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Local Control of Emerging Energy Sources: A Due Process Challenge to Disparate Treatment by States

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LOCAL CONTROL OF EMERGING ENERGY SOURCES: A DUE PROCESS CHALLENGE TO DISPARATE TREATMENT BY STATES

"America is addicted to oil . . . ."

—President George W. Bush, 2006[1]

"We need an energy strategy for the future—an all-of-the-above strategy for the 21st century that develops every source of American-made energy."

—President Barack Obama, 2012[2]

ABSTRACT

This Note explores the division of regulatory power over emerging energy sources between state and local governments. Specifically, this Note concentrates on the division of power for regulating the installation of wind turbines and hydraulic fracturing to extract shale gas. In some states, like Ohio, local governments have authority to regulate—or even ban—one of these emerging energy sources, while the state has preempted all local control of the other emerging energy source. However, land-use regulations are generally limited by constitutional protections for an individual's property. As explored, local concerns—including safety, the effects on wildlife and other animals, the preservation control of "our backyards" and noise—and specific considerations—including the limited geographic area from which these resources can be extracted—support governments' authority to regulate these emerging energy sources under the police power. But after comparing the considerations for wind turbines and fracking, this Note ultimately concludes that the substantial similarity does not support the disparate treatment by states such as Ohio. Accordingly, this Note proposes that state regulatory regimes that preempt local control of fracking while allowing substantial local control of wind turbines may be vulnerable to due process challenges for being unconstitutionally arbitrary.

1. 2006 State of the Union Address (Jan. 31, 2006).

2. THE WHITE HOUSE, http://www.whitehouse.gov/energy (last visited Sept. 22, 2013).

CONTENTS

INTRODUCTION

In the spring of 2010, Wind in the Woods Farm,[3] a small farm located in northeastern Ohio's Auburn Township,[4] announced its plan to install a wind turbine.[5] Possible uses for the proposed 10kW turbine included heating and lighting the farm and powering the farmhouse and an electric pickup truck.[6] On its face, this plan seemed to be in conformance with the United States' energy plan[7] because it offered a cleaner energy alternative and generated local work.[8] Nevertheless, some local officials and township residents fought to prevent the turbine installation. Ultimately, the concerned residents convinced the township's zoning department to block Wind in the Woods Farm's permit application to install a turbine.

Elaborated further in Part III.B, the Wind in the Woods Farm turbine story illustrates two important points. First, it shows how emerging sources of clean energy can run into roadblocks under the existing regulatory framework. Second, it demonstrates the harsh

3. There is nothing extraordinary about Wind in the Woods Farm. It is a rural farm that breeds horses, hosts summer camps, offers riding lessons, and provides therapeutic riding for children with special needs. Press Release, Expedite Renewable Energy, Wind in the Woods Farm Plans to Erect 10kW Wind Turbine, *available at* http://www.expediterenewableenergy.com/jonespressrelease.pdf.

4. Auburn Township, Ohio is located in Geauga County, approximately twenty-five miles southeast of Cleveland, Ohio. *See generally* AUBURN TOWNSHIP, http://auburntownship.com (last visited Sept. 22, 2013).

5. *See* Press Release, Expedite Renewable Energy, *supra* note 3.

6. Joan Demirjian, *Hay, Check It Out, Farm Erecting Turbine,* CHAGRIN VALLEY TIMES, May 27, 2010, at A8.

7. President Barack Obama, 2012 State of the Union Address (Jan. 24, 2012) (articulating his energy plan as "a strategy that's cleaner, cheaper, and full of new jobs"). *See also supra* note 2 and accompanying text (providing language from the White House's energy website).

8. To determine feasibility, Wind in the Woods Farm worked with a Cleveland, Ohio–based company, Expedite Renewable Energy. Press Release, Expedite Renewable Energy, *supra* note 3. To move the project forward, Expedite Renewable Energy was working with a Sandusky, Ohio–based company, SUREnergy. *Id.*

realities that result from states treating emerging energy sources differently. Regardless of the outcome, the concerned citizens had a chance to affect regulation of wind turbines in their township because Ohio has not generally preempted local zoning restrictions on wind turbine installations. By contrast, another group of Auburn Township citizens, concerned over a different emerging energy source, did not have the chance to affect local regulations. This group opposed the extraction of natural gas from underground shale rock formations through the "fracking" process[9] and planned an "anti-fracking discussion" in March of 2012.[10] However, these citizens were limited in affecting local rules because Ohio does not provide local governments with the power to regulate fracking.

This Note refers to both wind and natural gas extracted from shale using fracking technologies as emerging resources, although re-emerging could arguably be a more precise term because both wind and fracking, thanks to technology, are experiencing recent surges in use and reliance. Thus, while wind energy production is not new, technology advances have facilitated record-breaking growth in wind energy production over the last decade.[11] The record for increasing wind energy production capacity was set in 2006, and then reset in 2007.[12] In 2007, wind turbine installations accounted for thirty percent of new electricity.[13] This record-setting trend continued until 2009.[14] Then, in 2012, the 2009 numbers were eclipsed, making 2012 the year with the largest increase of wind energy capacity.[15] Wind energy, at

9. Throughout this Note, the drilling procedure known as hydraulic fracturing will be referred to as "fracking." For an introduction to the fracking process, see *infra* Part I.B.

10. *See* Press Release, Network for Oil & Gas Accountability and Protection, Invitation to All Voters: Come Participate in the Anti-Fracking Discussion (Mar. 19, 2012), *available at* http://www.auburntownship.org/news/2012%20news%20archive.html.

11. Uma Outka, *Siting Renewable Energy: Land Use and Regulatory Context*, 37 ECOLOGY L.Q. 1041, 1055 (2010) ("Nationwide, wind energy is the fastest growing renewable energy source.").

12. Troy Rule, *A Downwind View of the Cathedral: Using Rule Four to Allocate Wind Rights*, 46 SAN DIEGO L. REV. 207, 212 (2007).

13. 4 PATRICIA E. SALKIN, AMERICAN LAW OF ZONING § 37:9 (5th ed. 2011). More than 5,200 MW of electricity was installed in 2007, which brought the total U.S. wind energy capacity to 16,800 MW. *Id.* By contrast, the total at the end of 2004 was merely 6,740 MW. *Id.*

14. *AWEA: PTC Deadline Propels U.S. Wind Energy Industry to New Record*, N. AM. WINDPOWER (Jan. 31, 2013), http://www.nawindpower.com/e107_plugins/content/content.php?content.11051. In 2009, 10 GW of wind energy capacity was installed in the United States. *Id.*

15. *Id.* In 2012, 13.124 GW of wind energy capacity was installed in the United States, with 8.3 GW of this capacity being installed in the final quarter of the year. *Id.*

forty-two percent of all new electricity-generation capacity, was the top source of new energy in 2012.[16] With these increases during 2012, wind energy now provides 3.5% of all energy produced in the United States.[17] In addition to these production increases, the United States has set a lofty goal for wind energy: increase capacity to twenty percent of the nation's energy supply by 2030.[18] These facts confirm that "[w]ind has never been more valuable,"[19] and it is an emerging energy source.

Fracking has a similar story. The technology itself is not new.[20] But, like wind energy, the utilization of fracking technologies for extracting shale gas is on the rise because technological improvements have made it more economical.[21] It is estimated that between 2007 and 2030, fracking technologies will allow natural gas plants to account for fifty-three percent of all new plants constructed.[22] This fracking boom has caused states to rethink the regulatory structures for the extraction of shale gas.[23] Thus, fracking—with its capability to change the global energy scene[24]—is also an emerging energy source.

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16. *Id.*

17. *Wind Energy Produces at Least 10% of Electricity in Nine States*, N. AM. WINDPOWER (Mar. 13, 2013), http://www.nawindpower.com/e107_plugins/content/content.php?content.11240.

18. *See* U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030: INCREASING WIND ENERGY'S CONTRIBUTION TO U.S. ELECTRICITY SUPPLY (2008) [hereinafter DOE, 20% WIND ENERGY].

19. Rule, *supra* note 12, at 208.

20. Timothy Fitzgerald, *Frack-onomics: Some Economics of Hydraulic Fracturing*, 63 CASE W. RES. L. REV. 1337, 1338 (2013) ("Hydraulic fracturing has been hailed as a new technology, but the process used today is a distillation of advances made over several decades."); *see also* NATHAN RICHARDSON ET AL., THE STATE OF SHALE GAS REGULATION 3 (2013), *available at* http://www.rff.org/rff/documents/RFF-Rpt-StateofStateRegs_Report.pdf ("Knowledge about where shale gas might be found has been available for decades . . . .").

21. RICHARDSON ET AL., *supra* note 20, at 3.

22. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2009 WITH PROJECTIONS TO 2030, at 3 (2009), *available at* http://www.eia.gov/oiaf/aeo/pdf/0383(2009).pdf.

23. Some states, such as Colorado, Ohio, Pennsylvania, and West Virginia have enacted "comprehensive revisions" to their natural gas regulations. RICHARDSON ET AL., *supra* note 20, at 23. Other states, such as Arkansas, Texas, and Montana, have made changes to specific regulations. *Id.*

24. *Cf.* INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2012: EXECUTIVE SUMMARY 1 (2012), *availabl at* http://www.iea.org/publications/freepublications/publication/English.pdf ("The global energy map is changing, with potentially far-reaching consequences for energy

This Note explores these emerging energy sources, concentrating specifically on how states share relevant regulatory authority with local governments and how specific considerations for wind energy compare with those for fracking. Although local land-use regulations may not be the only means by which concerned citizens can protect against their concerns, the sharp contrast in how Ohio law treats the wind turbine installations and fracking operations is striking. Ultimately, this Note proposes that such disparate treatment violates the Due Process Clause, which traditionally has been used to challenge land-use regulations.

Thus, this Note proceeds as follows. Part I provides a short introduction to how humans have historically utilized wind and shale gas. Part II looks at the division of power between different levels of government when it comes to regulating emerging energy sources. Specifically, it explains why any action by local governments can be attributed to the states, which are bound by the Fourteenth Amendment's Due Process Clause. Part III turns to the actual regulatory techniques that states have used to control the capture of wind and shale gas. This Part pays particular attention to whether states permit local governmental regulations or preempt such action.

Part IV discusses the constitutional limits on land-use regulations and the due process requirement that ties the legitimacy of land-use regulations, whether promulgated by state or local authorities, to their relationship to public health, safety, and general welfare. Accordingly, Part V looks at what types of considerations associated with wind and shale gas energy might bring the regulation of these sources within the bounds of protecting public health, safety, or the general welfare. Furthermore, because it concludes that the considerations for wind and fracking are substantially similar, Part V argues that some states' disparate treatments of these emerging energy sources can be challenged as violative of due process.

I. TWO EMERGING SOURCES OF ENERGY: THE BASICS OF UTILIZING WIND AND SHALE GAS FOR ENERGY PRODUCTION

A. Wind

Utilizing the power of wind is not a new concept. In fact, wind power was important enough to the ancient world that the Greeks told stories of Aeolus, god of the winds.[25] The importance of the wind

markets and trade. It is being redrawn by the resurgence in oil and gas production in the United States . . . .").

25. Aeolus, or Aiolos, was ruler of the winds from his island home of Aiolia. ROBIN HARD, THE ROUTLEDGE HANDBOOK OF GREEK MYTHOLOGY 493 (2004). Aiolos, keeper of the winds, may be most famously known for the visit of Odysseus to Aiolia as described in Book 10 of Homer's

to the ancient Greeks should come as no surprise. After all, mankind has long depended on the ability of the sail to capture the wind. Wind-powered ships allowed for trade, exploration, conquest, and migration.[26]

Terrestrial use of the wind's power, in the form of windmills, dates at least as far back as the tenth century.[27] For many years, windmills captured the power of the wind to harness it for purposes such as pumping water and grinding grain.[28] The most notorious users of windmills may be the Dutch, who developed the tower mill.[29]

Using the wind to generate electricity is also not a new concept. One early person to produce electricity using wind energy was the nineteenth-century inventor, Charles F. Brush of Cleveland, Ohio.[30] Brush's electricity producing wind tower was a marvel of his time.[31] With a sixty-foot tower and 144 blades operating between 330–500 revolutions per minute, Brush's wind tower ran at a full capacity of 12,000 watts.[32] Amazingly, the device could power 350 incandescent lights or, for storage, it was capable of powering a system of batteries in Brush's basement.[33] By the end of 1890, Brush's device had been in service for two years.[34] It continued to work without issue until 1908,

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classic novel, *The Odyssey*. *See* HOMER, THE ODYSSEY 205 (Rodney Merrill trans., 2002).

26. ROBERT W. RIGHTER, WINDFALL: WIND ENERGY IN AMERICA TODAY 4 (2011).

27. *Id.* at 6. There is some evidence that windmills date back to the seventh century. SUZANNE BEEDELL, WINDMILLS 13 (1975).

28. DOE, 20% WIND ENERGY, *supra* note 18, § 2.2.4; *see also* Demirjian, *supra* note 6 (noting that farmers currently desiring to use the wind to generate power point to the history of farms utilizing wind power for pumping water). Beyond pumping water and grinding grains, windmills also came to be used to power sawmills and paper plants. RIGHTER, *supra* note 26, at 6.

29. *Cf.* RIGHTER, *supra* note 26, at 6 (indicating that as many as 800–1000 tower mills were utilized to power Amsterdam at some time).

30. Shortly after his death in 1929, one newspaper opined that Brush was "one of the most imposing figures in the group of surpassing geniuses whose labors have contributed so hugely to the advance of civilization during the past half century." Editorial, *Charles Francis Brush*, CLEV. PLAIN DEALER, June 17, 1929, at 18.

31. *See Mr. Brush's Windmill Dynamo*, SCI. AM., Dec. 20, 1890, at 389 ("With the exception of [Brush's] gigantic windmill and electric plant shown in our engraving, we do not know of a successful system of electric lighting operated by means of wind power.").

32. *Id.*

33. *Id.*

34. *See id.*

when central power connection made the machine unnecessary, and Brush took it apart.[35]

Notwithstanding Brush's nineteenth-century Windmill Dynamo, capturing the power of the wind for electricity generation began in the 1970s, and the technology has continually improved in efficiency, reliability, and cost.[36] Recently, a large-scale increase of wind energy production has become feasible. In 2008, the U.S. Department of Energy set a goal that twenty percent of U.S. energy would be wind produced by 2030.[37] Another encouraging sign for this emerging energy source is the fact that wind energy is the fastest growing of the renewable resources utilized in the United States.[38]

The modern technology for capturing the power of the wind is the wind turbine. This technology, consisting of three rotating blades, or rotors, is currently utilized around the world.[39] The rotating blades are mounted atop towers that are typically between 52.6 and 100 meters high.[40] This apparatus captures the wind's kinetic energy, transforming it first into mechanical energy at the shaft and later into electrical energy in the generator.[41] The amount of energy that can be generated increases exponentially as wind speed increases.[42] Thus, areas experiencing high-speed winds are much better suited for generating power with wind turbines.

B. Shale Gas

The fracking process, aimed at capturing natural gas from shale formations, consists of injecting a high-pressure fluid into low-permeability shale in an effort to open and connect fractures within the rock.[43] The goal of the process is to release natural gas—known as

35. RIGHTER, *supra* note 26, at 12–14.

36. DOE, 20% WIND ENERGY, *supra* note 18, § 2.2.

37. *See generally id.*

38. Outka, *supra* note 11, at 1055.

39. DOE, 20% WIND ENERGY, *supra* note 18, § 2.2.2.

40. Outka, *supra* note 11, at 1055 (citing AM. WIND ENERGY ASS'N, AWEA WIND POWER VALUE CHAIN 3).

41. MARTIN O. L. HANSEN, AERODYNAMICS OF WIND TURBINES 3 (Earthscan, 2d ed. 2008) (2000).

42. DOE, 20% WIND ENERGY, *supra* note 18, § 2.2.2.

43. Tom Myers, *Potential Contaminant Pathways from Hydraulically Fractured Shale to Aquifers*, 50 GROUND WATER 872, 872 (2012). Fracking is an industry term used for the process. RICHARDSON ET AL., *supra* note 20, at 3 (citing David Kramer, *Shale-Gas Extraction Faces Growing Public and Regulatory Challenges*, PHYSICS TODAY, July 2011, at 23–25). This process has also been referred to as "fracing." *See, e.g.*, Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1, 6 (Tex. 2008).

shale gas—from the rock and to ease human capture of the shale gas by creating a path for the gas to travel to a well.[44] The entire fracking process has recently been revolutionized by "relatively recent technology enabl[ing] directional drilling, which allows the drill stem and borehole to follow the horizontal structure of the shale formations and proceed thousands of feet to exploit gas reserves far from the well head."[45] In addition to directional drilling, the other key fracking technologies are three-dimensional seismic imaging[46] and hydraulic fracturing.[47]

II. THE AUTHORITY TO REGULATE: WHICH LEVEL OF GOVERNMENT REGULATES EMERGING ENERGY SOURCES?

Before this Note turns to the problems with the existing regulatory system into which emerging energy sources find themselves thrown, it is important to understand which level of government has historically possessed primary responsibility for regulating these sources.

For the most part, the use of land to extract resources or to produce energy is, like many other land-use questions, an issue of local concern. This is consistent with the framers' opinion that the newly enacted U.S. Constitution had left the handling of "local purposes" to the states.[48] Indeed, the U.S. Constitution contains explicit protections ensuring that certain areas of law are left to the states to regulate.[49] But in many areas of state and local interest,

44. Myers, *supra* note 43, at 872.

45. John R. Nolon & Steven E. Gavin, *Hydrofracking: State Preemption, Local Power, and Cooperative Governance*, 63 CASE W. RES. L. REV. 995, 996 (2013). This directional drilling, also referred to as horizontal drilling, "allows each well to exploit much more of the shale layer." RICHARDSON ET AL., *supra* note 20, at 3.

46. Three-dimensional seismic imaging "provides precise knowledge about the location and properties of source rock . . . ." RICHARDSON ET AL., *supra* note 20, at 3.

47. The process of hydraulic fracturing "uses high-pressure fluids to physically fracture the source rock [to increase] gas production." *Id.*

48. *See* THE FEDERALIST NO. 17 (Alexander Hamilton) (responding to concerns that the Union would become too powerful and absorb the powers best left to local administration by the states by asserting that local concerns are too "minute" for the Union to bother regulating). James Madison also made clear his view of the powers of the states; THE FEDERALIST NO. 45 (James Madison) ("The powers reserved to the several states will extend to all the objects which, in the ordinary course of affairs, concern the lives, liberties, and properties of the people, and the internal order, improvement, and prosperity of the state.").

49. *E.g.*, U.S. CONST. amend. X.

state and local governments may not be able to pass laws if the federal government has preempted such action by enacting laws that either conflict with the state or local laws or explicitly prohibit state or local laws on that subject.[50] With these federalist principles in mind, Part II.A discusses the federal government's limited role in fracking and wind turbine regulation. Part II.B follows with a discussion of state and local regulatory authority.

A. The Federal Government's Limited Role

Although a debate concerning the correct way to regulate energy and promote clean energy growth is likely to continue at the federal level, this Note does not focus on the federal government's role in establishing an energy policy. Instead, this Note focuses on the division of regulatory powers between state and local governments because the regulatory framework has primarily been defined at those levels. Nevertheless, it is not possible to provide a comprehensive review of emerging energy sources in the United States without discussing the federal government's role in energy regulation. Accordingly, this Part provides a short discussion of the federal government's role in energy regulation.

Generally, the federal government only becomes involved when the project is proposed on federal land.[51] Yet despite the federal government's traditionally low involvement in energy-production regulation, energy policy—including the prioritization and role of emerging energy sources—has been a hotly debated topic at the federal level.[52] This Part discusses how the federal government has become increasingly involved in the regulation of energy production through direct regulation that preempts state law, policy goals for energy production, and cooperative federalism.

Despite its overall limited role, the federal government, by enacting legislation that preempts state law, has not provided the states with the *sole* power for regulating and promoting the

50. *See, e.g.*, Arizona v. United States, 132 S. Ct. 2492, 2495, 2500–01 (2012) (describing federal preemption doctrine and holding that three provisions of an Arizona immigration law were preempted by federal law).

51. Sean F. Nolon, *Negotiating the Wind: A Framework to Engage Citizens in Siting Wind Turbines*, 12 CARDOZO J. CONFLICT RESOL. 327, 334 (2011). *But see* Animal Welfare Inst. v. Beech Ridge Energy, 675 F. Supp. 2d 540 (D. Md. 2009) (limiting the installation of a wind farm to comply with a federal act).

52. *See, e.g.*, Zack Colman, *Romney, Obama Go One Last Round in Debate on Clean Energy, Solyndra*, E² WIRE: THE HILL'S ENERGY & ENV'T BLOG (Oct. 22, 2012, 10:50 PM), http://thehill.com/blogs/e2-wire/e2-wire/263437-obama-romney-spar-on-clean-energy-research-funding (discussing the 2012 presidential candidates' disagreement on federal policy for the funding of clean energy technologies).

development of all energy sources in the United States.[53] Recently, Congress passed the Energy Policy Act of 2005[54] "[t]o ensure jobs for our future with secure, affordable, and reliable energy."[55] Two key provisions of the Act granted regulatory power over energy sources to the federal government. First, the federal government was granted sole authority over siting certain natural gas terminals.[56] Second, the federal government was granted a "backstop" authority over the siting of proposed interstate transmission lines.[57]

In addition to regulatory authority, federal administrative agencies also have set goals for electricity production. For example, the Department of Energy has published a general report discussing the possibility of wind energy growing to twenty percent of total power by 2030.[58] This report was compiled in response to President George W. Bush's suggestion that the country needs energy from more diverse sources.[59] Although the report indicates the Department of Energy's interest in the twenty-percent goal, rather than proposing policies to meet this goal, the report sought only to "start the discussion about issues, costs, and potential outcomes associated with the 20% Wind Scenario."[60]

President Obama, shortly after taking office, pushed for a broad policy on greenhouse gas (GHG) emissions in the United States.[61]

53. *See, e.g.*, Public Utility Regulatory Policies Act of 1978 (PURPA), Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended in scattered sections of the U.S. Code).

54. Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of the U.S. Code). For additional discussion of the 2005 Act, see JOSEPH P. TOMAIN, ENDING DIRTY ENERGY POLICY: PRELUDE TO CLIMATE CHANGE 37–39 (2011).

55. 119 Stat. at 594.

56. Sec. 311(c)(2), §3, 119 Stat. at 685–86 (codified as amended at 15 U.S.C. 717b(e)(1) (2012)).

57. Sec. 1221, § 216, 119 Stat. at 946–53 (codified at 16 U.S.C. § 824p (2012)); *see also* Kenneth C. Baldwin, *Energy Facility Siting*, *in* CAPTURING THE POWER OF ELECTRIC RESTRUCTURING 133, 158 (Joey Lee Miranda ed., 2009) (discussing the federal electric transmission facility siting authority as a federal "backstop"); ADAM VANN, CONG. RESEARCH SERV., THE FEDERAL GOVERNMENT'S ROLE IN ELECTRIC TRANSMISSION FACILITY SITING 2 (2010) (describing section 1221 of the 2005 Act as creating a federal "'backstop' authority that is exercised only if the state cannot authorize the facility or if it has 'withheld approval'").

58. *See* DOE, 20% WIND ENERGY, *supra* note 18.

59. *Id.* at 1.

60. *Id.*

61. Mark Peters, *White House Seeks Bill on Climate by December*, WALL ST. J., Apr. 14, 2009, at A3. The Obama administration's proposal came after

Although there was some progress made with the 2005 Energy Policy Act, which provided for loan guarantees for the development of energy technologies that do not produce GHGs,[62] no drastic changes to federal policy affecting GHG emissions and energy production occurred during President Obama's first term. While the House of Representatives passed a cap-and-trade bill for GHG emissions in 2009,[63] the bill never became law.[64] Making matters worse, Carol Browner, who was the White House's voice on implementing cleaner energy alternatives, resigned as director of the White House Office of Energy and Climate Change Policy.[65] It appears, however, that President Obama has a continuing desire to develop new energy sources to move the country away from traditional energy sources.[66] During President Obama's second term, it is very possible that the federal government will again turn its attention to energy sources in the United States.[67] Any action taken by the federal government

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the Supreme Court rejected the prior administration's policy on GHG emissions. *See* Massachusetts v. EPA, 549 U.S. 497, 534 (2007).

62. §§ 1701–1704, 119 Stat. at 1117–22 (codified as amended at 42 U.S.C. §§ 16511–16514 (2006)).

63. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 861 (2009). This cap-and-trade bill would have "impose[d] a wide range of climate-related regulations, including renewable portfolio standards for utilities, appliance efficiency standards, and requirements for building codes and land-use planning." Jonathan H. Adler, *Eyes on a Climate Prize: Rewarding Energy Innovation to Achieve Climate Stabilization*, 35 HARV. ENVTL. L. REV. 1, 35–36 (2011).

64. *See* Gabriel Nelson, *Browner's Resignation Seen as the End of an Era*, GREENWIRE (Jan. 25, 2011), http://www.eenews.net/public/Greenwire/2011/01/25/1 (mentioning that the White House's proposed cap-and-trade bill died in the Senate in 2010).

65. *Id.* (suggesting that Browner's resignation marked a shift in President Obama's policy "from advancing new climate and energy programs to defending the economic value of the policies that his administration has put in place over its first two years").

66. *See* John M. Broder, *Obama's Bid to End Oil Subsidies Revives Debate*, N.Y. TIMES, Feb. 1, 2011, at A14 (discussing the President's desire to end subsidies and tax breaks for oil companies and quoting a White House spokesman: "The plan the President outlined would establish a clear goal for clean energy and let utilities achieve that in the most cost-effective way possible").

67. Alex Guillen, *W.H. Green Commitment 'Not a Fad,' Carol Browner Says*, POLITICO PRO (Oct. 1, 2012, 4:29 AM), http://www.politico.com/news/stories/0912/81826.html (reporting that Carol Browner, while campaigning for the President, promised that President Obama "'believes deeply in [clean-energy] issues'" and that he has "a big to-do list when it comes to [environmental] issues in a second term").

under President Obama is likely to be based on economic incentives,[68] which would have little effect on the local and state regulation of energy sources.[69] But it is possible that the federal government could act to limit the regulatory power of state and local governments over certain energy sources and thus change the current system discussed within the scope of this Note.

If the Congress does choose to address energy regulation, its options may be limited. Accordingly, the federal government has commonly used cooperative federalism[70] when it wishes to have an influence on regulating environmental problems. Under this approach, the federal government creates a plan of standards or requirements, and the state government implements the federal government's plan. The federal government usually provides the states with some discretion in implementing the goals,[71] and the states can use powers that the federal government cannot, such as land-use regulation. Cooperative federalism approaches have been adopted in the Clean Air Act[72] and the Clean Water Act.[73] Federalism concerns raised by

68. In the past, the federal government has supported the renewable energy sector by providing funding support. *See Federal Wind Energy Policy Fact Sheets*, AM. WIND ENERGY ASS'N, http://new.awea.org/learnabout/publications/factsheets/factsheets_federal.cfm.

69. *See* Garrick B. Pursley & Hannah J. Wiseman, *Local Energy*, 60 EMORY L.J. 877, 909 (2011) (noting that the federal government's financial incentives were geared more toward encouraging innovation than affecting "the land-energy realm").

70. Cooperative federalism is "a partnership between the states and the federal government." Bethlehem Steel Corp. v. Gorsuch, 742 F.2d 1028, 1036 (7th Cir. 1984) (discussing the allocation of power established by the Clean Air Act, 42 U.S.C. §§ 7401–7671q (2006 & Supp. V 2011)).

71. *See, e.g.*, Virginia v. EPA, 108 F.3d 1397 (D.C. Cir. 1997) (holding that the Clean Air Act does not authorize the EPA to require states to implement a particular method in meeting the air quality standards); Nat'l Res. Def. Council v. EPA, 16 F.3d 1395 (4th Cir. 1993) (overruling a challenge to the EPA's approval of Maryland's water quality standard for dioxin, even though Maryland's standards were significantly higher than the standard recommended by the EPA under the Clean Water Act, 33 U.S.C. §§ 1251–1387 (2012)).

72. 42 U.S.C. §§ 7401–7642 (2006 & Supp. V. 2011). *Compare* 42 U.S.C. § 7408 (2006) (requiring the EPA to identify air pollutants), *and id.* § 7409 (requiring the EPA to establish "national primary and secondary ambient air quality standards"), *with id.* § 7410 (requiring states to implement plans to reach the ambient air quality standards set by the EPA).

73. 33 U.S.C. §§ 1251–1387 (2012). For an example of the Clean Water Act's cooperative federalism, see § *id.* 1313 (providing states with the option of avoiding federal promulgation of water quality standards by adopting their own standards which must be approved by the EPA administrator).

cooperative federalism have generally been dismissed by courts, providing further support for cooperative federalism.[74]

As environmental concerns due to energy production reach the national and global level, it becomes more likely that the federal government will attempt to exert regulatory authority over energy capture and production.[75] It is conceivable that Congress could adopt an approach similar to the Clean Air Act or the Clean Water Act—that is, utilizing cooperative federalism—concerning levels of carbon emissions in the energy-production industry. As of May 2013, however, it seems unlikely that Congress will implement a cooperative federalism approach for regulating energy.[76]

If states and local governments are to be required to cooperate with the federal government concerning GHG emissions, it is much more likely to be driven by federal agency action under the existing Clean Air Act structure.[77] For example, if the Clean Air Act is

74. *See, e.g.*, Pronsolino v. Nastri, 291 F.3d 1123, 1140 (9th Cir. 2002) (dismissing a challenge alleging that the EPA "upset the balance of federal-state control" over land use by setting the maximum pollutant load for a California river because California, not the EPA, chooses "*if* and *how*" to meet the pollutant load limit).

75. It has been argued that "the smallest jurisdiction whose geographical scope encompasses the relevant benefits and costs associated with the provision of the service" should retain the power in regulating that service. Wallace E. Oates, *Thinking About Environmental Federalism*, 130 RESOURCES 14, 14 (1998). As the benefits and costs of energy production—including the cost of relying on foreign nations for carbon-based resources and the cost of increasing GHG emissions—increasingly become federal and global concerns, this argument would predict that larger governments, which may be national or international in jurisdiction, will assume the regulatory power.

76. *Cf.* Douglas Brinkley, *Joe Biden: The Rolling Stone Interview*, ROLLING STONE, May 23, 2013, at 64, 68 (indicating that Vice President Joe Biden does not believe that the current Congress will act on environmental legislation, such as a carbon tax). In this interview, Vice President Biden made it clear that the administration intends to use executive power to affect the energy industry because it does not expect the current Congress to enact any meaningful legislation. *Id.*

77. GHGs are air pollutants under the Clean Air Act. Massachusetts v. EPA, 549 U.S. 497, 528–29 (2007). Thus, after *Massachusetts*, the EPA was required to put policy aside and determine whether GHGs "cause or contribute to climate change." *Id.* at 534. The EPA made such an "endangerment finding" after *Massachusetts*. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gas Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009) (to be codified as 40 C.F.R. ch.1); *see also* 42 U.S.C. § 7521(a)(1) (2006)) (requiring the establishment of standards for vehicles emissions of air polluntants). An endangerment finding under any section of the Clean Air Act can have mandatory effects under other sections of the Clean Air Act. *See, e.g.*, Nat'l Res. Def. Counsil v. Train, 545 F.2d 320 (2d Cir. 1976) (indicating that an endangerment finding for lead as an air pollutant

amended to limit the amount of GHGs emitted by power plants, states will be forced to determine how to meet these lower emission standards. Although the federal government could not directly regulate land use for energy production, this scenario could force state governments to lift restrictions on energy sources that do not emit GHGs—such as wind—or on energy sources that emit less GHGs than traditional energy sources—such as shale gas.

B. The General Division of Power Between State and Local Governments

Generally, the authority to regulate energy infrastructure and the development of energy sources has not been preempted by federal law and has been left with state and local governments.[78] As such, this Part discusses how that regulatory power is divided between state and local authorities. Part II.B.1 first establishes the basic historical framework and competing approaches used to manage state-local governance issues. Importantly for the due process challenges discussed in Part IV, this Part also demonstrates why actions taken by local authorities are considered state action and thus subject to the Fourteenth Amendment's limitations. Finally, Part II.B.2 follows by exploring how the regulatory authority pertaining to energy regulation has generally been split between state and local governments.

1. Historical Framework

a. Dillon's Rule

The role of municipal governments was not debated in the United States prior to the Civil War.[79] After the war, the possibility of

under section 108 of the Clean Air Act forced the EPA to take other actions under the Clean Air Act). Thus, the EPA's "endangerment finding" pertaining to GHGs in the aftermath of *Massachusetts* could, under Clean Air Act requirements, lead to federal intervention into energy production regulation due to the status of energy producers as stationary sources of air-pollution emissions. *See* 42 U.S.C. § 7411(b)(1)(A), § 7411(a)(1)(B) (2006).

78. *See* Outka, *supra* note 11, at 1042; *see also* Tampa Electric Co. v. Garcia, 767 So. 2d 428, 436 (Fla. 2000) (per curiam) (finding no merit in a claim that Congress preempted the states' authority over power plant siting because "power-plant siting and need determination are areas that Congress has expressly left to the states"); Zimmerman v. Bd. of Cnty. Comm'rs, 218 P.3d 400, 431 (Kan. 2009) ("PURPA did not preempt local zoning of commercial wind farms."). This lack of federal regulation has carried over into the regulation of fracking. RICHARDSON ET AL., *supra* note 20, at 1.

79. FRANK MANN STEWART, A HALF CENTURY OF MUNICIPAL REFORM: THE HISTORY OF THE NATIONAL MUNICIPAL LEAGUE 1 (Greenwood Press 1972) (1950).

municipal governance became a hot issue due to strong postwar political interests and economic growth trending toward "big business."[80] Additionally, municipal functioning had to keep up to provide for the population growth within cities.[81]

One of the leading theorists on the role of the municipal corporation during this period was John Forrest Dillon.[82] Dillon favored state control of municipalities because he was disturbed by wasteful municipal investment practices and believed states could minimize what he saw as "mingling of public and private functions."[83] One of Dillon's principal contributions, his treatise on municipal corporations[84]—which included chapters on the subject of a municipality's eminent domain powers, a municipality's power to issue ordinances, and the powers of municipal courts—was the product of a six-year examination of the laws of each state and of English law.[85] In his treatise, Dillon wrote that the law classifies municipal governments as "municipal corporations" and explains that because they are both political and corporate, they must be created by a statute.[86] Dillon made it clear that the law only gives municipalities such powers to enact ordinances as conferred by the

80. *Id.*

81. *Id.* at 2. "A sharp increase in city growth was one of the outstanding characteristics of the [postwar] period. In 1860 there were 141 cities with a population of 8,000 or more; by 1870 there were 226 such cities. Twenty years later the figure was 445." *Id.* By 1890, four cities' populations had exceeded a half million and twenty-eight had surpassed 100,000. *Id.*

82. Dillon was an Iowa Supreme Court justice from 1862 until 1869, when President Grant appointed him as a judge for what is now the Eight Circuit. CLYDE E. JACOBS, LAW WRITERS AND THE COURTS: THE INFLUENCE OF THOMAS M. COOLEY, CHRISTOPHER G. TIEDEMAN, AND JOHN F. DILLON UPON AMERICAN CONSTITUTIONAL LAW 111 (1954). He served on the Eighth Circuit until he reluctantly accepted a professorship at the Columbia University Law School in 1879. *Id. at* 111–12.

83. DALE KRANE ET AL., HOME RULE IN AMERICA: A FIFTY-STATE HANDBOOK 10 (2001).

84. JOHN F. DILLON, THE LAW OF MUNICIPAL CORPORATIONS (2d ed. rev. and enlarged 1873).

85. JACOBS, *supra* note 82, at 112.

86. DILLON, *supra* note 84, ch. II, § 9b ("*Municipal corporations* are bodies politic and corporate . . . established by law, to share in the civil government of the country, but chiefly to regulate and administer the local or internal affairs of the city, town, or district which is incorporated. Like other corporations, they must be created by statute. They possess no powers or faculties not conferred upon them, either expressly or by fair implication, by the law which creates them, or by other statutes applicable to them.").

state, but once the power is conferred, such municipal ordinances have the same power as acts passed by their state.[87]

Perhaps Dillon is most famous for writing, as Chief Justice of the Iowa Supreme Court, that municipalities were creatures of state legislatures and their powers were limited to what was expressly granted to them by their state's legislature.[88] This formulation became known as Dillon's Rule and is still in effect today.[89]

The United States Supreme Court affirmed Dillon's Rule in 1891.[90] The Court later expounded on its formulation of Dillon's Rule, providing that:

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87. *Id.* ch. XII, § 245.

88. Writing for the Supreme Court of Iowa, Chief Justice Dillon wrote:

> Municipal corporations owe their origin to, and derive their powers and rights wholly from, the legislature. It breathes into them the breath of life, without which they cannot exist. As it creates, so it may destroy. If it may destroy, it may abridge and control. Unless there is some constitutional limitation on the right, the legislature might, by a single act, if we can suppose it capable of so great a folly and so great a wrong, sweep from existence all of the municipal corporations in the State, and the *corporation* could not prevent it. We know of no limitation on this right so far as the corporations themselves are concerned. They are, so to phrase it, the mere *tenants at will* of the legislature.

City of Clinton v. Cedar Rapids & Mo. River R.R. Co., 24 Iowa 455, 475 (1868).

89. *See* Pursley & Wiseman, *supra* note 69, at 912 ("[T]he traditional understanding of local government zoning authority characterizes local governments as arms of the state that derive all of their powers from their state parent."); *see also* Richard Briffault, *Our Localism: Part I—The Structure of Local Government Law*, 90 COLUM. L. REV. 1, 8 (1990) ("Dillon's Rule operates as a standard of delegation, a canon of construction and a rule of limited power."); Gerald E. Frug, *The City as a Legal Concept*, 93 HARV. L. REV. 1057, 1059 (1980) (arguing that municipal governments have no legal power).

90. Merrill v. Town of Monticello, 138 U.S. 673 (1891) (holding that the town had no power to issue negotiable bonds because the Indiana state legislature had expressly authorized only the issuance of bonds for certain purposes, with certain limitations and safeguards in place). The Court determined that "[t]he modern doctrine [was] to consider corporations as having such powers as are specifically granted by the act of incorporation . . . and as not having any other." *Id.* at 681. In its discussion, the Court quotes Dillon's treatise, which says that municipal corporations have only the powers "granted in express words," fairly incident to express powers, and "those essential to the declared objects and purposes of the corporation—not simply convenient, but indispensable." *Id.* (quoting DILLON, *supra* note 84, ch. II § 89).

> The State, therefore, at its pleasure may modify or withdraw all such powers, may take without compensation such property, hold it itself, or vest it in other agencies, expand or contract the territorial area, unite the whole or part of it with another municipality, repeal the charter and destroy the corporation. All this may be done, conditionally or unconditionally, with or without the consent of the citizens, or even against their protest. In all these respects the State is supreme, and its legislative body, conforming its action to the state constitution, may do as it will, unrestrained by any provision of the Constitution of the United States.[91]

Thus, Dillon's Rule and the Supreme Court's acknowledgement of state supremacy over municipalities are still "the formal background norms for state-local relationships."[92]

b. Home-Rule Movement

Yet, while Dillon's Rule was being "crystallized in the nineteenth century, states were amending their constitutions in order to strengthen local self-government."[93] Starting with Missouri in 1875 and California in 1879, states began to amend their constitutions to expressly grant legislative power to municipalities.[94] The home-rule movement had begun.[95]

The home-rule movement had two goals: (1) to empower the municipal government with lawmaking authority, thereby undoing the Dillon's Rule and (2) to prevent states from interfering with local governments' control over issues of local concern.[96] As states began to incorporate home rule into their constitutions, two main types evolved. First, "[t]he original form of home rule amendment treated the home rule municipality as an *imperium in imperio*, a state within a state, possessed of the full police power with respect to municipal affairs and also enjoying a . . . degree of immunity from state

91. Hunter v. City of Pittsburgh, 207 U.S. 161, 178–79 (1907).

92. Briffault, *supra* note 89, at 9.

93. *Id.*

94. *Id.* at 10. These two earliest grants of home-rule authority initially applied to only one city within each state, St. Louis and San Francisco. *Id.* at 10 nn.19–20.

95. The home-rule movement did not bring about instantaneous change. By 1897, there was not universal agreement concerning the municipal government entity. STEWART, *supra* note 79, at 28 (quoting FRANK J. GOODNOW, MUNICIPAL PROBLEMS 18 (1911)). For a short discussion of the movement's setbacks and accomplishments, see KRANE ET AL., *supra* note 89, at 10–14.

96. Briffault, *supra* note 89, at 10.

legislative interference."[97] The second type of home-rule amendment allowed for state preemption, designed "simply to broaden local lawmaking authority without attempting to erect a wall against state laws on local matters."[98]

Today, forty-one states provide their local governments with some type of home-rule freedom to govern without express state permission.[99] Even Iowa, where Dillon once announced his rule, has enacted a home-rule amendment to its constitution.[100] This surprising fact can be attributed to the fact that in enacting home rule, many states were influenced by the efforts of historical figures that were equally as powerful in their time as Dillon was in his own time.[101] In addition to Iowa, the forty-one states include California,[102] New York,[103] Michigan,[104] Ohio,[105] Wisconsin,[106] Pennsylvania,[107] and

97. *Id.*

98. *Id.* Briffault explains that this second type of home rule "reverses Dillon's Rule—all powers are granted until retracted." *Id.*

99. *Id.* at 10–11.

100. IOWA CONST. art III, § 38A; *see also* Berent v. City of Iowa City, 738 N.W.2d 193, 196–97 (Iowa 2007) (describing Iowa's amendment as representative of the second trend, a compromise that allows local control while still permitting a legislature to preempt a municipality's power (citing Bechtel v. City of Des Moines, 225 N.W.2d 326, 328–29 (Iowa 1975))).

101. For example, Newton Diehl Baker, who promoted and helped write home- rule provisions for Ohio and the City of Cleveland, served as Secretary of War during World War II and as an advocate of the League of Nations during the Treaty of Versailles. *Baker, Newton Diehl*, THE ENCYCLOPEDIA OF CLEVELAND HISTORY (Aug. 21, 2012, 10:42 AM), http://ech.case.edu/cgi/article.pl?id=BND (describing Baker's home-rule efforts); C. H. CRAMER, NEWTON D. BAKER 76–78, 210–11 (1961) (detailing Baker's war service).

102. CAL. CONST. art. XI, §§ 6–9; *see also* Briffault, *supra* note 89, at 10 n.22 (describing California's home rule as an example of an *imperium in imperio* home rule).

103. N.Y. CONST. art. IX, § 2.

104. MICH. CONST. art. VII, § 22.

105. OHIO CONST. art. XVIII, §§ 1–14; *see also* KRANE ET AL., *supra* note 89, at 330 ("Ohio is frequently called the 'home rule state.'").

106. WIS. CONST. art XI, § 3; *see also* KRANE ET AL., *supra* note 89, at 453 ("In comparison with municipalities in most other states, Wisconsin municipalities come out well in their degree of freedom from interference by the state.").

