensuring ecological balance in state waters, the Court nonetheless concluded that other less discriminatory means were available, including a numerical limit on the amount of permissible purported minnows.⁷² In *Sporhase v. Nebraska*, the Court struck down a Nebraska law requiring a permit for exporting groundwater, which required that water being exported was going to a state that reciprocated and allowed water to be imported into Nebraska.⁷³ Similarly, the Dormant Commerce Clause was held to prohibit a state prohibition on the sale of in-state-generated energy to out-of-state entities.⁷⁴ Such reservations constitute economic protectionism.

The Court emphasized in the New Hampshire public utility case that the public utility had been selling into the interstate market inexpensive hydroelectric power generated in the state for over 50 years. It explained, “[o]ur cases consistently have held that the Commerce Clause . . . precludes a state from mandating that its residents be given a preferred right of access, over out-of-state consumers, to natural resources located within its borders or to the products derived therefrom.”⁷⁵ To the extent that a fracking ban prevents out-of-state owners of oil and gas from developing the resource by denying them use of hydraulic fracturing

66. Texas Railroad Commission, *Hydraulic Fracturing Frequently Asked Questions*, <http://www.rrc.state.tx.us/about/faqs/hydraulicfracturing.php#frac1> (last visited Nov. 29, 2013).

67. As to the local burdens and benefits, see Russell Gold, *Boom Times for a Tiny Texas Town*, WALL ST. J., Apr. 29, 2013, at A8, <http://online.wsj.com/article/SB10001424127887324373204578374831930888400.html?KEYWORDS=fracking> (last visited Nov. 29, 2013).

68. *H.P. Hood & Sons, Inc. v. DuMond*, 336 U.S. 525, 539 (1949).

69. *Geer v. Connecticut*, 161 U.S. 519 (1916).

70. *West v. Kan. Natural Gas Co.*, 221 U.S. 229 (1911).

71. 441 U.S. 322, 9 ELR 20360 (1979).

72. 441 U.S. at 337-38.

73. 458 U.S. 941, 12 ELR 20749 (1982).

74. *New England Power v. New Hampshire*, 455 U.S. 331, 338 (1982).

75. 455 U.S. at 338. See also *Wyoming v. Oklahoma*, 502 U.S. 437 (1992) (requiring Oklahoma coal-fired utilities to burn at least 10% Oklahoma mined coal).

technologies, at the least, the Dormant Commerce Clause requires an inquiry into the motivations for the ban. An unvarnished desire to externalize the costs of energy production to other states and localities would not pass muster.

But there are two branches of the Dormant Commerce Clause: (1) a general prohibition of state discrimination against interstate commerce; and (2) a prohibition where the burdens on interstate commerce are too severe compared with the legitimate local interests a state is trying to foster. Where a state has initiated a moratorium on hydraulic fracturing because of fears about the contamination of drinking water supplies or perhaps excessive consumption of the state's water resources, it is likely that only the latter form of the prohibition is at play. This is because the ban on hydraulic fracturing within the state is likely to impact in-state and out-of-state developers in the same way. A moratorium affects both interstate and intrastate commerce in the same manner. Even if all developers were out-of-state because of the structure of the oil and gas industry, that fact in and of itself does not constitute discrimination.

A key Dormant Commerce Clause decision in this regard is *Exxon Corp. v. Maryland*.⁷⁶ There, a Maryland law prohibited a producer or refiner of petroleum products from operating a retail service station within the states. Because virtually all petroleum products sold in Maryland were produced and refined out of state, the law meant that these out-of-state oil companies could not own service stations in Maryland. The obvious beneficiaries were local businesses. The majority found that the law was not discriminatory, explaining:

[T]he Act creates no barriers whatsoever against interstate independent dealers; it does not prohibit the flow of interstate goods, place added costs upon them, or distinguish between in-state and out-of-state companies in the retail market. The absence of any of these factors distinguishes this case from those in which a State has been found to have discriminated against interstate commerce.⁷⁷

The fact that a fracking moratorium's impact would fall predominantly on out-of-state oil and gas companies likewise would not be dispositive.

