



2018

## Fracking Coal Country: How Local Governments and the State Can Make a Positive Impact on Rural Appalachia's Future Within the Energy Industry

Shannon L. Rutherford  
*University of Kentucky*

Follow this and additional works at: <https://uknowledge.uky.edu/klj>



Part of the Oil, Gas, and Mineral Law Commons

Right click to open a feedback form in a new tab to let us know how this document benefits you.

### Recommended Citation

Rutherford, Shannon L. (2018) "Fracking Coal Country: How Local Governments and the State Can Make a Positive Impact on Rural Appalachia's Future Within the Energy Industry," *Kentucky Law Journal*: Vol. 107 : Iss. 2 , Article 6.

Available at: <https://uknowledge.uky.edu/klj/vol107/iss2/6>

This Note is brought to you for free and open access by the Law Journals at UKnowledge. It has been accepted for inclusion in Kentucky Law Journal by an authorized editor of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

# FRACKING COAL COUNTRY: HOW LOCAL GOVERNMENTS AND THE STATE CAN MAKE A POSITIVE IMPACT ON RURAL APPALACHIA’S FUTURE WITHIN THE ENERGY INDUSTRY

*Shannon L. Rutherford*<sup>1</sup>

## TABLE OF CONTENTS

TABLE OF CONTENTS .....	333
INTRODUCTION.....	335
I. THE RISE OF HYDRAULIC FRACTURING AND THE SOCIOECONOMIC IMPACTS OF BOOMTOWNS .....	339
A. <i>The Fracking Boom: The Process</i> .....	340
B. <i>Socioeconomic Impacts</i> .....	341
i. Socioeconomic benefits at the federal and state levels .....	343
ii. Indirect Socioeconomic impacts at the local level .....	344
a. <i>Employment and job distribution</i> .....	344
b. <i>Public health costs</i> .....	345
iii. Indirect Socioeconomic impacts: The costly side effects local communities’ experience with hydraulic fracturing .....	347
a. <i>Breaking an already broken region: Crime and                 substance abuse</i> .....	347
b. <i>Bearing the costs of inadequate housing and deteriorating                 road conditions</i> .....	347
II. STATE AND LOCAL REGULATORY AUTHORITY OVER FRACKING IN WEST VIRGINIA .....	349
A. <i>Regulating a Needed Industry</i> .....	349
B. <i>General Local Government Regulation</i> .....	351
i. Successful State Attempts at Regulation in the Oil and Gas Context .....	353
a. <i>Pennsylvania: An illustration of how a state’s constitution                 that protects the environment can allow municipalities to                 regulate hydraulic fracturing</i> .....	353
b. <i>Dryden, New York: A story of zoning and how allowing                 municipalities to serve as a state laboratory can lead to                 state wide changes</i> .....	354
c. <i>New Mexico: how one county has created expansive zoning                 ordinances to regulate fracking and another failed by being                 too expansive</i> .....	355

---

<sup>1</sup> Notes Editor, KENTUCKY LAW JOURNAL; J.D. expected 2019, University of Kentucky College of Law. Special thank you to the Kentucky Law Journal staff for their hard work and valuable feedback in editing this Note, Professor Zachary Bray for helping me formulate this topic and providing me with valuable research, and finally to Jacob Cross for his endless patience, support, and thoughtful feedback throughout the entirety of this process.

ii.	When Preemption Prevails: A look at Texas's and Colorado's Attempts to Regulate .....	357
a.	<i>Denton, Texas</i> .....	357
b.	<i>Colorado</i> .....	358
C.	<i>Local Regulation in West Virginia</i> .....	360
i.	<i>Northeast Natural Energy, LLC v. City of Morgantown</i> .....	360
ii.	<i>EQT Production Co. v. Wender</i> .....	362
III.	HOW WEST VIRGINIA CAN FULLY BENEFIT FROM THE INDUSTRY .....	363
A.	<i>West Virginia Workers</i> .....	363
B.	<i>Why Increasing the Severance Tax Would Benefit Everyone</i> .....	366
C.	<i>Cleaner forms of Fracking</i> .....	369
D.	<i>A Local Government's Path Forward</i> .....	370
	CONCLUSION .....	371

## INTRODUCTION

What were once booming towns throughout the United States, primarily in the Appalachian region, have now become desolate and near-forgotten. These towns are now filled with boarded-up and abandoned buildings, run-down homes, and dwindling populations.<sup>2</sup> Those who remain have nothing left to keep them there, but nowhere to truly escape to. These towns, once known as “Coal Country,” reached their zenith in the mid-1900s and have steadily declined since then, while the “Coal Country” in the heart of Appalachia is now a mere “cultural identity” of what once was.<sup>3</sup> In 2015, coal production had declined 63% since 2000.<sup>4</sup> One of the main contributing factors in the decline of coal is a cultural push for more environmentally friendly and cheaper forms of energy and to transition to using more renewable energy sources.<sup>5</sup>

As the coal industry was declining, hydraulic fracturing<sup>6</sup> steadily rose throughout the United States, and now makes up two-thirds of the United States’ natural gas production.<sup>7</sup> Though the method is used to extract a cleaner resource—natural gas—it has been the center of its own controversy.<sup>8</sup> Despite the positive fiscal and

<sup>2</sup> Ann Schmidt, *Decline of the Town That Coal Built: 100 Years After it Sprang Up to Fuel the Steel Industry, Attracting 10,000 Residents from 38 Nations, Lynch Is Home to Just 650 People and Struggles to Survive*, DAILY MAIL.COM (Mar. 27, 2017, 3:38 PM), <http://www.dailymail.co.uk/news/article-4332054/Lynch-Kentucky-turns-100-year-fights-survive.html> (describing Lynch, Kentucky, as the “‘Cadillac’ of coal mining towns in its heyday”, and the economic struggles the town faces today).

<sup>3</sup> Chris McGreal, *America’s Poorest White Town: Abandoned by Coal, Swallowed by Drugs*, GUARDIAN (Nov. 12, 2015, 7:00 AM), <https://www.theguardian.com/us-news/2015/nov/12/beattyville-kentucky-and-americas-poorest-towns> [<https://perma.cc/JMA2-SPYK>].

<sup>4</sup> *Id.* (stating that the coal industry had been declining decades before Obama took office and stricter Environmental Protection Agency (“EPA”) regulations were promulgated due to various economic factors including mechanization).

<sup>5</sup> See Bill Ritter, *Why States Are Pushing Ahead with Clean Energy Despite Trump’s Embrace of Coal*, CONVERSATION (Mar. 29, 2017, 10:18 PM), <http://theconversation.com/why-states-are-pushing-ahead-with-clean-energy-despite-trumps-embrace-of-coal-75430> [<https://perma.cc/GR4J-K2KP>]; Brian Kennedy, *Two-thirds of Americans Give Priority to Developing Alternative Energy over Fossil Fuels*, PEW RES. CTR. (Jan. 23, 2017), <http://www.pewresearch.org/fact-tank/2017/01/23/two-thirds-of-americans-give-priority-to-developing-alternative-energy-over-fossil-fuels/> [<https://perma.cc/3GPJ-3CXX>]. Another major contributing factor was the creation of more advanced technology making working in the mines safer, but also decreasing the number of individuals needed underground. See Brad Plumer, *Here’s Why Central Appalachia’s Coal Industry Is Dying*, WASH. POST (Nov. 4, 2013), [https://www.washingtonpost.com/news/wonk/wp/2013/11/04/heres-why-central-appalachias-coal-industry-is-dying/?hpid=hp\\_hp-top-table-main-appalachia-coal%3Ahomepage%2Ft&utm\\_term=.32b8402c8afe](https://www.washingtonpost.com/news/wonk/wp/2013/11/04/heres-why-central-appalachias-coal-industry-is-dying/?hpid=hp_hp-top-table-main-appalachia-coal%3Ahomepage%2Ft&utm_term=.32b8402c8afe) [<http://perma.cc/UR3R-QKD6>].

<sup>6</sup> Hydraulic fracturing can be referred to in a variety of ways, such as “fracking,” “fracing,” “hydrofracturing,” “frac’ing,” or “hydrofracking.” This Note will abbreviate “hydraulic fracturing” as “fracking” throughout for clarity.

<sup>7</sup> See Jack Perrin & Troy Cook, *Hydraulically Fractured Wells Provide Two-Thirds of U.S. Natural Gas Production*, ENERGY INFO. ADMIN. (May 5, 2016), <https://www.eia.gov/todayinenergy/detail.php?id=26112> [<https://perma.cc/NU7D-AGD8>] (illustrating the gradual growth of fracking over the past fifteen years).

<sup>8</sup> See Alexandra B. Klass, *Fracking and the Public Trust Doctrine: A Response to Spence*, 93 TEX. L. REV. 351 (2015) (highlighting the role the public trust doctrine plays in resolving state—local conflicts over regulation of fracking); David B. Spence, *The Political Economy of Local Vetoes*, 93 TEX. L. REV. 351 (2014) (highlighting the conflicts between state law and local ordinances attempting to regulate fracking); Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas*

economic impacts at the federal, state, and local levels,<sup>9</sup> there is concern surrounding the effects fracking could have environmentally and socioeconomically in the long run.<sup>10</sup> Methodical scientific study of its impacts has lacked, but those in academia and other researchers have begun to help fill that gap.<sup>11</sup> One of the main environmental concerns is water-related risks involving “surface water quality, and consumption- or quantity-related risks to water supply.”<sup>12</sup> Other risks include the triggering of seismicity or earthquakes due to “[u]nderground injection of wastewater from fracking operations in the wrong location,” air pollution risks due to the emissions of the engines and compressors used, and risks to the overall quality of life of the locals residing in “boomtowns.”<sup>13</sup> Despite the environmental concerns, hydraulic fracturing has generated support from the federal government,<sup>14</sup> states,<sup>15</sup> and “a minority of environmental groups.”<sup>16</sup> These entities have “endorsed the idea

---

*Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115 (2009) (arguing there is a lack of federal regulation and a gap in state regulation).

<sup>9</sup> See Charles F. Mason et al., *The Economics of Shale Gas Development*, 7 ANN. REV. RESOURCE ECON. 269 (2015) (describing the “direct market impacts” and “positive externalities” of shale gas development).

<sup>10</sup> See Wiseman, *supra* note 8, at 126–27; Joel Minor, Note, *Local Government Fracking Regulations: A Colorado Case Study*, 33 STAN. ENVTL. L. J. 59, 76–82 (2013).

<sup>11</sup> Spence, *supra* note 8, at 358.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* at 363–68. When fracking takes place, local communities begin to experience “noise, local air emissions, and other activities associated with industrial land uses.” *Id.* at 367. The communities may also experience a disruption in their rural ecosystems from the new roads and pipelines built. *Id.* Further, the trucks used can destroy the “local roads built for smaller vehicles . . . , a problem that is sometimes beyond the capacity of local governments to address, depending on the vagaries of local finance and how the state allocates responsibility for road maintenance.” *Id.* Finally, a change in local economics can “cause inflation, rendering goods and services unaffordable (or less affordable) to locals, some of whom do not benefit financially from the production boom.” *Id.* at 367–68.

<sup>14</sup> A goal at the federal level is to “assure[] that the full economic, environmental and energy security benefits of shale gas development will be realized without sacrificing public health, environmental protection and safety.” U.S. DEPT. OF ENERGY, SHALE GAS PROD. SUBCOMM., SECOND NINETY DAY REPORT (2011) [https://energy.gov/sites/prod/files/90day\\_Report\\_Second\\_11.18.11.pdf](https://energy.gov/sites/prod/files/90day_Report_Second_11.18.11.pdf) [<https://perma.cc/W2H6-PDW5>] [hereinafter Ninety Day Report].

<sup>15</sup> Groundwater Protection Council (“GWPC”) is a national association made up of state agencies with the goal of protecting and conserving groundwater. GROUND WATER PROT. COUNCIL, STATE OIL & GAS REGULATIONS DESIGNED TO PROTECT WATER RESOURCES (2014) <http://www.gwpc.org/sites/default/files/files/Oil%20and%20Gas%20Regulation%20Report%20Hyperlinked%20Version%20Final-rfs.pdf> [<https://perma.cc/65V5-F98T>] (noting state regulators emphasize the importance of “protecting water resources from adverse impacts that can occur during oil and natural gas exploration”). The fracking boom has been a “national phenomenon” and many states have activity involving the process of fracking. NATHAN RICHARDSON ET AL., RES. FOR THE FUTURE, THE STATE OF STATE SHALE GAS REGULATION, 1–3 (2013), [http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-Rpt-StateofStateRegs\\_Report.pdf](http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-Rpt-StateofStateRegs_Report.pdf) [<https://perma.cc/L9HX-LL7Y>].

<sup>16</sup> Spence, *supra* note 8, at 356. See Mark Brownstein, *Industry and Environmentalists Make Progress on Fracking*, ENVTL. DEF. FUND (Mar. 28, 2013), <http://www.edf.org/blog/2013/03/28/industry-and-environmentalists-make-progress-fracking> [<https://perma.cc/RQ4W-9JHS>] (illustrating that a coalition of environmental groups and industry executives agreed to fifteen standards related to shale gas development in the Appalachian Basin); ALEX TREMBATH ET AL., BREAKTHROUGH INST., COAL KILLER: HOW NATURAL GAS FUELS THE CLEAN ENERGY REVOLUTION 4 (June 2013), [https://thebreakthrough.org/images/main\\_image/Breakthrough\\_Institute\\_Coal\\_Killer.pdf](https://thebreakthrough.org/images/main_image/Breakthrough_Institute_Coal_Killer.pdf) [<https://perma.cc/PQX8-MRQX>] (noting that natural gas is a “coal killer, brings improved air quality and

of properly regulated shale gas production as a domestic energy source, economic boon, environmental improvement over coal-fired electricity and oil-based transportation fuels, and a bridge to a cleaner energy future.”<sup>17</sup> Though a well starts out strong in its ability to produce, it declines swiftly, which “sheds light on a dirty secret” of the fracking boom: that, like coal towns, boomtowns are not likely to endure, causing lasting effects to the environment and local communities once the industry “busts.”<sup>18</sup>

Despite the risks of hydraulic fracturing, the federal government has maintained its stance on leaving the regulation of oil and gas exploration and extraction to the states.<sup>19</sup> At the federal level, fracking is exempt from various environmental statutes—most notably the Safe Drinking Water Act.<sup>20</sup> The exemption was created in 2005 when Congress explicitly excluded fracking from the definition of “underground injection” under the Safe Drinking Water Act.<sup>21</sup> Congress did leave a limited exception to this exemption where fracking fluids used diesel fuel.<sup>22</sup> The codification came after a highly controversial EPA report which concluded injecting fracking fluids “into coalbed methane wells pose[d] little or no threat” to underground drinking water, and no further research was required.<sup>23</sup> The report did note there were concerns with the use of diesel fuel in hydraulic fracturing, but stated the EPA had entered into an agreement with three major companies to “voluntarily eliminate diesel fuel from hydraulic fracturing fluids that are injected directly” into underground water.<sup>24</sup> The report, however, noted that there was limited research done on the environmental impacts, and, perhaps more importantly, it failed to review the impact of underground injection of fracking fluids on groundwater in tight shale formations involved in hydraulic fracturing.<sup>25</sup> This exemption has become colloquially known as the “Halliburton loophole” largely because of the “efforts of

---

reduced greenhouse gas emissions, and can aid . . . the development . . . of zero-carbon energies”).

<sup>17</sup> Spence, *supra* note 8, at 355–56 (internal citations omitted).

<sup>18</sup> Asjylyn Loder, *U.S. Shale-Oil Boom May Not Last as Fracking Wells Lack Staying Power*, BLOOMBERG (Oct. 10, 2013, 7:07 PM), <https://www.bloomberg.com/news/articles/2013-10-10/u-dot-s-dot-shale-oil-boom-may-not-last-as-fracking-wells-lack-staying-power> (last visited Feb. 5, 2019).

<sup>19</sup> Wiseman, *supra* note 8, at 157 (explaining that states are in control of regulating hydraulic fracturing); Hannah Wiseman, *Regulatory Adaptation in Fractured Appalachia*, 21 VILL. ENVTL. L.J. 229, 286 (2010).

<sup>20</sup> *Free Pass for Oil and Gas: Oil and Gas Industry Exemptions*, ENVTL. WORKING GROUP (Mar. 26, 2009), <http://www.cwg.org/research/free-pass-oil-and-gas/oil-and-gas-industry-exemptions#.We34TGW5b-Y> [<https://perma.cc/3ZD3-EPU3>] (highlighting seven of the major federal environmental statutes the fracking industry is exempt from); *The Halliburton Loophole*, EARTHWORKS [https://earthworks.org/issues/inadequate\\_regulation\\_of\\_hydraulic\\_fracturing/](https://earthworks.org/issues/inadequate_regulation_of_hydraulic_fracturing/) [<https://perma.cc/3XK6-NWFU>] (noting that the EPA “does not regulate the injection of fracturing fluids under the Safe Drinking Water Act”).

<sup>21</sup> 42 U.S.C. § 300h(d)(1)(B)(ii) (2012); see also Adam Kron, *EPA’s Role in Implementing and Maintaining the Oil and Gas Industry’s Environmental Exemptions: A Study in Three Statutes*, 16 VT. J. ENVTL. L. 586, 609–10 (2015).

<sup>22</sup> Kron, *supra* note 21, at 609–10.

<sup>23</sup> U.S. ENVTL. PROT. AGENCY, EPA 816-R-04-003, EVALUATION OF IMPACTS TO UNDERGROUND SOURCES OF DRINKING WATER BY HYDRAULIC FRACTURING OF COALBED METHANE RESERVOIRS ES-1 (2004) [hereinafter EPA Report].