107. PA. CONST. art. IX, § 2; *see also* KRANE ET AL., *supra* note 89, at 358 (noting that only seventy-one local governments in Pennsylvania have adopted home-rule charters, including Pittsburgh, Philadelphia, and Scranton).

others.[108] But the home-rule question is not yet settled in every state. West Virginia is a state that is still determining whether home rule should be adopted.[109]

Some states with the second type of home-rule amendment seem to use state preemption as a political tool rather than only when necessary. For example, Michigan has engaged in more intrusive efforts to displace local government officials[110] and to control the laws[111] and finances[112] of local governments. Despite vote efforts to

108. *See* KRANE ET AL., *supra* note 89 (describing each state and its home-rule status); EUGENE MCQUILLIN, THE LAW OF MUNICIPAL CORPORATIONS ch. 4(II)(C), § 4:28, n.2 (3d ed. rev. vol. 2006) (listing additional state home-rule amendments).

109. West Virginia created a pilot program for evaluating home rule in up to five municipalities (four municipalities—Charleston, Wheeling, Bridgeport, and Huntington—participated) beginning on July 1, 2007. W. VA. CODE ANN. § 8-1-5a (LexisNexis 2012). On March 7, 2013, the West Virginia Senate passed a bill that would extend the program through 2019 and expand that program to grandfather in the four originally participating cities and possibly include others. S. 435, 2013 Leg., Reg. Sess. (W.V. 2013).

110. Local Government and School District Fiscal Accountability Act, 2011 Mich. Pub. Acts 4 (effective date Mar. 16, 2011) (allowing the governor of the state to dispose the elected officials of a municipality and install an appointed "emergency manager" to act in their place); *see also* RiShawn Biddle, *Wards of the State: Michigan is Seizing Control of Failed Local Governments*, AM. SPECTATOR, Sept. 2011, at 52, *available at* http://spectator.org/archives/2011/09/21/wards-of-the-state (describing Michigan's use of the Act to take over the City of Benton Harbor, "relegating the [elected] mayor and city commission to figureheads").

111. *See* KRANE ET AL., *supra* note 89, at 214 ("Perhaps the most vigorous local response to a state legislative action began in 1999. The legislature passed a law denying local units the right to require their employees to live in the jurisdiction employing them.") Michigan also utilized its emergency manager laws to make some major changes to local governance. For example, in December 2011, the emergency manager of Pontiac modified the city's collective bargaining agreements "to shift a large portion of the city's benefits obligations onto its employees." City of Pontiac Retired Emps. Ass'n v. Schimmel, No. 12-2087, 2013 WL 4038582, at *2 (6th Cir. Aug. 9, 2013), *vacated and reh'g en banc granted*, Nov. 8, 2013.

112. *See* Monica Davey, *Bankruptcy Lawyer Is Named to Rescue Detroit From Fiscal Disaster*, N.Y. TIMES, Mar 15, 2013, at A13 (describing the appointment of Detroit's emergency manager). Unsurprisingly, the bankruptcy lawyer, with the governor's approval, filed for bankruptcy on behalf of city on July 18, 2013. Monica Davey & Mary Williams Walsh, *Billions in Debt, Detroit Tumbles into Insolvency*, N.Y. TIMES, July 19, 2013, at A1. Detroit is the largest American city to ever file for bankruptcy, and its debt is the largest that a municipality has ever had when filing for bankruptcy. *Id.*

repeal the legislation permitting such state efforts,[113] at least six Michigan cities are currently run by state-appointed emergency managers.[114] Some of Michigan's decisions made by emergency managers on behalf of municipalities have been challenged in the courts, but neither Dillon's Rule nor the scope of Michigan's Home Rule Amendment have been issues.[115] In addition to Michigan, eighteen other states allow a suspension of local control over local issues when certain financial conditions arise.[116] Although this seems intrusive and contradictory of home rule, state intervention has not been unanimously considered a negative action.[117]

Even if state governments have been pushing back in states like Michigan, home rule is still constitutionally enshrined in most state constitutions. Thus, despite the fact the U.S. Constitution provides no natural powers to municipal governments, municipalities do have substantial governing powers. As one commentator stated, "Most local governments in this country are far from legally powerless."[118] But, important to this Note's due process argument, any power that local governments do have is delegated to them by the states, thus making them arms of the state for Fourteenth Amendment purposes.

2. Authority over Emerging Energy Sources

a. Theoretical Considerations

Despite the lack of constitutional protection, most states empower local governments to make regulatory decisions as necessary to address local decisions such as land use. Indeed, "many, if not most, important land use decisions continue to be made at the local

113. *See* THE PEW CHARITABLE TRUSTS, THE STATE ROLE IN LOCAL GOVERNMENT FINANCIAL DISTRESS 45 (2013) [hereinafter PEW] (discussing the voter repeal of the Act in November 2012). Michigan responded by enacting a law with similar provisionss but including an appropriations component to prevent another referendum. Local Financial Stability and Choice Act, 2012 Mich. Pub. Acts 436 (codified at MICH. COMP. LAWS §§ 141.1541–75 (West 2013)); *see also Schimmel*, at *2 (describing the legislative response to the voter referendum).

114. *See* PEW, *supra* note 113, at 5.

115. *See, e.g.*, City of Pontiac Retired Emps. Ass'n v. Schimmel, No. 12-2087, 2013 WL 4038582 (6th Cir. Aug. 9, 2013), *vacated and reh'g en banc granted*, Nov. 8, 2013.

116. PEW, *supra* note 113, at 7. However, the level of intervention varies among these nineteen states that allow it. *Id.* at 4.

117. *See, e.g.*, *id.* at 4 ("[Rhode Island's] action was a reason for Central Falls' exit from bankruptcy last year after only 13 months, the shortest of several recent, high-profile municipal bankruptcies.").

118. Briffault, *supra* note 89, at 1.

level."[119] With this power, however, "communities often plan and zone from a parochial perspective, failing or refusing to consider the extralocal effects of their action."[120] This leads to a contentious debate about whether local governments are the correct entities to control some types of regulation. To paint a full picture of the emerging-energy regulatory landscape, this Part explores a few of the viewpoints presented on each side of the debate, illustrating the inherent tension between state and local governments. This tension, in turn, may impact why and, of particular relevance to this Note, *how* states choose to preempt local control of emerging energy sources.

The argument favoring state control asserts that local control serves the interest of a few rather than overall justice. As Professor Callies, Freilich, and Roberts have stated, "By and large, it is a good thing to subordinate local government needs to regional and state needs."[121] The "virtues of enhancing local autonomy," as Professor Briffault has said, "tend to be greatly exaggerated."[122] Instead, Briffault contends, "Localism reflects territorial economic and social inequalities and reinforces them with political power."[123] This ultimately results in a situation where the benefits of local control "accrue primarily to a minority of affluent localities, to the detriment of other communities and to the system of local government as a whole."[124] Notably, the secretary of Pennsylvania's Department of Environmental Protection has indicated that he believes that all regulation of at least one emerging energy source, fracking, should be controlled by the states.[125]

On the other hand, local governments' roles in land-use control is important and long standing. As Professors Nolon and Gavin have noted, "If the advocates of either federal or state preemption prevail, the historical role of local governments in controlling local land uses and their impacts will be diminished, if not extinguished."[126] They go on to say that "those favoring local control over hydrofracking have a good case because of the complexity, comprehensiveness, and

119. DAVID L. CALLIES ET AL., CASES AND MATERIALS ON LAND USE 41 (6th ed. 2012).

120. *Id.*

121. *Id.* at 59.

122. Briffault, *supra* note 89, at 1–2.

123. *Id.*

124. *Id.*

125. *See* Michael L. Krancer, *States are the Proper Regualtors of Natural Gas Drilling*, *in* AT ISSUE: FRACKING 62 (Tamara Thompson ed., 2013).

126. Nolon & Gavin, *supra* note 45, at 999.

importance of local land use control in the critical matter of municipal governance."[127]

Moreover, based on population growth since the founding fathers' time,[128] it is fair to ask whether Hamilton[129] would still believe that states are the correct level of government to handle local concerns. Although state governments were initially identified for local control, population growth has reached a level that would lead one to believe that America's founding fathers would have wanted local issues to be governed at the local level.

Much of the policy discussion regarding control of emerging sources has looked at the issue with the goal of promoting renewable energy. Professors Pursley and Wiseman provide an interesting discussion about which level of government would be most favorable for holding regulatory control,[130] concluding that "federal-local cooperation" is best.[131] They argue that the federal government should

127. *Id.* at 999 n.14.

128. *Compare* Return of the Whole Number of Persons Within the Several Districts of the United States 3 (1793) (reporting the results of the 1790 U.S. Census, with a total population of 3,680,313 and states ranging from between 747,610 (Virginia) to 68,825 (Rhode Island)), *with* Preliminary Report on the Eighth Census: 1860, at 2, 9 (1862) (reporting that by the start of the Civil War, the United States population had increased to more than 31 million, with states ranging from 3,880,735 (New York) to 52,465 (Oregon)), *and* Press Release, U.S. Census Bureau, U.S. Census Bureau Announces 2010 Census Population Counts—Apportionment Counts Delivered to President (Dec. , 2010), *available at* http://www.census.gov/2010census/news/releases/operations/cb10-cn93.html (reporting from the 2010 census data a total U.S. population of 308,745,538, with states ranging from 37,253,956 (California) to 563,626 (Wyoming), and the twenty-six most populous states having a population higher than that of the entire country at the time the Constitution was written in (3,680,3130)). Seventeen American cities now have a population that is greater than that of the most populous state at the time of the 1790 Census (Virginia, with 747,610 people in 1790). *See Top 50 Cities in the U.S. by Population and Rank*, InfoPlease.com (July 1, 2011), http://www.infoplease.com/ipa/A0763098.html (estimating the current population of the fifty most-populous cities based on the 2010 United States Census).

129. *See* THE FEDERALIST NO. 17, *supra* note 48.

130. *See* Pursley & Wiseman, *supra* note 69, at 930–31 ("If renewable energy interests face entrenched political opposition at the local level, a public choice analysis might favor action at the state or federal level instead. . . . State governments appear to be the least favorable forum, based on the large influence of carbon-fuel interests in state government decision making and the organizational advantages that these industry interests enjoy relative to more diffuse environmental interests.").

131. *Id.* at 933. They also argue that "state authority regarding land-energy rules is detrimental to the goal of fostering distributed renewables." *Id.* For another approach that reached a similar recommendation, see

set minimum standards for energy production[132] and leave the remaining regulatory details to local governments by preempting state government involvement.[133] Another idea is that a regional government would serve the needs of encouraging renewable energy growth.[134] At the state level, Professor LaCroix points out that State Environmental Policy Acts (SEPAs) can provide an overall solution and induce positive changes to local government land-use ordinances.[135] And, there are those who desire national standards to control energy production regulation.[136] Finally, the approach of another group suggests that, rather than governmental action, a publicity campaign, "Energy in My Yard," might work to encourage and promote local, renewable sources.[137]

Thus, there is serious and ongoing debate regarding which level of government is best equipped and most appropriate to regulate emerging energy sources. Although the author of this Note would assert that energy production is no longer simply an issue of local concern—and arguably more a national or global concern—the purpose of this Part is to highlight the tension between state and local governments, which may inform why and how states choose to preempt local governments.

William W. Buzbee, *Contextual Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 108 (2005).

132. Pursley & Wiseman, *supra* note 69, at 935.

133. *Id.* ("To truly empower local governments to exercise regulatory authority and discretion in the manner that will be most beneficial, the traditional power of the state governments to preempt local government authority must be eliminated in this regulatory context. Perhaps paradoxically, then, establishing a stable regime of decentralized local regulatory authority requires, in addition to a federal minimum standard, federal preemption of state power to interfere with local decision making."). Although this recommendation might fit well with the framers' initial purpose of providing authority over local concerns to small populations, it would be interesting to see whether courts can reconcile this recommendation with the general idea that local governments are no more than arms of their respective states.

134. Hannah Wiseman, *Expanding Regional Renewable Governance*, 35 HARV. ENVTL. L. REV. 477, 486 (2011).

135. Catherine J. LaCroix, *SEPAs, Climate Change, and Corporate Responsibility: The Contribution of Local Government*, 58 CASE W. RES. L. REV. 1289, 1290 (2008).

136. *See, e.g.*, Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 CONN. L. REV. 1339 (2010).

137. Hiroaki Niitsuma & Toshiko Nakata, *EIMY (Energy In My Yard)—A Concept for Practical Usage of Renewable Energy from Local Sources*, 32 GEOTHERMICS 767 (2003).

b. Overview of Current State and Local Authority Allocation for Emerging Energy Sources

While Part III provides much greater detail and highlights state-by-state preemption of local authority to regulate emerging energy sources, this Part provides a brief overview of the sources of local authority.

Land-use control is generally achieved with local regulation enacted either under local powers according to a state home-rule provision or under powers expressly given to it by the state on a Dillon's Rule theory. Furthermore, because all fifty states have enacted zoning enabling acts to confer zoning powers onto their municipalities, a local government's power to zone is not usually in question, regardless of whether the state has adopted a home-rule amendment or strictly follows Dillon's Rule.[138]

Over recent years, a growing number of states have been preempting local control of land use to promote small wind turbines to be installed in more suburban areas.[139] In contrast to this renewable-energy promotion, other states have also preempted local authority over traditional energy sources without preempting regulation of wind energy. For example, Ohio, a home-rule state,[140] has denied its local governments the power to place land-use limitations on drilling for oil and gas.[141] This state preemption of local control over resource extraction is not uncommon. In fact, "many states have taken a more active role in guiding energy siting than is typical for other, even industrial, land uses."[142] The question addressed by this Note, then, is whether such treatment by the states may be challenged as unconstitutional.

III. THE REGULATORY LANDSCAPE: HOW HAVE EMERGING TECHNOLOGIES FIT INTO EXISTING REGULATORY SCHEMES?

The land-use questions concerning the location of traditional power plants have been answered by the states or by local governments.[143] The current energy regulatory regime is designed for

138. ARDEN H. RATHKOPF, DAREN A. RATHKOPF & EDWARD H. ZIEGLER, RATHKOPF'S THE LAW OF ZONING AND PLANNING ch. 1(II), § 1:9 (4th ed. rev. 2012) (1975). Notably, though, municipalities in home-rule states may have power extending beyond delineated zoning authority. *Id.*

139. Troy A. Rule, *Airspace in a Green Economy*, 59 UCLA L. REV. 270, 315 (2011).

140. *See supra* note 126.

141. *See* statutes cited *infra* note 234.

142. Uma Outka, *The Renewable Energy Footprint*, 30 STAN. ENVTL. L.J. 241, 256 (2011).

143. Outka, *supra* note 11, at 1042.

these traditional energy sources, and it has not developed to account for unique considerations of emerging energy sources. This has led one commentator to wonder "whether it is even appropriate to look to the historical regulation of natural resource development as a model [as policymakers turn to renewable resources]."[144] Thus, state and local governments are left with the challenge of determining whether the proper course of action is to create new rules for new technologies or to fit the new technologies into current regulations designed for traditional energy sources. As a result, the regulatory picture for emerging energy sources can vary greatly between jurisdictions.[145]

This Part details how the government with the authority to regulate emerging energy sources actually uses that power. Specifically, this Part provides details about how wind energy and fracking have fit into the existing regulatory schemes across various states.

A. Challenges Posed by the Myriad Techniques for Regulating Emerging Energy Sources

The myriad regulatory options available to land-use controllers[146] makes summarizing the regulatory scheme for any given enegry source a difficult task. One set of options includes command-and-control approaches, such as setback requirements, which mandate that the regulated entity comply with a specific standard.[147] Another set of options are performance standards, which, for example, set a numerical limitation on the concentration of a pollutant nearby the regulated site.[148] Under a third set of regulatory tools—case-by-case permitting—the regulated entity must file a permit application confirming it meets certain requirements.[149] Many regulatory schemes

144. Alexandra B. Klass, *Property Rights on the New Frontier: Climate Change, Natural Resource Development, and Renewable Energy*, 38 ECOLOGY L.Q. 63, 78 (2011).

145. Outka, *supra* note 144, at 256.

146. For example, the Resources for the Future report on fracking regulation chose to limit its scope to twenty-five different regulatory elements, ranging from setback requirements to wastewater transportation tracking rules. *Id.* at 8–9 tbl.1.

147. *Id.* at 13.

148. *Id.*

149. *Id.* at 14. Case-by-case permitting often lacks transparency due to the discretion that can be exercised by decisionmakers. This makes it very difficult to determine the stringency of an energy source's regulations. *Id.* at 14, 16.

consist of a combination[150] of these tools or elements that are a hybrid[151] system of these tools.

To summarize the difficulty in summarizing a particular energy regulatory scheme, one can look toward the conclusion of a recently published report by an independent think tank attempting to summarize the regulation of fracking.[152] Finding a "great heterogeneity in shale gas regulation across the country," this report acknowledged that "fully describing even one state's shale gas-related regulations would probably take multiple volumes and would need to be updated frequently."[153]

Moreover, summarizing becomes even more difficult for emerging energy sources because regulations are ever changing as more is understood about the sources themselves. For example, in states such as Texas "that have regulated oil and gas development for decades," the regulations have changed over the years due to "the special challenges associated with fracking and, possibly, changes in public tolerance for environmental risks."[154]

Thus, this Note does not purport to cover all regulations that affect the development of emerging energy sources such as wind and shale gas. Instead, this Note aims to generally review the division of regulatory power between the state and local governments for these emerging sources. Part III.B explores this division of power for the regulation over the installation of wind turbines. Then, Part III.C turns to this division of power for the regulation of fracking activities for shale-gas extraction.

B. Local Control of Wind Power: Do States Allow Local Governments to Regulate the Installation of Wind Turbines?

Federal law is not irrelevant for purposes of wind-power regulation. Both private and public utilities are required by federal law to allow energy producers to connect with their utility grid.[155] But

150. *See, e.g.*, *id.* at 15 fig.5 (showing the type of tools that each state uses for different regulatory elements in their fracking-regulation scheme).

151. *See, e.g.*, *id.* at 17 (discussing that states often regulate fracking by setting minimum statewide standards but allowing for exceptions, a combination of the command-and-control and case-by-case-permitting approaches).

152. The report is titled *The State of State Shale Gas Regulation* and was published by Resources for the Future. *See* RICHARDSON ET AL., *supra* note 20, at 1 n.1.

153. *Id.* at 1.

154. *Id.* at 87.

155. 16 U.S.C. § 824 (2006); *see also Local and State Regulations on Wind Energy*, ENERGYBIBLE.COM, http://energybible.com/wind_energy/government_regulations.html (last visited Nov. 23, 2013) [hereinafter ENERGYBIBLE] (discussing PURPA).

state and local regulations have more substantially defined the regulatory regime that covers wind turbines.[156] Because wind turbines generate electricity, local and state electrical codes, which promote safety and are based on the National Electric Code (NEC), come into play. Accordingly, wind turbines are generally designed in accordance with the NEC.[157]

Besides the NEC, other building codes or safety standards could play into the regulation of wind energy. And regardless if the regulatory power falls primarily with the state or local governments, wind developers must always be cognizant that challenges to wind turbines can still be brought under some states' nuisance laws.[158] Furthermore, land-use regulations not designed with renewable energy sources in mind could nevertheless provide barriers preventing the installation of wind turbines.[159]

This Part, however, discusses the land-use regulations relevant to and intended for wind energy development.

1. Ohio's Authorization of (Limited) Local Control and the Wind in the Woods Farm Case Study

The Introduction discussed an Ohio farm's failed attempt to overcome local zoning to install a wind turbine. Because the story of Wind in the Woods Farm provides an interesting perspective on the power of local zoning ordinances over wind turbines in Ohio, this Note's discussion of current regulation of wind turbine sites begins by developing that story further.

Initially, the Wind in the Woods Farm did not have issues with local zoning. By the spring of 2010, the project seemed to have the green light after receiving an agricultural exemption[160] from township

156. Outka, *supra* note 11, at 1042. Under the argument advanced by Wallace Oates, *see supra* note 75, it makes sense that state and local government traditionally had the regulatory authority over the production of energy because the traditional conception of the benefits and costs associated with the energy production tended to concentrate these costs and benefits at the local or state level.

157. ENERGYBIBLE, *supra* note 165.

158. *See, e.g.*, Burch v. Nedpower Mount Storm, LLC, 647 S.E.2d 879, 885 (W. Va. 2007) (finding the allegations of neighboring homeowners that "they will be negatively impacted by noise from the wind turbines" to be actionable under West Virginia nuisance law).

159. Pursley & Wiseman, *supra* note 69, at 907.

160. No power is conferred on "any township zoning commission, board of township trustees, or board of zoning appeals to prohibit the use of any land for agricultural purposes or the construction or use of buildings or structures incident to the use for agricultural purposes of the land on which such buildings or structures are located." OHIO REV. CODE ANN. § 519.21(A) (LexisNexis 2009). However, this agricultural exemption is not valid "in any platted subdivision." *Id.* § 519.21(B). In addition to

zoning laws.[161] By the summer, however, neighbors had begun to oppose the plan,[162] and the owners of the farm had begun to receive resistance from the township officials.[163] The agricultural exemption was ultimately revoked.[164] A township zoning inspector determined that the exemption was not justified because he believed only fifteen percent of the energy generated by the turbine would be used by the farm.[165]

In addition to the agricultural exemption, Ohio law does not permit township zoning laws to affect "the location, erection, [or] construction . . . of any buildings or structures of any public utility or railroad, whether publicly or privately owned, or the use of land by any public utility or railroad for the operation of its business."[166] Wind in the Woods Farm could, seemingly, have taken advantage of this public-utility exception. However, Ohio law does not exempt a "small wind farm" as a public utility, and townships can regulate these structures similarly to how they would regulate other nonexempted structures.[167]

Although local zoning rules may have erected a roadblock for Wind in the Wood Farm's proposal, the township had not yet

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applying to townships, the agricultural exception also applies to counties. *See id.* § 303.21.

