

Clearing the Air: A Comparison of Regulatory Frameworks for Siting Wind Farms

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Introduction

On December 6, 2009, protesters took to the streets of Urbana, Ohio, holding signs stating “no wind turbines.”¹ They were demonstrating against a proposal to build a seventy-turbine wind farm and the first large-scale wind farm in Ohio.² When asked, the protesters offered a number of reasons for opposing the wind farm, including concerns about a reduction in property values.³ All agreed that there were other ways to implement green energy away from their neighborhood.⁴

As Americans become more concerned with global climate change and their dependence on foreign fossil fuels, more states are investing in renewable energy—especially in wind power—to supplement their energy production.⁵ In the last decade, wind energy has emerged as a leading source of renewable energy in the United States.⁶ To operate, wind farms rely only on the wind, a completely renewable resource. Energy derived from wind does not generate greenhouse gas emissions, does not produce hazardous waste as a byproduct, and does not require extensive mining operations for

fuel.⁷ As a result, wind energy is less threatening to human health and the environment than traditional power plants.⁸

Wind power has been the most successful source of renewable energy⁹ after hydroelectricity and now provides slightly less than two percent of the nation’s power.¹⁰ Although this is a small percentage overall, wind energy is, by a significant margin, the leader among non-hydroelectric renewable energy sources.¹¹ The cost of building a wind farm has declined by eighty percent over the last thirty years,¹² and the amount of wind farms in development has grown dramatically in the last five years.¹³ For example, in 2005, the amount of wind energy installed nearly equaled the wind energy installed between 1981 and 1999.¹⁴ In 2009 alone, total capacity increased by a staggering thirty-nine percent.¹⁵

The wind industry’s growth has not been free from controversy. The example of the protesters in Urbana highlights one of the major issues facing wind power development in the United States—resistance by local communities, often referred to as “Not-In-My-Back-Yard” (“NIMBY”) sentiments.¹⁶ All over the United States, conflicts between wind developers and small communities are raging over spoiled

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1. Andrew McGinn, *Protesters Rally Against Champaign County Wind Turbines*, SPRINGFIELD NEWS-SUN, Dec. 6, 2009, http://www.springfieldnewsun.com/news/springfield-news/protesters-rally-against-champaign-county-wind-turbines-435182.html?more_comments=true&showComments=true.
2. *Id.*
3. *Id.*
4. *Id.*
5. See AM. WIND ENERGY ASS’N, AMERICAN WIND ENERGY ASSOCIATION ANNUAL WIND INDUSTRY REPORT, YEAR ENDING 2008, 8–9 (2009) [hereinafter 2008 AWEA ANNUAL REPORT], <http://www.awea.org/documents/reports/AWEA-Annual-Wind-Report-2009.pdf>.
6. *Id.* at 6, fig.4.

7. AM. WIND ENERGY ASS’N, ELECTRIC UTILITIES AND WIND POWER - A GOOD MIX, 1 http://www.awea.org/documents/Utility_Factsheet.pdf.
8. *Advantages and Challenges of Wind Energy*, U.S. DEP’T OF ENERGY, http://www1.eere.energy.gov/windandhydro/wind_ad.html (last visited Mar. 13, 2011).
9. In AWEA’s most recent annual report, wind accounts for forty-two percent of energy generated from renewable sources that are not hydroelectric sources, which generates approximately six percent of the United States’ energy. See 2008 AWEA ANNUAL REPORT, *supra* note 5, at 6, fig.4.
10. *Id.*
11. Wind’s closest competitor is wood-burning, which accounts for approximately thirty-one percent of renewable energy, as opposed to wind’s forty-two percent. *Id.*
12. NAT’L COMM’N ON ENERGY POLICY, ENDING THE ENERGY STALEMATE 63 (2004), <http://www.energycommission.org/ht/a/GetDocumentAction/i/1088>.
13. The record for annual added capacity has been broken in each year since 2005. See 2008 AWEA ANNUAL REPORT, *supra* note 5, at 4.
14. *Id.* (new wind capacity in 2005 totaled 2420 MWs, while the cumulative total of wind capacity installed from 1981 to 1999 was 2512 MWs).
15. Jad Mouawad, *Wind Power Has Another Banner Year*, N.Y. TIMES, Jan. 26, 2010, at B1.
16. NIMBY sentiments are generally characterized as support for a socially desirable project or issue in theory, but not when its negative aspects would have a personal impact. See Gregory D. Eriksen, *Breaking Wind, Fixing Wind: Facili-*

scenery, industrial noise, and fears of declining property values.¹⁷ Aside from NIMBY sentiments, wind energy development faces two other considerable obstacles. The first is the effect of wind farms on the environment. To the surprise of wind developers, environmental groups have been among the most vocal opponents of wind farms, and a number of environmental lawsuits against wind farms have reached the courtroom.¹⁸ The second obstacle to wind energy development is the challenge of connecting the wind farms to transmission lines.¹⁹ A number of planning, design, and pricing obstacles in existing transmission grids make new wind development more expensive and more logistically challenging.

The success of a wind farm depends largely on its siting.²⁰ Placing a wind farm too close to a community, too far from a transmission grid, or in an environmentally sensitive area can result in lawsuits, environmental damage, lost profits, or a combination of all three. Currently the different processes for siting wind farms span the regulatory spectrum. Some states have no regulation at all, some leave regulation to local government through municipal or county zoning boards, and some states have instituted more centralized control vested in one or more state agencies.²¹

This Note argues that states should streamline the wind farm siting process by channeling all siting decisions through a designated state agency such as a public service commission.²² The designated agency should review each application to build wind turbines under a uniform set of standards and should be the sole agency responsible for granting the permits for constructing the wind farm. State streamlining is the best choice for wind farm siting because it maximizes bureaucratic efficiency without compromising other aspects of the siting decision, such as aesthetic and environmental impacts. State streamlining also provides for thorough environmental review, allows citizens to voice their concerns, and prevents NIMBY sentiments from dominating the siting process. For maximum effectiveness, states should combine state streamlining with legislation that encourages the construction of transmission lines.

Part I of this Note introduces wind energy's return to the modern landscape, focusing on federal and state efforts to encourage wind energy development. Part II demonstrates

why a methodical approach to siting is necessary by discussing the different challenges facing wind energy, including local resistance, environmental damage, and interconnection with the energy grid. Part III discusses the advantages and disadvantages of local siting authority. Part IV examines the unique case of Texas, where lack of regulation combined with aggressive legislation incentivizing transmission construction has resulted in tremendous wind energy growth. Part V discusses the benefits and burdens of federal siting authority. Part VI examines regulation on the state level, explains state streamlining, and demonstrates why it is the best option for wind farm siting.

I. Background: Incentives for Wind Energy Development

A. Federal Incentives

The federal government has encouraged renewable energy development since the enactment of the Public Utility Regulatory Policy Act ("PURPA")²³ in 1978. Prior to the implementation of PURPA, only utility companies could own and operate electrical power plants in the United States.²⁴ Frequently, the same company owned both the power plant and the transmission lines that conveyed that electricity to customers.²⁵ This system limited control of the grid to large "baseline" power plants such as nuclear or coal plants—power plants that sold a significant amount of energy to a large market and could afford to invest in transmission lines.²⁶ Large power companies could refuse grid access to smaller independent plants as a way of combating competition.²⁷ PURPA opened up the possibility for wind energy development by requiring utility companies to connect independent power plants to the electrical grid.²⁸

The federal government was quick to recognize the potential for wind energy and two years later passed the Wind Energy Systems Act of 1980,²⁹ which allocated \$1 billion to wind power research and development.³⁰ The Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989³¹ set a national goal of utilizing renewable energy and three years later, Congress passed the Energy Policy Act

tating *Wind Energy Development in New York State*, 60 SYRACUSE L. REV. 189, 196–97 (2009).

17. See *Project No Project: Energy-Back on Track*, U.S. CHAMBER OF COMMERCE, <http://pnp.uschamber.com> (last visited Mar. 13, 2011).

18. See, e.g., *Flint Hills Tallgrass Prairie Found, Inc. v. Scottish Power, PLC*, 147 Fed. Appx. 785 (10th Cir. 2005); *Ctr. for Biological Diversity v. FPL Grp., Inc.*, 166 Cal. App. 4th 1349 (Cal. Ct. App. 2008).