<sup>24</sup> *Id.* at ES-2.

<sup>25</sup> Kron, *supra* note 21, at 612–13.

[former] Vice President Dick Cheney's Energy Task Force" and his role as the CEO of Halliburton, "which patented hydraulic fracturing."<sup>26</sup>

Since there is a gap in regulatory authority at the federal level, tension has been created amongst local and state governments on who has the authority to regulate oil and gas extraction.<sup>27</sup> Many states take a narrow view on local government's authority to regulate the industry based off of states' broad oil and gas legislation and regulations, and federal and state courts use intrastate preemption to strike down local ordinances that impede upon the state's broad authority.<sup>28</sup> Scholars have argued that states should be left to regulate fracking because there is more participation "by both environmental and industry interests," which represents broader political positions and is less one-sided while promoting uniformity within the state.<sup>29</sup> Though this view may hold some merit, local governments also have an interest in both the benefits and related costs of fracking, which should give them room to adopt ordinances that co-exist with the state oil and gas regulatory regime.<sup>30</sup>

Academia has primarily focused on the need for federal regulation over fracking,<sup>31</sup> the potential environmental harms,<sup>32</sup> and whether states can and should regulate the industry.<sup>33</sup> Part I of this Note recapitulates a brief history and the general process of hydraulic fracturing. This Note will not address the numerous environmental concerns beyond what has been briefly mentioned. Instead, it will focus on the direct and indirect socioeconomic impacts fracking has at the federal, state, and local levels, which could vary depending on the region. These impacts, though, could all negatively impact cities since they bear the most costs. Part II explains the need for industry in West Virginia but questions the state having restrained local governments' ability to implement ordinances directed at fracking. Section B of that part will examine how other "boom states" have addressed the tension between state and local governments regulating fracking. Section C will look in-depth at the sparse case law in West Virginia addressing local governments' attempts at regulation and suggest how local governments can regulate in harmony without intrastate preemption based off of other states' regulatory regimes in this area. Part III explains West Virginia's path forward to truly and fully benefit from the fracking boom occurring within the state. It recognizes why the state has embraced the industry based off of the monetary incentives; it also argues, however, that there are mistakes the State made in its last "boom" that could be corrected in the current "boom" to help mitigate some of the consequences of the "bust." There

---

<sup>26</sup> *The Halliburton Loophole*, *supra* note 20.

<sup>27</sup> See Spence, *supra* note 8, at 351.

<sup>28</sup> When applying intrastate preemption, states generally "apply an approach similar to federal obstacle preemption"—asking does "a local ordinance substantially interfere[] with state law or the state's constitutional responsibilities[?]" Paul Diller, *Intrastate Preemption*, 87 B.U. L. REV. 1113, 1142 (2007). Intrastate preemption primarily occurs when a "city's authority in a particular area has been supplanted by state law," thus frustrating a city's ability to innovate. *Id.* at 1114; see also *infra* Section II.B.

<sup>29</sup> Alex Ritchie, *On Local Fracking Bans: Policy and Preemption in New Mexico*, 54 NAT. RESOURCES J. 255, 299 (2014).

<sup>30</sup> See *id.* at 268.

<sup>31</sup> See, e.g., Wiseman, *supra* note 8, at 116–17, 142–45.

<sup>32</sup> See, e.g., Spence, *supra* note 8, at 358–68.

<sup>33</sup> See, e.g., *id.* at 368–76.

may be some short-term gain for the state to embrace the industry, but the long term effects of when a well is completely tapped and the oil companies are gone will cause the fracking boom towns to turn into what was once “coal country.”

## I. THE RISE OF HYDRAULIC FRACTURING AND THE SOCIOECONOMIC IMPACTS OF BOOMTOWNS

### A. *The Fracking Boom: The Process*

Hydraulic fracturing is a method of natural gas and oil<sup>34</sup> extraction, which has grown rapidly throughout the United States in the last decade, particularly in the Appalachian region, which overlies the Marcellus Shale—the most expansive shale formation in the United States.<sup>35</sup> Shale formations have increasingly become important sources of natural gas within the United States because many “contain large quantities of ‘trapped’ natural gas or oil.”<sup>36</sup> To increase the productivity of the gas in the shale, fractures are created, providing flow space for the gas or oil.<sup>37</sup> Drilling and hydraulic fracturing of a well happens in several stages. First, the company wanting to drill must test the site for the presence of oil or gas and acquire the proper land use permits and mineral rights.<sup>38</sup> Then, it must actually construct a well-site and access road to the well pad.<sup>39</sup> To actually frack a shale formation, an operator must drill a well and properly case it.<sup>40</sup> Most of the drilled wells for

---

<sup>34</sup> Though primarily used for natural gas extraction, fracking is also used to extract oil. See AM. PETROLEUM INST., HYDRAULIC FRACTURING: UNLOCKING AMERICA’S NATURAL GAS RECOURSES 2 (2017), <http://www.api.org/~media/Files/Oil-and-Natural-Gas/Hydraulic-Fracturing-primer/Hydraulic-Fracturing-Primer.pdf> [<https://perma.cc/NR4-77VU>] (estimating that hydraulic fracturing accounted for more than 43% of total U.S. oil production in 2013).

<sup>35</sup> It is estimated that the Marcellus Shale has “84 trillion cubic feet of undiscovered, technically recoverable natural gas and 3.4 billion barrels of undiscovered, technically recoverable natural gas liquids.” *How Much Gas Is in the Marcellus Shale?*, U.S. GEOLOGICAL SURV., [https://www.usgs.gov/faqs/how-much-gas-marcellus-shale?qt-news\\_science\\_products=7#qt-news\\_science\\_products](https://www.usgs.gov/faqs/how-much-gas-marcellus-shale?qt-news_science_products=7#qt-news_science_products) [<https://perma.cc/KL33-2HX7>]; see also TIMOTHY CONSIDINE ET AL., THE ECONOMIC IMPACTS OF THE PENNSYLVANIA MARCELLUS SHALE NATURAL GAS PLAY: AN UPDATE iv (May 24, 2010), <http://marcelluscoalition.org/wp-content/uploads/2010/05/PA-Marcellus-Updated-Economic-Impacts-5.24.10.3.pdf> [<https://perma.cc/S4NW-SWME>] (“[T]he Marcellus Shale has the potential to be the second largest natural gas field in the world, behind only the South Pars/Asalouyeh field shared between the nations of Iran and Qatar.”).

<sup>36</sup> Wiseman, *supra* note 8, at 118; see also *The Process of Unconventional Natural Gas Production*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/uog/process-unconventional-natural-gas-production> [<https://perma.cc/HS32-W59F>].

<sup>37</sup> Wiseman, *supra* note 8, at 118.

<sup>38</sup> Hannah J. Wiseman, *Regulatory Islands*, 89 N.Y.U. L. REV. 1661, 1695 (2014); Wiseman, *supra* note 19, at 236.

<sup>39</sup> Wiseman, *supra* note 19, at 236.

<sup>40</sup> ALEXANDER BARTIK ET AL., THE LOCAL ECONOMIC AND WELFARE CONSEQUENCES OF HYDRAULIC FRACTURING 7 (2016) <http://cepr.mit.edu/files/papers/2016-002.pdf> [<https://perma.cc/RF8E-HQE9>]; Wiseman, *supra* note 19, at 237 (explaining that casing maintains the structure of the well and isolates the “substances moving through the wellbore from other underground resources”).



hydraulic fracturing are drilled significantly lower than conventional wells<sup>41</sup> and are horizontal—a vertical bore is drilled “thousands of feet underground” and then is deviated, “thus drilling a long, lateral bore through the shale from the initial vertical bore.”<sup>42</sup>

Once the proper permits have been acquired, “engineers inject a fluid” consisting of water, proppant, and a chemical additive at high pressures to create new fractures or “to expand existing natural fractures.”<sup>43</sup> To prepare this fluid, “several thousand gallons of chemicals” are mixed with several “million[] . . . gallons of water” to create fracking fluid to frack a single well. The fracking fluid is usually brought in on trucks or through a pipeline.<sup>44</sup> The fluids used help “stimulate fractures . . . to send proppants into the fractures,” and also “help pull back the excess proppants once the fractures have been stimulated.”<sup>45</sup> The injected proppants—sand, ceramic pellets, or other small incompressible particles—hold open the fractures created by hydraulic fracturing.<sup>46</sup> Ultimately, the “goal of many frac[k]ing operations is to ensure that the fractures connect the wellbore to the area of the shale . . . in which production has been stimulated, allowing the gas or oil to flow into the well.”<sup>47</sup> The extracted natural gas is then transported from the site via the greater pipeline network or gas truck to a nearby pipeline system where it will be transported to a midstream processing plant.<sup>48</sup> The final stage of the fracking process is wastewater disposal of water that is brought back to the surface after fracking.<sup>49</sup> The disposal of fracking wastewater is largely controlled by cost, “the local availability of disposal methods,”

---

<sup>41</sup> BARTIK ET AL., *supra* note 40 (explaining unconventional wells sometimes exceed 10,000 feet and generally sit well below the water table).

<sup>42</sup> Wiseman, *supra* note 19, at 237.

<sup>43</sup> BARTIK ET AL., *supra* note 40; Wiseman, *supra* note 19, at 238; Wiseman, *supra* note 8 at 118. There have been laws enacted providing requirements for all levels of government, “tribes, and industry regarding . . . ‘community right-to-know’ reporting on hazardous and toxic chemicals” used, along with their “potential releases into the environment.” *Chemicals & Public Disclosure*, FRACFOCUS, <https://fracfocus.org/chemical-use/chemicals-public-disclosure> [https://perma.cc/2LGN-Q6CT]. FracFocus, which is the “national hydraulic fracturing chemical registry” was created to allow the public to have access to information on the chemicals used in fracking within their area and to encourage companies to report the chemicals used in their wells. *About Us*, FRACFOCUS, <https://fracfocus.org/welcome> [https://perma.cc/A87D-VYW8].

<sup>44</sup> Wiseman, *supra* note 19, at 238; *see also* Ninety Day Report, *supra* note 14, at 17 (recommending public disclosure of all chemicals in fracking fluids and a reduction in the use of diesel engines for surface power); Bobby Magill, *Study: Water Use Skyrockets as Fracking Expands*, CLIMATE CENT. (July 1, 2015), <http://www.climatecentral.org/news/fracking-water-use-skyrockets-19177> [https://perma.cc/7QNY-5X82] (explaining that fracking uses more than 28 times more water it did a decade ago).

<sup>45</sup> Wiseman, *supra* note 8, at 119; *see also* EPA Report, *supra* note 23, at 4-1.

<sup>46</sup> *See* Wiseman, *supra* note 8, at 118.

<sup>47</sup> *Id.*

<sup>48</sup> Midstream activities include processing, storing, transporting, and marketing of oil, natural gas, and natural gas liquids. *Industry Overview*, PETROLEUM SERVS. ASS’N CAN., <https://www.psac.ca/business/industry-overview/> [https://perma.cc/U22J-6YBC]. Natural gas liquids are primarily made up of ethane, butane, propane, and sulphur. *Id.*

<sup>49</sup> U.S. ENVTL. PROT. AGENCY, EPA-600-R-16-236ES, HYDRAULIC FRACTURING FOR OIL AND GAS: IMPACTS FROM THE HYDRAULIC FRACTURING WATER CYCLE ON DRINKING WATER RESOURCES IN THE UNITED STATES, EXECUTIVE SUMMARY 7 (2016) [https://www.epa.gov/sites/production/files/2016-12/documents/hfdwa\\_executive\\_summary.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/hfdwa_executive_summary.pdf) [https://perma.cc/3J8H-FV7K] [hereinafter HYDRAULIC FRACTURING WATER CYCLE REPORT].

and “federal, state, and local regulations.”<sup>50</sup> There are three common uses of the wastewater: injection in underground wells, reuse in other fracking operations, and aboveground disposal.<sup>51</sup> The wastewater can also be used for “beneficial uses” such as irrigation or livestock watering if the quality of the water is suitable.<sup>52</sup> The most common use of wastewater is injection in Class II wells, which are used to “inject wastewater associated with oil and natural gas production.”<sup>53</sup> Each of the steps in the fracking process must be done with extreme caution because bad practices can cause numerous risks. If a well is inadequately cased, then there is the risk of the well polluting groundwater with methane, diesel fuel, and fracking waste.<sup>54</sup> Spills and leaks are feared to contaminate soil, surface water, and groundwater.<sup>55</sup>

The “combination of economic, technological, and regulatory factors” have triggered an “unprecedented boom in unconventional oil.”<sup>56</sup> This Note will assume that local governments should have the authority to regulate the fracking industry because they may be in the best position to mitigate its impacts and ride its economic boom.<sup>57</sup> The goal of this Note is not to argue local governments should have sole control over fracking regulations, but instead is to clarify the scope of local government authority, specifically in West Virginia—a state that has been unwelcoming to local regulation—and suggest effective ways a local government within West Virginia can regulate in harmony based off of methods that have been successful in other “fracking boom states.”<sup>58</sup>

### B. Socioeconomic Impacts

“Socioeconomic impacts describe how an activity changes a community's social fabric—a more qualitative measure—and its economic status—a quantitative measure.”<sup>59</sup> A socioeconomic impact analysis is a common practice at the federal and state level when assessing environmental impact because it addresses the local social and economic implications of the activity.<sup>60</sup> The fracking boom is still

<sup>50</sup> *Id.* at 34 (noting other factors include “the quality of produced water, the volume, duration, and flow rate of produced water, . . . and well operator preferences”).

<sup>51</sup> *Id.* at 34–37. Wastewater that is disposed of on the surface is usually placed in lined pits to allow for evaporation, percolation pits to allow the water to seep into the ground—though this has largely been banned—or wastewater treatment facilities so the water can be released to surface water. *Id.*

<sup>52</sup> *Id.* at 34.

<sup>53</sup> *Id.* at 34–35; see also *Class II Oil and Gas Related Injection Wells*, ENVTL. PROTECTION AGENCY, <https://www.epa.gov/uic/class-ii-oil-and-gas-related-injection-wells> [<https://perma.cc/G9SL-Z3TC>].

<sup>54</sup> See Wiseman, *supra* note 19, at 252, 256, 290; Vitthalrao B. Khyade, *Hydraulic Fracturing: Environmental Issue*, 40 *WORLD SCI. NEWS* 58, 71–72 (2016), <http://www.worldscientificnews.com/wp-content/uploads/2015/10/WSN-40-2016-58-92-1.pdf> [<https://perma.cc/Z4BD-4WBT>].

<sup>55</sup> Wiseman, *supra* note 19, at 280.

<sup>56</sup> Minor, *supra* note 10, at 66.

<sup>57</sup> See David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, 161 *U. PENN. L. REV.* 431, 507 (2013).

<sup>58</sup> See *infra* Subsection II.B.1 and Section II.C.

<sup>59</sup> Minor, *supra* note 10, at 71.

<sup>60</sup> *Id.*; see also JESSE FERNANDES ET AL., *UNIV. OF MICH. SCH. OF NAT. RES. & ENVT., RENEWABLE ENERGY IN THE CALIFORNIA DESERT: MECHANISMS FOR EVALUATING SOLAR DEVELOPMENT ON PUBLIC LANDS* 171 (2010), <http://webservices.itcs.umich.edu/drupal/recd/sites/webservices.itcs.umich.edu.drupal/recd/fi>

relatively new to West Virginia communities,<sup>61</sup> so, though, there has been some research predicting a positive change in West Virginia communities,<sup>62</sup> there has not been scholarship addressing the negative externalities that accompany the boom, many of which echo the externalities of the coal boom and bust.

Fracking, like most mineral extraction, occurs in a “boom” and “bust” cycle. Many rural towns within the United States experience sudden population “booms” when drilling begins due to an influx of workers within the industry.<sup>63</sup> It is likely that rural communities that overlay the Marcellus Shale, the largest shale within the United States,<sup>64</sup> will experience similar population shifts. This increased activity also causes towns to experience an economic boom, bringing an increase in businesses, jobs,<sup>65</sup> and property values.<sup>66</sup> In December 2017, it was estimated that the United States dry natural gas production averaged a record-high 78.1 billion cubic feet per day.<sup>67</sup> During 2017, the Marcellus Shale had the highest average of dry shale gas production within the United States.<sup>68</sup> Pennsylvania was the first state overlying the Marcellus Shale where horizontal drilling occurred;<sup>69</sup> however, once it was predicted that the Marcellus Shale had more trapped oil and natural gas than any other shale in the U.S., other states overlying the shale followed.<sup>70</sup> West Virginia, which was one of the nation’s leading coal producers,<sup>71</sup> is not a stranger to side effects of “boom and bust” industries. The hope fracking holds, however, has helped push a new “boom and bust” industry into rural Appalachia.

---

les/Chapter%208%20Socioeconomic%20Impact%20Analysis\_0.pdf [https://perma.cc/K2ZM-58KP].

<sup>61</sup> See Wiseman, *supra* note 19, at 241.

<sup>62</sup> Joshua P. Fershee, *The Oil and Gas Evolution: Learning from the Hydraulic Fracturing Experiences in North Dakota and West Virginia*, 19 TEX. WESLEYAN L. REV. 23, 28 (2012) (highlighting the increased revenue and jobs).

<sup>63</sup> Minor, *supra* note 10, at 72.

<sup>64</sup> Wiseman, *supra* note 19, at 240.