161. Demirjian, *supra* note 6. This newspaper article also notes that excess power generated by the turbine would be used by the local electric utility. *Id.*

162. Joan Demirjian, *Wind Turbine Rubs Residents Wrong Way*, CHAGRIN VALLEY TIMES, June 10, 2010, at A1 ("Neighbors expressed concern about noise the turbine could create and the appearance of the structure in the residential area.").

163. *See* Letter from Residents of Auburn Township, Ohio to President Barack Obama (July 8, 2010), *available at* http://ssl.congress.org/congressorg/bio/userletter/?id=3181&letter_id=5485146636&content_dir=politicsol (expressing concern about local efforts to block wind turbine projects, but also indicating the farm owners' confidence that the turbine would be operational before the end of 2010).

164. Joan Demirjian, *Mixed Signals for Wind Turbine*, CHAGRIN VALLEY TIMES, July 29, 2010, at A1.

165. *Id.*

166. OHIO REV. CODE ANN. § 519.211(A) (LexisNexis 2009); *see also* Taylor v. Whitehead, 434 N.E.2d 732, 734 (Ohio 1982) (holding that "the zoning classification imposed by the township is irrelevant because public utilities are exempt"). In addition to applying to townships, this public-utility and railroad exception also applies to counties. *See* OHIO REV. CODE ANN. § 303.211 (LexisNexis 2009 & Supp. 2012).

167. *See* OHIO REV. CODE ANN. § 519.213(B) (LexisNexis 2009). In addition to townships, both counties, *see* § 303.213(B), and municipal corporations, *see* § 713.081(B) (Supp. 2012), can regulate "small wind farm[s]."

implemented an all-inclusive, local-zoning ban on wind turbines. By September 2010, two wind turbines had been approved in Auburn Township by the Board of Zoning Appeals,[168] and wind turbines were addressed at a zoning board meeting.[169] To prevent future zoning appeals and lawsuits, the township's zoning board planned to issue regulations that would allow wind turbine installation in the township under certain conditions.[170] As indicated by the attendance of approximately eighty residents, the community was interested in the proposed zoning amendment.[171] Residents were concerned that wind turbines in the township would create noise problems, risk resident safety, incur costs when the turbines needed to be dismantled, destroy bird populations, cause problems with cattle, and have a negative effect on property value.[172] The zoning board chairman pointed out that the regulation would provide some rules for wind turbines, which were already coming to the township.[173]

Despite resident concerns, the zoning board passed a proposed zoning amendment that would permit a single wind turbine. In an attempt to address concerns, the proposed amendment imposed numerous restrictions, including restrictions on height, location, and setback.[174] However, the proposed amendment was not adopted by the township's board of trustees, and regulations concerning wind turbines have not been promulgated by the township.[175]

168. A Township Zoning Board of Appeals consists of five residents appointed by township trustees. OHIO REV. CODE ANN. § 519.13 (LexisNexis 2009). The powers of such a board include deciding appeals of zoning decisions made by administrative officials, authorizing variances from zoning regulations, and conditionally granted or revoking zoning certificates. § 519.14.

169. *See* Diane Ryder, *Auburn Board Proposes Wind Turbine Regulations*, NEWS-HERALD (Willoughby, Ohio), Oct. 1, 2010, at A3.

170. *Id.*

171. Many residents had received a flyer which expressed concerns about the proposed amendment and urged residents to come to the meeting. *Id.* The meeting was so well attended that the fire chief ruled the original meeting place to be too small, and the meeting was moved to the township hall. *Id.*

172. *Id.*

173. The chairman was quoted as saying: "We're not necessarily saying we want [wind turbines], but two are already coming, so we want to set the rules for others." *Id.*

174. *See* Auburn Twp., Ohio Zoning Res. Amendment ZC2011-01 (proposed May 24, 2011), *available at* http://auburntownship.com/assets/uploads/file/Zoning%20Ammendment%20ZC2011-01_0001.pdf.

175. *See* Auburn Twp., Ohio Bd. of Trs. Meeting Minutes (Aug. 15, 2011), *available at* http://auburntownship.com/assets/uploads/minutes/trustees/August%2015,%202011.pdf.

Whether the citizens opposed to wind turbines entering their township were successful is open for debate. Ultimately, the zoning amendments that would have permitted the installation of wind turbines in Auburn Township under certain circumstances, as proposed in 2011, were not added to the township's zoning code. But the lack of regulations specific to wind turbines did not stop wind turbines from being installed within the township.[176]

Thus, the township's zoning seemed to have allowed turbines at one location while preventing a turbine installation at a different location—Wind in the Woods Farm. The owners of Wind in the Woods Farm, however, did not simply accept their fate; rather, they pursued their rights in state court, claiming both that the township did not have zoning ordinances in place to restrict a wind turbine on their property and that the township's zoning board misinterpreted Ohio's agricultural zoning exemption.[177] The county court of common pleas, however, ruled against the owners without even reaching these issues.[178] Instead, the court simply affirmed the township's denial of a permit because townships are permitted to regulate wind turbines under Ohio Revised Code section 519.213.[179]

At this point, it seemed that the township had won and Wind in the Woods Farm would not be permitted to install a wind turbine, but the owners received an early Christmas present from the Eleventh District Court of Appeals of Ohio.[180] The appellate court held that the court of common pleas erred in determining that a township zoning board could deny a zoning permit for a wind turbine under section 519.213 if the township had no zoning ordinance specific to wind turbines.[181] The township zoning board had taken the position that the township had a general and complete ban on wind turbines.[182] In remanding the case back to the court of common pleas, the appellate court expressed doubt that a general ban actually

176. *See* Joan Demirjian, *Ice Rink Is on Track to Erect Wind Turbine*, CHAGRIN VALLEY TIMES, Mar. 17, 2011, at A6 (discussing the first wind turbines to be installed in Auburn Township, which were approved for installation at an ice rink located in a business-zoned district).

177. *See* Jones v. Auburn Twp. Bd. of Zoning Appeals, No. 2011-G-3033, 2012 WL 6727329, at *3 (Ohio Ct. App. Dec. 24, 2012) (indicating these to be the issues appealed by the owners after the trial court affirmed the township's denial of a zoning permit).

178. *Id.* at *2.

179. *Id.*

180. *Id.*

181. *Id.* at *4 (noting that such authority to regulate "rests solely with the board of township trustees").

182. *Id.* at *5.

existed,[183] rejected the lower court's interpretation that the township's power to zone small wind farms trumped the agricultural exemption,[184] and expressed a strong suspicion about the township's interpretation of the agricultural exemption.[185]

On remand, the court of common pleas determined that Wind in the Wood's request for a wind turbine was agriculturally exempt from the township's zoning regulations.[186] The wind turbine was installed in October 2013.[187] The delay, however, cost the farm $30,000 because it lost the state grant.[188] Accordingly, the farm's owners have sued the township to recoup these costs.[189]

Despite the favorable appellate court ruling, Ohio law seems relatively clear. Unless there is some type of a state exemption that applies, a local government can enact zoning ordinances that restrict, or possibly even prohibit, the installation of wind turbines within its jurisdiction.

2. Other States that Allow (Limited) Local Control: Michigan, Kansas, Pennsylvania, and New York

Ohio's regulatory system, as it applies to wind turbines, is quite common in that many states allow local governments to place land-use restrictions on the siting of wind turbines. For example, in Kansas, a county can prohibit commercial wind farms.[190] And a Michigan township can prohibit the installation of a 300-foot wind

183. *Id.* at *6. Considering the recent installation of a wind turbine elsewhere in Auburn Township, *see* Demirjian, *supra* note 179, the merits of the township zoning board's argument that turbines are completely banned in the township seem questionable.

184. *Jones*, 2012 WL 6727329, at *6 ("[R]egardless of the outcome of the 'ban' dispute, appellants still would be entitled to erect the proposed wind turbine if the agricultural exception is applicable. . . . [T]he General Assembly gave no indication . . . that the power granted to township officials over small wind farms is intended to supersede the agricultural exception.").

185. *Id.* at *7 ("Nowhere in the Revised Code . . . is there a suggestion that the structure must be used *exclusively* for agricultural purposes.").

186. Joan Demirjian, *Court Ruling Allows for Wind Turbine Installation,* CHAGRIN VALLEY TIMES, Oct. 17, 2013, at A8.

187. *Id.*

188. *Id.*

189. Joan Demirjian, *Joneses Sue over Delay to Turbine Installation*, Chagrin Valley Times, Nov. 7, 2013, at A4.

190. Zimmerman v. Bd. of Cnty. Comm'rs, 218 P.3d 400, 430 (Kan. 2009) (finding that a Kansas law "does not preempt the Board's ability to amend its zoning regulations to prohibit commercial wind farms").

turbine.[191] Additionally, Pennsylvania law allows local governments to enact land-use restrictions regarding wind turbine locations within their jurisdiction.[192]

Local governments in states such as Ohio, Michigan, Kansas, and Pennsylvania, which are permitted to exercise zoning powers to regulate wind energy production, are still bound by the limits of state zoning enabling acts. Additionally, local governments in these nonpreempting states may be bound by general limitations on their police power. In New York, for example, the law requires that "a municipality may exercise its police power only where there is a dire necessity to act and where the municipality's actions are reasonably calculated to alleviate or prevent the crisis condition."[193] This limitation seems to be worded strongly; nevertheless, it may not place an actual restriction on local governments' zoning powers.[194] Thus, New York also falls on the list of states that empower local governments to determine the proper regulations for wind turbines.[195]

Local governments, when in control of the land-use regulation concerning renewable-energy production, have varied from banning the energy production to encouraging it.[196] If not banned, local approval, by a single jurisdiction or by multiple jurisdictions, is often

191. Johnecheck v. Bay Twp., 119 F. App'x 707, 710 (6th Cir. 2004) (holding that, although Michigan law would not allow a total exclusion, the landowner had failed in his exclusionary zoning claim because the township had a legitimate interest in regulating the size and location of the turbine at issue).

192. *Cf.* Tink Wig Mountain Lake Forest Prop. Owners Ass'n v. Lackawaxen Twp. Zoning Hearing Bd., 986 A.2d 935, 937–39 n.2 (Pa. Commw. Ct. 2009) (affirming a ruling that wind turbines complied with a township's zoning ordinance usage requirement and indicating that a state court would only disturb the local government's conclusion if they were "not supported by substantial evidence").

193. Ecogen, LLC v. Town of Italy, 438 F. Supp. 2d 149, 160 (W.D.N.Y. 2006) (internal quotation marks omitted) (affirming that New York law requires a dire necessity for a municipality to act but holding that fact to be irrelevant for the purpose of determining due process rights).

194. *See, e.g.*, W. Beekmantown Neighborhood Ass'n v. Zoning Bd. of Appeals, 861 N.Y.S.2d 864 (N.Y. App. Div. 2008) (finding a board's approval of an application for conditional use to construct a wind farm adequate according to the town's zoning code).

195. *See* Patricia E. Salkin, *New York Climate Change Report Card: Improvement Needed for More Effective Leadership and Overall Coordination with Local Government*, 80 U. COLO. L. REV. 921, 945–46 (2009) ("[W]ind development in New York State is subject entirely to local land use regulation. . . . Generally, wind turbines may be specifically permitted in some districts and prohibited from others . . . .").

196. Pursley & Wiseman, *supra* note 69, at 914.

required to install a wind turbine.[197] In the end, leaving the regulations of wind turbines to the local governments has resulted in inconsistent regulation and uncertainty for wind-power developers.[198]

3. States that Preempt Local Control, Including Wisconsin, Washington, California, and Others

Some states have approached local control of wind energy production differently. For example, in Wisconsin, a home-rule state, a state law takes much of the control over the installations of wind turbines away from local governments by prohibiting any local regulation that is more restrictive than the state's rules.[199] Under this approach, many wind turbine installations have been approved despite local opposition.[200] In one example, the state law invalidated a Calumet County zoning ordinance regarding wind turbines that would have seemed similar to many other legitimate zoning rules.[201] Wisconsin's state preemption of local control over wind energy systems represents an effort to promote alternative, renewable energy sources.[202]

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197. TETRA TECH EC, INC. & NIXON PEABODY LLP, WIND ENERGY SITING HANDBOOK 4-41 (2008) [hereinafter AWEA SITING HANDBOOK] (prepared for and published by the AWEA).

198. *See* Pursley & Wiseman, *supra* note 69, at 916 ("Although many municipalities have failed to address [renewable resource regulation,] others have approached the issue from opposite extremes, either providing clear standards for how and where renewable technologies may be constructed, or, alternatively, banning the technologies or severely limiting their use.").

199. WIS. STAT. § 66.0401(1m) (2012).

200. *See, e.g.*, Ecker Bros. v. Calumet Cnty., 772 N.W.2d 240 (Wis. Ct. App. 2009) (voiding a county's ordinance that placed restrictions on a landowner who wanted to install wind turbines on his property because the ordinance was not allowed under Wisconsin state law); Roberts v. Manitowoc Cnty. Bd. of Adjustment, 721 N.W.2d 499 (Wis. Ct. App. 2006) (affirming a decision to issue a permit to build a wind energy park consisting of forty-nine turbines over the challenge of neighboring property owners that the project would impact their safety, health, and quality of life); State *ex rel.* Numrich v. City of Mequon Bd. of Zoning Appeals, 626 N.W.2d 366 (Wis. Ct. App. 2001) (holding that a city's zoning board had applied overly restrictive permitting procedures in denying an application by landowners for conditional use to install a wind energy system on their property).

201. *See Ecker Bros.*, 772 N.W.2d at 240. The ordinance had included a height limitation, a required setback, and maximum noise levels for any wind turbine system planned to be installed in the within the county. *Id.* at 242. However, this type of ordinance conflicted with the state legislature's restriction of local wind-system regulation. *Id.* at 248.

202. The *Ecker Bros.* court noted that the Wisconsin state statutes disfavor local control because local control could displace the state policy, which

Washington is another state that has preempted local control of land use for wind energy production. Washington has a general rule of preemption for energy facilities.[203] This rule has been interpreted to include wind energy production facilities.[204]

California has similarly put limitations on the "tower height, setback, noise level, visual effects, turbine approval, tower drawings, and engineering analysis" restrictions that a county can impose "on the installation of small wind energy systems."[205] The state law allows a county to impose a number of restrictions including, among other things, that the property be more than one acre,[206] that the property be outside of an "urbanized area,"[207] that the minimum setback may be as long as the turbine is tall,[208] and noise limitations.[209]

The list of states that have preempted local control of land use for wind energy production also includes Delaware, Florida, New Hampshire, and Vermont.[210] Additionally, Maryland recently placed sole regulatory authority for site approval of offshore wind projects with the state.[211]

"favors alternative energy systems." *Id.* at 242. This preemption of local regulation of wind turbines does makes sense for a state (or even for the federal government to utilize federal preemption) because the benefits of the turbine installations—less reliance on fossil fuels and reduction of carbon dioxide emissions—are not realized at the local level. Rule, *supra* note 139, at 316.

203. *See* WASH. REV. CODE § 80.50.110(2) (2012).

204. *See* Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council, 197 P.3d 1153, 1169 (Wash. 2008) (holding that a Washington law allows the state to permit energy production by wind turbines without consent from the county because the act's preemption of local powers "applies to energy facilities that exclusively use wind power").

205. CAL. GOV'T CODE § 65896(b) (West Supp. 2013).

206. *Id.* § 65896(b)(1).

207. *Id.*

208. *Id.* § 65896(b)(3).

209. *Id.* § 65896(b)(4).

210. Rule, *supra* note 139, at 316.

211. The Maryland House of Delegates passed the Offshore Wind Energy Act of 2013 that would place sole authority to approve offshore wind projects with the Maryland Public Service Commission. H.D. 226, 2013 Leg., 433d Sess. (Md. 2013); *see also Maryland Offshore Wind Energy Bill Clears House of Delegates*, N. AM. WINDPOWER (Feb. 21, 2013), http://www.nawindpower.com/e107_plugins/content/content.php?content.11151 ("The Maryland House of Delegates has passed the Offshore Wind Energy Act of 2013, which was proposed by Gov. Martin O'Malley last month."). The Maryland Senate followed suit, passing the Offshore Wind Energy Act of 2013. *See Maryland Offshore Wind Energy Legislation Moves to Governor's Desk*, N. AM. WINDPOWER

4. New Hampshire Considering Ban on Wind Power Development

Some states may take a very different approach. New Hampshire, for example, has considered suspending all wind-power development in the state, pending a comprehensive energy plan.[212] The bill has not been passed by either house of the General Court of New Hampshire. If passed, it would replace the state's current regulatory system for wind energy, which is similar to that of California and Wisconsin because it preempts local control of wind turbine regulation.[213]

C. Local Control of Shale Gas Extraction: Do States Preempt Local Governmental Control of Fracking?

Fracking has already begun to produce encouraging results in certain areas of the country.[214] The Utica shale layer, an expansive underground geographic formation,[215] may hold as much as $500 billion of natural gas.[216] However, the fracking procedures that provide access to the natural gas in these underground shale-rock formations are associated with a number of possible costs.[217] The high

(Mar. 11, 2013), http://www.nawindpower.com/e107_plugins/content/content.php?content.11228. Maryland Governor Martin O'Malley signed the act into law on April 9, 2013. H.D. 226, 2013 Leg., 433d Sess. (Md. 2013) (enacting the Offshore Wind Energy Act of 2013 to go into effect June 1, 2013); *see also* Press Release, The Maryland Governor's Office, Bills to be Signed by the Governor on April 9, 2013,, at 2, *available at* http://www.governor.maryland.gov/documents/BillsSigned130409.pdf.

212. H.B. 580, 2013 Leg., Reg. Sess. (N.H. 2013); *see also* Laura DiMugno, *Wind Energy Moratorium Proposal Gains Momentum in New Hampshire*, N. AM. WINDPOWER (Feb. 21, 2013), http://www.nawindpower.com/e107_plugins/content/content.php?content.11153.

213. N.H. REV. STAT. ANN. § 674:63 (Supp. 2013) (placing limits on how a municipality can regulate small wind energy systems).

214. *See* Christopher S. Kulander, *Shale Oil and Gas State Regulatory Issues and Trends*, 63 CASE W. RES. L. REV. 1101, 1102 (2013) ("In a time of economic want, this American [fracking] boom employs tens of thousands in tough but lucrative work and significantly reduces the United States' dependence on hydrocarbons imported from unstable and unfriendly countries."). *But see* CLEVELAND STATE UNIV., OHIO UTICA SHALE REGION MONITOR (2013) (finding that despite its effect on Ohio sales tax revenue, shale gas development in Ohio has not led to employment growth).

215. The Utica shale formation stretches from Tennessee to Canada. Alison Grant, *Legal Challenges Could Put a Lid on the Shale Gas Boom*, CLEV. PLAIN DEALER, Dec. 16, 2012, at A1.

216. *Id.* (the value of $500 billion was estimated by the chief executive of the top drilling company in Ohio, Chesapeake Energy Corp.).

217. For example, Professor Tomain discusses three broad common concerns: air pollution, water pollution, and community disruption. Joseph P. Tomain, *Shale Gas and Clean Energy Policy*, 63 CASE W. RES. L. REV. 1187, 1205–12 (2013). Unlike the concerns associated with wind

level of concern associated with these costs, in addition to the value and public interest involved with capturing the natural gas, has led to intense debate in a number of states that harbor natural gas in shale-rock formations. Each state has responded to these debates in a unique way.[218]

One of these debates concerns local control and, specifically, whether local governments should possess a power to regulate, restrict, or block fracking within their borders.[219] As a result of these debates, fracking is regulated very differently between states and, if permitted by a state, between localities. Indeed, one recent study that looked at the specific tools that states utilize to regulate fracking found "extensive regulatory heterogeneity among the states."[220] This Part discusses how different states empower local governments to regulate fracking. The ultimate goal is to compare the local control of fracking with local control of another emerging energy source—wind turbines, as discussed in Part III.B.

1. Ohio's Preemption of Local Control

The Introduction contrasts an Ohio township's ability to affect the installation of a wind turbine within its borders with that same township's inability to pass local ordinances to limit fracking within its borders. Ohio does not provide local governments with regulatory control over the extraction of natural gas by fracking procedures.

Ohio law grants the sole power to issue permits for oil and gas wells to the Oil and Gas Resources Management Division of the Ohio Department of Natural Resources (ODNR).[221] This law preempts any attempt by local governments to enact additional regulations

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turbines (which are comprehensively listed in Part V.B), the possible costs that have been linked to fracking are not comprehensively discussed in this Note. However, some of the concerns associated with fracking are discussed in Part V.B to compare them to the concerns associated with wind turbines.

218. *E.g.*, RICHARDSON ET AL., *supra* note 20, at 5 ("Some states have responded by banning hydraulic fracturing or issuing moratoria. Others have moved to regulate it beyond existing oil and gas regulations that preceded the shale gas boom . . . ."). Moreover, while "[m]ost . . . states have some form of setback restrictions," these restrictions vary greatly between states. *See id.* at 24–27.

219. *See, e.g.*, Steven Cohen, *Sustainability and the Politics of Environmental Protection*, HUFF POST GREEN: THE BLOG (July 9, 2012, 8:41 AM), http://www.huffingtonpost.com/steven-cohen/sustainability-and-the-po_b_1658657.html (indicating that the governor of New York believed that "any rule permitting hydrofracking would need to allow for local veto if was to have any chance of being enacted").