Perhaps, even more relevant is *Minnesota v. Clover Leaf Creamery Corp.*⁷⁸ A Minnesota law prohibited the sale of milk in plastic disposable containers, but allowed its sale in paper disposable containers. The law had a substantial discriminatory effect in favor of in-state businesses against out-of-state businesses because Minnesota had a substantial paper industry but no plastics industry. The Court held:

Minnesota's statute does not effect "simple protectionism," but "regulates even-handedly" by prohibiting all milk retailers from selling their products in plastic, non-returnable milk containers, without regard to whether the milk, the containers, or the sellers are from outside the

State. The statute is therefore unlike statutes discriminating against interstate commerce, which we have consistently struck down.⁷⁹

So long as a hydraulic fracturing moratorium is complete, similarly affecting both in-state and out-of-state oil producers, in all probability it would not run afoul of this branch of the Dormant Commerce Clause even if the ban fell disproportionately on out-of-state producers and favored in-state oil and gas suppliers. Some out-of-state energy producers, those who produce oil and gas without the use of hydraulic fracturing, will benefit from a moratorium, just as some energy producers (independents who did not own refiners) benefited from Maryland's law. Such producers might also be viewed as analogous to the out-of-state paper companies who benefited from the Minnesota ban on plastic milk containers.

Even if this analysis is correct such that the Court will not find a moratorium on hydraulic fracturing to be discriminatory, a ban may still run afoul of the doctrine's branch that applies to facially neutral or evenhanded laws. In this arena, a balancing test is used: The court balances the law's burdens on interstate commerce against its benefits. The law will be found unconstitutional if the court decides that the burdens from the law exceed its benefits.⁸⁰ As the Court stated in *Pike v. Bruce Church, Inc.*: "Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."⁸¹

In 1939, the Supreme Court upheld a Pennsylvania law that set the price of milk ultimately intended for out-of-state shipment for the sake of ensuring dairy production.⁸² In 1950, the Supreme Court upheld a state law fixing the price of natural gas to help conserve the resource.⁸³ More recent decisions, however, would appear less sanguine for a fracking ban. Consider, for example, *Philadelphia v. New Jersey*, which struck down a New Jersey planning law denying out-of-state waste haulers access to in-state landfills.⁸⁴ The state had carefully planned its landfills to accommodate New Jersey-generated wastes over a period, but the Dormant Commerce Clause overrode the denial of its scarce landfill space to others. Similarly, in *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Department of Natural Resources*,⁸⁵ the Court declared unconstitutional a law that prevented a landfill operator from accepting out-of-county waste. To the extent that a fracking ban denies frackers the ability to obtain permits for underground injection of wastewater to the same extent as they

79. *Id.* at 471-72.

80. ERWIN CHEMERINSKY, CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES 5.3.5 (Wolters Kluwer, 4th ed. 2011).

81. 397 U.S. 137, 142 (1970).

82. *Milk Control Bd. v. Eisenberg Farm Prod.*, 306 U.S. 346 (1939).

83. *Cities Serv. Gas Co. v. Peerless Oil & Gas Co.*, 340 U.S. 179 (1950).

84. 437 U.S. 617, 8 ELR 20540 (1976). The New Jersey law was struck down as discriminatory.

85. 504 U.S. 333, 22 ELR 20904 (1992).

76. 437 U.S. 117 (1978).

77. 437 U.S. at 126.

78. 449 U.S. 456, 11 ELR 20070 (1981).

may be available to others, these cases seem apt to render the ban unconstitutional.⁸⁶