<sup>65</sup> See AM. PETROLEUM INST., IMPACTS OF THE NATURAL GAS AND OIL INDUSTRY ON THE US ECONOMY IN 2015 E-1 (2015) <http://www.api.org/~media/Files/Policy/Jobs/Oil-and-Gas-2015-Economic-Impacts-Final-Cover-07-17-2017.pdf> [https://perma.cc/CP8M-Z5TG]; see also Mara Van Ellis, *A North Dakota Oil Boom Goes Bust*, ATLANTIC (June 27, 2015) <https://www.theatlantic.com/business/archive/2015/06/north-dakota-oil-boom-bust/396620/> [https://perma.cc/UHT5-45DP] (noting fast food chains paid above minimum-wage and offered bonuses for employees during the North Dakota fracking boom because there was an increase demand for workers).

<sup>66</sup> Max Garland, *Study Finds Net Benefit for Fracking Communities*, CHARLESTON GAZETTE-MAIL (Jan. 10, 2017) [https://www.wvgazette.com/business/study-finds-net-benefit-for-fracking-communities/article\\_8e2ca1f0-2571-5739-bb5b-b4ae920d4498.html](https://www.wvgazette.com/business/study-finds-net-benefit-for-fracking-communities/article_8e2ca1f0-2571-5739-bb5b-b4ae920d4498.html) [https://perma.cc/K5QQ-GX56].

<sup>67</sup> *Natural Gas Weekly Update for Week Ending January 17, 2018*, U.S. ENERGY INFO. ADMIN. (Jan. 18, 2018) [hereinafter *Weekly Update*], <https://www.eia.gov/naturalgas/weekly/> [https://perma.cc/46H7-RQR9]. Dry gas does not have much else in it except for methane; whereas, wet gas contains compounds such as ethane and butane that can be separated and sold on their own. *What's the Difference Between Wet and Dry Natural Gas?*, ST. IMPACT PA., <https://stateimpact.npr.org/pennsylvania/tag/natural-gas-prices/> [https://perma.cc/H4HH-96QE].

<sup>68</sup> *Weekly Update*, *supra* note 67.

<sup>69</sup> In 2003, the first natural gas well was drilled in Pennsylvania over the Marcellus and it began producing two years later. Wiseman, *supra* note 19, at 240 & n.58.

<sup>70</sup> *Id.* at 240–41.

<sup>71</sup> West Virginia remains one of the country’s top coal producers. *Which States Produce the Most Coal?*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.php?id=69&t=2> [https://perma.cc/52AX-5R5X].

### i. Socioeconomic benefits at the federal and state levels

Federal, state, and local levels of government have all experienced social and economic benefits from the fracking boom. The federal and state levels, though, tend to experience more of the positive side effects of the fracking boom, while the local governments are left to bear most of the negative side effects of the industry.<sup>72</sup> Total federal revenue resulting from “oil, gas, and natural gas” leasing activity on federal lands was \$10.1 billion in fiscal years 2010 and 2011.<sup>73</sup> In 2017, “sales of oil, gas, and natural gas liquids produced on Federal and Indian lands accounted for approximately . . . 9 percent of all natural gas, and 6 percent of all natural gas liquids produced in the United States.”<sup>74</sup> These sales accounted for \$2.2 billion in “Federal royalties, rental payments[,] and bonus bids,”<sup>75</sup> and development on the federal properties contributed over \$59.6 billion to the United States economy in 2017.<sup>76</sup> In 2018, the Bureau of Land Management generated over one billion dollars solely in oil and gas lease sales, which is the “highest-grossing year on record.”<sup>77</sup> In addition, natural gas is expected to continue growing, and after 2020 the production rate within the U.S. is expected to grow quicker than the consumption rate opening up the opportunity to export more “natural gas to global markets” further benefiting the economy.<sup>78</sup> Further, it is estimated that opening up oil, gas, and coal resources on federal lands could lead to revenues in excess of \$127 billion annually over the next seven years and \$663 billion annually in later decades.<sup>79</sup> The numbers above do not account for revenue generated from non-federal lands, where the majority of shales are located, which suggests that the United States and individual states stand to gain even more economically from fracking.<sup>80</sup>

Additionally, the fracking boom has increased the supply and lowered the wellhead price of natural gas and oil barrels within the United States.<sup>81</sup> The decrease

<sup>72</sup> See *infra* Subsection I.B.ii.

<sup>73</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-45R, MINERAL RESOURCES: MINERAL VOLUME, VALUE, AND REVENUE (2012), <https://www.gao.gov/assets/660/650122.pdf> [<https://perma.cc/7KQC-GE8Y>].

<sup>74</sup> *About the BLM Oil and Gas Program*, U.S. DEP'T INTERIOR, BUREAU LAND MGMT., <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/about> [<https://perma.cc/VCZ8-ECXX>].

<sup>75</sup> *Id.*

<sup>76</sup> *Energy Revolution Unleashed: Interior Shatters Records with \$1.1 Billion in 2018 Oil and Gas Sales*, U.S. DEP'T INTERIOR, BUREAU LAND MGMT. (Feb. 6, 2019), <https://www.doi.gov/news/energy-revolution-unleashed-interior-shatters-previous-records-11-billion-2018-oil-and-gas> [<https://perma.cc/V7LL-N6TT>].

<sup>77</sup> *Id.*

<sup>78</sup> U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2019 WITH PROJECTIONS TO 2050, at 72 (2019), <https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf> [<https://perma.cc/S2DV-YYU5>].

<sup>79</sup> JOSEPH R. MASON, INST. FOR ENERGY RESEARCH, THE ECONOMIC EFFECTS OF IMMEDIATELY OPENING FEDERAL LANDS TO OIL, GAS AND COAL LEASING 1 (2015), <http://instituteforenergyresearch.org/wp-content/uploads/2016/01/IER-Mason-Study.pdf> [<https://perma.cc/WV4F-PFHS>].

<sup>80</sup> MARC HUMPHRIES, FOR CONG. RES. SERV., U.S. CRUDE OIL AND NATURAL GAS PRODUCTION IN FEDERAL AND NONFEDERAL AREAS 4 (2016), <https://fas.org/sgp/crs/misc/R42432.pdf> [<https://perma.cc/36CV-L29U>].

<sup>81</sup> TREVOR HOUSER, JASON BORDOFF & PETER MARSTERS, COLUMBIA CTR. ON GLOB. ENERGY POLICY, CAN COAL MAKE A COMEBACK? 16 (2017),

in natural gas prices is one of the contributing factors in the decline of coal-generated electric power, which in turn has caused a shift away from an industry that once dominated rural Appalachia.<sup>82</sup> This shift, though, could potentially have many “long- and short-term [positive effects on] public health in communities near coal-fired electrical . . . facilities.”<sup>83</sup> Though the overall low cost of natural gas is appealing, scholars have noted that these costs have made renewable energy less attractive, which ultimately undercuts the renewable energy industry as a whole.<sup>84</sup> Thus, it has been suggested that the socioeconomic gains natural gas may have over coal may become less significant because natural gas exploration gives no incentive to move forward and explore renewable options.<sup>85</sup>

The most significant economic benefit of the fracking boom is the number of jobs created. According to the Bureau of Labor Statistics, the oil and gas extraction sector employed approximately 150,000 people through 2018.<sup>86</sup> These workers are well paid—the mean annual income ranged anywhere between \$43,660 for a roustabout (a well-pad laborer) to \$154,840 for a petroleum engineer.<sup>87</sup> Additionally, the American Petroleum Institute (“API”) estimated a total of “10.3 million full- and part-time jobs” within the oil and gas industry have been created, which accounted for 5.6% of total U.S. employment in 2015.<sup>88</sup> This estimate included jobs merely affected by America’s oil and natural gas industry, which include: accountants, chemical engineers, construction workers, day care providers, the flight industry, lawyers, and project managers.<sup>89</sup> Though it is not clear, it is likely that an increased need for many of these spillover jobs is indirectly related to the industry due to the fracking boom.

## ii. Indirect Socioeconomic impacts at the local level

Though the federal and state level have experienced several economic benefits, local communities are left to bear most of the fracking boom’s socioeconomic costs.

### a. *Employment and job distribution*

At the federal level, there has been a significant increase in the number of jobs

---

[http://energypolicy.columbia.edu/sites/default/files/Center\\_on\\_Global\\_Energy\\_Policy\\_Can\\_Coal\\_Make\\_Comeback\\_April\\_2017.pdf](http://energypolicy.columbia.edu/sites/default/files/Center_on_Global_Energy_Policy_Can_Coal_Make_Comeback_April_2017.pdf) [<https://perma.cc/929R-MYSG>].

<sup>82</sup> *Id.* at 5 (finding more stringent environmental regulations were not the main contributor to the decline of the coal industry, but instead the cost reduction in natural gas has been one of the key factors in the decline).

<sup>83</sup> Minor, *supra* note 10, at 74.

<sup>84</sup> See Patrick Parenteau & Abigail Barnes, *A Bridge Too Far: Building Off-Ramps on the Shale Gas Superhighway*, 49 IDAHO L. REV. 325, 345–47 (2013).

<sup>85</sup> *See id.*

<sup>86</sup> See *Oil and Gas Extraction: NAICS 211*, BUREAU LAB. STAT., <https://www.bls.gov/iag/tgs/iag211.htm#workforce> [<https://perma.cc/HP64-QERW>].

<sup>87</sup> *Id.*

<sup>88</sup> AM. PETROLEUM INST., *supra* note 65, at E-1.

<sup>89</sup> AM. PETROLEUM INST., AMERICA’S OIL AND NATURAL GAS INDUSTRY SUPPORTS OVER 9 MILLION JOBS (2010), [http://www.sunsetoilandgaspartners.com/resources/Supporting\\_Over\\_9\\_Million\\_Jobs.pdf](http://www.sunsetoilandgaspartners.com/resources/Supporting_Over_9_Million_Jobs.pdf) [<https://perma.cc/CK73-MHMF>].

created due to more domestic production of natural gas.<sup>90</sup> The distribution of the jobs is an issue on the local level because most of the actual oil field jobs do not go to local residents.<sup>91</sup> Residents may receive an extra shift somewhere that indirectly affects the industry, but this shift or position created is not permanent.<sup>92</sup> This is particularly damaging to rural Appalachia where unemployment rates are some of the highest in the country.<sup>93</sup>

Oil and gas jobs are extremely transient and require substantial training, which can be expensive for companies to continually invest in each time a new well is drilled at a site.<sup>94</sup> Because of this, local residents in boomtowns do not fully benefit from the industry many towns have longed for, thus keeping local residents unemployed or in the lower paying service jobs.<sup>95</sup> This is further exacerbated by the fact that most of the companies engaged in extracting oil and gas are out-of-state companies, so they are investing in workers from the state in which the headquarters are located.<sup>96</sup>

### *b. Public health costs*

Because these communities must accommodate many transient workers during a boom, this has an overall effect on the “socioeconomic picture of the community as a whole.”<sup>97</sup> This includes bearing costs associated with an extremely dangerous line of work. Between 2003 and 2015, the annual fatality rate of oil and gas extraction workers was “seven times higher than for all U.S. workers.”<sup>98</sup> It has been predicted that oil and gas work is more dangerous than coal mining, which produced very

<sup>90</sup> See AM. PETROLEUM INST., *supra* note 65 at E-1–E-2.

<sup>91</sup> See Kathryn J. Brasier et al., *Residents’ Perceptions of Community and Environmental Impacts from Development of Natural Gas in the Marcellus Shale: A Comparison of Pennsylvania and New York Cases*, 26 J. RURAL SOC. SCI. 32, 35 (2011).

<sup>92</sup> See *id.* (“Many jobs generated from energy development focus on providing goods and services to workers. These jobs often have less stability and offer fewer benefits.” (citation omitted)).

<sup>93</sup> *Local Area Unemployment Statistics*, BUREAU OF LAB. STAT., <https://www.bls.gov/web/laus/laumstrk.htm> [<https://perma.cc/23SA-K3GY>] (illustrating that the majority of the states in the Appalachian region have unemployment rates higher than half of the country—West Virginia having the highest of the Appalachian states).

<sup>94</sup> See Brasier et al., *supra* note 91, at 35 (“Long-term residents in rural communities often do not have the skills and training for the jobs available in the new industry. Training local workers can take a substantial amount of time . . .”).

<sup>95</sup> See *id.*; Christian Zawojski, *Fracking, and the Workers it Draws, Change a Region’s Cultural Landscape*, BALT. SUN (Feb. 19, 2015, 12:01 PM), <http://www.baltimoresun.com/news/opinion/oped/bs-ed-fracking-0220-20150219-story.html> (last visited Feb. 5, 2018) (noting that an irreparable harm is created to the “cultural landscape” of towns affected by fracking booms).

<sup>96</sup> See Patrick Reis, *West Virginia’s Ghosts Haunt the Fracking Boom*, ATLANTIC (Oct. 28, 2013), <https://www.theatlantic.com/politics/archive/2013/10/west-virginias-ghosts-haunt-fracking-boom/453153/> [<https://perma.cc/LH3Z-M96P>] (explaining only one of the natural gas companies in West Virginia is headquartered there, and even that is a subsidiary of a larger out-of-state company).

<sup>97</sup> Minor, *supra* note 10, at 76.

<sup>98</sup> Matthew M. Gunter et al., *Fatal Injuries in Offshore Oil and Gas Operations—United States, 2003–2010*, 62 MORBIDITY & MORTALITY WKLY. REP. 301, 301 (2013), <https://www.cdc.gov/mmwr/pdf/wk/mm6216.pdf> [<https://perma.cc/57HT-SJK2>].

serious and deadly accidents.<sup>99</sup> This is partly because oil and gas companies “enjoy many exemptions to federal safety standards.”<sup>100</sup>

Beyond the public health costs of being an inherently dangerous field, there are numerous public health risks that are well documented with residential proximity to fracking operations. Though there are regulations that dictate how far back a fracking site must be from a residential home, the proximity is not far—in West Virginia, the setback requirement is 625 feet.<sup>101</sup> Studies have suggested that residents living within a particular proximity of a well are exposed to high rates of both carcinogens and other hazardous air pollutants.<sup>102</sup> It has also been suggested that fracking causes more broad air pollution issues, which could lead to various public health issues in persons located in close proximity.<sup>103</sup> In addition to air pollution, there is concern of water contamination caused by leakage and flowback water.<sup>104</sup> Further, similar to other mineral extracting jobs, it is reasonable to predict that workers at the drilling site will face adverse health effects from prolonged “exposure to toxins used in fracking.”<sup>105</sup>

Beyond physical harm, fracking has been linked to psychological harm for citizens living near a drill site. A recent study found that the noise produced by fracking could increase the risk of adverse effects on human health.<sup>106</sup> The noise from fracking operations can affect health in three primary non-auditory categories: annoyance, sleep disturbance, and cardiovascular health.<sup>107</sup> Health outcomes can be affected by noise sensitivity, however, each of these categories has an overall impact on an individual’s well-being.<sup>108</sup> Not all operations are at a high decibel, however, the “low-level sustained noises” can also have adverse health effects because drilling often occurs twenty-four hours a day for several weeks at a time.<sup>109</sup> Currently, West Virginia does not regulate noise related to fracking activities, and the Executive Director of The West Virginia Division of Air Quality has stated that categorizing noise as a nuisance, at the state level, would be “too vague to enforce.”<sup>110</sup>

---

<sup>99</sup> Emily Guerin, *Dark Side of the Boom: How Dangerous Is Too Dangerous?*, INSIDE ENERGY (Sept. 15, 2014), <http://insideenergy.org/2014/09/15/dark-side-of-the-boom-how-dangerous-is-too-dangerous/> [<https://perma.cc/6CV7-6VXZ>].

<sup>100</sup> *Id.*

<sup>101</sup> W. Va. Code § 22-6A-12(a) (2018). Well pads can be as close as 250 feet from an “existing water well or developed spring used for human or domestic animal consumption.” *Id.*

<sup>102</sup> Denise Meyer, *Fracking Linked to Cancer-Causing Chemicals, New YSPH Study Finds*, YALE SCH. PUB. HEALTH (Oct. 24, 2016), <https://publichealth.yale.edu/article.aspx?id=13714> [<http://perma.cc/M9XF-35RQ>].

<sup>103</sup> Minor, *supra* note 10, at 77.

<sup>104</sup> Wiseman, *supra* note 19, at 253.

<sup>105</sup> Minor, *supra* note 10, at 77.

<sup>106</sup> Jake Hays et al., *Public Health Implications of Environmental Noise Associated with Unconventional Oil and Gas Development*, 580 SCI. TOTAL ENV’T. 448, 450 (2017).

<sup>107</sup> *Id.* at 451–52.

<sup>108</sup> *Id.*

<sup>109</sup> *Id.*; see also Minor, *supra* note 10, at 78–79 (noting noise levels can reach 80 decibels which is the sound level of a “single-rotor helicopter”).

<sup>110</sup> Casey Junkins, *West Virginia DEP Won’t Monitor Light, Sound Pollution at Compressor Sites*, INTELLIGENCER WHEELING NEWS REG. (Feb. 14, 2017), <http://www.theintelligencer.net/news/top-headlines/2017/02/west-virginia-dep%E2%80%88wont-monitor-light-sound-pollution-at-compressor-sites/> [<https://perma.cc/Z6RT-23VY>].

iii. Indirect socioeconomic impacts: The costly side effects local communities' experience with hydraulic fracturing

*a. Breaking an already broken region: Crime and substance abuse*

Fracking booms generally bring many well-paid, mostly male, transient workers into rural and poor towns. The line of work is extremely dangerous and is predicted to increase the risk of substance abuse.<sup>111</sup> This can be detrimental to many of these communities where the opioid epidemic has already taken a significant toll.