220. RICHARDSON ET AL., *supra* note 20, at 87.

221. *See* OHIO REV. CODE ANN. § 1509.02, .05 (West Supp. 2013).

pertaining to fracking.[222] Local governments have very little power to determine to whom permits will be granted and where wells will be established within their boundaries.[223] Although ODNR permits are subject to judicial review, a court's scope of review is limited to whether "the issuance of the permit was reasonable and lawful."[224]

The ODNR's sole authority to issue permits was granted by a 2004 Ohio statute.[225] According to the deputy director of the Oil and Gas Resources Management Division, the state granted this authority in response to efforts local governments had taken to block drilling.[226] The state was concerned that these local efforts "might expand."[227]

Although courts have affirmed that the Ohio General Assembly has preempted local control of fracking, "[t]he Ohio Supreme Court has agreed to hear a case . . . on whether local governments have any say in gas-oil drilling."[228] It is expected that the Ohio Supreme Court

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222. *Cf.* State *ex rel.* Morrison v. Beck Energy Corp., 989 N.E.2d 85, 97–98 (Ohio Ct. App. 2013), *appeal allowed* 989 N.E.2d 70 (Ohio 2013) (holding that the overall purpose of section 1509.02 preempted local control of oil and gas drilling and, thus, the city's ordinance could not be enforced).

223. *See, e.g.*, City of Munroe Falls v. Div. of Mineral Res. Mgmt., No. 10AP-66, 2010 WL 3641543 (Ohio Ct. App. Sept. 21, 2010) (upholding, over an objection by the City of Munroe Falls, a state permit for oil and gas drilling close to the Cuyahoga River).

224. *Id.* at *3. A permit is not issued lawfully if "there is a substantial risk that the operation [of the well] will result in violations of [statutory rules] that will present an imminent danger to public health or safety or damage to the environment . . . ." OHIO REV. CODE ANN. § 1509.06(F) (West Supp. 2013). In *Munroe Falls*, the city had challenged the issuance of a state permit on the basis that the well's proximity to its drinking water supply (400 feet from the Cuyahoga River at a location 1200–1500 feet upriver from the city's drinking water supply) established a substantial risk to public health. 2010 WL 3641543, at *3. Pointing to the site inspection conducted by the ODNR and the fact that drilling always comes with risks, the trial court concluded that the city had not established a substantial risk of harm. *Id.* The appeals court affirmed the trial court's judgment. *Id.* at *4.

225. *See* H.B. 278, 125th Gen. Assemb., Reg. Sess. (Ohio 2004) (effective September 16, 2004, after being signed into law by the governor on June , 2004); *see also* Russ Zimmer, *Power of Local Government is Limited on Gas Development*, CENTRALOHIO.COM (June 26, 2012, 12:21 PM), http://www.centralohio.com/article/99999999/FRACKING/120527001/Power-local-government-limited-gas-development.

226. Zimmer, *supra* note 225 (quoting the deputy director that "[s]ome local governments 'were developing their own ordinances that effectively blocked drilling . . . .'").

227. *Id.*

228. Bob Downing, *Justices to Hear Drilling Appeal*, AKRON BEACON-JOURNAL, June 21, 2013, at B1; *see also* State *ex rel.* Morrison v. Beck Energy Corp., 989 N.E.2d 70 (Ohio 2013) (accepting appeal from an

will rule on whether the state statute properly preempted local control of oil and gas drilling, in this case by the city of Monroe Falls, or whether the statute is a violation of Ohio's home rule.[229] Although this case is not limited to fracking, a change in the interpretation of the oil and gas drilling preemption statute could strongly change the status of the state's preemption of fracking regulation in Ohio. Moreover, despite the general assumption that Ohio has preempted state control of fracking, Monroe Falls is not the only local government that believes it has regulatory control of fracking.[230] Nevertheless, testimony associated with the statute,[231] common perception of the statute,[232] and the state's interpretation of the statute[233] all suggest that an Ohio Supreme Court decision holding local control is not preempted is quite unlikely.

2. Majority of States Preempt Local Control, Similar to Ohio

In most states, fracking regulation is similar to Ohio's system, where primary authority for permitting is done by a state agency.[234]

Ohio Ninth District Court of Appeals decision that a city's ordinances concerning oil and gas drilling were preempted by state law).

229. Downing, *supra* note 242. In this particular case, "Beck Energy got a permit from the Ohio Department of Natural Resources to drill on private property [in the city of Monroe Falls] in early 2011." *Id.* However, "[w]hen the drilling began, the city issued a stop-work order and filed a lawsuit . . . because the company did not comply with ordinances requiring Beck to obtain a city drilling permit, pay an application fee, get a zoning certificate and right of way construction permits, and post a performance bond." *Id.* A state trial court agreed with the city, but Ohio's Ninth District Court of Appeals overturned the trial court's ruling. *Id.*; *see also* State *ex rel.* Morrison v. Beck Energy Corp., 989 N.E.2d 85 (Ohio Ct. App. 2013) *appeal allowed* 989 N.E.2d 70 (Ohio 2013).

230. RICHARDSON ET AL., supra note 20, at 73, 74 map25. (indicating that Ohio is one of eight states in which local governments have enacted a fracking ban or moratorium).

231. *See, e.g.*, *Proponent Testimony Supporting H.B. 278 Before the H.R. Energy & Env't Comm.: Testimony of Thomas E. Stewart*, 2003 Leg., 125th Sess. 2 (Ohio 2003) [hereinafter Stewart Testimony].

232. *See, e.g.*, Downing, *supra* note 228; Zimmer, *supra* note 225.

233. *See* Downing, *supra* note 228; Zimmer, *supra* note 225.

234. Hannah Wiseman, *Fracturing Regulation Applied*, 22 DUKE ENVTL. L. & POL'Y F. 361, 369 (2012); *see also* Stewart Testimony, *supra* note 231, at 2 ("If H.B. 278 is enacted, Ohio law will reflect the status of oil and gas law in our neighboring producing states of Pennsylvania, New York, West Virginia and Michigan.").

Montana,[235] Colorado,[236] and West Virginia[237] are among the long list of states that also have such state permitting schemes. Proponents of placing sole authority over oil and gas drilling in the hands of the state claim that it is favorable to have "a consistent state-wide policy [to regulate the] technically complex and increasingly sophisticated extraction industry."[238]

Pennsylvania has recently passed a preemption of local control that is similar to Ohio.[239] Seven municipalities sued for an injunction against the preemption.[240] The Pennsylvania Commonwealth Court dismissed some claims, but not others,[241] and it seems as if the effects of the preemptive act and the challenging lawsuit have not been fully determined.[242] While the state preemption is challenged in the courts, local governments in Pennsylvania still maintain fracking bans or moratoria within their jurisdiction.[243]

The story of state preemption of local fracking regulations in Colorado is similar. Local governments have enacted fracking bans.[244]

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235. *See* Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115, 158 (2009).

236. *See id.* at 160–61.

237. *See* W. VA. CODE ANN. § 22-6-11 (LexisNexis 2009).

238. Stewart Testimony, *supra* note 231, at 2.

239. 58 PA. CONS. STAT. § 3303 (2013). However, even before this act was passed, certain provisions of local ordinances regulating oil and gas had been preempted by the Pennsylvania Oil and Gas Act of 1984 and the Act's 1992 amendment. Act of July 2, 1992, No. 78, § 602, 1992 Pa. Laws 365, 379 (repealed 2012); *see also* Range Res. Appalachia, LLC v. Salem Twp., 964 A.2d 869 (Pa. 2009) (finding that the Pennsylvania Oil and Gas Act preempted certain provisions of a township's zoning ordinance).

240. *See* Robinson Twp. v. Commonwealth, 52 A.3d 463 (Pa. Commw. Ct. 2012).

241. *Id.*

242. Although this seemed to only be the first step of a long process to determine the effect of Pennsylvania's preemption law, at least one antifracking group hailed the *Robinson Township* decision as a victory. *See PEC Statement on the Commonwealth Court's Decision Concerning Act 13*, PENN. ENVTL. COUNCIL (July 27, 2012), http://marcellus.pecpa.org/?p=529. Meanwhile, at least two commentators are more satisfied that complete preemption of local fracking regulations has been defeated in Pennslyvania. *See* Nolon & Gavin, *supra* note 45, at 1026.

243. RICHARDSON ET AL., *supra* note 20, at 74 map25.

244. *See, e.g.*, Jack Healy, *With Ban on Drilling Practice, Town Lands in Thick of Dispute*, N.Y. TIMES, Nov. 26, 2012, at A14 (discussing the fracking ban passed by voter ballot initiative in Longmont, Colorado); Keith B. Hall, *City of Loveland Imposes Moratorium on Oil and Gas Activity*, ENVTL. & ENERGY L. BRIEF (May 21, 2012), http://www.environmental

However, these Colorado local fracking bans have faced immense opposition. For example, Longmont's fracking ban, the first local ban in Colorado, passed at the polls despite opposition from the governor, the current mayor of Longmont, seven former mayors of the city, the energy industry (who raised more than $500,000 to fight the local initiative), and major newspapers in Denver, Boulder, and Longmont.[245] Yet even when voters have overcome this opposition, the state maintains that these bans exceed local authority because the sole authority to regulate fracking lies with the state.[246]

West Virginia also seems to have preempted regulation of fracking by local governments. One city, Morgantown, passed a fracking ban after learning that a gas company would be drilling in a local industrial park.[247] The driller sued the city and the West Virginia court overturned the local fracking ban, holding that "the city did not have the legal authority to ban fracking and that only the West Virginia Department of Environmental Regulation could regulate it."[248] Following the state court's ruling, Morgantown passed another regulation that restricted fracking to industrial parks.[249] In light of the state court's earlier ruling that only the state could regulate fracking, it seems that Morgantown has again exceeded the regulatory authority that the state permits to it. This question has yet to be answered because the driller has no plans to challenge this

andenergylawbrief.com/hydraulic-fracturing/loveland-colorado-imposes-moratorium-on-oil-and-gas-activity/.

245. Healy, *supra* note 244.

246. *Id.* Despite the governor's insistance that only the state has the authority to regulate drilling, the governor promised not to challenge Longmont's ban. Jon Tomasic, *State Joins Suit Against Longmont Fracking Ban*, COLO. INDEP. (July 11, 2013), http://coloradoindependent.com/128472/state-joins-suit-against-longmont-fracking-ban. However, after the oil and gas companies filed suit against the city, the governor broke his promise and the state joined the suit. *Id.* Even if the courts determine that the state has not or cannot preempt Longmont's ban, the ban's opponents have already indicated that the ban may also be subject to Takings Clause challenges. Healy, *supra* note 244.

247. Sean McNamara et al., *Controversy over Gas Industry Sweeps Morgantown After Council Bans Drilling*, PITT. POST-GAZETTE'S PIPELINE (Jan. 2, 2013, 10:37 PM), http://pipeline.post-gazette.com/news/archives/24974-controversy-over-gas-industry-sweeps-morgantown-after-council-bans-drilling.

248. *Id.*

249. *Id.*

regulation.[250] Still, it seems clear that in West Virginia, local government cannot regulate fracking.[251]

3. The Anomaly of New York and Other States with Bans and Moratoria

New York, for example, seems to have a system in place that allows local governments to veto any natural gas extraction operation. This may come as a surprise since New York law purports to "supersede all local laws or ordinances relating to the regulation of the oil, gas and solution mining industries."[252] Recently, however, local zoning bans of oil and gas activity have been upheld by the courts, and these decisions indicate that such local control of natural gas extraction is not preempted by New York state law.[253]

In addition to allowing local governments to regulate shale gas extraction, New York has had a state-wide fracking moratorium in place since 2008.[254] Early in 2013, New York's governor teetered regarding whether to allow fracking back into the state, but he ultimately delayed that decision.[255] The state legislature may make the decision for him, however. The New York Assembly passed a bill in March 2013 that would extend the state-wide fracking moratorium until May 2015.[256] It is likely that, if the governor does lift the ban, the New York State Senate will follow the Assembly's lead and pass the moratorium extension.[257] However, as of July of 2013, there had

250. *Id.*

251. *See* Duane Nichols, *Ohio Supreme Court to Consider Drilling & Fracking*, FRACK CHECK WV (Oct. 16, 2013), http://www.frackcheckwv.net/2013/10/16/ohio-supreme-court-to-consider-drilling-fracking/ (indicating that West Virginia courts also invalidated local fracking bans in Wellsburg and New Martinsville because the state has sole regulatory authority).

252. N.Y. ENVTL. CONSERV. LAW § 23-0303(2) (McKinney 2007); *see also* EnviroGas, Inc. v. Town of Kiantone, 447 N.Y.S.2d 221 (Sup. Ct.), *aff'd*, 454 N.Y.S.2d 694 (App. Div. 1982) (determining that a local zoning ordinance, which banned oil or gas wells unless a compliance bond and permit fee had been paid, was preempted by state law).

253. *See, e.g.*, Cooperstown Holstein Corp. v. Town of Middlefield, 943 N.Y.S.2d 722, 728–29 (Sup. Ct. 2012); Anschutz Exploration Corp. v. Town of Dryden, 940 N.Y.S.2d 458 (Sup. Ct. 2012).

254. Steve Horn, *NY Assembly Passes Two Year Fracking Moratorium, Senate Expected to Follow*, ECOWATCH (Mar. 7, 2013), http://ecowatch.org/2013/ny-fracking-moratorium/.

255. Danny Hakim, *Governor Puts off Decision on Drilling*, N.Y. TIMES, Feb. 13, 2013, at A25.

256. Assemb. B. A05424A, 2013–14 Leg., Reg. Sess. (N.Y. 2013); *see* Horn, *supra* note 254.

been no action, either by the governor to lift the ban or by the Senate to continue the ban as a legislative act in lieu of executive action.[258]

New York is not the state to have gone the furthest when it comes to state-wide prohibitions on fracking. Vermont has already enacted a total ban of fracking.[259] Additionally, New Jersey,[260] Maryland,[261] and North Carolina[262] have experimented with fracking

257. Horn, *supra* note 254. This is the third time that the Assembly has passed a bill for such a moratorium, but the previous two attempts died in the Senate. *Id.* This time, however, appears to be different because a voting bloc that shares control of the Senate has come out in favor of the bill. *Id.*

258. *See* Karen DeWitt, *NY Fracking Moratorium Enters 6th Year*, N. COUNTRY PUB. RADIO (July 24, 2013), http://www.northcountrypublicradio.org/news/story/22414/20130724/ny-fracking-moratorium-enters-6th-year.

259. VT. STAT. ANN. tit. 29, § 571 (2012); *see also* RICHARDSON ET AL., *supra* note 20, at 73 ("Vermont has also banned development indefinitely, though it is not clear whether the state has any meaningful gas resources.").

260. *See* Mark J. Bonamo, *State Assemblyman Introduces Fracking Ban Extension Bill*, NJ.COM, (Dec. 27, 2012, 4:10 PM), http://www.nj.com/monmouth/index.ssf/2012/12/state_assemblyman_introduces_fracking_ban_extension_bill.html (indicating that the governor vetoed a bill that would have prevented fracking waste from entering the state but imposed a one-year fracking moratorium instead); *see also* RICHARDSON ET AL., *supra* note 20, at 73 (indicating that New Jersey's fracking moratorium expired in December 2012). In January 2013, an assemblyman introduced a new bill that "would ban the practice of fracking in New Jersey until the United States Environmental Protection Agency (EPA) concludes its study and issues its findings on the controversial drilling practice, and until the state Department of Environmental Protection (DEP) determines that the findings warrant an end to the moratorium." Bonamo, *supra*; *see* Assemb. 3644, 215 Leg. (N.J. 2013). An identical bill was introduced in the New Jersey Senate. S. 247, 215 Leg. (N.J. 2013).

261. RICHARDSON ET AL., *supra* note 20, at 73 (indicating that Maryland has recently imposed a fracking moratorium that is set to expire in June 2014). The Maryland fracking moratorium is the result of an executive order issued by the governor after the General Assembly failed to enact a similar moratorium. Exec. Order No. 01.01.2011.11, *The Marcellus Shale Safe Drilling Initiative*, STATE OF MD. EXEC. DEP'T (June 6, 2011).

262. RICHARDSON ET AL., *supra* note 20, at 73 (indicating that North Carolina had a longstanding ban on horizontal drilling). North Carolina is moving toward lifting the ban on horizontal drilling. *Id.*; *see also* Clean Energy and Economic Security Act, 2012 N.C. Sess. Laws 143 (codified at N.C. GEN. STAT. § 113-391) (allowing "horizontal drilling and hydraulic fracturing, but prohibit[ing] the issuance of permits for these activities pending subsequent legislative action"). In February 2013, North Carolina state senators introduced a bill that would permit the issuance of permits for fracking beginning March 1, 2015. S. 76, 2013–2014 Gen. Assemb., 2013 Sess. (N.C. 2013). Although passed by both the North Carolina Senate and House, the bill had been

moratoria or bans. Other states may follow suit because the Environmental Protection Agency (EPA) has set a rule for regulation of emissions from fracking activities under the Clean Air Act.[263]

D. Summary: Some States Have Disparate Treatment of Emerging Energy Sources that May Be Suspect

Regarding wind energy, some states, such as Ohio, California, Washington, and Wisconsin, have placed limitations on the level of control that the local governments can exert over wind turbines. New Hampshire is considering banning the installation of wind turbines altogether. Generally, however, states seem to have given regulatory authority over installations of wind turbines to local governments. Accordingly, the regulatory framework for installing wind turbines tends to be inconsistent, varying by jurisdiction according to the authority exercised by the local government.

The regulation of fracking, as an emerging energy source, is not well established. In Ohio, local governments have no power to stop or limit gas or oil drilling; only the state can issue permits for that activity. And fracking has fallen into that framework. Many states have similar state-permitting requirements that cover fracking. Some states like New York, however, have allowed local governments to exercise regulatory control, or even a moratorium, on fracking. Pending legislation, however, could bring New York into line with Vermont, which simply bans fracking within the state.

Notably for purposes of this Note, there are four categories of state control. First, there are states that allow local government control of both wind and shale-gas energy sources. Second, there are states such as Pennsylvania that preempt local control for both energy sources. Third, there are states such as New York that allow preempt local control of shale gas but allow local regulation of wind energy. Finally—and the focus of this Note—there are states such as Ohio that allow local control of shale gas but not wind energy sources.

IV. U.S. CONSTITUTIONAL PROPERTY RIGHTS: LIMITS ON THE REGULATION OF LAND AND EMERGING ENERGY SOURCES

When examining these differing approaches to the regulation of emerging energy sources, it is important remember that both the national energy picture and a property owner's right to develop the energy sources on his land are at stake when regulations limit energy development. The U.S. Constitution provides some protections for

stripped of its provision to end the moratorium on the issuance of fracking permits. 2013 N.C. Sess. Laws 365.

263. 40 C.F.R. § 60 (2013).

landowners when their land-utilization rights are limited. This Part provides a brief history on the evolution of land-use regulations and the right to property. It also discusses how an owner's property rights limit how a state or local government may regulate that land.

A. The Right to Property and Associated Protections

Blackstone, in his famous treatise on the common law of England, made it clear that a limitation of a person's right to private property was not to be tolerated:

> [N]o freeman shall be disseised, or divested, of his freehold . . . . And by a variety of ancient statutes it is enacted, that no man's lands or goods shall be seized into the king's hands, against the great charter, and the law of the land; and that no man shall be disinherited, nor put out of his franchises or freehold . . . . So great moreover is the regard of the law for private property, that it will not authorize the least violation of it; no, not even for the general good of the whole community. If a new road, for instance, were to be made through the grounds of a private person, it might perhaps be extensively beneficial to the public; but the law permits no man . . . to do this without consent of the owner of the land.[264]

This strong protection of private property was incorporated into American law through several provisions of the U.S. Constitution, including the Takings Clause and the Due Process Clauses of the Fifth and Fourteenth Amendments.[265] While the Takings Clause appears to have strong protective language prohibiting the taking of property for public use, it includes the all-important qualification "without just compensation,"[266] which the Court has held "is a tacit recognition of a preexisting power to take private property for public use."[267] Additionally, the Supreme Court has recognized that the Fourteenth Amendment did not abolish any existing eminent domain power resting with the states,[268] but it interpreted the amendment as imposing a "just compensation" requirement on the states.[269]

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264. *See* 1 WILLIAM BLACKSTONE, COMMENTARIES *138–39.

265. *See* U.S. CONST. amend. V; U.S. CONST. amend. XIV, § 1.

266. U.S. CONST. amend V.

267. United States v. Carmack, 329 U.S. 230, 241 (1946).

268. Chicago, Burlington & Quincy R.R. Co. v. Chicago, 166 U.S. 226, 240 (1897) ("In every government there is inherent authority to appropriate the property of the citizen for the necessities of the State, and constitutional provisions do not confer the power, though they generally surround it with safeguards to prevent abuse." (quoting THOMAS M. COOLEY, A TREATISE ON THE CONSTITUTIONAL LIMITATIONS WHICH

The Due Process Clauses of the Fifth and Fourteenth Amendments, on the other hand, prohibit state and federal governments from depriving individuals of their property without due process of law. This restriction, unlike the prohibition against taking private property for a public use, cannot be avoided by the government if it pays just compensation. Thus, on its face, the due process restriction seems to provide stronger protections for landowners.

Thus, the relevant inquiry for the purpose of this Note is whether the Due Process Clauses of the Fifth and Fourteenth Amendments limit the power of governments to place land-use restrictions on natural resource extraction on private lands. Early on, the Supreme Court made it clear that "[t]he requirement that compensation be made for private property taken for public use imposes no restriction on the inherent power of the State *by reasonable regulations to protect the lives and secure the safety of the people*."[270] Although Justice Harlan may not have had land-use ordinances or energy regulation on his mind when he authored this language, this general premise that state regulations—if reasonable and enacted for the purpose of protecting lives and safety—can reach private property without invoking the just compensation requirement underlies the argument that land-use ordinances, without just compensation, do not deprive an owner of property without the due process of law and can be constitutional.

B. Due Process and Land-Use Regulations Generally

Although the regulation of land use is an old idea,[271] zoning laws[272] are generally of "modern origin," finding their way into the United

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REST UPON THE LEGISLATIVE POWER OF THE STATES OF THE AMERICAN UNION 357 (1868))).