19. "The U.S. Department of Energy ("DOE") has identified transmission limitations as the greatest obstacle to realizing the enormous economic, environmental and energy security benefits of obtaining at least 20 percent of our electricity from the wind." AM. WIND ENERGY ASS'N, GREEN POWER SUPERHIGHWAYS: BUILDING A PATH TO AMERICA'S CLEAN ENERGY FUTURE I (2009) [hereinafter GREEN POWER SUPERHIGHWAYS], <http://www.awea.org/GreenPowerSuperhighways.pdf>.

20. U.S. Dep't of Energy, *Wind Powering America: Siting Wind Turbines*, <http://www.windpoweringamerica.gov/siting.asp?pga=siting&type=&page=3&field=date&order=desc&stateab=&#news> (last visited Mar. 17, 2011).

21. Eriksen, *supra* note 16, at 202.

22. This Note does not comment on the management of offshore wind farms and wind farms built by the Bureau of Land Management on federal lands.

23. Public Utility Regulatory Policy Act, 16 U.S.C. §§ 2601–2645 (2006).

24. *Public Utility Regulatory Policy Act (PURPA)*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/public-utility-regulatory.html (last visited Mar. 13, 2011).

25. Jeffrey D. Watkiss & Douglas W. Smith, *The Energy Policy Act of 1992—A Watershed For Competition in the Wholesale Power Market*, 10 YALE J. ON REG. 447, 451 (1993); see also U.S. DEP'T. OF ENERGY, FEDERAL ENERGY MANAGEMENT PROGRAM, A PRIMER ON ELECTRIC UTILITIES, DEREGULATION AND RESTRUCTURING ON U.S. ELECTRICITY MARKETS, 3.9 (May 2002), <http://www1.eere.energy.gov/femp/pdfs/primer.pdf>.

26. See Watkiss & Smith, *supra* note 25, at 452–53.

27. Stanley A. Martin, *Problems with PURPA: The Need for State Legislation to Encourage Cogeneration and Small Power Production*, 11 B.C. ENVTL. AFF. L. REV. 149, 151 (1983–1984).

28. Wendie L. Kellington, *Land Use Considerations in Siting Renewable Energy Projects (With a Focus on Wind)*, SR004 A.L.L.-A.B.A. 587, 591 (2009).

29. Wind Energy Systems Act of 1980, 42 U.S.C. §§ 9201–9213 (2006).

30. *Id.*

31. Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, 42 U.S.C. §§ 12001–12007 (2006).

of 1992,³² which tasked the Secretary of Energy with reducing greenhouse gas emissions and increasing energy efficiency by, among other means, offering incentive payments for developing more renewable energy resources.³³ The Act declared promotion of renewable energy a federal priority and introduced a production tax credit (“PTC”) for wind energy.³⁴ The PTC provides a tax credit of 2.1 cents per kilowatt-hour (“kWh”) for the first ten years a wind energy facility is in operation³⁵ and is the primary federal incentive for wind energy according to the American Wind Energy Association (“AWEA”).³⁶ Congress has on occasion let this tax benefit lapse, creating a boom and bust cycle of wind development.³⁷ The PTC was recently renewed for three years as part of the American Recovery and Reinvestment Act of 2009.³⁸

B. State Incentives

Many states have also enacted legislation specifically designed to encourage wind development.³⁹ Some states provide tax benefits for properties used to generate renewable energy,⁴⁰ and companies that develop commercial wind farms often receive tax deductions on their state income tax payments.⁴¹ Currently, thirty-six states and the District of Columbia have passed Renewable Portfolio Standards (“RPS”)—mandates that require the state to derive a certain percentage of its energy from renewable energy resources.⁴² RPSs vary by state.⁴³ Texas, for example, mandated that 5880 megawatts (“MW”) of its energy come from renewable sources by 2015,⁴⁴ while other states set the standard as a minimum percentage.⁴⁵

Some states have further encouraged the renewable energy industry by creating a market for Renewable Energy Credits

(“REC”).⁴⁶ In an REC scheme, every kWh of energy produced by a power company is equivalent to one REC.⁴⁷ The state requires each power generator to produce a certain percentage of its total output from renewable resources.⁴⁸ Companies that do not produce renewable energy themselves may purchase RECs from power generators with credits to spare.⁴⁹ REC markets benefit wind energy companies by permitting them to sell their spare credits to traditional power plants.⁵⁰

Thus, the federal government and the states are both in favor of encouraging wind energy development. Controversies arise, however, when wind developers try to site wind farms.⁵¹ Cities and towns often oppose siting wind farms in their immediate areas. Likewise, poor siting decisions can lead to costly and time-consuming litigation and cause environmental damage.⁵² Accordingly, the government body and the process used to site wind farms is a critical consideration. The wrong process may overlook significant problems with the location, or result in a poorly negotiated deal. The following Section examines these potential pitfalls in more detail.

II. Challenges to Wind Energy Development

This Note examines three obstacles to wind energy development: (1) resistance by local communities (NIMBY sentiments);⁵³ (2) negative environmental effects;⁵⁴ and (3) difficulty connecting wind energy to transmission lines.⁵⁵ NIMBY sentiments include opposition to a wind farm by the people who will live near the turbines and fear that the wind farm will negatively affect their lifestyle, community, or property.⁵⁶ Despite their general support for renewable energy, environmentalists also sometimes oppose wind farms because of potential damage to the local and migratory wildlife, especially bats and birds.⁵⁷ Finally, connecting wind

32. Energy Policy Act of 1992, Pub. L. 102-486, 106 Stat. 2776 (codified in scattered sections of 12, 16, 25, 26, 30 & 42 U.S.C.).

33. *See id.* 42 U.S.C. § 13317(a) (2006).

34. *Id.*

35. *Id.* 26 U.S.C. § 45(d) (2006).

36. *Production Tax Credit*, AM. WIND ENERGY ASS'N, http://www.americanwindenergyassociation.net/ei_policy_ptc.cfm (last visited Mar. 17 2011).

37. *Renewable Electricity Production Tax Credit (PTC)*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F (last visited Mar. 13, 2011). The PTC was most recently renewed as part of the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 1101, 123 Stat. 115, 319 (2009).

38. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 1101, 123 Stat. 115, 319 (2009).

39. *See, e.g.*, KAN. STAT. ANN. § 74-50, 136 (2009) (offering up to \$5 million in state financing for wind energy manufacturing projects).

40. *See, e.g.*, N.D. CENT. CODE § 57-06-14.1 (2009) (providing a seventy-five to eighty percent property tax reduction for commercial wind turbines).

41. *See, e.g.*, W.VA. CODE R. § 11-13-20 (2010).

42. *See Summary Maps, Renewable Portfolio Standards*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/documents/summarymaps/RPS_map.pptx (last visited Mar. 11, 2011).

43. *See, e.g.*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, <http://www.dsireusa.org/> (last visited Mar. 13, 2011).

44. Tex. Util. Code § 39.904 (2007).

45. Pennsylvania has set a modest goal of eight percent by 2020, 73 PA. CONS. STAT. ANN. § 1648.3(b)(1) (West 2004), while New York has set a more ambitious goal of thirty percent by 2015, N.Y. PUB. SERV. COMM'N, ORDER ESTABLISHING NEW RPS GOAL AND RESOLVING MAIN TIER ISSUES, CASE 03-E-0188, at 10 (Dec. 16, 2009), <http://documents.dps.state.ny.us/public/Common/ViewDoc.aspx?DocRefId={30CFE590-E7E1-473B-A648-450A39E80F48}>.

46. Ernest E. Smith, *U.S. Legislative Incentives for Wind-Generated Electricity: State and Local Incentives*, 23 J. ENERGY NAT. RESOURCES & ENVTL. L. 173, 182 (2005).

47. *Id.*

48. *Id.* at 181.

49. *Id.* at 182.

50. *Id.*

51. *See Eriksen, supra* note 16, at 196–97.

52. *See* Ryan Thomas Trahan, *Social and Regulatory Control of Wind Energy—An Empirical Survey of Texas and Kansas*, 4 TEX. J. OIL GAS & ENERGY L. 89 n.36 (2008–2009); LISA WING STONE & SARA ZDEB, AMERICAN BAR ASSOCIATION: ENVIRONMENTAL LITIGATION AND TOXIC TORTS COMMITTEE NEWSLETTER, LESSONS LEARNED FROM WIND FARM LITIGATION 2–6 (2009), <http://web.omm.com/files/upload/Lessons%20From%20Wind%20Farm%20Litigation.pdf> (stating that wind farm litigation is often unsuccessful and causes significant cost and delay in bringing wind farms online).

53. *See Eriksen, supra* note 16, at 196–97.