Rural Appalachia already boasts some of the highest opioid addiction rates and opioid related drug overdose rates in the country. West Virginia has the highest rate of death due to drug overdoses—in 2016, 52 people out of every 100,000 died due to a drug overdose.<sup>112</sup> Though the opioid crisis in rural Appalachia cannot be directly linked to fracking, increased drug trafficking and drug use in boomtowns is a significant issue. In North Dakota, violent crime increased one hundred twenty one percent between 2005 and 2011 near the Williston Basin region (overlying the Bakken shale).<sup>113</sup> This crime is attributed to increased drug usage and trade—mostly of heroin and methamphetamine—near the Fort Berthold Indian reservation, which has been described as the “worst tragedy” on the reservation.<sup>114</sup> Because of the high risks of work related injuries and the transient nature of the job, it is reasonable to predict fracking could only exacerbate the opioid crisis and drug use already crippling many rural towns. Once the transient workers leave the area, drug trafficking may decrease, however, the addictions will remain, leaving local communities to bear the costs. Further, because the workers are primarily males, the crimes associated with the fracking boom tend to be more gendered in nature.<sup>115</sup>

*b. Bearing the costs of inadequate housing and deteriorating road conditions*

Many oil and gas workers live in “man camps—temporary housing compounds” that are typically “modular dormitory-style buildings” set up near drill sites.<sup>116</sup> In Marshall County, West Virginia, if a company has ten or more people working at a

---

<sup>111</sup> See NAT'L INST. OF ENVTL. HEALTH STUDIES, HYDRAULIC FRACTURING AND HEALTH 1 (2014), [https://www.niehs.nih.gov/health/materials/hydraulic\\_fracturing\\_and\\_health\\_508.pdf](https://www.niehs.nih.gov/health/materials/hydraulic_fracturing_and_health_508.pdf) [<https://perma.cc/RM6S-8ZGZ>].

<sup>112</sup> *Drug Overdose Death Data*, CTRS. FOR DISEASE CONTROL & PREVENTION (Dec. 19, 2018), <https://www.cdc.gov/drugoverdose/data/statedeaths.html> [<https://perma.cc/8HQU-XWPR>].

<sup>113</sup> Sari Horwitz, *Dark Side of the Boom*, WASH. POST (Sept. 28, 2014), [http://www.washingtonpost.com/sf/national/2014/09/28/dark-side-of-the-boom/?utm\\_term=.afa852f69eda](http://www.washingtonpost.com/sf/national/2014/09/28/dark-side-of-the-boom/?utm_term=.afa852f69eda) [<https://perma.cc/8434-6TW9>] (“North Dakota’s oil rush brings cash and promise to reservation, along with drug-fueled crime.”).

<sup>114</sup> *Id.*

<sup>115</sup> See Andrew Breiner, *The Product of an Oil Boom: Violence, Addiction, and STDs*, THINK PROGRESS (Oct. 23, 2013, 3:45 PM), <https://thinkprogress.org/the-product-of-an-oil-boom-violence-addiction-and-stds-a91dec824bb9/> [<https://perma.cc/S943-DM7B>].

<sup>116</sup> A.G. Sulzberger, *Oil Rigs Bring Camps of Men to the Prairie*, N.Y. TIMES (Nov. 25, 2011), <https://www.nytimes.com/2011/11/26/us/north-dakota-oil-boom-creates-camps-of-men.html> [<https://perma.cc/4X56-N9RX>].



site then it must apply for a “labor camp” permit.<sup>117</sup> In rural boomtowns, the availability of housing poses another socioeconomic cost falling on the local communities. The rapid influx of oil and gas workers escalates housing prices and rental rates because there is typically not enough housing in the area to meet the demands of the workers moving in, which can potentially push long-term residents out of towns they have always resided in.<sup>118</sup> Though communities can build new homes for purchase or rental, this takes time and money that many communities do not have.<sup>119</sup> Further, communities do not feel responsible for investing in large-scale development that will be vacated when the boom recedes, leaving many towns with abandoned homes and buildings which can bring an entirely new host of social issues.<sup>120</sup>

The communities also bear the cost of the man camps once the “boom” begins to slow. In 2016, the City Commission of Williston, North Dakota, passed an ordinance that would shut down the man camps in the town due to the slow-down of the boom.<sup>121</sup> The ordinance provided that the camps must be shut-down by a particular date or the operators would incur fines.<sup>122</sup> Further, the land must be restored by the company, but companies can seek approval to reopen the temporary housing if the demand picks back up.<sup>123</sup> This is an example of what cities may have to go through once the market slows if the temporary housing is left behind, which may create additional costs that will fall back on the community even if the oil company does remove the man-camps and “restores” the land. Further, man camps can cause unnecessary litigation when the companies push back on cities passing ordinances similar to Williston.<sup>124</sup>

In addition to housing costs, fracking may place additional strains on physical infrastructure due to increased traffic that many of the roads were not built to sustain.<sup>125</sup> In West Virginia, there are many roads leading to the well-pads that are rural single lane roads not built for the substantial increase in traffic and heavy trucks

<sup>117</sup> *Man Camps Spring Up in Marshall County, WV Near Drill Sites*, MARCELLUS DRILLING NEWS (Mar. 28, 2014), <https://marcellusdrilling.com/2014/03/man-camps-spring-up-in-marshall-county-wv-near-drill-sites/> [<https://perma.cc/MUM6-SJYN>]. “Labor camps” is used interchangeably with “man camps” to describe temporary housing used by cities to handle the influx of workers. *See id.*

<sup>118</sup> Brasier et al., *supra* note 91, at 36. At the height of the Bakken Shale boom, Williston, North Dakota, had one of the most expensive rental markets in the United States. Alyssa Newcomb, *Costliest Place for Renters Has Yellowstone River Views*, ABC NEWS (Feb. 17, 2014), <http://abcnews.go.com/US/life-williston-north-dakota-expensive-place-rent-apartment/story?id=22549192> [<http://perma.cc/Y377-B8HV>] (noting that a 700-square-foot apartment could cost upwards of \$2,394 a month).

<sup>119</sup> *See* Brasier et al., *supra* note 91, at 36.

<sup>120</sup> *See id.*; Schmidt, *supra* note 2.

<sup>121</sup> Williston, N.D., Ordinance 1050 (Aug. 23, 2016).

<sup>122</sup> *Id.*

<sup>123</sup> Amy Dalrymple, *Williston Man Camps Get Sept. 1 Deadline to Close*, BISMARCK TRIB. (Aug. 9, 2016), [http://bismarcktribune.com/bakken/williston-man-camps-get-sept-deadline-to-close/article\\_340e3c5a-cc14-5d1a-8da2-afbe9b69e23b.html](http://bismarcktribune.com/bakken/williston-man-camps-get-sept-deadline-to-close/article_340e3c5a-cc14-5d1a-8da2-afbe9b69e23b.html) [<http://perma.cc/85ZB-JQR7>].

<sup>124</sup> *See* Pamela King, *Bakken Boomtown ‘Man Camps’ Enter Their Final Days*, E&E NEWS (Apr. 25, 2016), <https://www.eenews.net/stories/1060036124> [<http://perma.cc/RG8S-633N>] (explaining the city was sued for an intrusion on property rights).

<sup>125</sup> Paul S. Goodman et al., *Investigating the Traffic-Related Environmental Impacts of Hydraulic-Fracturing (Fracking) Operations*, 89–90 ENV’T INT’L 248 (2016); Minor, *supra* note 10, at 81.

and equipment traveling those roads.<sup>126</sup> With increased traffic on already dangerous roads, the roads will deteriorate more quickly than what they would otherwise, and the companies are not the ones left to bear the costs.<sup>127</sup> Further, increased traffic on small roads, or even the highway, can substantially increase the risk of automobile accidents, which can lead to dangerous spills if a truck carrying waste water, chemicals, or natural gas is involved.<sup>128</sup>

## II. STATE AND LOCAL REGULATORY AUTHORITY OVER FRACKING IN WEST VIRGINIA

### A. *Regulating a Needed Industry*

West Virginia has one of the highest unemployment and poverty rates in the United States.<sup>129</sup> Throughout the 20th and early part of the 21st century, the state was one of the leading coal producers in the United States, but the decline of coal led to a significant jump in the unemployment rate because there was no comparable industry within the state that laid off miners could easily and cheaply be trained for.<sup>130</sup> In 2008, West Virginia began experimenting with hydraulic fracturing because the state was shown to have significant amounts of natural gas along the Marcellus Shale.<sup>131</sup>

Since then, the state has fully embraced the industry because there is hope that fracking will bring back the spirit the state once had.<sup>132</sup> West Virginia is one of the only states in the country that continues to have a decreasing population, and the lack of opportunity within the state helps explain this statistic.<sup>133</sup> McDowell County in

<sup>126</sup> See *Water Transport from Gas Fracking Makes West Virginia Roadways more Hazardous*, BAILEY JAVINS & CARTER L.C. (Jan. 29, 2018), <https://www.baileyjavinscarter.com/water-transport-from-gas-fracking-makes-west-virginia-roadways-more-hazardous/> [<http://perma.cc/4LPN-TN9B>]; Duane Nichols, *Can WV Legislators Get Fracking Money for Road Maintenance?*, FRACK CHECK WV (Jan. 17, 2016), <http://www.frackcheckwv.net/2016/01/17/can-wv-legislators-get-fracking-money-for-road-maintenance/> [<http://perma.cc/PF2Y-P4BF>].

<sup>127</sup> See Nichols, *supra* note 126.

<sup>128</sup> See Minor, *supra* note 10, at 82; *Fracking Boom Producing Deadly Side Effect*, CBS NEWS (May 5, 2014, 12:56 PM), <https://www.cbsnews.com/news/fracking-boom-producing-deadly-side-effect/> [<http://perma.cc/K8BP-RSN3>].

<sup>129</sup> *Local Area Unemployment Statistics*, *supra* note 93 (illustrating that West Virginia ranks forty-ninth out of fifty states in unemployment); Taylor Stuck, *West Virginia's Poverty Rate Increases to 19.1 Percent*, HERALD-DISPATCH (Sept. 14, 2018), [https://www.herald-dispatch.com/news/west-virginia-s-poverty-rate-increases-to-percent/article\\_e6d75fd2-abb1-5e9f-bc55-dc45a3673b94.html](https://www.herald-dispatch.com/news/west-virginia-s-poverty-rate-increases-to-percent/article_e6d75fd2-abb1-5e9f-bc55-dc45a3673b94.html) [<https://perma.cc/N8DJ-7DX3>] (illustrating West Virginia ranks in the top ten states with the highest poverty levels).

<sup>130</sup> See Justin Fox, *Coal Jobs Matter a Lot ... in Coal Country: The Hard Numbers Behind One West Virginia County's Urge to Believe in Donald Trump*, BLOOMBERG (June 7, 2017, 4:46 PM), <https://www.bloomberg.com/view/articles/2017-06-07/coal-jobs-matter-a-lot-in-coal-country> (last visited Feb. 5, 2019).

<sup>131</sup> See Wiseman, *supra* note 19, at 241.

<sup>132</sup> See, e.g., Dave Mistich, *Details Scant About \$84 Billion China Energy Investment Deal in West Virginia*, WV PUB. BROADCASTING (Nov. 13, 2017), <http://wvpublic.org/post/details-scant-about-84-billion-china-energy-investment-deal-west-virginia#stream/0> [<http://perma.cc/D9ZG-VHSA>] (highlighting a recent deal for China Energy to invest \$84 billion in West Virginia).

<sup>133</sup> Hoppy Kercheval, *West Virginia Continues to Lose Population*, WV METRO NEWS (July 9, 2018 12:14 AM), <http://wvmetronews.com/2018/07/09/west-virginia-continues-to-lose-population/>

southern West Virginia was once one of the country's leading coal producers and was home to nearly 100,000 residents.<sup>134</sup> Today, there are less than 20,000<sup>135</sup> and it is the poorest county in West Virginia and the country.<sup>136</sup> Once the coal mines shut down, opioids came in and no industry remained.<sup>137</sup> There are numerous other coal towns that are now desolate in West Virginia, and there is hope that fracking can help revive those towns or allow the state to invest in these towns. Despite this sense of hope and the positive impact the industry may create within the state, local governments bear most of the costs and risks associated with fracking. Because of these costs, many local governments have begun to adopt extremely broad ordinances regulating fracking within their borders, which are usually met with immediate opposition. Despite the opposition, counties are able to bring awareness to the risk of negative externalities within the city or county.<sup>138</sup>

The West Virginia state legislature may not be in the best position to regulate this sector because it could focus too much on the budget crisis within the state,<sup>139</sup> the opioid epidemic,<sup>140</sup> and the unemployment rate<sup>141</sup> which are all relevant factors in welcoming this industry. Local governments are better equipped to assess the risks, costs, and needs of their own citizens by looking beyond the external factors the state is faced with because they bear most of the costs and risks associated with fracking. A community is in the best position to create regulations benefitting citizens within its borders and in harmony with state oil and gas regulations. There have been successful attempts at local government regulation throughout the country—components of which can be used to help guide local communities in West Virginia to regulate fracking.

[<http://perma.cc/GA5X-JK3U>] (explaining that West Virginia and Michigan were the only two states to lose population in the last decade). One of the main struggles with bringing business to West Virginia is that there is an aging population, which makes it difficult for businesses to be confident that they can find workers. *Id.*

<sup>134</sup> Ed Pilkington, *What Happened When Walmart Left*, GUARDIAN (July 9, 2017, 12:55 PM), <https://www.theguardian.com/us-news/2017/jul/09/what-happened-when-walmart-left> [<http://perma.cc/GCZ7-RV73>].

<sup>135</sup> *Id.*

<sup>136</sup> Haim Handwerker, *Far from the American Dream in West Virginia*, HAARETZ (July 24, 2017), <https://www.haaretz.com/us-news/.premium/MAGAZINE-far-from-the-american-dream-in-west-virginia-1.5433539> [<https://perma.cc/9THR-ZGV8>].

<sup>137</sup> The last major employer, Walmart, left the county seat of Welch in 2016. Pilkington, *supra* note 134.

<sup>138</sup> See Ritchie, *supra* note 29, at 258 (“Economists describe externalities as the direct imposition of costs or the imparting of benefits on third parties that are not internalized by industry.”).

<sup>139</sup> See Ted Boettner, *A Short History of the 2017 Budget Crisis in West Virginia (So Far)*, W. VA. CTR. ON BUDGET & POL’Y (June 23, 2017), <https://wvpolicy.org/a-short-history-of-the-2017-budget-crisis-in-west-virginia-so-far/> [<http://perma.cc/63CE-A6JT>].

<sup>140</sup> See Lindsey Bever, *A Town of 3,200 was Flooded with Nearly 21 Million Pain Pills as Addiction Crisis Worsened, Lawmakers Say*, WASH. POST (Jan. 31, 2018, 4:02 PM), [https://www.washingtonpost.com/news/to-your-health/wp/2018/01/31/a-town-of-3200-was-flooded-with-21-million-pain-pills-as-addiction-crisis-worsened-lawmakers-say/?utm\\_term=.14908c4c7ce7](https://www.washingtonpost.com/news/to-your-health/wp/2018/01/31/a-town-of-3200-was-flooded-with-21-million-pain-pills-as-addiction-crisis-worsened-lawmakers-say/?utm_term=.14908c4c7ce7) [<http://perma.cc/ZS7G-55K7>]. There have been several county commissioners that have filed suit against multiple companies and drugstores for contributing to the opioid epidemic. See Matt Harvey, *8 W.Va. County Commissioners File Suit in Marshall County over Painkiller Epidemic*, EXPONENT TELEGRAM (Dec. 13, 2017), [https://www.wvnews.com/theet/news/w-va-county-commissions-file-suit-in-marshall-county-over/article\\_d2d9dea3-77f7-540e-9b8a-2dd90e7cbbc0.html](https://www.wvnews.com/theet/news/w-va-county-commissions-file-suit-in-marshall-county-over/article_d2d9dea3-77f7-540e-9b8a-2dd90e7cbbc0.html) [<http://perma.cc/U72Q-DW8D>].

<sup>141</sup> *Local Area Unemployment Statistics*, *supra* note 93.

### B. General Local Government Regulation

Local governments have historically been treated as “creatures of the state”<sup>142</sup> because the state creates them and they derive no powers or rights under the United States Constitution.<sup>143</sup> Thus, states are viewed to have “plenary authority over local governments,”<sup>144</sup> and if the state does not delegate a particular power to the local government, it cannot act without the risk of intrastate preemption.<sup>145</sup> This idea was strengthened by Dillon’s rule, which viewed local governments as “administrative conveniences” of the state<sup>146</sup> and merely possessing “those [powers] ‘granted in express words,’ ‘those necessarily or fairly implied,’ and ‘those essential to the declared objects and purposes of the [locality’s incorporation].”<sup>147</sup> Further, if there was “[a]ny fair, reasonable doubt concerning the existence of power [it was to be] resolved . . . against the corporation.”<sup>148</sup> Dillon’s rule makes local government regulation extremely difficult because a government can only regulate if there is an express grant of authority from the state and the city is not acting “*ultra vires*.”<sup>149</sup>

Over time, a more expansive view of local government rights, “home-rule,” began to emerge, giving local governments more “substantive policymaking power.”<sup>150</sup> This grant of substantive policymaking power, though, is still quite limited because it is generally only available for truly “local concerns.”<sup>151</sup> This view is a step in the right direction, though, because, if a matter is truly “local,” then the act of local governance is protected from preemption by the state legislature, “particularly if the [doctrine is] enshrined in the state’s constitution.”<sup>152</sup> This concept of governing “purely local” matters, though, has proved difficult for local governments because judges are given the power to determine what is “local in nature” thus making “home rule” very unpredictable.<sup>153</sup> Because of the

---

<sup>142</sup> Shannon M. Roesler, *Federalism and Local Environmental Regulation*, 48 U.C. DAVIS L. REV. 1111, 1126 (2015). As a historical matter, though, it is suggested that this is incorrect because many local governments existed before states and their Constitutions. See Kathleen S. Morris, *The Case for Local Constitutional Enforcement*, 47 HARV. C.R.-C.L. L. REV. 1, 30 (2012).