More broadly, consider decisions such as *Bibb v. Navajo Freight Lines*,⁸⁷ in which the Court declared unconstitutional a state law that required all trucks in the state to use curved mudguards to prevent spatter and enhance road safety. The Court found that the law put a substantial burden on interstate commerce because straight mudguards were legal in 45 other states and curved mudguards were illegal in one other state. A key was that the trial court found that curved mudflaps had “no” safety benefits over straight ones and actually create “hazards previously unknown” by increasing the heat around the truck’s tires.⁸⁸ Under this logic, it could be critical to the constitutionality of a fracking ban that there be, in fact, some environmental benefits to avoid fracking in an environment where conventional oil and gas exploration is ongoing. If it is true, as suggested above, that there is really nothing riskier about hydraulic fracturing compared with other methods of oil and gas exploration, then a ban burdening property owners whose oil and gas resources require fracking could violate the Dormant Commerce Clause, even if the ban is nondiscriminatory. This is especially so if fracking has gone forward in many other states without incident, demonstrating that a less burdensome alternative, i.e., fracking regulation, is available in comparison with an outright ban.⁸⁹ The required balancing of economic burden and supposed environmental benefits of a fracking ban makes the Dormant Commerce Clause a more likely avenue for challenging such a ban compared with other legal doctrines such as regulatory takings, where the triggering impact for the doctrine is so severe, i.e., the elimination of any economic use of the property.⁹⁰ Statutory rights such as under Florida’s Bert Harris Act,⁹¹ which provide property owners with monetary compensation where a regulation imposes a disproportionate burden on an individual

property owner, sometimes require a balancing similar to the Dormant Commerce Clause.⁹²

V. Conclusion

Oil and gas exploration has environmental consequences. There is no doubt that oil and gas drilling using hydraulic fracturing has the same sorts of consequences. Traffic and noise associated with the construction and operation of wells are real. Accidents and, indeed, negligence from poor cementing and casing of wells are likely. Ozone pollution near Dinosaur National Park in Utah from over 10,000 wells reportedly is worse than in New York City.⁹³ Mining of sands and consumption of water create regulatory issues. A raft of other issues will be raised and some litigated in connection with proposed leases on federal lands. These are important matters than require serious work.

In areas of the country experienced in oil and gas production, realism counsels that the decision as to whether or not we should be using hydraulic fracturing already has been made. The *New York Times* quoted the mayor of Lancaster, California, north of Los Angeles: “It’s ludicrous to think that we’re going to prevent anybody from getting at that oil. . . . The only thing we should be focusing on, because it’s the only thing we’re going to be successful at, is regulating how they get to that oil.”⁹⁴ Calls for deferral in California continue.⁹⁵ With S.B. 4, enacted in California in September, however, there is now a clearer outline for regulating fracking, acidizing, and other well-stimulation practices, with required advance notice to neighboring property owners and the public.⁹⁶ Illinois has also moved in the direction of a comprehensive hydraulic fracturing law.⁹⁷ Fracking bans distract from those serious concerns by reducing policy to an “all-or-nothing” decision that has already been made—in favor of fracking. Complete bans might even be unconstitutional. The shale gale has arrived. We should return from the planet Krypton and get on with trying to shape it.

86. Miller, *supra* note 8, at 8-11.

87. 359 U.S. 520 (1959).

88. 397 U.S. at 142.

89. See also *Raymond Motor Transportation, Inc. v. Rice*, 434 U.S. 429 (1978) (invalidating truck length restrictions because the state “failed to make even a colorable showing that its regulations contribute to highway safety”).

90. *E.g. Agins v. City of Tiburon*, 447 U.S. 255, 10 ELR 20361 (1980) (taking if the ordinance “does not substantially advance legitimate state interests . . . or denies an owner economically viable use of his land”).

91. Bert J. Harris Private Property Rights Protection Act, §70.001 Fla. Stat.

92. *Id.*

93. E-mail message received June 2013, from National Park Conservation Association; cf. note 11 *supra*.

94. Norimitsu Onishi, *Fracking Tests Ties Between California “Oil and Ag” Interests*, N.Y. TIMES, June 2, 2012, at A14, http://www.nytimes.com/2013/06/02/us/california-oil-and-ag-face-rift-on-fracking.html?pagewanted=all&_r=0 (last visited Nov. 29, 2013).

95. Carolyn Whetzel, *20 Climate Scientists Ask Governor for Moratorium on Hydraulic Fracturing*, 44 Daily Env’t Rep. 3422, Nov. 15, 2013.

96. Carolyn Whetzel, *Governor Expected to Sign Fracking Bill Following Approval by Senate in Final Vote*, 44 Daily Env’t Rep. 2744, Sept. 12, 2014.

97. Michael Bologna, *State Proposes to Implement Comprehensive Hydraulic Fracturing Law*, 44 Daily Env’t Rep. 3510, Nov. 22, 2013.