54. *See* Ronald H. Rosenberg, *Making Renewable Energy a Reality—Finding Ways to Site Wind Power Facilities*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 635, 669–70 (2008).

55. *See id.* at 666.

56. *See Eriksen, supra* note 16, at 196–97.

57. *See, e.g.*, *Mortality Threats to Birds—Wind Turbines*, AM. BIRD CONSERVANCY, http://www.abcbirds.org/abcprograms/policy/collisions/wind_farms.html (last visited Mar. 17, 2011); *Sierra Club Conservation Policies: Wind Siting Advisory*, SIERRA CLUB, http://www.sierraclub.org/policy/conservation/wind_siting.aspx (last visited Mar. 17, 2011); *see also* Maria Glod, *Tiny Bat Pits Green Against Green: Wind Farm Could Cut Carbon, But Could it Also Kill Endangered Species*, WASH. POST, Oct. 22, 2009, <http://www.washingtonpost.com/wp-dyn/content/article/2009/10/21/AR2009102101282.html>.

farms to the electrical grid is challenging given the difficulty of integrating wind turbines into a regulatory scheme geared toward traditional power plants, a problem exacerbated by the fact that wind farms are often sited away from major population centers—where the energy grid is most developed.⁵⁸

A. NIMBY: Resistance by Local Communities

Wind energy developers often encounter resistance to proposed wind farms in the communities where they will be sited.⁵⁹ Although wind farms benefit a community both by creating jobs and by generating tax revenue,⁶⁰ wind energy development is frequently met with resistance from residents who oppose wind farms within their own communities.⁶¹ Generally, residents near prospective wind farms express similar concerns: that the noise and “shadow flicker”⁶² will disrupt their lives, reduce their property value, and that the wind farm will ruin the area’s natural beauty.⁶³

There is some truth to these concerns. Wind turbines are large, highly visible, industrial machines and can create a sharp contrast to the natural landscape that some people find objectionable.⁶⁴ Unlike traditional power plants that usually operate in industrial areas, wind farms are often sited in remote and rural locations where their visual impact on the landscape is more acute.⁶⁵ Wind turbines also create a certain amount of noise.⁶⁶ Up to 1000 feet away, the sound of a modern turbine is comparable to the hum of a kitchen refrigerator.⁶⁷ Turbines are also likely to produce some mechanical sounds from the adjustment of their internal gears.⁶⁸ Wind

turbines have been trending toward taller structures with larger blades spinning at lower speeds.⁶⁹ The more moderate speeds reduce the noise produced by the turbine,⁷⁰ but the increase in turbine height means that the turbines have a greater visual impact.

Residents also frequently express the concern that living close to a wind farm will lower their property values.⁷¹ Residents fear that noise, shadow flicker, and a spoiled view will all combine to lower the value of their homes.⁷² Additionally, residents worry that the presence of wind turbines will associate their neighborhood with industrial, rather than residential, development.⁷³ Recent studies have shown, however, that there is no statistical correlation between declining property values and proximity to wind turbines.⁷⁴ Informed siting decisions no doubt play a large role in protecting property values from the negative effects of wind farms.⁷⁵

When residents are resolved to prevent a wind farm from operating in their community, their efforts often take the form of land use ordinances that either prohibit wind energy outright, or heavily restrict it—usually by imposing considerable setback requirements.⁷⁶ For example, in 2004, Italy, a small town in upstate New York, passed a moratorium on wind energy development.⁷⁷ In *Ecogen, LLC v. Town of Italy*,⁷⁸ a 2006 case, the town declared that it needed the moratorium in order to consider “comprehensive zoning regulations.”⁷⁹ The developer sued, claiming that the moratorium constituted a taking and that the town’s stated reason was a pretext for NIMBY opposition.⁸⁰ The court upheld the

58. See *Rosenberg*, *supra* note 54, at 666.

59. See *Eriksen*, *supra* note 16, at 196–97.

60. See Bent Ole Gram Mortensen, *International Experiences of Wind Energy*, 2 ENVTL. & ENERGY L. & POL’Y J. 179, 182–83, 189 (2008).

61. *Id.*

62. Shadow flicker is the visual effect caused by the shadows cast by moving wind turbine blades when they pass in front of the sun. AM. WIND ENERGY ASS’N, WIND ENERGY SITING HANDBOOK, 5-33 (2008) [hereinafter WIND ENERGY SITING HANDBOOK], http://www.awea.org/sitinghandbook/downloads/AWEA_Siting_Handbook_Feb2008.pdf. This can create a strobe-like effect for people located where the turbine blades cast a shadow. See *id.*

63. See *Rosenberg*, *supra* note 54, at 668–69.

Once the project is operating, the most prominent concerns include: the aesthetic or visual impact of a large number of wind turbines, interference with communications, shadow flicker, the noise produced by rotating blades, effect on hunting and other forms of recreation, health effects of low-frequency sound, impact on aircraft communications, radar navigation and surveillance systems, safety issues and ice throws from the blades of turbines. In addition, some have criticized wind power for potential adverse effects on adjacent property values

Id. One doctor has even diagnosed a new condition she has dubbed “wind turbine syndrome,” caused by extensive exposure to vibrations, both audible and sub-audible, from wind farms and shadow flicker. Jeanne Roberts, *Wind Turbine Syndrome, Part Myth, Part Mystery*, ENERGYBOOM.COM, March 5, 2010, <http://www.energyboom.com/wind/wind-turbine-syndrome-part-myth-part-mystery-1>.

64. See WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-27 to 5-28.

65. See Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOEFSTRA L. REV. 1049, 1071 (2009).

66. N.Y. STATE ENERGY RESEARCH AND DEV. AUTH., WIND ENERGY TOOLKIT 61 (2009) [hereinafter WIND ENERGY TOOLKIT], <http://www.powernaturally.org/Programs/Wind/Wind%20Energy%20Toolkit.pdf>.

67. *Id.*

68. See *id.*; WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-35.

69. See U.S. Dept of Energy, *New England Wind Forum: Environmental Impacts?*, http://www.windpoweringamerica.gov/newengland/issues_environment.asp (last visited Mar. 17, 2011); John Arnold McKinsey, *Regulating Avian Impacts under the Migratory Bird Treaty Act and other Laws: The Wind Industry Collides with One of its Own, The Environmental Protection Movement*, 28 ENERGY L.J. 71, 72–73 (2007).

70. WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-34 to 5-35.

71. BEN HOEN ET AL., THE IMPACT OF WIND POWER PROJECTS ON RESIDENTIAL PROPERTY VALUES IN THE UNITED STATES: A MULTI-SITE HEDONIC ANALYSIS 1 (2009), <http://eetd.lbl.gov/ea/ems/reports/lbnl-2829e.pdf>.

72. *Id.* at 2.

73. *Id.*

74. *Id.* at 2, 69–74; see also *Study: No Impact on Property Values from Wind Turbines*, N.Y. TIMES, GREEN: A BLOG ABOUT ENERGY AND THE ENVIRONMENT (Dec. 4, 2009, 8:52 AM), <http://greeninc.blogs.nytimes.com/2009/12/04/study-no-impact-on-property-values-from-wind-turbines/>.

75. WIND ENERGY TOOLKIT, *supra* note 66, at 41–42; see WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-44 to 5-46.

76. See, e.g., *Blowing Rock, N.C.*, Ordinance 2006-11 (2007) (banning wind turbines within the city limits); ASHE COUNTY N.C., An Ordinance to Regulate Wind Energy Systems, Art. 6 § 2 (2007), available at <http://www.ashecoun.gov/PDFs/Ashe%20Co%20Windmill%20Ordinance071607.pdf>; see also Catherine Pegram, *Stockton Springs Signs Off on Wind Ordinance* (June 23, 2010, 4:44 PM), <http://www.wabi.tv/news/12555/stockton-springs-signs-off-on-wind-ordinance>; *infra* Part III.B.

77. See *Ecogen, LLC v. Town of Italy*, 438 F. Supp. 2d 149, 152–53 (W.D.N.Y. 2006). Kansas’ Supreme Court recently upheld a county’s complete ban of commercial wind turbines within its borders. See *Zimmerman v. Bd. of Cnty. Comm’rs*, 218 P.3d 400, 403–04 (Kan. 2009).

78. *Ecogen*, 438 F. Supp. 2d at 149.

79. *Id.* at 153.