<sup>143</sup> See U.S. CONST. amend. X.

<sup>144</sup> See Roesler, *supra* note 142, at 1126.

<sup>145</sup> See Diller, *supra* note 28, at 1114–15.

<sup>146</sup> *Id.* at 1122. The Supreme Court endorsed this limiting approach when it held there was no federal constitutional right for local governments, and instead local governments were “political subdivisions” of the State, created as mere “convenient agencies.” *Id.* at n.43 (quoting *Hunter v. City of Pittsburgh*, 207 U.S. 161, 178–81 (1907)).

<sup>147</sup> Roesler, *supra* note 142, at 1126–27 (quoting SANDRA M. STEVENSON, ANTEAU ON LOCAL GOVERNMENT LAW § 24.03 (2d ed. 2010)).

<sup>148</sup> Diller, *supra* note 28, at 1123 (quoting 1 JOHN F. DILLON, THE LAW OF MUNICIPAL CORPORATIONS § 55, at 173 (2d ed. 1873)).

<sup>149</sup> *Id.*

<sup>150</sup> *Id.* at 1124.

<sup>151</sup> *Id.*

<sup>152</sup> *Id.*; see also, W. VA. CONST. art. VI, § 39(a) (granting municipalities home rule powers, but expressly stating ordinances adopted will be preempted if “inconsistent” or in conflict with the state laws and the constitution).

<sup>153</sup> This view was called “*imperium in imperio*,” which means “a government within a government.” Diller, *supra* note 28, at 1125. It allowed state courts to become the “ultimate arbiters of city power” by allowing them to define what was “local.” *Id.*

unpredictability of the doctrine, a push was made for a more uniform approach which led to the “legislative home-rule” system.<sup>154</sup> This view expanded the doctrine and allowed a municipality to have identical powers to the state unless the state legislature specified otherwise.<sup>155</sup> It should be noted that, in most cases, home rule is “not equivalent to ‘local legal autonomy . . . [but] is a mix of state law grants of, and limitations on, local power that powerfully influences the substantive ways in which cities and suburbs act.’”<sup>156</sup>

Traditionally, matters of state concern for the regulation of oil and gas production include: “on-site drilling, [controlling the] chemicals used,” “prevention of waste, protection of correlative rights, and the conservation of oil and natural gas resources.”<sup>157</sup> These matters are thought to traditionally be subject to a state’s police powers, so there is a presumption against federal preemption.<sup>158</sup> Though states have broad regulatory authority in the oil and gas context, some matters are considered “local.” Local matters may include “off-site infrastructure, services, affordable housing, and environmental protection . . . to assure the health and safety of the community [is maintained].”<sup>159</sup> Further, it is suggested that noise, light, zoning, and road damage are local concerns.<sup>160</sup> The clearest way a local government can act is if it is constitutionally empowered to do so because the state law attempting to prevent regulation at the local level would itself be unconstitutional.<sup>161</sup>

Throughout the expansion of cities gaining power, many have acted as laboratories to the state for policy innovations. Typically, when cities initiate similar “innovations,” it will spur other cities and even the state to act.<sup>162</sup> This sort of interaction has occurred across a wide span of policy issues,<sup>163</sup> and in the last decade this sort of policy innovation has been increasing in the oil and gas context. But many local government’s policy innovations have been met with state opposition and struck down using the doctrine of preemption.<sup>164</sup> Intrastate preemption—when a “city’s authority in a particular area has been supplanted by state law”<sup>165</sup>—effectively follows the same models used at the federal and state levels.<sup>166</sup>

The idea behind “policy innovation” at the local level is to determine whether a

<sup>154</sup> *Id.* at 1125–26.

<sup>155</sup> *Id.*

<sup>156</sup> Uma Outka, *Intrastate Preemption in the Shifting Energy Sector*, 86 U. COLO. L. REV. 927, 945 (2015) (quoting David J. Barron, *Reclaiming Home Rule*, 116 HARV. L. REV. 2255, 2263 (2003)).

<sup>157</sup> Robert H. Freilich & Neil M. Popowitz, *Oil and Gas Fracking: State and Federal Regulation Does Not Preempt Needed Local Government Regulation*, 44 URB. LAW. 533, 535, 543 (2012).

<sup>158</sup> The presumption against preemption of state police powers is strong and will usually only occur if preemption was the “clear and manifest purpose of Congress.” Outka, *supra* note 156, at 950.

<sup>159</sup> See Freilich & Popowitz, *supra* note 157, at 535.

<sup>160</sup> See Jesse J. Richardson, Jr., *Local Regulation of Hydraulic Fracturing*, 117 W. VA. L. REV. 593, 598–99 (2014).

<sup>161</sup> Outka, *supra* note 156, at 951.

<sup>162</sup> Diller, *supra* note 28, at 1118–19.

<sup>163</sup> *Id.* at 1117–19 (illustrating how municipalities have acted as laboratories for the states in a wide range of social issues).

<sup>164</sup> See, e.g., *Ne. Nat. Energy, LLC v. City of Morgantown*, No. 11-C-411, 2011 WL 3584376, at \*10 (Cir. Ct. W. Va. Aug. 12, 2011).

<sup>165</sup> See Diller, *supra* note 28, at 1114.

<sup>166</sup> See *id.* at 1116.

policy is “manageable and popular” before being adopted at the state level.<sup>167</sup> When city ordinances are met with immediate opposition from a corporation and not from local citizens, there is no true innovation occurring. Rather, this opposition is a regression because the policies are given no chance to prove manageable or popular at the local level potentially preventing innovation elsewhere. The other side of the argument, though, is that municipalities could also be using their power to merely “exclude undesirable . . . land uses [rather] than to engage in good-faith policy experimentation.”<sup>168</sup> There are ways, though, cities can serve as laboratories for the state and other communities and innovatively regulate particularly in the fracking regime.

#### i. Successful State Attempts at Regulation in the Oil and Gas Context

##### a. *Pennsylvania: An illustration of how a state’s constitution that protects the environment can allow municipalities to regulate hydraulic fracturing*

Pennsylvania is among a few states to have an amendment to its State Constitution aimed at environmental protection.<sup>169</sup> Section 27 of the Declaration of Rights in the Pennsylvania Constitution provides:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.<sup>170</sup>

In 2012, Pennsylvania passed Pennsylvania Act 13, which most notably laid out a uniform scheme throughout the state that required local zoning ordinances pertaining to oil and gas development to be consistent.<sup>171</sup> Further, local governments were mandated to allow oil and gas development throughout their communities.<sup>172</sup> In a notable Pennsylvania Supreme Court case, *Robinson Township v. Pennsylvania*, the court found that mandating oil and gas extraction in every zoning district could not conserve and protect the environment as required by Section 27 of the state’s constitution.<sup>173</sup>

Further, Chapter 33 of Act 13 required some properties to bear a larger burden than others, and thus was a violation of the public trust created under the same

<sup>167</sup> *Id.* at 1119.

<sup>168</sup> Diller, *supra* note 28, at 1122.

<sup>169</sup> Marie Cusick, *Pennsylvania’s Environmental Rights Amendment Is Back from the Dead*, ST. IMPACT PA. (Oct. 27, 2017, 10:39 PM), <https://stateimpact.npr.org/pennsylvania/2017/10/27/pennsylvanias-environmental-rights-amendment-is-back-from-the-dead/> [http://perma.cc/5L5D-2F8E].

<sup>170</sup> PA. CONST. art. I, § 27.

<sup>171</sup> 58 PA. CONS. STAT. § 3304 (2012).

<sup>172</sup> *Id.*

<sup>173</sup> *Robinson Twp. v. Pennsylvania*, 83 A.3d 901, 979 (Pa. 2013).

constitutional section.<sup>174</sup> Pennsylvania is a Dillon's rule state, which made the court's holding even more significant because it effectively reversed the roles of the state and local governments.<sup>175</sup> Unlike Colorado where a local government cannot impede on a state's regulatory regime,<sup>176</sup> the Pennsylvania court found a state could not impede on a local government's land planning and zoning authority by forcing a local city to allow fracking in all zoning classifications.<sup>177</sup> This illustrates how local governments can use state constitutional provisions protecting the public trust and the environment to regulate fracking.

*b. Dryden, New York: A story of zoning and how allowing municipalities to serve as a state laboratory can lead to state wide changes*

New York's localities have had the most success in regulating oil and gas extraction. In a notable case, *Wallach v. Town of Dryden*,<sup>178</sup> the Court of Appeals of New York held that cities are not preempted through the Oil, Gas, and Solution Mining Law, and therefore, a city does have the authority to regulate oil and gas extraction so long as it is through local zoning and land use and is not inconsistent with the State.<sup>179</sup> New York is a home-rule state, which gives municipalities broad authority to regulate "the location and use of [] structures and land for trade, industry, residence or other purposes"<sup>180</sup> by enacting local laws, so long as the local laws do not directly conflict with the state constitution and statutes.<sup>181</sup> The case arose after Dryden amended its zoning ordinance in 2011 to clarify its position on natural gas extraction.<sup>182</sup> The amended ordinance prohibited all oil and gas exploration, extraction, and storage activities, which included the invalidation of local, state, and federal permits allowing fracking.<sup>183</sup> The Town Board cited environmental concerns and the "general welfare of the community" when it adopted the ordinance.<sup>184</sup>

The court upheld a previous decision that effectively held local governments can regulate "where" the activity took place, but not "how" the activity is conducted, and that municipalities have no obligation to allow mining and/or drilling "somewhere within the municipality."<sup>185</sup> The Dryden decision illustrates the advantage of the

<sup>174</sup> *Id.* at 980–82.

<sup>175</sup> *See id.* at 1009–14 (Saylor, J., dissenting); *id.* at 1014–15 (Eakin, J., dissenting).

<sup>176</sup> *See City of Longmont v. Colo. Oil & Gas Ass'n*, 369 P.3d 573, 586 (Colo. 2016) (preempting the city ordinance banning fracking).

<sup>177</sup> *Robinson Twp.*, 83 A.3d at 979–82.

<sup>178</sup> 16 N.E.3d 1188 (N.Y. 2014).

<sup>179</sup> *See id.* at 1194, 1202–03 ("Without question, municipalities may 'enact land-use restrictions or controls to enhance the quality of life by preserving the character and desirable aesthetic features of [the community].'" (quoting *Trustees of Union Coll. v. Schenectady City Council*, 690 N.E.2d 862, 864 (N.Y. 1997))); N.Y. ENVTL. CONSERV. LAW § 23-1901 (McKinney 2014).

<sup>180</sup> N.Y. TOWN LAW § 261 (McKinney 2014).

<sup>181</sup> N.Y. CONST. art. IX, § 2(c).

<sup>182</sup> *Wallach*, 16 N.E.3d at 1192.

<sup>183</sup> *See id.*; DRYDEN, N.Y., ZONING LAW art. V, § 502 (2015), <http://dryden.ny.us/wp-content/uploads/2010/07/Zoning-Law-Adopted-2-19-15.pdf> [<http://perma.cc/2UPK-VZEP>].

<sup>184</sup> *Wallach*, 16 N.E.3d at 1192.

<sup>185</sup> *Id.* at 1196, 1202 (quoting *In re Frew Run Gravel Prods., Inc. v. Town of Carroll*, 518 N.E.2d 920, 922 (1987)).

New York Constitution having a “home-rule” provision granting cities the power to adopt laws consistent with the state law and Constitution, and how zoning has remained a local form of regulation.<sup>186</sup> New York’s broad approach is consistent with allowing local cities to serve as laboratories for policy innovation.

In 2014, following the decision, the state of New York banned hydraulic fracturing, citing concerns from a public health study finding fracking posed “significant public health risks.”<sup>187</sup> The Governor further believed the potential risks of fracking were too great even though the long-term effects of fracking and prolonged exposure to the toxins is unknown.<sup>188</sup>

Despite the Governor’s bold step banning fracking within New York, the state continues to import natural gas from Pennsylvania, with future plans of processing it in a power plant being built near New York City.<sup>189</sup> Thus, New York is allowing unlimited amounts of shale gas to come into the state.<sup>190</sup> It has been estimated that 130 wells each year outside of the state will have to be tapped to supply the plant with an adequate amount of natural gas, however, the permit to construct the pipeline to deliver the gas has been denied by state environmental regulators and halted by a federal court.<sup>191</sup> Thus, even though New York has been one of the more progressive states in regulating fracking, there are still questions to be determined regarding the state’s shale gas future.

*c. New Mexico: how one county has created expansive zoning ordinances to regulate fracking and another failed by being too expansive*

In 2013, Mora County, New Mexico, adopted an extremely broad ordinance, which prohibited corporations and individuals from “extract[ing] [] oil, natural gas, [and] other hydrocarbons within” the county borders, as well as, “extracting water from any surface or subsurface source within the county for use in the extraction of oil and gas,” storing water or other materials used in oil and gas extraction, and from constructing any infrastructure relating to oil and natural gas production (e.g., pipelines).<sup>192</sup> In addition, “[the ordinance] grant[ed] [n]atural communities and ecosystems . . . inalienable and fundamental rights to exist and flourish within [the county] against oil and gas extraction.”<sup>193</sup> “To be repealed, the ordinance require[d] both the unanimous agreement of the county commission and a two-thirds vote of

---

<sup>186</sup> See N.Y. CONST. art. IX, § 2; *Wallach*, 16 N.E.3d at 1194 (recognizing the state legislature and the Court had previously recognized land use regulation through zoning ordinance is one of the “core powers” of municipalities).

<sup>187</sup> Thomas Kaplan, *Citing Health Risks, Cuomo Bans Fracking in New York State*, N.Y. TIMES (Dec. 17, 2014), <https://www.nytimes.com/2014/12/18/nyregion/cuomo-to-ban-fracking-in-new-york-state-citing-health-risks.html>.

<sup>188</sup> *Id.*

<sup>189</sup> Kristen Lombardi, *New York’s Heralded Fracking Ban Isn’t all it’s Cracked up to Be*, ST. IMPACT PA. (Dec. 8, 2017, 5:00 AM), <https://stateimpact.npr.org/pennsylvania/2017/12/08/new-yorks-heralded-fracking-ban-isnt-all-its-cracked-up-to-be/> [http://perma.cc/WL95-CDH4].

<sup>190</sup> *Id.*

<sup>191</sup> *Id.*

<sup>192</sup> Ritchie, *supra* note 29, at 255–56.

<sup>193</sup> *Id.* at 256 (quoting Mora Cnty., N.M., Ordinance 2013-01, § 4.3 (Apr. 29, 2013)).



the [] electorate . . .” and would “trigger[] a six-month moratorium on oil and gas extraction” while requiring the county commission to pass a permanent ban on oil and gas extraction.<sup>194</sup>

This ordinance was authored by the Community Environmental Legal Defense Fund Model (“CELDF”), which is an organization “dedicated to ‘[b]uilding sustainable communities by assisting people to assert their right to local self-government and the rights of nature.’”<sup>195</sup> Though CELDF seeks to help citizens, the majority of its authored ordinances are immediately met with litigation because they are so broad and are almost guaranteed to be preempted by state law.<sup>196</sup> In 2015, a federal district court went beyond intrastate preemption and held that the Mora County ordinance was a violation of the Supremacy Clause because it attempted to discard corporate rights by explicitly noting that oil and gas companies will not be afforded rights found in the United States Constitution.<sup>197</sup> This is a clear example of what a local government can never do if it wants an ordinance regulating the industry to co-exist with the state’s regulatory scheme.

Santa Fe County, New Mexico, also adopted a broad oil and gas ordinance in 2008, but instead of placing an outright ban on fracking, it focuses on zoning.<sup>198</sup> The ordinance has deterred drilling and legal challenges “in part due to the cost and burdens required to navigate its permitting process before an as-applied challenge might be brought in court.”<sup>199</sup> The ordinance established a three part process before an oil and gas project can be approved: “(1) an application for a discretionary zoning classification where the oil and gas facility will be constructed; (2) a discretionary special use and development permit with further conditions and requirements for well sites and structures; and (3) applications for building or grading permits and a certificate of completion.”<sup>200</sup> In addition, the ordinance requires “assessments, reports, plans, or studies” which must consider various environmental factors and must be paid for by the applicant.<sup>201</sup> Applicants must enter development agreements with the County prior to obtaining a permit. These agreements

(1) cover the financing of capital facilities and public services (as provided in the ordinance; (2) include [funds for] the construction and maintenance of roads (3) involve plans to fund the public water system’s total projected water supplies (taking into account the applicant’s existing and planned water use) over a 50-year period; and (4) consider the project’s impact on the county’s . . . emergency services.<sup>202</sup>

---

<sup>194</sup> *Id.*

<sup>195</sup> *Id.* at 263–64 (quoting *About, COMMUNITY ENVTL. LEGAL DEF. FUND*, <https://celdf.org/about/> [<https://perma.cc/93X4-GXGH>]).