269. *Id.* at 241; *see also* Davidson v. New Orleans, 96 U.S. 97, 107 (1877) (Bradley, J., concurring) ("If a State, by its laws, should authorize private property to be taken for public use without compensation . . . it would be depriving a man of his property without due process of law."); Scott v. City of Toledo, 36 F. 385, 395 (C.C.N.D. Ohio 1888) ("The fifth amendment . . . recognized and secured to the citizen, as a fundamental principle, the right to compensation for private property taken for public use [and] was intended as a limitation upon the federal power.").

270. *Chicago, Burlington & Quincy R.R. Co.*, 166 U.S. at 252 (emphasis added).

271. CALLIES ET AL., *supra* note 119, 2–3 (describing a minimum-acreage requirement in Elizabethian England, building-height and window-size restrictions in seventeenth-century London, colonial controlled land use in Massachusetts and Pennsylvania, and a tree requirement in Pennsylvania after it had become a state).

272. Regulation of emerging energy sources can fall under zoning or other land-use laws. For the purposes of this Note, all land-use laws are generally considered together and referred to as zoning ordinances.

States in the early twentieth century.[273] An Englishman, Ebenezer Howard, discussed regulating city structures and limiting population in 1898.[274] Other urban thinkers of that time period also contributed to laying the foundational principles for zoning laws.[275] In 1909, Los Angeles had restricted industry to delineated, nonresidential districts.[276] By 1916, New York City had a comprehensive zoning program, which included building restrictions, in place.[277] A quarter of the way through the century, zoning ordinances had become very common in the United States.[278]

At this time, those opposed to zoning ordinances began to claim that these ordinances violated the Fourteenth Amendment because they constituted a deprivation of private property without constitutionally required due process of law.[279] When the constitutionality of zoning ordinances originally went through state courts, the disposition of this issue was inconsistent from state to state.[280] Thus, parties opposed to such ordinances chose to challenge the zoning ordinances of a small suburb of Cleveland, Ohio, in hopes of reaching the United States Supreme Court for a decision.[281]

Notably, land-use restrictions are a key component of zoning ordinances. BERNARD H. SIEGAN, LAND USE WITHOUT ZONING 26 (1972); *see* A STANDARD STATE ZONING ENABLING ACT § 1 (1926).

273. Vill. of Euclid v. Ambler Realty Co., 272 U.S. 365, 386 (1926); *see also* RICHARD F. BABCOCK, THE ZONING GAME 3 (1966) ("Zoning reached puberty in company with the Stutz Bearcat and the speakeasy."); ROBERT H. NELSON, ZONING AND PROPERTY RIGHTS 8–9 (1977) (describing the advent of modern zoning in the United States as it occurred between 1916 and 1926); CALLIES ET AL., *supra* note 119, at 2, 4 (indicating that "comprehensive land use controls did not develop in the United States until the early 1900s" and that "[i]t was through zoning that land use controls came into their own in the United States").

274. *See generally* EBENEZER HOWARD, TOMORROW: A PEACEFUL PATH TO REAL REFORM (1898) (referred to by its revised edition title, Garden Cities of To-morrow).

275. *See, e.g.*, JESSE DUKEMINIER ET AL., PROPERTY 926–28 (7th ed. 2010).

276. *Id.* at 928.

277. *Id.*

278. *Id.* at 929.

279. *Id.*

280. *Id.*

281. *Id.* ("Real estate dealers and realty boards . . . thought it a favorable case for a broad holding of unconstitutionality for several reasons. First, it took three-quarters of the value out of part of the plaintiff's land. Second, the court might see little Euclid as interfering with the natural and desirable expansion of Cleveland. And third, the ordinance had six use districts, three height districts, and four area districts, which appeared difficult to justify as nuisance prevention.").

The case, *Village of Euclid v. Ambler Realty Co.*,[282] did make its way to the United States Supreme Court. The plaintiff attacked Euclid's zoning ordinance under the Fourteenth Amendment and requested an injunction to stop the ordinance's enforcement.[283] In evaluating the constitutional claim, the Court noted that, to survive the challenge, Euclid's zoning ordinance had to find its "justification in some aspect of the police power, asserted for public welfare."[284] It was not proper to determine what was best for Cleveland, however, because Euclid is a separate political municipality and has "authority to govern itself as it sees fit."[285]

In his opinion, Justice Sutherland discussed some valid municipal concerns relating to the health and safety of the community, which would support sustaining zoning ordinances, including preventing population congestion, assuring quiet residential districts, attempting to control local transportation, controlling fire danger, enforcing traffic and sanitary regulations, providing better police protection, preserving economical street paving, and preventing businesses from becoming a nuisance in residential neighborhoods.[286] He then concluded that any of those concerns, or any other substantial concern, is a valid reason for Euclid to have adopted the zoning ordinance.[287] After all, it is the concern of the municipality's council and its citizens, through the political process, not the courts, to determine "the wisdom or good policy of municipal ordinances."[288] Ultimately, the Court held that Euclid's zoning ordinance "in its general scope and dominant features . . . is a valid exercise of authority."[289]

Shortly following *Euclid*, the Supreme Court similarly upheld a Roanoke, Virginia zoning ordinance that required any buildings erected to be setback a certain distance from the street.[290] After these cases, zoning ordinances were commonly upheld as valid exercises of

282. 272 U.S. 365 (1926).

283. *Id.* at 384–85.

284. *Id.* at 387.

285. *Id.* at 389.

286. *See id.* at 392–93 (citing City of Aurora v. Burns, 149 N.E. 784, 788 (Ill. 1925); State v. City of New Orleans, 97 So. 440, 444 (La. 1923)).

287. *Euclid*, 272 U.S. at 394.

288. *Id.*

289. *Id.* at 397.

290. *See* Gorieb v. Fox, 274 U.S. 603 (1927). Before *Euclid* or *Gorieb*, the Court had previously upheld a Massachusetts statute limiting the height of proposed buildings as reasonable exercise of the state's police power. *See* Welch v. Swasey, 214 U.S. 91 (1909).

the state police power.[291] The Supreme Court had decided that constitutional attacks could not defeat land-use regulations that forced landowners to internalize the risks their development might otherwise place on society.[292]

But in *Euclid*, the zoning ordinances had been *facially* challenged as a deprivation of due process.[293] The Court expressly left open the possibility that an "as applied" challenge might come out differently.[294] Soon after *Euclid*, the Court took up such a case, *Nectow v. City of Cambridge*.[295] This time, a property owner challenged that a zoning ordinance, as it applied to his property, deprived him of his property without due process.[296] Because a fact finder had determined that the land restriction did not promote health, safety, convenience, and general welfare, the Court sustained the due process challenge and held that the land restrictions could not be sustained.[297]

Thus, after *Euclid*, the constitutionality of general zoning laws had been established. But after *Nectow*, it was clear that zoning laws could violate one's due process rights in his property if such regulations do "not bear a *substantial* relation to the public health, safety, morals, or general welfare."[298] The Supreme Court held "zoning facially or generally constitutional on the one hand (*Euclid*), but susceptible of being unconstitutionally applied on the other (*Nectow*) . . . ."[299]

Before holding that the constitutional challenge to Euclid's zoning laws must fail under the given circumstances, the Court provided very important wording concerning its stance on the constitutional limits of zoning ordinances: "[B]efore the ordinance can be declared unconstitutional, [it must be said] that such provisions are clearly arbitrary and unreasonable, having no substantial relation to the

291. *See, e.g.*, Goldblatt v. Town of Hempstead, 369 U.S. 590 (1962) (upholding a town's ordinance that regulated dredging and excavation).

292. *Id.* at 592, 596; s*ee also* Koontz v. St. Johns River Water Mgmt. Dist., No. 11-1447, slip op. at 8 (U.S. June 25, 2013) ("Insisting that land owners internalize the negative externalities of their conduct is a hallmark of responsible land-use policy, and we have long sustained such regulations against constitutional attack.").

293. *See Euclid*, 272 U.S. at 396–97.

294. *See id.* at 397.

295. 277 U.S. 183 (1928).

296. *Id.* at 185.

297. *Id.* at 188–89.

298. *Id.* at 188 (emphasis added).

299. CALLIES ET AL., *supra* note 119, at 57 n.8.

public health, safety, morals, or general welfare."[300] In a recent case, *Lingle v. Chevron U.S.A., Inc.*,[301] the Court affirmed that a challenge alleging a zoning ordinance lacks a "substantial relation" or fails to "substantially advance[ ]" the public health, safety, morals, or general welfare is properly categorized as a due process challenge rather than a Takings Clause challenge.[302] But questions remain at the circuit court level regarding the proper standard to be used when applying the substantially advances test for due process challenges.[303]

C. Due Process Challenges to Regulation of Emerging Energy Sources

Like the sources themselves, the regulation of wind turbines and fracking—and the interests at stake—are not new. An early example of land-use control to halt wind energy occurred in the later 1100s when Herbert, a rural dean of the English town of Norwich, constructed a wind-powered mill to grind corn.[304] Abbot Samson, who operated a nearby water-powered mill, claimed jurisdiction of the land and ordered Herbert's mill to be torn down.[305] Over Herbert's protest that "the free benefit of the wind ought not to be denied to any man," Abbot Samson asserted his jurisdictional powers, and Herbert's windmill was torn down.[306] Herbert may have had the law of his time on his side in claiming a right to the wind on his land,[307] but those

300. *Euclid*, 272 U.S. at 395 (citing Thomas Cusack Co. v. City of Chicago, 242 U.S. 526, 530–31 (1917)); *see also Gorieb*, 274 U.S. at 610 (quoting *Euclid*, 272 U.S. at 395) (upholding a zoning ordinance as constitutional because the Court was "unable to say that the ordinance under review is 'clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare'").

301. 544 U.S. 528, 548 (2005).

302. *Id.* at 540 ("There is no question that the 'substantially advances' formula was derived from due process, not takings, precedents.").

303. *See* Erica Chee, Comment, *Property Rights: Substantive Due Process and the "Shocks the Conscience" Standard*, 31 U. HAW. L. REV. 577, 604–06 (advocating for the more deferential "arbitrary and capricious" standard used by the Fourth Circuit over the "shocks the conscience" test adopted by some circuits).

304. Tim Sistrunk, *The Right to the Wind in the Later Middle Ages*, *in* WIND & WATER IN THE MIDDLE AGES: FLUID TECHNOLOGIES FROM ANTIQUITY TO THE RENAISSANCE 153, 153 (Steven A. Walton ed., 2006).

305. RIGHTER, *supra* note 26, at 8.

306. *Id.* at 8–9; *see also* Sistrunk, *supra* note 304, at 153–54 (providing additional details on the story of Herbert and Abbot Samson).

307. *Cf.* Sistrunk, *supra* note 304, at 156 ("In the 1220s at the famous law school of Bologna, Accursius compiled over a century of medieval juridical interpretation about the entire codification of Justinian's law into the *Glossa ordinaria*. . . . When Accursius explained the Roman passages that dealt with the sky above soemone's land, he struck a

who control land use, such as Abbot Samson, may have the ultimate power. This conflict between land-use controllers and resource owners has continued into the present day.

Although energy production utilizing modern wind turbine mechanisms is relatively new compared to general zoning ordinances, constitutional challenges have already been adjudicated under the Due Process Clause. In 1982, a New Jersey state court reviewed zoning laws directed at earlier versions of the wind technology.[308] After neighboring property owners brought suit to enforce a city's zoning laws and enjoin operation of a landowner's windmill, the landowner claimed that the windmill noise limitation ordinance violated due process because it arbitrarily and unreasonably limited noise levels to those below the normal ambient sound level.[309] The Chancery Division disagreed with his claim and enforced the ordinance because "[l]imiting noise from windmills indisputably advances [the protection of public health and welfare] and does so in a reasonable way."[310] The court also noted that the "ordinance is entitled to a presumption of validity" that was not overcome because the landowner did not present a "clear showing that the local ordinance is arbitrary or unreasonable."[311]

More recently, in 2006, a New York court upheld a town's moratorium of wind turbine construction against a facial due process challenge.[312] Despite admitting that New York law indicates that "a municipality may exercise its police power only where there is a dire necessity to act and where the municipality's actions are reasonably calculated to alleviate or prevent the crisis condition," the court explained that facial, substantive due process challenges must meet a higher burden.[313] Ultimately, the court found this burden had been not been met and that the moratorium was not facially invalid as the plaintiff claimed.[314]

Land-use limitations on fracking may elicit many of the same constitutional arguments as wind. Constitutional claims are very likely to be brought in New York, which has seemingly permitted local governments to restrict shale gas extraction despite its state-

maxim that has been carried down into our own times: 'The owner of the land ought to be taken to own right up to the sky [*ad caelum*].'").

308. Rose v. Chaikin, 453 A.2d 1378 (N.J. Super. Ct. Ch. Div. 1982).

309. *Id.* at 1384.

310. *Id.*

311. *Id.*

312. Ecogen, LLC v. Town of Italy, 438 F. Supp. 2d 149, 158 (W.D.N.Y. 2006).

313. *Id.* at 160 (quoting Matter of Belle Harbor Realty Corp. v. Kerr, 323 N.E.2d 697, 698 (N.Y. 1974) (internal quotation marks omitted)).

314. *Id.* at 158.

wide moratorium,[315] and Colorado, which has seen local governments ban fracking over the state's objection.[316]

As technology improving access to wind-power utilization and shale gas extraction continues to emerge and evolve, the way the courts view those sources will also evolve. Although different courts have already adjudicated constitutional challenges to regulation of emerging energy sources, there are likely to be surprises as these sources grow and regulation of these sources continues to stand in the way of resource development. The result of challenges to these regulations is likely to be unpredictable. Unless the United States Supreme Court takes up the issue, it is possible that different state courts will interpret federal and state constitutional property protections in different ways. No matter how these challenges are resolved, their resolution is likely to have major implications in the way that emerging energy sources are developed and regulated.

V. COMPARING THE CONSIDERATIONS FOR WIND TURBINES AND FRACKING SUPPORTS THE ARGUMENT THAT SOME STATES' DISPARATE TREATMENT OF LOCAL CONTROL OVER EMERGING ENERGY SOURCES VIOLATES DUE PROCESS

Part II discussed the division of regulatory powers between federal, state, and local governments, explaining that much control over emerging energy sources has fallen to the states and local governments. Part III explored how different states have shared regulatory authority over emerging energy sources with their local governments, revealing that the regulatory systems differed by state, locality, and emerging energy source. Part IV developed a picture of how regulatory authority of land use is limited by the Due Process Clause of the U.S. Constitution.

Part V now addresses the specific considerations of wind energy production. Both geographic limitation and local concerns associated with emerging energy sources should be taken into consideration when the source is fit into the existing regulatory framework. By considering these source-specific considerations, this Note examines whether legitimate reasons exist for the variability in the regulation of wind energy production. The concerns specific to wind energy production are also examined for fracking, providing a comparison between the two sources to determine whether states' disparate treatment of the two sources is warranted or constitutional.

As discussed in Part IV, the regulatory regimes for emerging energy sources must comply with constitutional limitations in place to protect property owners from unreasonable or arbitrary restrictions on

315. *See supra* Part III.C.3.

316. *See supra* Part III.C.2.

their land. Generally, as far as regulation of emerging sources are concerned, certain safety precautions, on their face, are valid exercises of a local government's police power. But a state government's regulatory scheme could surpass its police power validity when that state has arbitrarily preempted local control of one emerging energy source yet allows for local regulation of another. To determine whether such a system is a legitimate exercise of the state's police power or whether it is "clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare,"[317] it is necessary to turn to the specific considerations for each of the emerging energy sources—wind and shale gas.

The ultimate goal of this Part is to evaluate the regulatory system in place in Ohio, where wind is subject to high levels of local control and shale gas is subject to no local control due to state preemption. Because the considerations for regulation are similar for the two energy sources, this Note suggests that Ohio's preemption policies are unconstitutional; it is arbitrary and unreasonable to treat energy sources that have similar considerations differently.

A. Comparing the Considerations

1. Geographic Limitations

Generally, energy sources need to be developed at locations where the energy resource is available in quantities that can be converted to electricity.[318] Commonly, supporters of state preemption of local government regulation of subsurface resources point to the fact that subsurface resources can only be extracted at certain areas where that resource is found.[319] Thus, the argument goes, allowing local governments to ban or place strict regulations on oil and gas extraction could have the effect of blocking utilization of resource pools in certain areas.

This is a general argument for state preemption of fracking regulation at the local level. However, as fracking has allowed access to natural gas in shale-rock formations, it is known that "[t]he United States is blessed with an abundant natural gas resource base that is sufficient to meet growing domestic demand."[320] Despite this abundance, it is still not unreasonable to assume that a state would want to promote the production of an emerging energy source by eliminating all restrictions on access to it.

A state could cite this geographic restriction and its desire to develop shale-gas reserves as a reason to preempt local control of

317. Vill. of Euclid v. Ambler Realty Co., 272 U.S. 365, 395 (1926).

318. Outka, *supra* note 11, at 1068.

319. *See, e.g.*, Stewart Testimony, *supra* note 231, at 3.

320. *Id.* at 2.

fracking. Still, this reasoning cannot be used to differentiate fracking from wind energy production because wind energy is similarly limited as far as the geographic limitations associated with where the source can be captured.

Wind capture, like the production of other renewable energy sources, must fit a general and long-standing energy model: "energy is consumed close to its source."[321] Although the United States has abundant wind resources,[322] various considerations make some sites more feasible for electricity generation from wind power than others.[323] For example, even within a single state, elevation differences can allow for one property to be a suitable location to capture wind for energy production, while another property, even within the same local jurisdiction, can lack sufficient wind speeds.[324]

Also, the level of available winds speeds is vitally important for wind energy development feasibility.[325] "[W]ind, like traditional forms of energy, require[s] access to the resource."[326] Thus, a limitation of U.S. wind energy production is that there are large areas of the country that do not have sufficient winds speeds to allow for energy production. As little as one-fifth of the U.S. land surface may have excellent wind resources.[327]

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321. Pursley & Wiseman, *supra* note 69, at 897.

322. DOE, 20% WIND ENERGY, *supra* note 18, § 1.2.1.

323. *See U.S. Wind and Energy: State Maps and Rankings*, AM. WIND ENERGY ASS'N (AWEA), http://www.awea.org/resources/statefactsheets.aspx?itemnumber=890 (discussing each state's potential for wind power generation development) (last updated Sept. 20, 2013); s*ee also* DOE, 20% WIND ENERGY, *supra* note 18, § 1.2.1 (noting that energy costs and productivity vary depending on whether the location is land-based or offshore and on the location's wind power density); Rule, *supra* note 12, at 208–09 (discussing the ways that wind turbines can affect the productivity of nearby turbines).

324. *See* Demirjian, *supra* note 6 (noting that Wind in the Woods Farm, as the second highest point in Auburn Township, will see sufficient wind speeds for energy production).

325. *See* RIC O'CONNELL & RYAN PLETKA, BLACK & VEATCH CORP., 20 PERCENT WIND ENERGY PENETRATION IN THE UNITED STATES: A TECHNICAL ANALYSIS OF THE ENERGY RESOURCE § 6.1 (2007) ("Higher wind speeds produce wind energy at lower cost than lower wind speeds."). Luckily, some areas of the United States have sufficient wind speeds to have been portrayed as "the Saudi Arabia of wind energy." *See* RIGHTER, *supra* note 26, at 124.

326. Klass, *supra* note 144, at 79.

327. RIGHTER, *supra* note 296, at 124. Notably, "excellent wind resources" may not be necessary to make wind energy development feasible; there are many areas of the country that have developed wind energy that do not fall into Righter's one-fifth of the country that has excellent wind resources.

Elevation and wind speed are not the only considerations that limit wind-development feasibility at some sites. Some land areas are not feasible for wind energy development based on current land usage.[328] Additionally, some land areas may not be ideal due to a lack of access for connections into energy infrastructure.[329]

Overall, current technology would allow U.S. wind energy production to total 8,000 GW from land sites and another 1,200 GW from shallow offshore sites.[330] Two areas, the Midwest and the Pacific Northwest, have abundant land sites with significant wind energy potential.[331] In contrast, other areas of the country have much less potential for developing wind energy on land sites.[332] At the current level of technology, wind energy production is more feasible in some areas than it is in others.[333]

As geographic limitations for capturing both shale gas and wind are present, this cannot be considered a distinguishing factor that would rationalize a state's decision to preempt regulation of one of these emerging energy sources without preempting regulation of the other.

2. Local Concerns

People living nearby sites of proposed wind turbines often have a number of concerns, which can lead to community opposition of wind turbines. Safety concerns due to falling ice, possible effects on domesticated and wild animals, noise concerns, and aesthetics are

328. *See* O'CONNELL & PLETKA, *supra* note 325, § 6.1.2 (observing that some land areas which should be excluded from consideration for wind energy development sites include "urban areas, national parks, wetlands, and other sensitive areas").

329. Outka, *supra* note 11, at 1068; *see also* Ecogen, LLC v. Town of Italy, 438 F. Supp. 2d 149, 152 (W.D.N.Y. 2006) (acknowledging the plaintiff's argument that "wind farms should ideally be located in areas with strong winds and nearby electrical transmission lines").

330. O'CONNELL & PLETKA, *supra* note 325, § 6.1.4.

331. *Id.* Much of the Pacific Northwest's wind energy potential may be located in areas where transmission will be a problem. *Id.*

332. The Southeast is estimated to lack wind energy production potential at land sites. *See id.* In Florida, potential wind energy production from land sites is estimated to be only 186 MW. Outka, *supra* note 11, at 1055. This small amount of potential is all found close to the coasts, leaving inland areas without potential for developing wind energy with current technology. *Id.*

333. *See* O'CONNELL & PLETKA, *supra* note 325, § 6.1.1 (indicating, on Figure 6-1, areas of the country with sufficiently high wind speeds to be classified as high "wind power class" areas).

among the common concerns that may lead landowners to oppose wind turbine installations in their neighborhoods.[334]

Particular local concerns could also be a reason for a state to base its determination that regulatory control should rest with the local governments. If this determination is made, the state can chose not to preempt local regulation of wind turbines. This is the case in many states.