80. See *id.* at 153–54. The town’s stated reason for this zoning restriction was concern for “the scenic and aesthetic attributes of the Town of Italy as they relate to the use of land in the [t]own for residential, recreational[,] and tourism purposes” *Id.* at 153. The town expressed apprehension that “the installation of wind turbine facilities in the Town of Italy may have an adverse affect [sic] upon the scenic and aesthetic attributes of the Town of Italy and a correspondingly detrimental influence upon residential and recreational uses as well as real

moratorium, finding that aesthetics were within the proper purview of zoning regulations and that the moratorium was rationally related to the town's stated goal of devising comprehensive regulations.⁸¹ As of today, the wind farm in Italy has not been built.⁸²

B. Wind Power's Environmental Impacts

As wind farms become more common, their environmental impacts have also started to receive more attention.⁸³ Wind farms are much larger than conventional power plants, often occupying several hundred acres.⁸⁴ Constructing and decommissioning wind turbines requires excavation and the creation of access roads for use by heavy machinery, which can cause soil erosion.⁸⁵ Additionally, the construction, human presence, and noise that heavy machinery and the turbines emit can scare away local animals and disrupt the natural habitat.⁸⁶

One of the greatest environmental concerns associated with wind farms is injury to avian wildlife such as birds and bats.⁸⁷ One study estimated that wind turbines are responsible for between 88,000 and 320,000 bird deaths each year.⁸⁸ Most injuries occur when the animals fly into the rotor blades or tower of the wind turbine.⁸⁹ One of the most famous examples of a wind farm harming wildlife is the Altamont Pass wind farm in California, which, due to poor siting, has killed at least 22,000 birds, many of them endangered raptors.⁹⁰

Even if wind turbines do not directly injure birds, they can still have a negative indirect impact on wildlife. The best locations for wind turbines are areas where the wind blows constantly.⁹¹ These locations tend to overlap with bird migration routes.⁹² A wind farm built on a migration route can interfere with avian orientation and force birds to make detours, putting additional stress on the migration and on the species.⁹³

Today, wind power developers are far more aware of the effect that wind turbines can have on avian wildlife and routinely include predictions of incidental avian takings in their proposals.⁹⁴ Furthermore, the trend toward larger, slower moving blades makes it more likely that birds will be able to notice wind turbine and avoid collisions.⁹⁵ Nevertheless, courts recognize that operating wind turbines will inevitably result in some unavoidable bat and bird deaths.⁹⁶

I. Potential Liability under Federal Environmental Statutes

Wind energy developers face considerable potential liability under three environmental statutes related to avian deaths: the Migratory Bird Treaty Act ("MBTA"),⁹⁷ the Bald and Golden Eagle Protection Act ("BGEPA"),⁹⁸ and the Endangered Species Act ("ESA").⁹⁹ Neither the MBTA nor the BGEPA contain scienter requirements,¹⁰⁰ and the ESA requires special authorization from the U.S. Fish and Wildlife Service for incidental takings.¹⁰¹ All three of these statutes also contain the possibility of criminal sanctions.¹⁰²

To date, however, courts have not enforced the MBTA or the BGEPA's requirements against wind farms.¹⁰³ The U.S. Fish and Wildlife Service, which is tasked with enforcing both statutes, follows a policy of "selective enforcement"¹⁰⁴ at least with respect to the MBTA. In *Center for Biological Diversity v. FPL Group, Inc.*¹⁰⁵ and *Flint Hills Tallgrass Prairie Foundation, Inc., v. Scottish Power*,¹⁰⁶ environmental groups sued wind energy developers for violations of the MBTA and BGEPA. In both cases, the court managed to avoid applying the statute by finding that the private plaintiffs did not have standing¹⁰⁷ and that only the Federal Government could bring enforcement actions under the statutes.¹⁰⁸

estate values in the Town of Italy, unless properly controlled through zoning regulations." *Id.*

81. *See id.* at 158–59.

82. For the status of Ecogen's wind farm in Italy see Mary Perham, *Italy, Pratsburgh Agree to Talks with Wind Firm*, THE PENN-YAN CHRONICLE-EXPRESS, Nov. 30, 2010, <http://www.chronicle-express.com/news/x114333345/Attorneys-argue-dismissal-of-Italy-windfarm-lawsuit>.

83. *See, e.g.*, Victoria Sutton & Nicole Tomich, *Harnessing Wind is Not (by Nature) Environmentally Friendly*, 22 PACE ENVTL. L. REV. 91, 94–95 (2005).

84. *See* WIND ENERGY TOOLKIT, *supra* note 66, at 83. The typical wind farm requires approximately fifteen to thirty acres per MW of energy generated. PATRICIA E. SALKIN, AMERICAN LAW OF ZONING § 9:51 (5th ed. 2010).

85. WIND ENERGY TOOLKIT, *supra* note 66, at 69–70.

86. *Id.* at 132.

87. *Id.* at 131–32. Additionally, scientists have recently discovered that changes in air pressure caused by wind turbines can cause bats' lungs to burst. Gerry Smith, *Wind Farms' Biggest Victims: Bats*, CHI. TRIB., March 1, 2009, http://articles.chicagotribune.com/2009-03-01/news/0902280185_1_wind-farms-bats-turbines.

88. *Mortality Threats to Birds*, *supra* note 57.

89. Sutton & Tomich, *supra* note 83, at 96.

90. Drew Thornley, *Texas Wind Energy: Past, Present, and Future*, 4 ENVTL. & ENERGY L. & POL'Y J. 69, 117–18 (2009).

91. *Id.* at 117.

92. *Id.*

93. Sutton & Tomich, *supra* note 83, at 97.

94. *See Mortality Threats to Birds*, *supra* note 57; *see also* WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-2 to 5-4 (providing an example of the type of analyses used today).

95. *New England Wind Forum: Environmental Impacts?*, *supra* note 69.

96. *See, e.g.*, Mountain Cmty. for Responsible Energy v. Pub. Serv. Comm'n of W. Va., 665 S.E.2d 315, 329 (W. Va. 2008).

97. Migratory Bird Treaty Act, 16 U.S.C. § 703–12 (2006).

98. Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668–668d (2006).

99. Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2006).

100. *See* United States v. Moon Lake Elec. Ass'n, 45 F. Supp. 2d 1070, 1073–74 (D. Colo. 1999) (rejecting an interpretation of the MBTA that did not include strict liability, and specifically stating that "the MBTA does not seem overly concerned with how . . . injury or death occurs").

101. 16 U.S.C. § 1539.

102. *See* 16 U.S.C. § 707; 16 U.S.C. § 668(a); 16 U.S.C. § 1540; *see also* Sutton & Tomich, *supra* note 83, at 104–11.

103. U.S. GOV'T ACCOUNTABILITY OFFICE, WIND POWER: IMPACTS ON WILDLIFE AND GOVERNMENT RESPONSIBILITIES FOR REGULATING DEVELOPMENT AND PROTECTING WILDLIFE 37 (2005) [hereinafter GAO WIND POWER STUDY],

104. McKinsey, *supra* note 69 at 76–78.

105. *Ctr. for Biological Diversity v. FPL Grp., Inc.*, 83 Cal. Rptr. 3d 588 (Cal. Ct. App. 2008).

106. *Flint Hills Tallgrass Prairie Found., Inc., v. Scottish Power*, 147 F. App'x 785 (10th Cir. 2005).

107. *Ctr. for Biological Diversity*, 83 Cal. Rptr. 3d at 592; *Flint Hills Tallgrass Prairie Found., Inc.*, 147 F. App'x at 787.

108. *Ctr. for Biological Diversity*, 83 Cal. Rptr. 3d at 592; *Flint Hills Tallgrass Prairie Found., Inc.*, 147 F. App'x, at 787. Neither court addressed the merits of the cases.