<sup>196</sup> *See id.* at 258.

<sup>197</sup> Ellen M. Gilmer, *Federal Judge Strikes Down N.M. County’s Fracking Ban as Unconstitutional*, *E&E NEWS* (Jan. 21, 2015), <https://www.eenews.net/stories/1060011991> [<http://perma.cc/4PHH-M9BF>].

<sup>198</sup> Ritchie, *supra* note 29, at 259.

<sup>199</sup> *Id.*

<sup>200</sup> *Id.* at 266; *see also* Santa Fe County, N.M., Ordinance 2008–19, § 8 (Dec. 9, 2008).

<sup>201</sup> Santa Fe County, N.M., Ordinance 2008–19, § 9.6(3) (Dec. 9, 2008); *see also* Ritchie, *supra* note 29, at 266. If the application is incomplete, there is only a 30-day window for the applicant to submit the additional application material. Santa Fe County, N.M., Ordinance 2008–19, § 9.6.10.2 (Dec. 9, 2008).

<sup>202</sup> *See* Ritchie, *supra* note 29, at 267.

Finally, once operations are commenced, the ordinance requires additional safety and nuisance measures to ensure residents within the county are safe and go undisturbed.<sup>203</sup>

The Santa Fe County ordinance places heavy zoning burdens on a company wanting to drill within the county. The ordinance does not explicitly ban fracking, but allows fracking so long as each of the requirements and steps are met in the ordinance.<sup>204</sup> The precise detail Santa Fe County used, though, allows the county to have significant control over who drills within the borders because it can assure the company has done its own due diligence. Santa Fe County is thus able to assure the company drilling within the county has minimal impact on its citizens, environment, and infrastructure and holds companies accountable by making them invest up front. Further, the ordinance allows the county to reduce some of the direct costs borne by producing counties while still benefiting from the economic benefit derived at the state level.<sup>205</sup>

ii. When Preemption Prevails: A look at Texas’s and Colorado’s Attempts to Regulate

a. *Denton, Texas*

In Texas, “ever-expanding energy development is a way of life,” but in 2014 a grassroots campaign successfully led citizens in Denton, Texas to overwhelmingly vote in favor of banning fracking within city limits.<sup>206</sup> Prior to the ban, fracking had been in the city for around a decade and approximately 200 wells had been drilled, however, the campaign to ban fracking began once wells were drilled “across the street from a playground, a hospital, and a row of homes” and as health and environmental concerns rose.<sup>207</sup> Traditionally, the Railroad Commission of Texas had authority over oil and gas wells,<sup>208</sup> but local governments were also

---

<sup>203</sup> These additional requirements include: baseline water quality testing from water wells and surface water within three miles of the site, annual water testing in those same wells and bodies of water, expanded setback requirements, keeping operating hours between 8:00 am to 5:00 pm, and banning all additives to fresh water for hydraulic fracturing except for sand if no other dissolved hydrocarbons and toxic contaminants are mixed in. Santa Fe County, N.M., Ordinance 2008–19, §§ 11.22, 11.22.3, 11.26, 11.25.2, 11.25.4 (Dec. 9, 2008). The ban on all additives effectively makes “high-volume” hydraulic fracking impossible. Ritchie, *supra* note 29, at 267.

<sup>204</sup> *Id.*

<sup>205</sup> See Ritchie, *supra* note 29, at 286. This allows the county to somewhat “free-ride” off of other counties with less stringent ordinances. *Id.*

<sup>206</sup> Zachary Roth, *What Happened in Denton: The War on Local Democracy*, NBC NEWS (Aug. 2, 2016, 4:01 PM), <https://www.nbcnews.com/news/us-news/what-happened-denton-war-local-democracy-n620926> [http://perma.cc/N49A-L7NQ] (noting that Denton became the first city in Texas to ban fracking).

<sup>207</sup> *Id.*

<sup>208</sup> James R. Norvell, *The Railroad Commission of Texas; Its Origin and Relation to the Oil and Gas Industry*, 40 TEX. L. REV. 230, 239–40 (1961) (explaining the Commission was created following the adoption of a conservation amendment, which declared development of natural resources was a “public right[] and dut[y]”).

given the power to enact “reasonable health and safety regulations,” which is what the city partially relied on in passing the fracking ban.<sup>209</sup>

The day after the ban, the Texas General Land Office sued to stop the law from going into effect.<sup>210</sup> The main opponents of the ban stated the citizens of Denton “lacked the sophistication to address technical matters like fracking” and those matters were “best left to government and industry experts”<sup>211</sup>—a common plea among state regulators when localities try to step in. Soon after, and perhaps more condemning, Texas passed a state-wide preemption on any local municipality banning, limiting, or regulating fracking operations within its borders.<sup>212</sup> The local municipality can impose “commercially reasonable” regulations on “aboveground activity . . . that occurs at or above the surface of the ground, including a regulation governing fire and emergency response, traffic, lights, or noise, or imposing notice or reasonable setback requirements.”<sup>213</sup> By 2015, new wells were already drilled and fracking was back in the forefront of the community.<sup>214</sup> Effectively, Texas municipalities cannot completely prohibit oil and gas operation like Denton tried to do. In addition, while Texas’ law appears comparable to other states’ regulatory preemption schemes, the democratic power of individuals in Texas is further undermined by the requirement that their municipal regulations on drilling must be “commercially reasonable.”<sup>215</sup> It remains uncertain how far-reaching “commercially reasonable” activity is; however, it stands to threaten other local regulations.

#### b. Colorado

Though Colorado cities cannot impose total bans on fracking without “materially imped[ing]” on statewide regulations and are, thus, operationally preempted from doing so, they can regulate through specific land use ordinances.<sup>216</sup> In *Voss v. Lundvall Brothers, Inc.* the Colorado Supreme Court laid out a specific framework for local municipalities:

If a home-rule city, instead of imposing a total ban on all drilling within the city, enacts land-use regulations applicable to various aspects of oil and gas development and operations within the city, and if such regulations do not frustrate and can be harmonized with the development and production of oil and gas in a manner consistent with the stated goals

---

<sup>209</sup> Rebekah Fitzgerald, *States, Local Government Battle for Control over Fracking*, COUNCIL ST. GOV'TS (Mar. 9, 2015, 12:00 AM), <http://knowledgecenter.csg.org/kc/content/states-local-government-battle-control-over-fracking> [http://perma.cc/272H-SUXR].

<sup>210</sup> Jim Malewitz, *Texas Drops Suit Over Dead Denton Fracking Ban*, TEX. TRIB. (Sept. 18, 2015, 11:00 AM), <https://www.texastribune.org/2015/09/18/texas-drops-suit-over-dead-denton-fracking-ban/> [http://perma.cc/K38U-7A7T]. The suit was later dropped along with other suits filed against the city. *Id.*

<sup>211</sup> Roth, *supra* note 206.

<sup>212</sup> *Id.*

<sup>213</sup> TEX. NAT. RES. CODE ANN. § 81.0523(c)(1) (West 2017).

<sup>214</sup> See Roth, *supra* note 206.

<sup>215</sup> NAT. RES. § 81.0523(a)(1); see also Roth, *supra* note 206.

<sup>216</sup> See *City of Longmont v. Colo. Oil & Gas Ass'n*, 369 P.3d 573, 581, 585 (Colo. 2016).

of the Oil and Gas Conservation Act, the city’s regulations should be given effect.<sup>217</sup>

Further, home-rule cities can enact regulation that is not operationally preempted by state law as determined by using a four-part test: “[1] whether there is a need for statewide uniformity of regulation; [2] whether the municipal regulation has extraterritorial impact; [3] whether the subject matter is one traditionally governed by state or local government; and [4] whether the Colorado Constitution specifically commits the particular matter to state or local regulation.”<sup>218</sup> In 2016, the Colorado Supreme Court issued two judgements on the same day, finding that state law preempted a city-wide ban on fracking<sup>219</sup> and a five-year moratorium on fracking and storage of fracking waste.<sup>220</sup>

In each case, the Colorado Supreme Court determined whether the local ordinance and moratorium could co-exist with the Colorado Oil and Gas Conservation Act. The Colorado Oil and Gas Conservation Act regulates oil and gas operations within the state and seeks to “foster . . . balanced development [and] production . . . of oil and gas in the state of Colorado in a manner consistent with protection of public, health, safety, and welfare, including protection of the environment” and to “[p]rotect the public and private interests against waste in the production and utilization of oil and gas.”<sup>221</sup>

Colorado courts hold that mixed matters of local and state concern can co-exist, but there cannot be any conflict between the ordinance and the statute because the state statute always supersedes the local ordinance.<sup>222</sup> In *City of Longmont*, the court determined that the Longmont Ordinance banning hydraulic fracturing was a matter of mixed and local concern after considering “the need for uniform state-wide regulation and the extraterritorial impact of a fracking ban . . . [and the city’s] authority to exercise its zoning authority over land where oil and gas development occurs.”<sup>223</sup> The court held that “in its operational effect” the Longmont Ordinance impeded on the state’s expansive regulatory scheme and failed to protect correlative rights and prevent waste, even though its stated purpose was to “facilitate the exploration and production of oil and gas in a responsible manner.”<sup>224</sup>

In 2013, voters in Fort Collins, Colorado passed a five-year moratorium on hydraulic fracturing “in order to fully study the impacts . . . on property and human health.”<sup>225</sup> On the same day as *City of Longmont*, the court again held that fracking is a matter of “mixed state and local concern,” and thus Fort Collins’s moratorium

<sup>217</sup> *Voss v. Lundvall Bros.*, 830 P.2d 1061, 1068–69 (Colo. 1992) (en banc).

<sup>218</sup> *Id.* at 1067.

<sup>219</sup> *Longmont*, 369 P.3d at 585.

<sup>220</sup> *City of Fort Collins v. Colo. Oil & Gas Ass’n*, 369 P.3d 586, 594 (Colo. 2016).

<sup>221</sup> COLO. REV. STAT. § 34-60-102(1)(a) (2017).

<sup>222</sup> *Id.* at 589, 591.

<sup>223</sup> *City of Longmont v. Colo. Oil & Gas Ass’n*, 369 P.3d 573, 577, 580–81 (Colo. 2016). The Court is concerned that the city’s fracking ban “may create a ripple effect” by prompting other communities to also ban fracking, “which could ultimately result in a de facto statewide ban.” *Id.* at 581 (explaining the extraterritorial impact of Longmont’s fracking ban).

<sup>224</sup> *Id.* at 580, 584–85; Minor, *supra* note 10, at 106.

<sup>225</sup> *Fort Collins*, 369 P.3d at 589.

“operationally conflicted” with Colorado’s Oil and Gas Conservation Act and accompanying regulations.<sup>226</sup> The moratorium banning fracking was thus preempted by the Act despite being limited to five-years.<sup>227</sup> The court left open the question on whether a moratorium that was “materially shorter [in] duration” could survive preemption.<sup>228</sup> Even if a “materially shorter” moratorium was upheld, the municipality would be preempted if it concluded that fracking had adverse impacts on the community and tried to create an ordinance banning drilling and storage within the city.

Thus, Colorado has a more narrow view of local regulation than New York and Pennsylvania, believing that uniformity in regulation throughout the oil and gas context is desirable.

### C. Local Regulation in West Virginia

#### i. Northeast Natural Energy, LLC v. City of Morgantown<sup>229</sup>

In 2011, Northeast Natural Energy, LLC (“Northeast”) applied to the West Virginia Department of Environmental Protection (“WVDEP”) for permits to drill for and develop natural gas from the Marcellus shale at the Morgantown Industrial Park (“MIP”) located outside of Morgantown city limits, which were ultimately permitted by WVDEP.<sup>230</sup> Later that year, the city of Morgantown, West Virginia, passed an ordinance that completely banned fracking within a one-mile radius of city limits.<sup>231</sup> Morgantown was the second city in West Virginia to impose a ban on fracking following Wellsburg, West Virginia’s short lived fracking ban.<sup>232</sup> Soon after the ordinance was passed, however, Northeast and Enrout Properties, LLC filed a lawsuit, which claimed the ordinance was in violation of West Virginia Code § 22-1-1, and promulgated regulations.<sup>233</sup>

In West Virginia, the Secretary of WVDEP’s primary duty is to supervise the “execution and enforcement of matters related to oil and gas” and he or she has “full charge of [] oil and gas matters.”<sup>234</sup> Further, “the state has the primary responsibility for protecting the environment” and “other governmental entities, public and private organizations and [the] citizens have the primary responsibility of supporting the state in its role as protector of the environment.”<sup>235</sup> This legislative grant of

<sup>226</sup> *Id.* at 589, 594.

<sup>227</sup> *Id.*

<sup>228</sup> *Id.* at 594.

<sup>229</sup> No. 11-C-411, 2011 WL 3584376 (W. Va. Cir. Ct. Aug. 12, 2011).

<sup>230</sup> *Id.* at \*2–3.

<sup>231</sup> *Id.* at \*3–4. The ordinance was passed after the city began to question the impact of fracking on the Monongahela River. *Id.* at \*3.

<sup>232</sup> *Wellsburg, WV City Council Votes to Repeal Two-Month-Old Marcellus Drilling Ban*, MARCELLUS DRILLING NEWS (July 20, 2011), <https://marcellusdrilling.com/2011/07/wellsburg-wv-city-council-votes-to-repeal-two-month-old-marcellus-drilling-ban/> [https://perma.cc/9KKV-UTLQ] (explaining that Wellsburg City Council voted to repeal the fracking ban likely in response to the Morgantown litigation).

<sup>233</sup> *Id.* at \*1.

<sup>234</sup> W. VA. CODE § 22-6-2(a), (c) (2018).

<sup>235</sup> *Id.* § 22-1-1 (a)(2).

comprehensive power indicates the state’s desire to regulate all matters pertaining to oil and gas.

The city of Morgantown, though, asserted it had home-rule powers pursuant to a 1936 amendment to the West Virginia Constitution, therefore, it had the right of “self-government in both local and municipal matters.”<sup>236</sup> This Amendment allows municipalities to pass laws and ordinances that are local in nature.<sup>237</sup> It has been codified in the West Virginia Code by granting home-rule powers for all cities<sup>238</sup> and general powers to municipalities.<sup>239</sup> The power given to municipalities most pertinent to the city is the power to “provide for the elimination of hazards to public health and safety and to abate . . . anything which . . . is a public nuisance.”<sup>240</sup> Though the city tried to characterize fracking as a public nuisance to support the ordinance banning fracking,<sup>241</sup> the court granted summary judgement to Northeast stating that the State has a significant interest in oil and gas development and production giving it exclusive control and preempting Morgantown’s ban on fracking.<sup>242</sup>

Despite the Constitutional amendment and legislative scheme adopting the home rule, the court applied Dillon’s rule stating that “municipal corporations . . . are creatures of the state.”<sup>243</sup> Further, the court used a narrow view of municipal powers previously proscribed by the West Virginia Supreme Court of Appeals—“if any reasonable doubt exists as to whether a municipal corporation has a power, the power must be denied,”<sup>244</sup> and the principle that an inconsistency between a state and municipal action must be construed in favor of the state legislation.<sup>245</sup> The city missed the date to appeal the case, and this is the only case in West Virginia state court that has addressed the issue of whether a local government can regulate within the state’s oil and gas scheme. This means it is uncertain whether the West Virginia Supreme Court of Appeals would use the same “heightened” standard or if the court would rely on home-rule and give the city more leniency.

The following year, the city of Morgantown amended its zoning code to include “extractive industry use.”<sup>246</sup> The requirements add to the general requirements for heavy industry. The ordinance requires that the lot size for all oil and gas extraction meet a minimum of at least five acres<sup>247</sup> and be placed at least 625 feet from a residential zone,<sup>248</sup> and from the property boundary of which any dwelling within a

<sup>236</sup> *Morgantown*, 2011 WL 3584376, at \*7.

<sup>237</sup> W. VA. CONST. art. VI, § 39(a).

<sup>238</sup> W. VA. CODE § 8-12-2 (2018).

<sup>239</sup> *Id.* § 8-12-5.

<sup>240</sup> *Id.* § 8-12-5(23).

<sup>241</sup> *Morgantown*, 2011 WL 3584376, at \*2.

<sup>242</sup> *Id.* at \*8–9.

<sup>243</sup> *Id.* at \*7.

<sup>244</sup> *Id.* (quoting *Slate ex rel. Charleston v. Hutchinson*, 176 S.E.2d 691 (W. Va. 1970) and *City of Fairmont v. Inv’rs Syndicate of Am., Inc.*, 307 S.E.2d 467 (W. Va. 1983)).

<sup>245</sup> *Id.* at \*7–8 (citing *Davidson v. Shoney’s Big Boy Rct.*, 380 S.E.2d 232, 235 (W. Va. 1989)). This view is in sharp contrast to that of other states. See *Outka*, *supra* note 156, at 945. For example, Kansas courts will only apply preemption when the legislature has made it clear in a statute that regulation is reserved to the state and will not merely imply preemption. *Id.* at 952.

<sup>246</sup> MORGANTOWN, W. VA., PLANNING & ZONING CODE ch. 7, § 1355.08(C) (2012).

<sup>247</sup> *Id.* § 1355.08(C)(1).