This Part discusses common local concerns associated with the installation of wind turbines. The purpose is not to determine the validity of the concerns but rather to determine whether a state could rationalize its decision regarding preempting local control of wind turbines based on these local concerns. Additionally, this Part compares each of the local concerns associated with wind turbines with those concerns as they relate to fracking. This comparison is made to determine whether some of the local concerns associated with wind turbines can be differentiated from fracking concerns. If there is a difference, this could provide some rationale for the decisions made by states, like Ohio, to allow local governments to regulate wind turbine installations while preempting their control over fracking.

a. Ice and Safety

Ice forming and falling from turbine blades can raise safety concerns.[335] At some sites, falling ice has been found to be a "significant safety risk."[336] This concern was not well documented when wind turbines were first being installed because falling ice had not resulted in any injuries.[337] More recently, however, there have

334. These concerns were all issues that arose at the zoning board meeting described in Part III.B.1. For some specific comments made by residents at that meeting, see Ryder, *supra* note 169.

335. *See* David Wahl & Philippe Giguere, General Electric Company, *Ice Shedding and Ice Throw—Risk and Mitigation* (2006), *available at* http://site.ge-energy.com/prod_serv/products/tech_docs/en/downloads/ger4262.pdf.

336. *See* Rene Cattin et al., *Wind Turbine Ice Throw Studies in the Swiss Alps*, *available at* http://www.meteotest.ch/cost727/media/paper_ewec2007_cattin_final.pdf (discussing findings presented as a poster session at the 2007 European Wind Energy Conference & Exhibition in Milan). This presentation was based on data collected from a wind turbine located on a mountain in the Swiss Alps and subject to very cold temperatures (as low as -20^{o}C) and high wind speeds (as high as 120 km/hr). *Id.* § 2.

337. Colin Morgan et al., *Assessment of Safety Risks Arising from Wind Turbine Icing*, BOREAS IV 113, 114 (1998), *available at* http://www.renewwisconsin.org/wind/Toolbox-Fact%20Sheets/Assessment%20of%20risk%20due%20to%20ice.pdf.

been reports that ice has fallen from operating wind turbine blades onto neighboring properties,[338] and studies have addressed the issue.[339]

Although high wind speeds can result in ice falling away from the base of the wind turbine's tower,[340] the majority of the ice falls near the base.[341] Nevertheless, residents are often concerned that ice can fly far distances from the turbine.[342] The American Wind Energy Association (AWEA), a trade association for the promotion of wind energy, has claimed that this concern is overstated because wind turbines cannot operate with ice built up on the blades.[343] The design of wind turbines supports the AWEA's claim. When ice builds up on the turbine, sensors will trigger an automatic shutdown.[344] This prevents ice from being thrown while the turbine is in operation because the sensor does not permit startup until the ice is thawed and has fallen.[345] Even with this safety feature, a turbine could be forced to operate with ice on its blades if an operator thaws ice from the sensor only.[346]

Whether or not ice building up on wind turbine blades is a major safety concern, local opponents of wind turbines in cold-weather states are likely to question the safety of residing close to a wind turbine. Safety concerns would validate the state providing its local

338. *See, e.g.*, Murray Wardrop, *Wind Turbine Closed After Showering Homes with Blocks of Ice*, THE LONDON DAILY TELEGRAPH ONLINE, (Dec. 4, 2008, 1:04 AM), http://www.telegraph.co.uk/news/uknews/3547074/Wind-turbine-closed-after-showering-homes-with-blocks-of-ice.html.

339. *See, e.g.*, Morgan et al., *supra* note 337; Cattin et al., *supra* note 336.

340. Cattin et al., *supra* note 336, § 5.

341. *See id.*

342. Despite the fact that the majority of ice falls close to the base of the wind turbine's tower, residents' concerns about far-flying ice do not lack support. *See* Morgan et al., *supra* note 337, at 114 (noting that ice from the rotor blade "has the potential to be cast some distance from the turbine if it breaks off a rotating blade"); Wahl & Giguere, General Electric Company, *supra* note 335 ("[R]otating turbine blades may propel ice fragments some distance from the turbine—up to several hundred meters if conditions are right.").

343. *See* Kate Galbraith, *Ice-Tossing Turbines: Myth or Hazard?*, GREEN: A BLOG ABOUT ENERGY AND THE ENVIRONMENT (Dec. 9, 2008, 10:00 PM), http://green.blogs.nytimes.com.

344. Morgan et al., *supra* note 337, at 115–16. In addition to a shutdown caused by ice on the sensor, wind turbines can automatically be protected from operating with ice on the blades if the ice causes a rotor imbalance or decreases the measured wind speed. Wahl & Giguere, General Electric Company, *supra* note 335.

345. Morgan et al., *supra* note 337, at 115–16.

346. *See id.* at 116 (suggesting that it is common practice for operators to override the safety feature by thawing the sensors).

governments with the opportunity to make use of the police power to regulate wind energy.

But safety concerns are not specific to wind turbines. A whole set of similar safety concerns is associated with fracking. These include drinking water contamination,[347] air pollution and fire risks due to methane emissions,[348] and earthquakes.[349] To drive home this point, there are currently lawsuits challenging fracking operations as being "abnormally dangerous."[350]

The fluids associated with hydraulic fracturing have been linked to significant safety concerns.[351] This is reflected in the regulations developed for fracking in many states.[352] The wastewater generated during the fracking process leads to other common safety concerns.[353] Even when fracking wastewater is properly disposed of, it may cause problems for public treatment systems, which have generally not been designed to handle such waste.[354] Additionally, the mere release of natural gas from the shale may allow benzene, a chemical that causes

347. *See* Tomain, *supra* note 220, at 1207–11; Legal Envtl. Assistance Found. v. EPA, 276 F.3d 1253, 1256 (11th Cir. 2001) (evaluating a claim brought by citizens concerned that an underground injection of fracking fluids would result in contamination of their drinking water supply).

348. Tomain, *supra* note 220, at 1205–06; *see also* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-732, OIL AND GAS: INFORMATION ON SHALE RESOURCES, DEVELOPMENT, AND ENVIRONMENTAL AND PUBLIC HEALTH RISKS 35–37 (2012) [hereinafter GAO, OIL & GAS] (determining that a number of studies show a variety of reasons that air is degraded due to fracking).

349. *See, e.g.*, B.C. OIL & GAS COMMISSION, INVESTIGATION OF OBSERVED SEISMICITY IN THE HORN RIVER BASIN (2012) (exploring the link between fracking and earthquakes in British Columbia).

350. *See* Grant, *supra* note 215 (discussing pending fracking lawsuits in Ohio).

351. "More than 650 [hydraulic fracturing products] contained chemicals that are known or possible human carcinogens, regulated under the Safe Drinking Water Act, or listed as hazardous air pollutants." Henry A. Waxman et al., U.S. House of Representatives Comm. on Energy and Commerce Minority Staff, *Chemicals Used in Hydraulic Fracturing*, *in* HYDRAULIC FRACTURING AND NATURAL GAS DRILLING 49, 61 (Aarik Schultz ed., 2012).

352. RICHARDSON ET AL., *supra* note 20, at 40.

353. *See id.* at 57 (indicating that seventeen states regulate the wastewater generated during fracking or require it to be tracked).

354. *See generally* Stanley States et al., *Bromide in the Allegheny River and THMS in Pittsburgh Drinking Water*, *in* CONTEMPORARY TECHNOLOGIES FOR SHALE-GAS WATER AND ENVIRONMENTAL MANAGEMENT 93 (Water Env't Fed'n ed., 2012) (finding that elevated trihalomethanes in Pittsburgh's drinking water were associated with the incapability of water treatment facilities to remove bromides from the river, which were leftover from the waste of Marcellus gas drilling operations).

human leukemia, to reach water sources and come into contact with people.[355] Generally, the contamination of drinking wells has been confirmed when incidents occur near the surface, but there does not appear to be proof that fracking far below groundwater sources has caused the chemicals used in fracking to migrate up into the water of aquifers.[356]

Air pollution is another serious health risk associated with the capture of shale gas and its utilization for energy production.[357] In addition to benzene reaching water sources, there is also a risk of it polluting the air.[358] Other air pollutants are associated with hydraulic fracturing chemicals and diesel exhaust.[359]

Finally, the safety issues with fracking causing earthquakes have been particularly publicized. Earthquakes may be linked to both the hydraulic fracturing process[360] and the disposal of fracking wastewater.[361]

In the legal realm, at least one lawsuit has been brought against oil and gas companies alleging that fracking activities caused earthquakes. "After a spate of quakes linked to injection wells shook northern Arkansas, the state's oil and gas commission declared a moratorium on underground wastewater disposal activities . . . . Affected residents filed a class action lawsuit against Chesapeake Energy and bhp Billiton Petroleum . . . ."[362] In other states, the government has gotten involved. For example, in Ohio, the governor

355. Bernard D. Goldstein & Jill Kriesky, *The Public Health Implications of Unconventional Natural Gas Drilling*, *in* CONTEMPORARY TECHNOLOGIES FOR SHALE-GAS WATER AND ENVIRONMENTAL MANAGEMENT, *supra* note 354, at 33, 37.

356. *Id.* at 38.

357. *Id.* at 37. For a short, yet detailed, discussion of the air pollution caused by fracking, see Tomain, *supra* note 220, at 1205–07.

358. Goldstein & Kriesky, *supra* note 355, at 37.

359. *See id.* at 35–36 tbl.1 (listing chemicals which fracking can potentially release into the air), 37–38 (providing insight on the ways in which fracking releases various chemicals into the air).

360. William L. Ellsworth, *Injection-Induced Earthquakes*, 341 SCIENCE 1225942, 1225942-3 (2013) ("The industrial process of hydraulic fracturing involves the controlled injection of fluid under pressure to create tensile fractures, thereby increasing the permeability of rock formations. . . . Fracking intentionally induces numerous micro-earthquakes . . . .").

361. Michael Behar, *Whose Fault*, MOTHER JONES, Mar.–Apr. 2013, at 34, 36 ("Scientists investigating these [earthquake] anomalies are coming to the same conclusion: The quakes are linked to injection wells. Into most of them goes wastewater from hydraulic fracking . . . .").

362. *See id.* at 36–37.

required seismic studies in order for a drilling permit to be issued.[363] Despite all of this, the U.S. Government Accountability Office (GAO) indicated that there has not been a direct link between fracking and earthquakes that has been uncovered, but the GAO did concede that there is already indication of an indirect link.[364]

Undoubtedly, safety concerns are a legitimate reason that the state might either enact regulations or allow its local governments to enact regulations that would protect its citizens from the dangers of an emerging energy source. Setback requirements, other construction limitations, and even absolute bans of these emerging energy sources could be legitimately based on the belief that the state or local government is utilizing the police power to protect public safety. Yet the safety concerns associated with wind turbines seem inconsequential compared to those of fracking. Ice throwing can easily be controlled by a state permitting program that would require a minimum setback similar to a state permitting program for fracking. Thus, safety concerns do not support a state's decision to preempt local control of fracking but allow unlimited local control of wind energy production.

b. The Effect on Wildlife and Other Animals

Due to the possibility that bats would be killed, a proposed wind farm (122 turbines) along the Appalachian Mountain's ridgeline in West Virginia was put to a stop.[365] A nonprofit organization, the Animal Welfare Institute, brought a legal action against the wind developer, Beech Ridge Energy LLC, to stop the project because of its potential effect on the Indiana Bat population—an endangered species—in the area of the project.[366] Both parties agreed with research that showed wind turbines could kill bats through both

363. *Id.* at 37 ("After an injection well was linked to quakes in Youngstown, Ohio, Gov. John Kasich issued an executive order requiring operators to conduct seismic studies before the state will issue well permits.").

364. GAO, OIL & GAS, *supra* note 348, at 35–37; *see also* Ellsworth, *supra* note 360, at 1225942-3 (stating that although "[e]arthquakes are known to be induced by a wide range of human activities," it is difficult to prove which earthquakes are caused by such man-made activities because "[a]t present, with the use of seismological methods, it is not possible to discriminate between man-made and natural tectonic earthquakes"). *But see* Katie M. Keranen et al., *Potentially Induced Earthquakes in Oklahoma, USA: Links Between Wastewater Injection and the 2011 M_w 5.7 Earthquake Sequence*, 41 GEOLOGY 699 (2013) (linking a series of earthquakes in Oklahoma to an earlier fault rupture caused by subsurface drilling-fluid injection).

365. *See generally* Animal Welfare Inst. v. Beech Ridge Energy LLC, 675 F. Supp. 2d 540 (D. Md. 2009) (prohibiting further construction of wind turbines which would threaten bats in Indiana).

366. *Id.* at 542.

collisions with the turbine blades and due to "barotrauma."[367] The court found that it was certain that populations of the endangered Indiana Bat would be present at the proposed site of the turbines during the spring, summer, and fall.[368] Therefore, the court concluded that "like death and taxes, there is a certainty that Indiana bats will be harmed, wounded, or killed imminently by the Beech Ridge Project, in violation of § 9 of the [Endangered Species Act.]"[369] Accordingly, the court found injunctive relief to be appropriate.[370]

The effects of wind turbines on animals are a common concern. The belief that turbines can cause problems for bats or migrating birds can cause wildlife enthusiasts, farmers, and pet owners to oppose the installation of wind turbines. An early example of this type of opposition occurred in the 1980s, when Save the Mountain Committee, a group opposing a proposed wind turbine farm in Los Angeles County's Tejon Pass, enlisted the help of the Sierra Club and the Audubon Society.[371] Wildlife concerns ultimately prevented this proposed installation of wind turbines.[372]

Wildlife concerns, however, are not confined to opponents of wind turbine installations; wind turbine supporters have also addressed

367. *Id.* at 547. "Barotrauma is damage caused to enclosed air-containing cavities (e.g., the lungs, eardrums, etc.) as a result of a rapid change in external pressure, usually from high to low." *Id.*

368. *Id.* at 575.

369. *Id.* at 579.

370. *Id.* at 580. Interestingly, the court did not stop construction of forty turbines that were already under construction, but it did enjoin the construction of additional turbines. *Id.* at 580–81. The court stated that the Fish & Wildlife Service should begin the process for putting together an incidental take permit, and, in the meantime, the forty constructed turbines would only be permitted to operate during the time that the bats were in hibernation. *Id.* at 581.

371. *See* RIGHTER, *supra* note 26, at 104–05.

372. As one commenter described it:

> [The wind turbines in Tejon Pass proposal's] chances came to an end when an elderly man took the podium representing the California State Racing Pigeon Organization. He lovingly described the beauty of his racing pigeons, their speed and grace, and his admiration for them. Then, in a dramatic peroration, he declared that if the . . . project went through, 'our birds would look like they went through a Cuisinart.' It was the perfect sound bite. The image of chopped up pigeons and raptors, executed by turbine blades, was telling. The planning commission unanimously rejected the . . . proposal, and the Tejon wind farm idea died.

Id.

such concerns.[373] Recognizing these wildlife concerns, "[t]he wind industry as a whole is investing a substantial amount of time and money to better understand the relationship between wind energy and wildlife."[374]

As early as the 1980s, observers noticed that wind turbines were causing fatalities to both birds and bats.[375] Strong air streams, which are desirable locations for maximizing energy production due to high wind speeds, are also used by wildlife, especially migratory birds.[376] However, the concern about birds flying into turbines may be exaggerated because they generally "have the ability to detect wind turbines in time and change their flying path early enough to avoid them."[377] Bird deaths by collision with turbine blades may only occur at a small number of wind turbines and, even at those sites where they do occur, may only occur when the area is experiencing high-speed winds.[378]

There has also been concern about bats flying into turbine blades. Unlike birds, which often fly into man-made buildings, bats do not fly into stationary structures.[379] The danger for bats is the moving wind

373. Even the AWEA acknowledges that "fatalities of birds and bats from collisions with wind turbines, meteorological towers, and transmission lines; electrocution from transmission lines; habitat loss; habitat alteration and fragmentation; and displacement" are problems that should be minimized. AWEA SITING HANDBOOK, *supra* note 197, at 5-1. The AWEA acknowledges that a "primary factor" in determining the site of a turbine is the effect it will have on the wildlife. *Id.*

374. *Id.*

375. Dimitris Al. Katsaprakakis, *A Review of the Environmental and Human Impacts From Wind Parks: A Case Study for the Prefecture of Lasithi, Crete*, 16 RENEWABLE & SUSTAINABLE ENERGY REVS. 2850, 2853 (2012).

376. *Id.*

377. *See id. But see* DOUG LESLIE ET AL., ALTIMONT PASS WIND RESOURCE AREA BIRD FATALITY STUDY: BIRD YEARS 2005–2010, at 3-1 to 3 tbl.3.1 (2012), *available at* http://www.calwea.org/pdfs/2013/altamont-study.pdf (indicating that 4,658 bird and bat fatalities, including the fatalities of 1,261 raptors, occurred at central California's Altimont Pass Wind Resource Area from 2005–2010).

378. *Cf.* Luis Barrios & Alejandro Rodriguez, *Behavioural and Environmental Correlates of Soaring-Bird Mortality at On-Shore Wind Turbines*, 41 J. APPLIED ECOLOGY 72, 80 (2004) ("[T]he most sensible approach is to suspend the operation of the small number of turbines that cause most deaths only under the wind speeds that lead to risk situations."). The suggestion to turn turbines off at high wind speeds may create issues, however, because, as discussed in Part V.A.1, high wind speeds are necessary for energy production.

379. Jens Rydell et al., *Bat Mortality at Wind Turbines in Northwestern Europe*, 12(2) ACTA CHIROPTEROLOGICA 261, 269 (2010).

turbine blades.[380] Bats can fly into the rotor blades while actively feeding, exploring the turbines, or getting caught in a vortex behind the turbine.[381] The Bat and Wind Energy Cooperative—formed by Bat Conservation International, the U.S. Fish & Wildlife Service, the American Wind Energy Association, and the Energy Department's National Renewable Energy Laboratory—has investigated operational changes and deterrent devices to determine if bat fatalities due to wind turbines can be mitigated or eliminated.[382]

The law has not ignored concerns about birds and bats colliding with wind turbine blades. For example, the Wisconsin Department of Natural Resources must "identify areas . . . where wind turbines, if placed in those areas, may have a significant adverse effect on bat and migratory bird populations."[383] Federal courts have also found that wind turbine installations can result in violations of section 9 of the Endangered Species Act.[384]

Wildlife concerns are not limited to animal deaths caused by collisions with turbine blades. Electrocution can occur when birds collide with power lines, but this can be avoided by designing transmission lines using equipment and design techniques developed to mitigate this risk.[385] Conversion of wind energy also causes habitat loss due to access roads, turbine sites, electrical substations, and other related facilities.[386] As with other energy and general development, the habitat loss due to wind energy projects can "result in small reductions in populations of some species or, in extreme cases, the loss of a species."[387]

The concerns about the effects of wind turbines on animals do not stop at wildlife. Residents opposed to wind turbines have expressed worries about the health of their farm animals.[388] There has not been

380. *Id.*

381. *Id.* at 268.

382. AM. WIND ENERGY ASS'N, WIND ENERGY AND WILDLIFE 1 (2011) *available at* http://awea.files.cms-plus.com/FileDownloads/pdfs/Wind-Energy-and-Wildlife_May-2011.pdf.

383. WIS. STAT. § 23.39 (2010).

384. *See, e.g.*, Animal Welfare Inst. v. Beech Ridge Energy, 675 F. Supp. 2d 540 (D. Md. 2009).

385. AWEA SITING HANDBOOK, *supra* note 197, at 5-5.

386. *Id.*

387. *Id.*

388. *See, e.g.*, Ryder, *supra* note 169 (quoting a wind turbine opponent who claimed that he had seen wind turbines "cause cattle malfunctioning" in California); Demirjian, *supra* note 165 (noting an alpaca farmer's concerns that a proposed wind turbine on a neighboring property would "affect her business and livelihood" because she has heard that wind turbines have put farmers out of business in Wisconsin).

much research devoted to the possibility that wind turbines have detrimental effects on animals from neighboring farms,[389] but groups opposing turbines seem to present the issue as a serious one.[390]

Indeed, the effect of wind turbines on animals is a common local concern that might lead a state to give local governments control of regulating the installations and operations of wind turbines. This concern can also be closely compared to the wildlife-endangerment concerns associated with fracking. One environmental concern is the amount of water needed to conduct the fracking process. Such water is often taken from surface water sources and can have a serious effect on these freshwater communities.[391] Experts seem to concur that this surface-water degradation is a serious concern associated with fracking.[392] Another water-related environmental issue involves the disposal of the wastewater left after the fracking process.[393]

The U.S. Geological Survey found that fracking procedures are capable of drastically changing the landscape and environment.[394]

389. This seems peculiar because wind turbines have been installed on farmlands and cattle-grazing lands previously, and those lands often continue to be used for those purposes after the wind turbines have been brought into operation. *See, e.g.*, RIGHTER, *supra* note 26, at 105–06 ("Dairy cattle still graze among the turbines [of the Altimont Pass hills of central California], representing the traditional use of the land.").

390. *See, e.g.*, WIND-WATCH, http://wind-watch.org (last visited Sept. 14, 2013).

391. *See* Michael Dillon, Comment, *Water Scarcity and Hydraulic Fracturing in Pennsylvania: Examining Pennsylvania Water Law and Water Shortage Issues Presented by Natural Gas Operations in the Marcellus Shale*, 84 TEMP. L. REV. 201, 208–11 (2011) (explaining the detrimental effects that fracking has had on the river systems in Pennsylvania); *see also* Tomain, *supra* note 220, at 1207 ("[D]rilling requires large volumes of water to be withdrawn from both ground and surface waters.").