The ESA, by contrast, specifically permits any person to file suit against anyone for violations of the statute.¹⁰⁹ Recently, in *Animal Welfare Institute v. Beech Ridge Energy, LLC*, a Maryland court issued the first ruling finding a wind farm in violation of a federal environmental law.¹¹⁰ The plaintiffs demonstrated that the defendant's wind farm would result in takings of the endangered Indiana bat.¹¹¹ As the defendant did not possess an incidental take permit, these takings constituted violations of the ESA.¹¹² They also demonstrated that the wind energy developer had not heeded the U.S. Fish and Wildlife Service's recommendations for testing the area for the presence of bats before constructing the wind farm.¹¹³ The court ordered the wind turbines to cease operating unless and until they acquired an incidental take permit.¹¹⁴

C. Lack of Transmission

The final challenge facing wind energy is the difficulty of transmitting the electricity generated by wind farms to consumers in a way that is both efficient for grid operators and profitable for wind energy developers. For power generated in one location to reach consumers in another, the two must be connected by transmission lines.¹¹⁵ Transmission cables connect to power sources, and the cables are then routed through different substations before reaching their final destination, the consumer.¹¹⁶ Utility companies manage large networks of electrical transmission infrastructure known as grids.¹¹⁷ The utility operator is responsible for ensuring that there is sufficient energy in the grid to meet consumer demand.¹¹⁸ Too much electricity causes the grid to short circuit; too little electricity results in blackouts or grid failure.¹¹⁹

Because wind energy is often located in remote areas, there is rarely sufficient existing transmission to cheaply reach the wind farm, let alone deliver electricity to consumers.¹²⁰ Power grids were originally designed only to serve local power needs,¹²¹ so interconnectivity between different power systems is rare.¹²² Although some interconnectivity exists on a regional level, the power grid was "never designed to transmit large quantities of power over long distances, such as from the Midwest to the Northeast."¹²³

Thus, wind developers must frequently construct miles of new transmission lines in order to connect wind farms to the energy grid. High-voltage transmission construction

costs approximately \$1.5 million per mile, and long distance lines take between two and a half and three and a half years to build.¹²⁴ This frequently results in a chicken-and-the-egg scenario in which "[w]ind power developers are reluctant to build where transmission lines do not yet exist; and utilities are equally reluctant to install transmission in areas that do not yet have power generators."¹²⁵ Indeed, the expense of transmission construction is currently blocking the development of some of the country's most lucrative wind farms. Similarly, several operational wind farms are not delivering their full energy potential to the grid because the transmission connecting them to it is too weak to carry all the energy produced by the turbines.¹²⁶

Wind is an intermittent power source that is difficult to predict beyond a few hours.¹²⁷ The wind often blows strongest at night, but peak demand is during the day.¹²⁸ This results in challenges managing the electricity in the energy grid because electricity cannot easily be stored.¹²⁹ "At any time on a grid, an instantaneous balance between production and consumption must be met. When a customer turns on a light or appliance, a power station somewhere on the grid must slightly compensate to accommodate the increased load."¹³⁰ The grid operator must constantly balance the ever-changing demand¹³¹ for electricity with the new energy being generated.¹³² Reliance on wind power can become problematic because it is never certain how much energy a wind power plant will generate and the amounts fluctuate with the strength and direction of the wind.¹³³ This can result in large swings of energy generation, which is bad for the energy grid and has the potential to crash the grid or cause blackouts.¹³⁴ The grid operator must incorporate wind energy into the grid when the wind is blowing and find other sources of energy to compensate when the winds are calm.¹³⁵ As a precaution, many utility companies keep a fossil fuel burning backup generator on-line in case a wind farm does not deliver enough electricity to the grid.¹³⁶ This need for backup power costs consumers more money and wastes electricity.¹³⁷ Moreover,

109. 16 U.S.C. § 1540(g) (2006).

110. *Animal Welfare Inst. v. Beech Ridge Energy, LLC*, 675 F. Supp. 2d 540, 579 (D. Md. 2009).

111. *Id.*

112. *Id.* at 557, 579.

113. *Id.* at 579–80.

114. *Id.* at 580.

115. WIND ENERGY TOOLKIT, *supra* note 66, at 15.

116. *Id.*

117. *See id.*

118. *See* Thornley, *supra* note 90, at 83.

119. *See id.* at 83 n.69.

120. Rosenberg, *supra* note 54, at 666.

121. WIND ENERGY TOOLKIT, *supra* note 66, at 15.

122. *Id.*

123. *Id.*

124. Thornley, *supra* note 90, at 89.

125. *Wind Energy Transmission*, STATE ENERGY CONSERVATION OFFICE, http://www.seco.cpa.state.tx.us/re_wind-transmission.htm; *see also* Trahan, *supra* note 52, at 104.

126. *See* Kate Galbraith, *Texas Approves \$4.93 Billion Wind-Power Project*, N.Y. TIMES, July 19, 2008, at C3.

127. Thornley, *supra* note 90, at 76.

128. Trahan, *supra* note 52, at 92 n.6.

129. WIND ENERGY TOOLKIT, *supra* note 66, at 17. Once generated, electricity, unlike oil and gas, behaves like water and travels to the location of least resistance. *Id.* at 15. Storage technologies such as batteries exist, but are difficult and expensive to implement on a large scale. *Id.* at 17.

130. *Id.*

131. Consumption of electricity varies considerably throughout the seasons and even throughout the day; people wake up, come home from work, and go to sleep all around the same time, adjusting their electricity needs accordingly.

132. Thornley, *supra* note 90, at 75.

133. *Id.* at 76–77.

134. *Id.* at 83 n.69 (quoting William Tucker, *Tilting We Will Go? Windmills are Not an Energy Policy*, NAT'L REV., Aug. 18, 2008, at 37). In 2008, sudden falling wind speeds almost caused a blackout in Texas. *See, e.g.*, Tom Fowler, *Slow Wind Nearly Caused Blackouts*, HOUS. CHRON., Feb. 29, 2008, at B1.

135. Trahan, *supra* note 52, at 93.

136. Thornley, *supra* note 90, at 121.

137. *Id.* at 98, 120.

carbon emissions from the backup plant partially cancel out the emissions avoided by the wind farm.

Proponents of renewable energy recognize that the current energy grid is inadequate to meet the growing and changing energy needs of the United States.¹³⁸ Not only will increased transmission construction connect viable wind projects to the interstate grid, it will also alleviate much of the problems associated with wind's intermittency. "Because the wind is always blowing somewhere, the more geographical distribution of wind farms there is in a region, the less intermittent the global power generation is likely to be."¹³⁹ Thus, increased transmission construction is critical for wind energy's integration into the energy grid.

III. The Inadequate Status Quo: Local Siting Authority

In the United States, authority for siting wind farms is most commonly vested in local governments because cities and towns have historically promulgated zoning regulations.¹⁴⁰ In approving wind farm construction, local governments usually either issue a conditional use permit or adopt a zoning ordinance specific to wind turbine construction that includes the height, noise, and setback requirements that the project must meet.¹⁴¹ While local siting has its advantages, the status quo is, on the whole, inadequate to help America meet its future renewable energy needs.

A. Advantages of Local Siting Authority

There are several advantages to keeping the authority to site wind farms with local governments. First, local siting authority is the most democratic system; it most accurately represents the wishes and concerns of the residents who are going to live near the wind turbines.¹⁴² Under local siting authority, the residents decide whether and under what circumstances they will permit wind farms in their community. Wind developers must appeal directly to a community's sensibilities, rather than convince a regulatory oversight board that the wind farm will conform to appropriate protocols. Second, state and federal government bodies operate on a macro scale, making it much harder for them to take nuanced local preferences into account.¹⁴³ A third advantage local siting

authorities have over other decisional bodies is their small size and broad authority, which permits them to make wind projects operational quickly.¹⁴⁴ Finally, vesting local governments with siting authority encourages experimentation and innovation in siting wind farms, refining the process to better accommodate community interests.

B. Disadvantages of Local Siting Authority

A number of disadvantages to local siting authority exist, however. First, residents with NIMBY sentiments can manipulate town hall meetings or proposed zoning ordinances to prohibit or severely restrict wind farm construction in their community.¹⁴⁵ For example, a wind energy developer may purchase a plot of land as part of an agreement with a town to build a wind farm. The original agreement requires that the turbines be set back a minimum of 850 feet from any property line. If the town then decides to expand the setback to a minimum of 1200 feet, the developer will be unable to construct the same number of turbines, and the project will generate less energy. If the amount of energy is not sufficient for the developer to earn a return on his investment, he will simply abandon the project.¹⁴⁶ In Union, Wisconsin, the local legislature passed a siting ordinance creating a local licensing system that required a minimum one-half mile setback from any parcel whose owner has not signed an agreement with the developer, and limited wind turbines to thirty-five decibels within one hundred feet of an occupied structure,¹⁴⁷ precluding most wind development.¹⁴⁸

Second, local governments often lack the resources and the experience to undertake siting decisions properly.¹⁴⁹ Local board members are frequently laypeople—volunteers with limited knowledge of wind energy or siting procedures—and may not fully appreciate or understand the proper siting pro-

government."). The existence of substantial differences in the wind ordinances adopted by various local governments is evidence that each municipality has its own concerns with respect to wind development. See Melanie McCammon, Note, *Environmental Perspectives on Siting Wind Farms: Is Greater Federal Control Warranted?*, 17 N.Y.U. ENVTL. L.J. 1243, 1266 (2009).