<sup>248</sup> *Id.* § 1355.08 (C)(2)(a).

non-residential area exists,<sup>249</sup> religious institutions,<sup>250</sup> hospitals,<sup>251</sup> schools,<sup>252</sup> day care facilities,<sup>253</sup> and public parks.<sup>254</sup> Further, the site must be “1,000 feet from the Morgantown Utility Board public water supply intake”<sup>255</sup> and “floodplain of the Monongahela River south or upstream of the Morgantown Lock and Dam.”<sup>256</sup> Additionally, provisions address signage,<sup>257</sup> water impoundment,<sup>258</sup> waste disposal,<sup>259</sup> gas emissions,<sup>260</sup> security,<sup>261</sup> cleanup and maintenance,<sup>262</sup> and site restoration.<sup>263</sup> By using a land use and zoning approach to regulate fracking, the city has effectively created a de facto ban within city limits; however, the ordinance has not yet been challenged.

## ii. EQT Production Co. v. Wender<sup>264</sup>

In 2016, county commissioners voted to ban injection wells in Fayette County, West Virginia.<sup>265</sup> The ordinance was rooted in the West Virginia State Code that gives county commissions the ability to develop regulations to eliminate “hazards to public health and safety and to abate . . . public nuisance[s].”<sup>266</sup> The ban came after concerns of fracking waste fluids “migrat[ing] into a nearby creek [that] feeds into the New River” were brought to the public’s attention.<sup>267</sup> The public’s concerns arose when “a study from the U.S. Geological Survey and researchers from the University of Missouri found . . . potentially hazardous chemicals” in the creek which were a “potential byproduct of [a] nearby waste water disposal facility.”<sup>268</sup> The ban was

<sup>249</sup> *Id.* § 1355.08(C)(2)(b)(i).

<sup>250</sup> *Id.* § 1355.08(C)(2)(b)(ii).

<sup>251</sup> *Id.* § 1355.08(C)(2)(b)(iii).

<sup>252</sup> *Id.* § 1355.08(C)(2)(b)(iv).

<sup>253</sup> *Id.* § 1355.08(C)(2)(b)(v).

<sup>254</sup> *Id.* § 1355.08(C)(2)(b)(vi).

<sup>255</sup> *Id.* § 1355.08(C)(2)(d).

<sup>256</sup> *Id.* § 1355.08(C)(2)(e).

<sup>257</sup> *Id.* § 1355.08(C)(4).

<sup>258</sup> *Id.* § 1355.08(C)(5).

<sup>259</sup> *Id.* § 1355.08(C)(7).

<sup>260</sup> *Id.* § 1355.08(C)(8).

<sup>261</sup> *Id.* § 1355.08(C)(9).

<sup>262</sup> *Id.* § 1355.08(C)(10).

<sup>263</sup> *Id.* § 1355.08(C)(11).

<sup>264</sup> 870 F.3d 322 (4th Cir. 2017).

<sup>265</sup> *Id.* at 327.

<sup>266</sup> W. VA. CODE § 7-1-3kk (2018); *EQT Prod.*, 870 F.3d at 333.

<sup>267</sup> Sarah Plummer, *Fayette Appeals Federal Decision on Fracking Waste Ban*, REGISTER-HERALD (Aug. 17, 2016), [http://www.register-herald.com/news/fayette-appeals-federal-decision-on-fracking-waste-ban/article\\_4d7a4415-57c3-527f-abd8-023bd19e9351.html](http://www.register-herald.com/news/fayette-appeals-federal-decision-on-fracking-waste-ban/article_4d7a4415-57c3-527f-abd8-023bd19e9351.html) [http://perma.cc/U4TT-MVM2]. The New River is one of the most popular attractions in West Virginia and is home to white water rafting and Bridge Day, both of which attract thousands of visitors every year. *Bridge Day Info*, BRIDGE DAY, <https://officialbridgeday.com/bridge-day/> [http://perma.cc/2TD3-D2DQ] (noting Bridge Day is “West Virginia’s largest single-day festival” and that it attracts thousands of spectators); *Raft the New River Gorge*, ACE ADVENTURE, <https://aceraft.com/whitewater-rafting/new-river-gorge-trips/> [http://perma.cc/8T8R-B3EF].

<sup>268</sup> Alex Wiederspiel, *Researchers Find Dangerous Chemicals Related to Fracking Waste in Fayette County Stream*, WV METRO NEWS (Apr. 8, 2016, 1:33 PM), <http://wvmetronews.com/2016/04/08/researchers-find-dangerous-chemicals-in-fayette-county-brook->

written broadly so it not only affected the injection of fracking waste in injection wells, but also effectively prevented operation of hundreds of vertical wells within the county, including EQT's 200 wells.<sup>269</sup> The ordinance was later amended to allow temporary storage of wastewater, which is regulated by permits, but ensured temporary storage excluded "storage of any wastewater destined for permanent disposal within Fayette County."<sup>270</sup>

The ordinance was immediately met with opposition from a Pennsylvania company it affected. The company sued in federal court, and the District Court struck the ordinance down and noted that "towns and cities are without power to adopt ordinances which *might, in any way*, interfere with legislative enactment."<sup>271</sup> The court analogized to the "obstacle variant of conflict preemption in federal law", and assumed the West Virginia Supreme Court of Appeals would apply field preemption between state and local governments in the oil and gas context similar to how it would between the state and federal government.<sup>272</sup> The district court held and the Fourth Circuit affirmed that the ordinance was preempted by state law, which contains no "savings clause" granting power to counties to regulate oil and gas under West Virginia's Oil and Gas Act.<sup>273</sup>

### III. HOW WEST VIRGINIA CAN FULLY BENEFIT FROM THE INDUSTRY

#### A. West Virginia Workers

Though on the surface it appears that the fracking boom can be extremely beneficial to West Virginia communities, the citizens are not fully benefiting from the boom. As discussed above, many of the companies do not hire local citizens because it is expensive to train them for a job that is transient.<sup>274</sup> As part of the permit process, the legislature should adopt laws and the state agencies should promulgate regulation to protect West Virginia workers. Though regulations cannot force a corporation to invest in West Virginia workers, there should be incentives to those corporations that do invest in West Virginia workers. The incentives can include something as little as the state footing the cost for the extensive training employees need to work within the gas industry meaning the company can save money on training in-state workers and relocating out-of-state workers. Further, if the company

---

related-to-fracking-waste/ [http://perma.cc/3U2H-6G8R]. There were concerns of a third party's wells that were leaking into the local waterways. *EQT Prod.*, 870 F.3d at 327.

<sup>269</sup> *EQT Prod.*, 870 F.3d at 327–28.

<sup>270</sup> *Id.* at 328; see also W. VA. CODE § 22-6-6(c) (2018) (explaining what a permit application must contain for conventional drilling sites).

<sup>271</sup> *EQT Prod.*, 870 F.3d at 328–29 (quoting *EQT Prod. Co. v. Wender*, 191 F.Supp.3d 583, 595–96 (S.D. W. Va. 2016)) (emphasis added).

<sup>272</sup> *EQT Prod.*, 191 F.Supp. at 596–98 (“[T]owns and cities,” as well as counties, “are without power to adopt ordinances which might . . . interfere with legislative enactment . . . passed in carrying out a particular policy of the [state] legislature.”). The Court stated that a local ordinance must be subordinate to a state statute to prevent confusion and inconsistent results. *Id.* at 597. A state law will be preempted by federal law if it “stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.” *E.g.* Caleb Nelson, *Preemption*, 86 VA. L. REV. 225, 228 (2000).

<sup>273</sup> *Id.* at 336.

<sup>274</sup> See *supra* text accompanying notes 91–95.



hires out any contractors to do any work and public funds are being used, then the state *could* have some control over the hiring of employees.<sup>275</sup>

There are already organizations that are set up to help reintegrate those that dedicated their lives to the coal mines back into the workforce by providing them with training and classes. Brandon Dennison founded Coalfield Development Corporation in 2009, which is “working to reclaim and revitalize West Virginia’s economic destiny.”<sup>276</sup> Coalfield Development provides unemployed young adults and laid-off coal miners an opportunity to receive “education, training, mentorship[,] and support” by putting them “back to work on social enterprises that build an economic base in the community.”<sup>277</sup> In addition, it ensures that over a two-year program the individuals obtain a “community college education and four technical certifications.”<sup>278</sup> Though Coalfield Development Corporation gets support from “private and public programs,” the state could do more to invest in organizations like Coalfield Development to ensure they remain viable.<sup>279</sup> The state should be investing in these organizations because this is how West Virginians can best be served in this boom.

In addition, The Appalachia Regional Commission<sup>280</sup> and the U.S. Economic Development Administration<sup>281</sup> are two federal organizations created in 1965 during Lyndon B. Johnson’s War on Poverty,<sup>282</sup> which can provide support to local organizations investing in old miners to help ensure they have opportunities within this new boom. The organizations’ funds are allocated to help communities

<sup>275</sup> For example, West Virginia could pass a law similar to an Illinois Act that requires contractors receiving state or federal funds to hire 90% Illinois laborers in times of excessive unemployment. 30 ILL. COMP. STAT. 570 / 3 (2018).

<sup>276</sup> Brandon Dennison, *Transitioning Coal Communities Need More Help from Congress*, CHARLESTON GAZETTE-MAIL (Jan. 28, 2018), [https://www.wvgazette.com/opinion/gazette\\_opinion/op\\_ed\\_commentaries/brandon-dennison-transitioning-coal-communities-need-more-help-from-congress/article\\_a4aad8c8c-0b00-5e12-8155-2fb0c62c71c1.html](https://www.wvgazette.com/opinion/gazette_opinion/op_ed_commentaries/brandon-dennison-transitioning-coal-communities-need-more-help-from-congress/article_a4aad8c8c-0b00-5e12-8155-2fb0c62c71c1.html) [<http://perma.cc/P883-KL5A>]; see also *About Us*, COALFIELD DEV., <http://coalfield-development.org/about-us/> [<http://perma.cc/7LX5-JNZB>].

<sup>277</sup> Dennison, *supra* note 276. Social enterprises are “businesses that combine[] the compassion of the nonprofit sector with the efficiency of the for-profit sector.” *About Us*, *supra* note 276.

<sup>278</sup> Dennison, *supra* note 276.

<sup>279</sup> *Id.*

<sup>280</sup> “The Appalachian Regional Commission (“ARC”) is a regional economic development agency that represents a partnership of federal, state, and local government.” *About ARC*, APPALACHIAN REGIONAL COMMISSION, <https://www.arc.gov/about/index.asp> [<https://perma.cc/8CRR-247N>]. The ARC is supposed to invest in “business development, education and job training, telecommunications, infrastructure, community development, housing, and transportation.” *Id.*

<sup>281</sup> The Economic Development Administration (“EDA”) is the “only federal government agency focused exclusively on economic development . . . [and] plays a critical role in facilitating regional economic development efforts in communities across the nation.” *About EDA*, U.S. ECON. DEV. ADMIN., <https://www.eda.gov/about/> [<http://perma.cc/M3NB-6RD2>]. It helps provide grants and technical assistance to economically distressed communities in order to generate new employment. *Id.*

<sup>282</sup> James P. Ziliak, *The Appalachian Regional Development Act and Economic Change* 1, 7 (University of Kentucky Center for Poverty Research, Discussion Paper 2010-14), [https://uknowledge.uky.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1044&context=ukcpr\\_papers](https://uknowledge.uky.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1044&context=ukcpr_papers) [<https://perma.cc/X9LM-SGCK>].

throughout “coal country” recover from coal’s collapse.<sup>283</sup> The Trump administration has not done enough, though, to ensure these programs are protected and in carrying out the organizations’ missions. Though both survived, the Trump administration’s original 2018 budget eliminated both programs,<sup>284</sup> which seems counter-intuitive to what the workers in these areas thought they would receive from the administration.<sup>285</sup>

The current administration has ruled the War on Poverty as effectively over, so there can be a justified reason to cut numerous publicly funded programs.<sup>286</sup> This Note will not discuss what the potential effects on rural Appalachia would be if these programs were cut, however, the ARC and EDA are two valuable federally funded commissions that can be used to help invest in West Virginia’s former miners so they are given the opportunity to go back into the energy industry. Further, the commissions can provide funding to help rebuild the infrastructure within communities where extractive industry may occur so local governments do not have to bear all of the costs. These commissions need to continue receiving adequate funding and be governed by oversight that is invested in Appalachia so the towns and citizens within can truly benefit from the fracking industry and not bear all of its costs. The idea for the state to engage in a more environmentally friendly and sustainable industry is a move in the right direction, but it must ensure its citizens are the ones receiving the benefits and not only the externalities that come with it.

The state should work with the federal government for grants to help off-set some of the costs to retrain ex-coal miners. One issue with this, though, is President Trump’s push to bring coal back. Though this is the current administration’s goal, it would be a mistake for the state to rely on this empty promise, and the federal government’s goals of reducing unemployment would be better served by investing in public programs to provide training. Further, West Virginia should prepare for a cleaner future because it is unlikely the next administration will take such a strong stance on bringing the coal industry back. To protect itself, West Virginia should invest in training programs and work with non-profit groups dedicated to helping coal miners and other unemployed West Virginians get back into the workforce. This will make a positive impact in the state and help transition it to a sustainable economic future. If West Virginia is dedicated to allowing the natural gas industry within the state then it must put West Virginia workers in a place where they are able to benefit from the industry directly and not through a spill-over job. Investing in West Virginians, though, requires funding that the state likely will not be able to come up with on its own. The state has been in a budget crisis, thus there is likely no

---

<sup>283</sup> Cassady Rosenblum, *Hillbillies Who Code: The Former Miners Out to Put Kentucky on the Tech Map*, GUARDIAN (Apr. 21, 2017, 6:00 AM), <https://www.theguardian.com/us-news/2017/apr/21/tech-industry-coding-kentucky-hillbillies> [http://perma.cc/U9U8-CDVL].

<sup>284</sup> *Id.*

<sup>285</sup> Daniel Flatley, *Fracking Jobs Prove Elusive for Coal Miners Looking to Switch*, BLOOMBERG (Aug. 18, 2017, 4:00 AM), <https://www.bloomberg.com/news/articles/2017-08-18/fracking-jobs-prove-elusive-for-coal-miners-looking-to-switch> (last visited Feb. 5, 2019).

<sup>286</sup> COUNCIL OF ECON. ADVISERS, EXEC. OFFICE OF THE PRESIDENT, EXPANDING WORK REQUIREMENTS IN NON-CASH WELFARE PROGRAMS 29 (2018), <https://www.whitehouse.gov/wp-content/uploads/2018/07/Expanding-Work-Requirements-in-Non-Cash-Welfare-Programs.pdf> [http://perma.cc/T9X5-P8NM].

extra money to give to organizations dedicated to West Virginia workers.<sup>287</sup> This is where the state should use the industry that continues to use the state. West Virginia should increase the state's severance tax.

### *B. Why Increasing the Severance Tax Would Benefit Everyone*

In general, severance taxes are “excise taxes on natural resources that are ‘severed’ from the earth,” which can be imposed on the gross value after extraction or the volume of production.<sup>288</sup> West Virginia follows the former approach—taxing on the gross value, with a base rate of five percent.<sup>289</sup> On top of this base rate, West Virginia adds a 4.7 cent tax for every 1,000 cubic feet of natural gas extracted.<sup>290</sup> There are exemptions to the natural gas severance tax, which include surface owners and low producing wells that may not be profitable after imposing a severance tax.<sup>291</sup>

West Virginia has benefited from the oil and natural gas industry by generating \$97 million in natural gas severance tax in 2017.<sup>292</sup> The oil and gas severance tax is “dedicated for the use and benefit of the counties and municipalities within West Virginia.”<sup>293</sup> Ten percent of the severance tax is distributed back to county and local governments.<sup>294</sup> Of that ten percent, 75% is distributed to producing counties and the

---

<sup>287</sup> See Boettner, *supra* note 139. During the 2017–18 budget year, the state exceeded its projections by less than 1% which was the first time since 2012 that the state finished a budget year with a surplus without having to impose mid-year budget cuts. Phil Kabler, *Despite Stumbles, WV Finishes 2017–18 Budget Year with 1 Percent Surplus*, CHARLESTON GAZETTE-MAIL (July 2, 2018), [https://www.wvgazette.com/news/politics/despite-stumbles-wv-finishes-budget-year-with-percent/article\\_64ecf4a1-dcdb-5345-a837-7e83811f6cc8.html](https://www.wvgazette.com/news/politics/despite-stumbles-wv-finishes-budget-year-with-percent/article_64ecf4a1-dcdb-5345-a837-7e83811f6cc8.html) [<http://perma.cc/H6UF-W43A>].

<sup>288</sup> *State Severance Taxes*, NAT'L CONF. ST. LEGISLATURES, [www.ncsl.org/research/fiscal-policy/2011-state-severance-tax-collections.aspx](http://www.ncsl.org/research/fiscal-policy/2011-state-severance-tax-collections.aspx) [<http://perma.cc/726T-MAL8>].

<sup>289</sup> W. VA. DEP'T OF REVENUE, SEVERANCE TAXES 1 (2016), <https://tax.wv.gov/Documents/Reports/SeveranceTaxes.TaxData.FiscalYears.2004-2016.pdf> [<http://perma.cc/N2H6-UJG9>].

<sup>290</sup> *Id.*

<sup>291</sup> W. VA. CODE § 11-13A-3a(a) (2006). There are a total of four oil and gas severance tax exemptions:

- (1) Free natural gas provided to any surface owner;
- (2) natural gas produced from any well which produced an average of less than five thousand cubic feet of natural gas per day during the calendar year immediately preceding a given taxable period;
- (3) oil produced from any oil well which produced an average of less than one-half barrel of oil per day during the calendar year immediately preceding a given taxable period; and
- (4) for a maximum period of ten years, all natural gas or oil produced from any well which has not produced marketable quantities of natural gas or oil for five consecutive years immediately preceding the year in which a well is placed back into production and thereafter produces marketable quantities of natural gas or oil.