392. ALAN KRUPNICK ET AL., PATHWAYS TO DIALOGUE: WHAT THE EXPERTS SAY ABOUT THE ENVIRONMENTAL RISKS OF SHALE GAS DEVELOPMENT 2 (2013) ("[T]he experts [in government, industry, universities, and nongovernmental organizations] frequently identified the potential impacts on lakes, rivers, and streams (surface water) as a priority . . . .").

393. *See* Dillon, *supra* note 391, at 208 ("Frack-water, as it is known, may also contain radioactive metals, detergents, fracking chemicals, and other highly toxic pollutants. Contaminated frack-water has potential to pollute rivers, streams, lakes, and groundwater if not properly treated and disposed.").

394. *See, e.g.*, E.T. SLONECKER ET AT., LANDSCAPE CONSEQUENCES OF NATURAL GAS EXTRACTION IN BRADFORD AND WASHINGTON COUNTIES, PENNSYLVANIA, 2004–2010 (2012), *available at* http://pubs.usgs.gov/of/2012/1154/of2012-1154.pdf. Providing the results of the U.S. Geological Survey investigation into the landscape changes of two Pennsylvania counties that hosted fracking operations,

Habitat destruction is a common concern for wildlife communities. Fracking operations often target areas that have not been subjected to dense human populations. Accordingly, experts have identified the clearing of land for fracking operations, which results in habitat fragmentation, as a major concern for wildlife.[395] This habitat fragmentation results from the construction of "roads, pipelines, storage tanks, and other infrastructure" for fracking.[396]

Fracking, like wind turbines, has been linked to the deaths of animals, including fish and birds.[397] Because fracking has been alleged to affect endangered species, there have been lawsuits requesting a stop to some fracking operations.[398] As an additional indication that the Endangered Species Act[399] is going to have a role in the regulation of and the limitations placed on fracking, the Fish & Wildlife Service has "point[ed] to fracking as a major source of concern" in its determination to extend protection, under the Endangered Species Act, to the diamond darter and four species of mussels.[400] The mere presence of fracking equipment has been found to have some effect on the presence of a certain endangered bird species.[401]

Thus, the concerns about the effects of wind energy production on wildlife are not unique. The AWEA recommends that wind turbine developers "confer with environmental consultants and legal counsel to determine [Endanger Species Act] applicability to their project and to establish an early dialogue with the [Fish and Wildlife Service], state endangered species authorities, and other stakeholders."[402] Fracking developers should be encouraged to do the same.

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the report concludes that "natural gas extraction in Pennsylvania is affecting the landscape configuration." *Id.* at 31.

395. KRUPNICK ET AL., *supra* note 392, at 24 (Experts from the government, industry, universities, and nongovernmental organizations identified "[h]abitat fragmentation resulting from the clearing of land [as] a consensus high priority").

396. GAO, OIL & GAS, *supra* note 348, at 51.

397. *See* Kalyani Robbins, *Awakening the Slumbering Giant: How Horizontal Drilling Technology Brought the Endangered Species Act to Bear on Hydraulic Fracturing*, 63 CASE W. RES. L. REV. 1143, 1156–57 (2013).

398. *Id.* at 1160*; see also* Grant, *supra* note 215 (discussing the Endangered Species Act and its role in the fracking discussion).

399. Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended at 35 U.S.C. §§ 1531–1544).

400. Robbins, *supra* note 397, at 1164–65.

401. *See generally* RICHARD C. HAUT ET AL., LIVING IN HARMONY—GAS PRODUCTION AND THE ATTWATER'S PRAIRIE CHICKEN, SOC'Y PROF'L ENG'RS DOC. NO. 133652 (2010) (investigating the effects of noise from oil and gas production on an endangered bird species in Texas).

402. AWEA SITING HANDBOOK, *supra* note 197, at 4-9.

Such precautions taken for either energy source, however, cannot fully relieve the concern that either of these emerging energy sources will have a negative impact on the environment and wildlife. Thus, these concerns could be the basis for a valid exercise of the state's police power. However, there are concerns about the effects that both of these technologies have on wildlife. Thus, the state could not have based the different ways it approaches regulation of these emerging energy sources on whether local governments should be able to consider wildlife effects in enacting regulation.

c. Noise Concerns[403]

Noise concerns are also a common fear that comes along with the installation of wind turbines.[404] This is not a new concern. In fact, it predates the modern wind turbine technology. For example, in 1981, the city of Brigantine, New Jersey had a zoning ordinance on the books that limited windmill noise to a level below normal ambient sounds.[405] The neighbors sought to enforce the noise ordinance because a landowner's windmill "produce[d] offensive noise levels" that caused "tension and stress-related symptoms [which] included nervousness, dizziness, loss of sleep and fatigue."[406] Since 1981, wind turbines for energy production have become larger and more common. Thus, the concerns about sound have not disappeared.

The AWEA, crediting significant noise-reduction technology improvements, claims that when most people get close to a turbine, they find that it is "much quieter than they expected."[407] This statement is supported by the fact that modern turbines emit only negligible levels of mechanical noise and only 95–105 dB of aerodynamic noise, less than ten percent of the noise emissions of turbines thirty years ago.[408] With the low levels of noise associated

403. Noise concerns can also be lumped into the general not-in-my-backyard (NIMBY) category. *See, e.g.*, RIGHTER, *supra* note 26, at 108. NIMBY concerns are discussed in Part V.A.2.d.

404. For more information on these concerns generally, see *Sound: Wind Energy and Human Health*, AM. WIND ENERGY ASS'N (AWEA), http://awea.rd.net/Issues/Content.aspx?ItemNumber=862 (last visited Sept. 22, 2013).

405. BRIGANTINE, N.J., ORDINANCE 11, § 906.6.3 (1981); *see also* Rose v. Chaikin, 453 A.2d 1378 (N.J. Super. Ct. Ch. Div. 1982).

406. *Rose*, 453 A.2d at 1380.

407. AWEA SITING HANDBOOK, *supra* note 197, at 5-34. The noise-level complaints may vary by location. *See* RIGHTER, *supra* note 26, at 108 ("Most urban dwellers would hardly ever hear a wind turbine over the normal ambient noise, but the countryside is a different matter.").

408. Katsaprakakis, *supra* note 375, at 2852. Mechanical noise is caused by the moving parts of the turbine, such as the shaft bearings, gear box, and electrical generator. *Id.* Aerodynamic noise depends on the blade design

with modern turbines, people complaining about the noise levels of a neighboring wind turbine may actually be more upset about having to *see* the turbine than they are about having to *hear* it.[409]

No matter whether noise is a legitimate concern with new wind turbine installations, the same concern is associated with fracking. "The process of shale gas development, especially drilling and hydraulic fracturing, can create short-term increases in . . . noise."[410] A study of expert opinions on the concerns of fracking indicated controversy about the level of concern that should be given to the noise pollution associated with fracking operations.[411] The United States Government Accountability Office has reported that "noise . . . associated with shale gas development may also affect wildlife."[412]

Thus, state governments could not have determined that noise was a concern that warranted allowing governments to regulate wind energy but not shale gas extraction.

d. Control of "My Backyard"

Generally, citizens can be concerned about scenery and property values in their neighborhoods—they want some control over their "backyards," as reflected in the common response "not in my backyard" (NIMBY).[413] This is no different for wind turbines. Despite reported local support of about eighty percent for the first wind farm proposed in the Nantucket Sound, the opposed locals, through the Alliance to Protect Nantucket Sound, were able to substantially delay the project.[414] Even as public attitude has come to favor renewable

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and the wind velocity. *Id.* It is "caused by the passage of the blades through the air." AWEA SITING HANDBOOK, *supra* note 197, at 5-34.

409. *Cf.* Eja Pedersen & Pernilla Larsman, *The Impact of Visual Factors on Noise Annoyance Among People Living in the Vicinity of Wind Turbines*, 28 J. ENVTL. PSYCHOL. 379, 384–85 (2008) (finding that, at any given noise level, people who had a view of the wind turbine from their homes were more annoyed about noise than people who could not see the wind turbine from their home).

410. FRANK R. SPELLMAN, ENVIRONMENTAL IMPACTS OF HYDRAULIC FRACTURING 160 (2013).

411. KRUPNICK ET AL., *supra* note 392, at 24 tbl.5.

412. GAO, OIL & GAS, *supra* note 348, at 51.

413. NIMBY has become a normal response from citizens opposing any development in their neighborhood. *See* Nolon, *supra* note 51, at 343–45. For an interesting response to the NIMBY concern, see Niitsuma & Nakata, *supra* note 137.

414. Jonathan H. Adler, *Foul Winds for Renewable Energy*, NAT'L REV. ONLINE (Sept. 28, 2007, 5:00 AM), http://www.nationalreview.com/node/222246/print. Overall, the Alliance has slowed the progress of the project but has not had success in the courts. Town of Barnstable v.

energy sources, zoning battles have raged on concerning where the renewable energy production sites should be located.[415]

Homeowners commonly believe that any industrial facility, including wind turbines, in the neighborhood will reduce property values.[416] But the three major studies on the subject have come to the conclusion that average home prices are not affected by wind energy projects.[417] Some circumstances, though, do lead to situations in which home prices will drop after a wind turbine has been installed nearby.[418] One circumstance in which property values might be affected by the installation of a wind turbine is when the best use of the land is recreational and the turbine is not compatible with the recreational use.[419] These occurrences of property devaluation, no matter how rarely they occur, are likely to continue to be a cause of concern for homeowners.

Also, there is a popular belief that wind turbines cause a negative effect on humans. One doctor has declared that turbines cause Wind Turbine Syndrome—"the constellation of symptoms experienced by many (though not all) people who find themselves living near industrial wind turbines . . . ."[420]

These NIMBY concerns are similar to concerns that neighbors have about fracking in close proximity to their homes.[421] Drilling and

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Cape Wind Assocs., 27 MASS. L. RPTR. 111 (Mass. Super. Ct. 2010) (denying the Alliance to Protect Nantucket Sound's motion for judgment on the pleadings in the Alliance's suit challenging a state certificate for the wind turbines in Nantucket Sound).

415. *See, e.g.*, Abby Goodnough, *Turning to Windmills, but Resistance Lingers*, N.Y. TIMES, Sept. 13, 2009, at A25 (discussing the fight over wind turbine zoning rules in many towns). One Cape Cod landowner gave up trying to install a wind turbine on her property after fighting for two years. *Id.*

416. Wayne E. Gulden, *A Review of the Current Evidence Regarding Industrial Wind Turbines and Property Values from a Homeowner's Perspective*, 31 BULL. SCI. TECH. & SOC'Y 363, 363 (2011). A common concern is that buyers will pay less due to the increased noise. *See* RIGHTER, *supra* note 26, at 110 (discussing a Chicago real estate appraiser's claim that wind turbine noise will drop land value between twenty percent and thirty percent). However, noise concerns seem to be less relevant as technologies to reduce noise advance. *See supra* Part V.A.2.c.

417. Gulden, *supra* note 416, at 363.

418. *Id.* at 367.

419. *Id.* at 366–67.

420. *See* RIGHTER, *supra* note 26, at 171 (quoting a New York doctor).

421. *See* Tomain, *supra* note 220, at 1211 (noting that fracking "activities affect the immediate area including air emissions, odors, noise, spill risk, land use, wildlife, and the general life styles of those communities").

fracking to get access to shale gas leads to increases in traffic volume, dust, and noise.[422] Experts have ranked road congestion as one of the possible concerns associated with fracking.[423] Additionally, community opposition may result from the possibility that fracking may cause seismic activity and earthquakes.[424] Generally, NIMBY concerns have led to local governments deciding to strictly regulate or prohibit fracking.[425]

Ultimately, these NIMBY concerns associated with fracking and wind turbines do not support drastically different preemptive approaches that states like Ohio have taken between the two sources.

B. The Case for Ohio-Type Due Process Claims

None of the considerations that are particular to wind energy generation differ significantly from those particular to fracking. Overall, there seems to be no reason that a state, such as Ohio, can rationalize preempting local government control of fracking while allowing substantial control of wind-power generation. If U.S. policy is moving away from GHG emitting energy sources,[426] this state-law quirk seems especially counterproductive.

At this point, it is worth repeating the Court's wording in *Euclid* that a zoning ordinance can violate the Constitution if it is "clearly arbitrary and unreasonable, having no substantial relation to the

422. SPELLMAN, *supra* note 410, at 160.

423. KRUPNICK ET AL., *supra* note 392, at 24 tbl.5.

424. For example, major damage to homes has been caused by earthquakes linked to the subsurface injection of oil and natural gas wastewater. *See, e.g.*, Behar, *supra* note 361, at 35–36 (telling the story of a couple whose home has been—and continues to be—rocked by earthquakes on a previously "dead fault"). Overall, the connection between fracking and earthquakes has been very controversial. One report that surveyed the opinions of experts from the government, the fracking industry, academia, and nongovernmental organizations found that there was significant controversy related to the concern of "seismic vibrations" caused by "deep underground injection." KRUPNICK ET AL., *supra* note 392, at 21. One U.S. Geological Survey (USGS) geophysicist, citing the reinjection of fracking wastewater as a possible cause, is convinced that humans have caused a recent increase in earthquake activity. Dusty Horwitt & Alex Formuzis, *Fracking Causes Seismic Instability and Earthquakes*, *in* AT ISSUE: FRACKING, supra note 125, at 37, 38. Generally, the USGS "linked oil and natural gas drilling operations to a series of recent earthquakes from Alabama to the Northern Rockies." *Id.*

425. *Cf.* Stewart Testimony, *supra* note 231, at 6 ("When [the complexities of the fracking industry are] combined with the 'NIMBY' problem, many local regulations are intended not to regulate mineral extraction but to prohibit it, and are simply impossible to comply with by oil and gas producers.").

426. *See supra* Part II.A.

public health, safety, morals, or general welfare."[427] And we know from *Lingle*[428] that such an attempt to exercise a clearly arbitrary and unreasonable ordinance that has no relation to public health, safety, morals, or general welfare is a violation of due process.

A state has the power to preempt local control of fracking and wind turbines if it determines that energy production is a state priority that should override all local concerns associated with the technologies. States can also determine that local concerns associated these emerging energy sources are valid and warrant placing the regulatory power in the hands of municipalities. However, if a state chooses to preempt local control of one energy source while granting substantial local control of another, it must do so with the interests of the public at heart;[429] it may not do so arbitrarily. The state must point to a policy reason, in the interest of public welfare, to defend such a disparate treatment as reasonable and nonarbitrary.

Admittedly, there is no general principle that state regulation of all similar problems must be handled in a similar manner. However, the Supreme Court has also been clear that the law must protect against the misuse of governmental power when regulations limit the rights of property owners.[430] Accordingly, regulations that limit a landowner's access to the natural resources of his real property, such as shale gas or wind, must be heavily scrutinized for misuse of governmental power. Unless there is a compelling reason to discriminately allow local control over one type of property rights but not another, states are misusing their governmental powers when they provide local governments with the regulatory authority to burden one type of property right.

Part V took an extensive look at the reasons that the police power might be appropriately utilized to regulate wind turbines. Most of the effects of these concerns associated with wind power production would be felt at the local level. But shale gas extraction cannot be differentiated from wind turbines when it comes to local concerns. A state's decision to allow local governments to exercise their police

427. Vill. of Euclid v. Ambler Realty Co., 272 U.S. 365, 395 (1926).

428. Lingle v. Chevron U.S.A., Inc., 544 U.S. 528 (2005).

429. After all, "[t]he purpose of a zoning ordinance is to limit the use of land in the interest of the public welfare." Smith v. Juillerat, 119 N.E.2d 611, 614 (Ohio 1954).

430. *See, e.g.*, Koontz v. St. Johns River Water Mgmt. Dist., No. 11-1447, slip op. at 1 (U.S. June 25, 2013) (stating that *Nollan* and *Dolan* "provide important protection against the misuse of the power of land-use regulation"). Admittedly, *Nollan*, *Dolan*, and *Koontz*, address the misuse of power in the context of discretionary land use permits. However, the Supreme Court suspicion of government regulations that restrict property use has spilled beyond the context of land use permits. *See, e.g.*, Lucas v. S.C. Coastal Council, 505 U.S. 1003 (1992).

powers to regulate wind energy, but not shale gas extraction, cannot be traced back to public health, safety, morals, or general welfare.

Instead, the only reasonable conclusion to be drawn is that political forces, which back one energy source but not the other, have prevailed in determining such a regime that allows local land-use regulation of one emerging energy source but preempts local control of another. Such motives indicate a misuse of land-use powers similar to what was warned about in *Koontz*. A regulatory regime based on such political forces, rather than a legitimate police power purpose, is arbitrary and unreasonable in the eyes of the law. In states such as Ohio (where the state treats fracking more favorably than wind turbines and chooses to exercise its preemption powers accordingly), landowners have a right to demand a less arbitrary exercise of the police power.

C. A Possible Rebuttal for New York–Type Due Process Claims

Notably, though, this Note has not taken on the task of determining whether a state, like New York, can preempt local regulation of wind turbines while allowing local control of fracking.

However, such a scheme—where a state chooses to preempt local governmental barriers to wind turbine installations but allows for local fracking limitations or bans—may be permissible based on a state's interest in protecting against the "actual and imminent" risks of harm due to GHG emissions.[431] While wind production utilizes a non-carbon-based source, fracking generally results in utilization of natural gas, a carbon-based energy source which emits GHGs.

Commentators do not agree on whether fracking will worsen the GHG emission problem.[432] This debate about the GHG emissions of energy produced from shale gas is summed up in one sentence by the U.S. Government Accountability Office: "[It has been] reported that

431. Massachusetts v. EPA, 549 U.S. 497, 521 (2007).

432. *Compare* Tomain, *supra* note 220, at 1214 ("I conclude that natural gas, particularly shale gas, should not be included in the definition of clean energy. For all its environmental improvements and economic benefits, shale gas continues our traditional fossil fuel energy model."), *with* Thomas W. Merrill, *Four Questions About Fracking*, 63 CASE W. RES. L. REV. 971, 993 (2013) ("When are countries most likely to adopt a carbon tax? When the price of carbon fuels go down, not up. And what is it that is most likely to bring the price of carbon fuels down in the foreseeable future? Fracking. So, I would conclude that a conscientious citizen concerned about global warming should support the fracking revolution. Cheap gas will upend nuclear and renewables, at least temporarily but, more importantly, it will displace coal. If this can be done on a global basis significant progress will have been made against global warming. . . . Cheap gas is, thus, probably the best choice on the horizon for reducing greenhouse gases until we see a technological breakthrough in renewables. The only way to get cheap gas that's presently on the horizon is to support fracking.").

using natural gas over coal would lower emissions in the United States, but some researchers have reported that greater reliance on natural gas would fail to significantly slow climate change."[433] Perhaps the most important opinion on the matter is that of the current administration. According to the vice president, the administration seems to take the middle ground of the debate: "Theoretically, it would be nice not to have any carbon fuels. But natural gas is a hell of a lot less polluting. So in this budget, we're continuing to push for the transition from coal-fired plants to natural-gas electric plants."[434] Accordingly, an argument that due process is violated by the energy schemes in states like New York, which seem to favor wind energy over fracking, would need to address this issue of GHG emissions.

CONCLUSION

Although both wind energy technologies and fracking technologies are not new, recent advances in technology have allowed large growth within the energy markets. Thus, the regulatory framework that sets the rules for these technologies has become increasingly important.

Land-use regulation has typically been left to state and local governments. But federal constitutional protections for property rights place limitations on the land-use regulatory power of state and local governments. Generally, the state and local governments interact to determine how emerging energy technologies, such as wind turbines and fracking, should fit into the existing energy regulatory scheme. Regulatory systems for fracking range from the system established by Ohio, which preempts all local government control, to Vermont's system, which has banned all fracking within the state. Regulatory systems for wind turbines range from Ohio's system, which allows local governments to exercise substantial control of wind turbines, to the systems of Washington, Wisconsin, and California, which place strict limitations on the level of control local ordinances can assert over the installation of wind turbines.

It is understandable that local governments would want to control the location and details of fracking and wind turbines within their jurisdictions. Residents of local governments faced with a plan to install a wind turbine in their neighborhoods often express fears, founded or not, regarding safety, wildlife, noise, and property

433. *See* GAO, OIL & GAS, *supra* note 348, at 2 n.5.

434. Brinkley, *supra* note 76, at 68 (quoting Joe Biden).

values.[435] Residents faced with fracking in their community will have a list of similar concerns associated with wind turbines.[436]

Despite these concerns at the local level, both state and federal governments have a strong interest in producing energy, especially clean energy, within a state. This can create a disconnect between local concerns and federal or state interests. Thus, states are faced with the difficult task of promoting energy production while also giving considerations to the concerns of communities. However difficult this task, states must make reasonable decisions that are based on the best interests of the community. Many states have created a regulatory scheme that preempts local control of one emerging energy source but allows local control over another emerging energy source. Such a state regulatory scheme is likely to be based on political factors—and, therefore, unconstitutionally arbitrary—unless the state can point to specific, legitimate concerns or interests that favor the chosen regulatory scheme.

Ohio, like many other states, has chosen to preempt all local regulation of fracking. However, Ohio also permits substantial local regulatory control of wind turbines, which can include a complete ban of the technology. This Note has demonstrated that there is no particular state interest that would justify preemption of local regulation of fracking while allowing local control of wind turbines. Additionally, this Note concludes that there are no local concerns specific to wind turbines that are not present regarding fracking. Thus, states like Ohio cannot claim that its disparate treatment of the two sources is legitimately based on public health, safety, or general welfare. Accordingly, Ohio's chosen regulatory scheme, which is common in other states, violates the Due Process Clause of the U.S. Constitution.

Erik Lange[†]

435. *See* discussion *supra* Part V.A.2.

436. Some of the concerns associated with fracking are discussed in Part V, in order to compare them with the local concerns connected to wind turbines.

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