144. Rosenberg, *supra* note 54, at 674.

145. WIND ENERGY TOOLKIT, *supra* note 66, at 42.

146. *See id.*

147. *See* UNION, WIS., WIND ENERGY SYSTEMS LICENSING ORDINANCE § VI.G.1., VI.J.1.d. (2008), available at <http://www.wind-watch.org/documents/wp-content/uploads/unionwind.pdf>.

148. In early 2011, for example, Wisconsin Governor Scott Walker proposed legislation that would require all industrial wind turbines to be set back a minimum of 1800 feet from the nearest property line, an increase of 550 feet over existing regulations. Wind energy companies argued that the "setback rule could represent a death sentence to many wind projects in Wisconsin." Laura Smith, *Walker Proposes New Wind Farm Regulations*, Fox11 Online (Jan. 12, 2011, 10:51 AM), <http://www.fox11online.com/dpp/news/wisconsin/wisconsin-governor-scott-walker-proposes-new-wind-farm-regulations>.

149. *See, e.g.*, D.W. Szetela, Observations, Concerns, and Conclusions about the Wind Farm Controversy in Hammond, NY at 4 (March 16, 2009) (unpublished manuscript), available at http://www.wind-watch.org/documents/wp-content/uploads/szetela-hammond_ny.pdf. Szetela states:

[L]ocal officials in small towns like ours lack the staff, experience, and other resources needed to consider multifaceted issues in a thorough manner. Many aspects of Wind Energy call for broader statewide and even national studies and policies. It would be unfair to expect our local officials to know and do all the things their counterparts know and do at the State and National level.

Id.

138. *See, e.g.*, GREEN POWER SUPERHIGHWAYS, *supra* note 19, at 1. During his 2008 campaign, President Obama said that "one of . . . the most important infrastructure projects that we need is a whole new electricity grid. Because if we're going to be serious about renewable energy, I want to be able to get wind power from North Dakota to population centers like Chicago." *The Rachel Maddow Show* (MSNBC television broadcast October 30, 2008).

139. *See* WIND ENERGY TOOLKIT, *supra* note 66, at 17; Trahan, *supra* note 52, at 93.

140. *See, e.g.*, FERC v. Miss., 456 U.S. 742, 767–68 n.30 (1982) ("[R]egulation of land use is perhaps the quintessential state activity.").

141. GAO WIND POWER STUDY, *supra* note 103, at 26.

142. *See, e.g.*, Brian Dietz, *Turbines vs. Tallgrass: Law, Policy, and a New Solution to Conflict Over Wind Farms in the Kansas Flint Hills*, 54 U. KAN. L. REV. 1131, 1154 (2006).

143. *See generally* Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 610 (1996) ("This longing for direct democracy often emerges with particular force in the environmental domain because choices are being made about public health and land use, and they evoke strong feelings and a deep distrust of the elite decisionmaking implied by any form of representative

cess.¹⁵⁰ For example, a community whose primary motivation for licensing a wind farm is boosting tax revenues may rush into a deal with a wind developer without thoroughly evaluating the siting such as the wind farm's potential to cause a nuisance, or its environmental externalities.¹⁵¹

Local communities also sometimes forget to include decommissioning clauses in their contracts. The average wind turbine has a life span of approximately twenty years, after which it must be decommissioned and replaced.¹⁵² Many states do not have a decommissioning requirement for wind energy projects, so towns have to include them on their own.¹⁵³ Without a decommissioning clause in the agreement, the community can be left to decommission the wind turbines, an expensive and dangerous operation, that communities rarely have the means, or budget to undertake successfully.¹⁵⁴ Indeed, communities and states experienced with wind siting often require the wind developer to post a surety and account for wind farm decommissioning prior to receiving a permit.¹⁵⁵

Third, complying with the peculiarities of each town's zoning regulations and procedures is time consuming and expensive for wind developers, especially when a wind farm comes under the regulation of several jurisdictions, each with its own permitting process and procedures.¹⁵⁶ Indeed, complying with the differences in each community's wind siting regulations can be a considerable burden, both fiscally and in terms of time.¹⁵⁷ Although many states have model wind zoning regulations that municipalities may adopt,¹⁵⁸ most towns have distinct zoning regulations with differing restrictions on height, setback requirements, and noise levels. Moreover, these regulations are often vague or unclear, and a town that issues a conditional use permit or zones a wind farm based on a questionable interpretation of existing zoning regulations may see its approval process successfully challenged by unhappy residents.¹⁵⁹

Local governments are also the least equipped to plan for the environmental impacts of wind turbines. They often lack both the means and the awareness to consider the effects of wind turbines on migratory birds and other avian wildlife beyond their municipal borders.¹⁶⁰ In this situation, a number of communities in the same region that independently

approve wind farms could have an aggregate effect on wildlife that is greater than the sum of its parts.¹⁶¹

Finally, local governments are generally incapable of considering transmission lines in a meaningful way. These government bodies rarely have experience contracting for high voltage industrial transmission lines, or the funds available to subsidize their construction, which cost up to \$1.5 million per mile.¹⁶² Rather, local governments usually only have access to a local grid, which cannot handle the amount of energy generated from a modern industrial-scale wind turbine.¹⁶³

In conclusion, use of local siting authorities holds considerable drawbacks that outweigh the benefits of making siting decisions at the local government level. Local governments are prone to NIMBY campaigns by residents, are less capable of reviewing a siting proposal for environmental pitfalls, and cannot combine their siting authority with large-scale transmission construction.

IV. Wind Development in Texas: Wind Is the New Oil

Texas is a unique case in wind energy development. The wind energy industry is growing faster in Texas than anywhere else in the country,¹⁶⁴ and Texas currently leads the nation in megawatts of wind power generated.¹⁶⁵ Although Texas' size and natural topography makes it second to North Dakota in potential for wind energy, Texas generates over seven times as much energy from wind as North Dakota.¹⁶⁶ Furthermore, Texas generates more than two-and-a-half times as much energy from wind as the second-highest state, Iowa, and over three times as much as California, where the wind industry has been active the longest.¹⁶⁷ Texas's unparalleled success is due to a unique combination of minimal siting restrictions, lax environmental regulations, and Competitive Renewable Energy Zones ("CREZ"),¹⁶⁸ a state policy that incentivizes and expedites construction of transmission lines for connection to renewable sources.¹⁶⁹ These policies have enabled Texas to become the United States' clear leader in wind energy development.¹⁷⁰

Texas's CREZ program is responsible for much of its wind industry's success. CREZ is a \$4.93 billion program "meant to get transmission out to prime wind energy areas before

150. See Eriksen, *supra* note 16, at 201.

151. See Rosenberg, *supra* note 54, at 674.

152. WIND ENERGY TOOLKIT, *supra* note 66, at 24.

153. See, e.g., *id.* at 71.

154. See SALKIN, *supra* note 84, at § 9:51.

155. See, e.g., N.D. CENT. CODE § 49-02-27 (2009); see also Smith, *supra* note 46, at 186-87.

156. See, e.g., Dietz, *supra* note 142, at 1140-41.

157. See McCammon, *supra* note 143, at 1259 (2009); Salkin & Ostrow, *supra* note 65, at 1065.

158. See WIND ENERGY SITING HANDBOOK, *supra* note 62, at 9-6 to 9-7.

159. See, e.g., *Roberts v. Manitowoc Bd. of Adjustment*, 721 N.W.2d 499, 500-01 (Wis. Ct. App. 2006). Two other examples are *Bomba v. Zoning Board of Appeals of the Town of Princeton*, 13 LCR 477 (2005) and *Centerville's Concerned Citizens v. Town Board of Town of Centerville*, 867 N.Y.S.2d 626 (N.Y. App. Div. 2008). In *Bomba*, the court determined that wind turbines were not "public buildings or structures," and thus were not exempt from the town's height requirements. 13 LCR at 479-81. Similarly, in *Centerville*, a New York court invalidated a town's wind turbine statute for failing to comply with the state's environmental impact statute. 867 N.Y.S.2d at 627-28.

160. See McCammon, *supra* note 143, at 1271.

161. See Dietz, *supra* note 142, at 1152, 1155. Take, for example, a large wildlife refuge that crosses into several counties and is also on a migration path. If the local governments surrounding the refuge independently build wind farms near it, the effect of the wind farms on wildlife would be severe, though each individual wind farm would not be particularly harmful.