*Id.*

<sup>292</sup> Sean O' Leary, *Can WV Afford to Not Increase the Natural Gas Severance Tax?*, W. VA. CTR. ON BUDGET & POL'Y (Feb. 26, 2018), <https://wvpolicy.org/can-wv-afford-to-not-increase-the-natural-gas-severance-tax/> [<http://perma.cc/A9A2-YD8N>].

<sup>293</sup> *Oil and Gas Severance*, W. VA. ST. TREASURER'S OFF., <http://www.wvtreasury.com/Banking-Services/Revenue-Distributions/Oil-and-Gas-Severance> [<http://perma.cc/VZL7-7K8L>].

<sup>294</sup> W. VA. CODE § 11-13A-5a (2018).

remaining 25% is “distributed to all counties and municipalities of the state, based on population.”<sup>295</sup>

Further, the state legislature has followed other mineral rich states and nations,<sup>296</sup> and created the West Virginia Future Fund that is meant to “conserv[e] a portion of the state’s revenue derived from the increased revenue proceeds . . . as a result of mineral production.”<sup>297</sup> “[T]hree percent of the annual severance tax revenue” is deposited into this fund.<sup>298</sup> The money accumulating in the fund is not available for expenditure until 2020, and is earmarked solely for “education and workforce development; economic development and diversification; infrastructure improvements and tax relief measures for the benefit of the citizens and businesses.”<sup>299</sup> The idea of an earmarked tax is to designate a tax’s revenues for a specific purpose and have a narrow subgroup “receive an important benefit.”<sup>300</sup> Earmarked taxes have proven to be a successful source of long-term revenue, and, if the tax benefits specific groups, it can be extremely successful.<sup>301</sup> This is because these taxes do the reverse of federal taxes—“[t]hey spread a cost across a wide population to benefit a concentrated subgroup, which makes . . . state earmarked taxes relatively easy to pass, maintain, and grow.”<sup>302</sup> The legislature should amend the West Virginia Fund to narrow the scope or promulgate regulations to ensure West Virginians are truly benefiting.

First, the trust should be limited to ensuring education is adequately funded. This education funding could be extended to retraining adults that are out of work. Part of the funds allocated to education should also be invested in allowing students in rural areas to have access to more classes involving specialized trades. The schools need adequate funding to ensure students are exposed to various job opportunities with and without a college degree. This exposure can involve engaging students in classes where they can be taught some of the skills needed for the oil and gas industry so they can obtain employment and benefit from the industry within the state. Education is not adequately funded within the state and many students, particularly in old mine

---

<sup>295</sup> *Oil and Gas Severance*, *supra* note 293; *see also* § 11-13A-5a(b). In 2017, \$9.7 million was distributed to the counties. O’Leary, *supra* note 292.

<sup>296</sup> *See, e.g.,* Dennis Cauchon, *States Eye Trusts for New Oil, Gas Revenue*, USA TODAY (Nov. 19, 2012, 9:26 PM), <https://www.usatoday.com/story/news/nation/2012/11/19/states-oil-gas-revenue/1715851/> [http://perma.cc/VY68-MARM]. Norway’s sovereign wealth fund recently topped \$1 trillion. Ian Salisbury, *This Country Has Set Aside Almost \$200,000 for Each of its 5 Million Citizens*, TIME (Sept. 21, 2017, 10:42 AM), <http://time.com/money/4949545/norway-wealth-fund-reaches-1-trillion/> [http://perma.cc/XGR4-EHUL]. The fund invests all of the country’s proceeds from oil and gas production and invests in stocks, bonds, and real estate abroad and has had an annual return of 6.1 percent. NORGES BANK, GOVERNMENT PENSION FUND GLOBAL ANNUAL REPORT 2017 14 (2017), <https://www.nbim.no/contentassets/49715a01ed684b1686ff3c017f1efa12/annual-report-2017—government-pension-fund-global.pdf> [http://perma.cc/TUW9-7XUH].

<sup>297</sup> W. VA. CODE § 11-13A-5b(b) (2018).

<sup>298</sup> *Id.* § 11-13A-5b(c).

<sup>299</sup> *Id.* § 11-13A-5b(d). The earmarked tax will help foster “economic growth and development in the state,” improve land, water, roads, etc., and reduce the tax responsibility of in-state citizens and businesses. *Id.* § 11-13A-5b(e).

<sup>300</sup> Susannah Carmic Tahk, *Public Choice Theory and Earmarked Taxes*, 68 TAX L. REV. 755, 761 (2015).

<sup>301</sup> *Id.* at 756.

<sup>302</sup> *Id.* at 770.

towns, do not have the means or access to understand life beyond coal. Further, there should be more specific language on how the state should and could invest in its infrastructure and economic development. This allows funds to not be wasted and to be used efficiently and effectively so the state can fully benefit. The most concerning part of the trust is that it does not allocate how the funds are used and is very broad. The trust has the potential to give tax relief to large corporations and prevent the citizens and smaller corporations within the state from reaping the benefits. The trust should be limited to ensure these concerns are addressed. If the state chooses to give tax relief measures because of the trust, there should be limits to ensure the trust is not solely in place for corporate tax relief.

Though, the state is trying to prepare for the “bust”—whenever that may come—there is more that can be done at the state and local levels to fully benefit from the fracking industry while not suffering the same repercussions the state suffered during the coal downturn. West Virginia is predicted to have a large amount of natural gas and is one of the country’s leading natural gas producers,<sup>303</sup> but none of the corporations are headquartered in the state, therefore, the state is not fully benefiting from the corporations because they are not getting corporate taxes.<sup>304</sup> The state could amend its tax code to benefit from corporations domiciled outside of the state, so that if there is a nexus between the product and the people within the state a corporate tax can be collected from the corporation. One of the problems with this within the oil and gas industry, though, is that most of the product is not used by citizens within the state it is extracted from. Thus, the state should increase its severance tax which will allow it to increase the amount it sets aside in the trust. The increase could benefit the public at large and ensure things such as insurance for public employees remains adequately funded.

In 2018, a 2.5% tax increase was proposed to help maintain the Public Employees Insurance Agency (“PEIA”) after public teachers went on strike for almost two weeks.<sup>305</sup> The proposed increase, though, was defeated by GOP Senate members.<sup>306</sup> Conservative lawmakers are afraid that corporations will leave and go elsewhere. This logic fails, though, because too much money will be left on the table if all of the natural gas extracting corporations leave the state. In addition, West Virginia would not have to raise the severance tax by 2.5% for the state to benefit more fully from the oil and gas industry. West Virginia should increase the tax to better provide to the citizens of the state and generate enough revenue to not only sustain its current economic needs but allow its economy to continue to grow in the future.

---

<sup>303</sup> *West Virginia State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN. (Aug. 16, 2018) <https://www.eia.gov/state/analysis.php?sid=WV> [<http://perma.cc/UQE5-AH3E>].

<sup>304</sup> If these corporations were domiciled in the state, the state could collect an additional 6.5% corporate tax. W. VA. DEP’T OF REVENUE, WEST VIRGINIA BUSINESS TAXES I (2018), <http://tax.wv.gov/Documents/TSD/tsd100.pdf> [<http://perma.cc/6PJZ-LDF2>].

<sup>305</sup> Rusty Marks, *Senate Republicans Kill Severance Tax Bill*, WV NEWS (Feb. 27, 2018), [https://www.wvnews.com/news/wvnews/senate-republicans-kill-severance-tax-bill/article\\_f8464134-a9ad-5dba-88a9-366af39db057.html](https://www.wvnews.com/news/wvnews/senate-republicans-kill-severance-tax-bill/article_f8464134-a9ad-5dba-88a9-366af39db057.html) [<http://perma.cc/F5J4-WQYJ>].

<sup>306</sup> *Id.*

### C. *Cleaner forms of Fracking*

Local governments and state regulators should work together to encourage oil and gas companies to explore nitrogen fracking, which uses nitrogen rather than water, but can still “fracture rock at high pressures.”<sup>307</sup> Besides the reduction in water usage, nitrogen fracking is also predicted to be more “environmentally friendly,” safer, and efficient when “clean[ing] out and purging [a] well.”<sup>308</sup> Carbon dioxide can be used in a similar fashion.<sup>309</sup> Using gases rather than water can help eliminate the amount of wastewater produced and can reduce greenhouse emissions because the carbon dioxide will remain underground.<sup>310</sup>

There are issues with nitrogen fracking, though, besides the expensive infrastructure. The compressibility of gas makes it “more difficult to reach the required pressures needed to fracture the rock.”<sup>311</sup> Further, “the carbon dioxide has to be separated from the natural gas before shipping, which adds to the cost” making this form of fracking unlikely in areas considered to be more abundant in water.<sup>312</sup> Despite this, communities should explore this as an option. At the state level, China Energy Investment Corporation, “the world’s largest power company by asset value” should be encouraged to explore this option in “good faith” as part of the memorandum of understanding between the company and state regulators.<sup>313</sup> The memorandum of understating states that the company will invest \$83.7 billion in shale gas projects within the state.<sup>314</sup> The company has signed a non-binding deal to “develop [the] petrochemical sector” within the state by having access to the shale gas.<sup>315</sup> However, due to President Trump’s trade war, executives from China Energy Investment Corporation canceled a trip to West Virginia in June 2018 where they were supposed to discuss details of the memorandum of understanding.<sup>316</sup> This has

<sup>307</sup> CRYOGENIC INDUS., FRACKING WITH NITROGEN, [www.cryoind.com/wp-content/uploads/2014/08/2014-Summer-Cryoquip-Fracking-with-Nitrogen.pdf](http://www.cryoind.com/wp-content/uploads/2014/08/2014-Summer-Cryoquip-Fracking-with-Nitrogen.pdf) [<http://perma.cc/497W-ERAZ>].

<sup>308</sup> *Id.*

<sup>309</sup> Kevin Bullis, *Skipping the Water in Fracking*, MIT TECH. REV. (Mar. 22, 2013), <https://www.technologyreview.com/s/512656/skipping-the-water-in-fracking/> [<http://perma.cc/A7TM-RHWA>].

<sup>310</sup> *Id.*

<sup>311</sup> *Id.*

<sup>312</sup> *Id.*

<sup>313</sup> *China Energy Investment Signs MOU for \$83.7 billion in West Virginia Projects*, REUTERS (Nov. 9, 2017, 2:21 AM), <https://www.reuters.com/article/us-trump-asia-energy-west-virginia/china-energy-investment-signs-mou-for-83-7-billion-in-west-virginia-projects-idUSKBN1D90S9> [<http://perma.cc/4WYY-XXXL>].

<sup>314</sup> *Id.*

<sup>315</sup> Ken Silverstein, *Trump’s Trade War with China Could Leave West Virginia’s Energy Sector Seriously Wounded*, FORBES (April 10, 2018, 2:35 PM), <https://www.forbes.com/sites/kensilverstein/2018/04/10/trumps-trade-war-with-china-could-leave-west-virginias-energy-sector-seriously-wounded/#4e3fd0122fd8> [<http://perma.cc/9HDW-DA4V>].

<sup>316</sup> *China Energy Chiefs Call off US Trip as Trade War Brews*, S. CHINA MORNING POST (June 21, 2018, 11:01 PM), <https://www.scmp.com/news/china/diplomacy-defence/article/2151784/china-energy-chiefs-call-us-trip-trade-war-brews> [<http://perma.cc/455U-P8VD>].

raised concern that the energy sector within the state could be seriously harmed if China Energy Investment Corporation withdrawals from the deal.<sup>317</sup>

*D. A Local Government's Path Forward*

Though ordinances imposing a total ban on fracking within the borders of a local municipality are unlikely to survive, there are things local governments can do to avoid preemption. First, it appears local governments within the state have the authority to regulate fracking so long as the regulations pertain to zoning. This means the locality can impose strict regulations pertaining to zoning which could limit the number of companies able to obtain a permit. Further, there could be strict regulations imposed pertaining to chemical disclosure, proximity to residential neighborhoods, schools, *et cetera*.

The Santa Fe County, New Mexico, ordinance is the clearest example of how a state can impose strict zoning ordinances to regulate fracking within the borders. The ordinance has been in place for ten years and has not been preempted within the states broader regulatory regime.<sup>318</sup> The ordinance makes it extremely difficult for a company to frack within the borders of Santa Fe County, but does not place a de facto ban on the activity.<sup>319</sup> Thus, the county has a lot of control over any drilling activity within its borders and can mitigate some of the externalities. Though accidents can still occur and not every negative externality can be avoided, having a detailed environmentally and economically conscious ordinance can reduce the likelihood of any lasting and damaging effects that may accompany fracking. Finally, a more stringent ordinance will likely bring companies with a strong reputation within the industry.

Companies with a strong, positive reputation will want to uphold their image of being conscientious by meeting each and every factor to help display their reputation to citizens. Oil and gas companies that do not strive to use caution in their drilling activities are unlikely to put forth the time and capital required to drill within the county. This type of ordinance goes beyond the Morgantown ordinance regulating zoning and does not appear to be in violation of the state's oil and gas regulatory regime.<sup>320</sup> This type of ordinance does not create waste of oil and gas,<sup>321</sup> but merely places a heavy burden on the company to ensure some costs can be mitigated. There could be an argument that this discourages the "maximum recovery" of oil and gas,<sup>322</sup> but again the ordinance does not discourage recovery. It is instead ensuring adequate safeguards are in place to protect the citizens now and in the future.

West Virginia should not ban fracking within its state borders like New York because the state truly does need revenue generating industry, and the state should take advantage of the fact that it overlies one of the most expansive shales in the

---

<sup>317</sup> Silverstein, *supra* note 315.

<sup>318</sup> See *supra* Sub-Subsection II.B.1.c.

<sup>319</sup> See *supra* Sub-Subsection II.B.1.c.

<sup>320</sup> See W. VA. CODE § 22C-9-1 (2018)

<sup>321</sup> *Id.*

<sup>322</sup> *Id.*

world.<sup>323</sup> Still, local governments must have a way to mitigate risks because the state has fully welcomed the industry within its borders. West Virginia grants localities broad authority to regulate through its home-rule provision, however, a state court applied Dillon's rule which put more limitations on the city.<sup>324</sup> If another case reaches a West Virginia court, there needs to be a proper home-rule analysis which should allow cities to regulate "where" the activity takes place, which closely follows New York's approach to local government regulation.<sup>325</sup> Further, allowing a city to regulate "where" fracking can occur allows it to fully assert home-rule powers to its advantage and in harmony with the state's regulatory power.

The state should allow cities to use their full regulatory authority and act as a state laboratory for testing policies. The state should allow the process to play out before stepping in by letting cities test policies at the local level and allow them to engage in a trial and error process. It is unlikely that every city, town, or county would ban hydraulic fracturing like the Colorado Supreme Court predicted in *City of Longmont*.<sup>326</sup> Allowing localities to use policy innovation and rely on the democratic process within the district does not result in every county following.

#### CONCLUSION

Hydraulic fracturing has created an economic boom throughout much of the United States, however, many local cities have also been faced with the dark side of this boom. Because of this, many local governments across the country have enacted ordinances in an attempt to regulate fracking within city limits. Many of the ordinances, though, have been met with harsh opposition at the state and federal level, where critics rely on intrastate preemption. This interferes with a city's ability to act as a "laboratory" for the state because many times the ordinance is met with a lawsuit before it can be tested for efficiency and popularity at the local level. Some states have been successful in using local zoning and land use laws, though, in regulating the industry.

West Virginia is a proponent of oil and gas extraction to ensure industry is brought into the state. Welcoming the industry comes with numerous state-wide benefits, but it makes it very difficult for localities to regulate. Using what other energy rich state localities have done, it is likely West Virginia communities can regulate fracking through land use ordinances. The state must ensure it is creating policy that allows citizens to benefit, and allows citizens and cities a choice. In 2018, the state changed a law that required 100% landowner consent for drilling to only requiring 75% of landowner consent for drilling, which is not a step in the right direction for the state legislature because it leaves local governments with little room to help citizens that do not want drilling on their property unless detailed zoning

---

<sup>323</sup> See *supra* note 35 and accompanying text.

<sup>324</sup> See *supra* Subsection II.C.1.

<sup>325</sup> *Wallach v. Town of Dryden*, 16 N.E.3d 1188, 1196 (N.Y. 2014).

<sup>326</sup> *City of Longmont v. Colo. Oil & Gas Ass'n*, 369 P.3d 573, 581 (Colo. 2016).



ordinances are adopted.<sup>327</sup> To fully flourish, West Virginia must remember the ghosts of its past, and make changes to fully benefit from a new extractive industry that resembles much of the same characteristics as coal once did. The industry needs West Virginia as much as West Virginia needs the industry. Thus, policy innovation at the local level will ensure citizens' economic well-being is in parity with that of the state. Putting West Virginia citizens first allows the State to finally prosper and reach its full potential.

---

<sup>327</sup> Kate Mishkin, *Co-tenancy Bill Moves Quickly to WV Senate Floor*, CHARLESTON GAZETTE-MAIL (Feb. 27, 2018), [https://www.wvgazette.com/news/legislative\\_session/co-tenancy-bill-moves-quickly-to-wv-senate-floor/article\\_48ab967b-43cb-5d2e-b2b7-b4ab14518ee7.html](https://www.wvgazette.com/news/legislative_session/co-tenancy-bill-moves-quickly-to-wv-senate-floor/article_48ab967b-43cb-5d2e-b2b7-b4ab14518ee7.html) [http://perma.cc/43Q8-GVN4].