162. Thornley, *supra* note 90, at 89.

163. Mortensen, *supra* note 60, at 205.

164. AM. WIND ENERGY ASS'N, YEAR END 2009 MARKET REPORT 4, 9 (2010), <http://archive.awea.org/publications/reports/4Q09.pdf>.

165. *Wind Energy Transmission*, *supra* note 125.

166. *Id.* (Texas has 9410 MW of installed capacity compared to North Dakota's 1203 MW of installed capacity.)

167. *Id.*

168. TEX. UTIL. CODE ANN. § 39.904(g) (2009).

169. *Wind Energy Transmission*, *supra* note 125.

170. 2008 AWEA ANNUAL REPORT, *supra* note 5, at 8.

wind farms have even been developed[,]”¹⁷¹ anticipating the chicken-and-the-egg problem of wind farms and transmission.¹⁷² Overall, the CREZ effort will approximately triple Texas’s current level of wind generation capacity to 18,456 MW by 2013.¹⁷³ This is arguably the most important element of Texas’s renewable energy scheme, because inadequate transmission can easily undercut an otherwise viable wind farm.¹⁷⁴ So long as wind turbines are not connected to transmission lines, they cannot generate profit for their investors.

Finally, power plants already have to wait in long queues for permission to access the grid, even after their transmission lines are fully built.¹⁷⁵ Delays in transmission construction can thus put wind farms behind other power plants in the queue to contribute energy to the grid, further postponing a return for investors. The CREZ program ensures that wind farms can connect to transmission lines quickly,¹⁷⁶ making renewable energy a more attractive investment.

In conjunction with the state’s encouragement of wind energy development, Texas lacks burdensome environmental regulations that could impede wind energy development. The Texas Parks and Wildlife Department does not have a formal role in wind development, nor is there a permitting process.¹⁷⁷ Rather, the Parks and Wildlife Department only reviews a project if asked by the industry, and even then, they only provide an advisory opinion.¹⁷⁸ Texas has also declined to provide voluntary wildlife guidelines for developers.¹⁷⁹

An additional aspect of Texas’s success is that it does not allow local NIMBY resistance to disrupt wind energy development. In Texas, wind siting is unregulated by state or county government.¹⁸⁰ Wind development is purely a private matter between the developer and the landowner, and local governments do not review siting decisions. In fact, the only means by which local governments can oppose wind farm development is to withhold tax abatements, hardly an effective deterrent.¹⁸¹

Additionally, Texas has been very hostile to nuisance suits brought by private citizens against wind farms.¹⁸² In *Rankin*

v. FPL Energy, LLC,¹⁸³ a group of property owners filed a nuisance suit against the builders and operators of a wind farm near their properties.¹⁸⁴ The suit alleged that noise, vibrations, and shadow flicker caused by the wind turbines interfered with the owners’ ability to enjoy their land.¹⁸⁵ The trial court precluded the jury from considering whether “the Plaintiffs are offended, disturbed, or annoyed because of the way the wind turbine project has affected their landscape, scenery, or the beauty of the area[.]”¹⁸⁶ while the appellate court characterized most of the allegations as mere “emotional” injuries.¹⁸⁷

Thus, the combination of unregulated development, minimal environmental oversight, and a strong program designed to transport wind-generated electricity to population centers created a highly favorable environment for wind energy development in Texas. Not every state needs to adopt such a lax attitude towards the environment, nor completely preclude local governments from regulating wind development. Nevertheless, Texas’s unparalleled leadership in wind energy indicates that the keys to successful cultivation of a state’s wind resources include minimizing local governmental obstructions, providing clear and sensible environmental regulations, and coupling wind energy development with a state program that encourages quickly connecting wind farms to the transmission grid.

V. Missing the Little Picture: Federal Siting Authority

Several scholars have argued that placing wind power siting completely under the jurisdiction of the federal government is the best way to manage wind farm siting.¹⁸⁸ Federal siting authority would probably entail the creation of a new agency to site wind farms or the expansion of an existing agency’s mandate to include wind farm siting.¹⁸⁹ The federal agency would have authority to determine all sitings nationwide. While the centralization and strength of a federal system would have advantages, ultimately it too is inferior to a state streamlining approach.

171. *Wind Energy Transmission*, *supra* note 125.

172. *See supra* text accompanying note 125.

173. LOWER COLORADO RIVER AUTHORITY, <http://www.lcra.org/energy/trans/crez/faq.html> (last visited Mar. 13, 2011).

174. *See, e.g.*, Kate Galbraith, *Pickens Scales Back Ambitious Wind Farm*, N.Y. TIMES, July 8, 2009, at B3.

175. *See* Stephen M. Fisher, Note, *Reforming Interconnection Queue Marketing under FERC Order No. 2003*, 26 YALE J. ON REG. 117, 117–18 (2009).

176. *Wind Energy Transmission*, *supra* note 125.

177. *See* Texas Parks and Wildlife Commission Public Hearing (May 25, 2006) (statement of Kathy Boydson), http://www.tpwd.state.tx.us/business/feedback/meetings/2006/0525/transcripts/public_hearing/ (“Well, there is no permitting process in this state, and really no real regulation on the industry at this time.”) (*cited in* McCammon, *supra* note 143, at n.132).

178. JODI STEMLER CONSULTING, WIND POWER SITING REGULATIONS AND WILDLIFE GUIDELINES IN THE UNITED STATES 110 (2007), <http://www.stemlerconsulting.com/Documents/AFWA Wind Power Final Report.pdf>.

179. McCammon, *supra* note 143, at 1264.

180. JODI STEMLER CONSULTING, *supra* note 178, at 109.

181. *Id.*

182. *See generally* Kristina Cully, *Has Texas Nuisance Law Been Blown Away by the Demand for Wind Power?*, 61 BAYLOR L. REV. 943, 962 (2009) (discussing

Rankin v. FPL Energy, LLC, 226 S.W.3d 506 (Tex. App. 2008) and Texas’s treatment of nuisance suits against wind farms).

183. *Rankin v. FPL Energy, LLC*, 266 S.W.3d 506 (Tex. App. 2008).

184. *Id.* at 508.

185. *Id.* at 510.

186. *Id.* at 508 n.3. Texas is generally quite hostile to nuisance claims against industry. *See, e.g.*, Domengeaux v. Kirkwood & Co., 297 S.W.2d 748, 749–50 (Tex. App. 1956) (finding that an oil rig operating near a tourist center did not constitute a nuisance).

187. *Rankin*, 266 S.W.3d at 511.

188. *See, e.g.*, Susan Perera, *Following Minnesota’s Renewable Energy Example: Will Federal Legislation Fly High or Flap in the Wind*, 9 MINN. J. L. SCI. & TECH. 949 (2008); Adam M. Dinnell & Adam J. Russ, *The Legal Hurdles to Developing Wind Power as an Alternative Energy Source in the United States: Creative and Comparative Solutions*, 27 NW. J. INT’L L. & BUS. 535 (2007); Salkin & Ostrow, *supra* note 65.

189. For discussions of the different approaches possible under federal siting authority *see* Salkin & Ostrow, *supra* note 65, at 1091–94; Rosenberg, *supra* note 54, at 670–72; Perera, *supra* note 188, at 969–71.

A. Carrying a Big Stick: Advantages of Federal Siting Authority

One of the advantages of federal siting authority would be the creation of uniform standards.¹⁹⁰ Wind developers would be able to cut their development times significantly because they would not have to expend as much time researching the specific regulations of individual states or locales. Instead, developers would be able to depend on consistent and predictable standards and processes for all of their projects.¹⁹¹ Second, a federal regulatory framework would remove the decision from the local community, immunizing the decision from influence by NIMBY-motivated opponents.¹⁹²

From an environmental perspective, federal control would also have many benefits. The federal government has the resources and the experience to conduct thorough and accurate environmental studies.¹⁹³ The federal government would not have a monetary interest in the wind farms, so a federal agency would not be enticed to trade poor siting for more tax revenues.¹⁹⁴ Additionally, the federal government would approach siting from a national perspective.¹⁹⁵ This would likely prevent unnecessary injury to migratory wildlife because the federal government would site wind farms with interstate bird migrations in mind, something beyond the reach of most state or local governments.¹⁹⁶ The federal government would also be able to enforce federal environmental statutes against wind developers more easily than private individuals or smaller units of government.¹⁹⁷ Indeed, sometimes courts find that the federal government is the only body that has standing to enforce some environmental laws.¹⁹⁸

Federal siting authority would probably be most advantageous with respect to connecting wind farms to transmission.¹⁹⁹ Placing wind farm siting under federal authority would make it easier to transmit wind energy generated in remote wind-rich areas to population centers because the permitting process could incorporate transmission construction or access.²⁰⁰ A national approach would also be a significant step in offsetting wind power's intermittency problems. The federal government could plan to locate wind farms in a manner that would maximize interconnection, allowing energy generated from a wind farm in one region to balance out the intermittent fluctuations of a wind farm in another.²⁰¹

190. Salkin & Ostrow, *supra* note 65, at 1091–94; Robert R. Kuehn, *The Limits of Devolving Enforcement of Federal Environmental Laws*, 70 TUL. L. REV. 2373, 2375–80 (1995).

191. See Salkin & Ostrow, *supra* note 65, at 1084.

192. See Rosenberg, *supra* note 54, at 671.

193. See Kuehn, *supra* note 190, at 2378–79.

194. See *id.* at 2377–80.

195. See McCammon, *supra* note 143, at 1274.

196. See *id.* at 1278–79; see also Dietz, *supra* note 142, at 1152.

197. See Kuehn, *supra* note 190, at 2376–80.

198. See *supra* Part II.B.1.

199. See GREEN POWER SUPERHIGHWAYS, *supra* note 19, at 1.

200. See *id.* at 4.

201. *Id.* at 12. Indeed, in 2009 Senator Harry Reid introduced a bill that would incentivize large-scale construction of transmission for electricity produced at renewable energy power plants. Clean Renewable Energy and Economic Development Act, S. 539, 111th Cong. (2009).

B. Trampled Underfoot: Disadvantages of Federal Siting Authority

There are also drawbacks to federal siting control. First, federal authority is less flexible and responsive than more decentralized siting schemes. It is also the least democratic of all the regulatory frameworks,²⁰² creating the likelihood that the federal agency will be considerably less sensitive to local concerns than a local or state decisionmaker.²⁰³ Both of these aspects of federal siting could foster significant resentment in communities chosen for wind development and potentially result in a political backlash against the agency responsible.²⁰⁴ Furthermore, federal siting authority is generally inconsistent with historical and constitutional precedent. Siting decisions and zoning have traditionally been left to local governments, with the federal government only taking direct control of issues with national significance.²⁰⁵

One area of law in which the federal government has acted in a similar manner is in the siting of cell phone towers. Congress faced similar problems in the 1990s, when cell phone use was spreading; the public wanted seamless cell reception but was strongly opposed to permitting cell phone towers in their communities.²⁰⁶ In response, Congress passed the Telecommunications Act of 1996,²⁰⁷ which limited communities' ability to restrict the erection of cell phone towers and created federal court jurisdiction for review of rejected or delayed siting requests (suggesting a distrust of local courts).²⁰⁸

While at first this may seem like a viable solution, there are significant differences between the impacts of a cell phone tower and a wind farm. In *Vertex Development, LLC v. Marion County*,²⁰⁹ the court rejected a county's finding that a cell phone tower would significantly affect a county's aesthetics and property values.²¹⁰ In its decision, the court noted that the tower would make no noise, would be hidden by trees, and would require minimal maintenance.²¹¹ Wind farms, by contrast, make noise, tower above the tree line (sometimes by hundreds of feet),²¹² need substantial maintenance, and require connection to high-voltage transmission lines.²¹³ Siting a wind farm thus appears to be more complex than siting a cell phone tower, and Congress' solution of granting federal

202. Kuehn, *supra* note 190, at 2381.

203. *Id.* at 2381–83.

204. Rosenberg, *supra* note 54, at 671–72.

205. *Id.* at 672. For example, the federal government is responsible for siting nuclear power plants and hazardous waste storage facilities. *Id.*

206. Susan Lorde Martin, *Wind Farms and NIMBYs: Generating Conflict, Reducing Litigation*, 20 FORDHAM ENVTL. L. REV. 427, 428 (2010); see also Linda Saslow, *Cellular Tower is Opposed in Muttontown*, N.Y. TIMES, March 8, 1998, at LI 4.

207. Pub. L. No. 104-104, 110 Stat. 56 (codified as enacted and amended in scattered sections of 15 U.S.C., 18 U.S.C. and 47 U.S.C.).

208. Telecommunications Act of 1996 § 704(a), 47 U.S.C. § 332(c)(7) (2006); see also Rosenberg, *supra* note 54, at 671.

209. *Vertex Dev., LLC v. Marion Cnty.*, No. 5:07-cv-380-Oc-10GRJ, 2008 WL 2994259 (M.D. Fla. 2008).

210. *Id.* at *18.

211. *Id.* at *4.

212. Individual industrial wind turbines frequently stand well over 300 feet tall. WIND ENERGY SITING HANDBOOK, *supra* note 62, at 5-28.

213. See *supra* Part II.

courts jurisdiction over siting controversies may not work as well for wind farms.

Federal regulation would also have environmental downsides. A significant portion of the environmental information considered in the siting process is location-specific.²¹⁴ Federal agencies might have difficulty obtaining information on local variations and applying it efficiently in siting decisions. If the federal government were to take control over siting, it would take years to gather the information necessary to site wind farms all over the country.²¹⁵

There is also no guarantee that the federal government will do a better job enforcing environmental regulations than state or local governments. To date, the U.S. Fish and Wildlife Service has been reluctant to bring enforcement actions against developers, preferring to work with the industry to mitigate environmental impact.²¹⁶ As noted earlier, the only successful action against a wind farm based on federal environmental law was brought by a private environmental organization.²¹⁷ Furthermore, the federal government, with its national outlook, may not be willing to spend the resources necessary to protect local species or their habitats as much as state or local governments.²¹⁸

Most importantly, placing wind farm siting under federal jurisdiction would subject siting decisions to all the requirements and review processes that apply to federal government actions.²¹⁹ Wind developers would have to draft Environmental Impact Statements and submit to other environmental review processes, like wind farms currently being built offshore, on federal lands, or with federal assistance.²²⁰ These reviews can be time-consuming and expensive hurdles, and could delay wind farm development for years.

VI. State Control and the State Streamlining Solution

States have considerable leeway in the methods they can adopt to regulate wind turbine siting, ranging from no regulation whatsoever to extensive state-level control.²²¹ Generally, the options for state regulation consist of the five following types:

1. Mandatory, state-level wind siting statutes;
2. Voluntary guidelines for siting within states;
3. Model ordinances for local governments to apply and use;
4. Local government siting rules; and

5. Voluntary checklists and resources for local governments to recommend.²²²

States in which the legislature supports wind energy development, but has only promulgated voluntary checklists, guidelines, or model ordinances can find their policies undermined by local governments through restrictive local ordinances or excessive red tape.²²³ For example, Wisconsin issued a model wind ordinance that encouraged wind development and prohibited municipalities from imposing additional restrictions on wind development, save to “protect the public health or safety” of the community.²²⁴ Nevertheless, local governments opposed to wind energy development attempted to circumvent the requirements.²²⁵ The state court in *Ecker Bros. v. Calumet County*²²⁶ struck down a county regulation that used the “public health or safety” exception to prevent virtually all wind turbine siting.²²⁷ Indeed, Wisconsin recently replaced its model ordinance with uniform statewide standards set by the state’s public service commission because “wind projects [were] victims of delay tactics and obstructions often made possible by the lack of clear rules.”²²⁸ Thus, even when a state legislature favors wind energy development, without strong state authority, municipalities hostile to wind energy can find ways to obstruct development.

Some states have siting processes that incorporate both state and local certification, which often results in duplicative work. In Oregon, for example, wind development requires both a state permit and a local permit.²²⁹ The decision at the state level is made by a central agency and binds all other state agencies.²³⁰ On the local level, however, local differences and regulations are free to obstruct wind development, and wind developers must often get a number of certificates from all the local agencies that have authority over the project.²³¹ In essence, the review process happens twice, once at the state level, then again at the local level.²³²

Another argument for state control is that the likelihood of a lawsuit increases as a state cedes control over the sit-

214. McCammon, *supra* note 143, at 1280.

215. *See id.*

216. *See supra* Part II.B.1; GAO WIND POWER STUDY, *supra* note 103, at 36, 39.

217. *See supra* notes 110–114 and accompanying text.

218. *See* McCammon, *supra* note 143, at 1280 (stating local governments can gather data on the localized effects of wind farm development more efficiently and at less cost than the federal government).

219. *See* GAO WIND POWER STUDY, *supra* note 103, at 31; WIND ENERGY SITING HANDBOOK, *supra* note 62, 4-1 to 4-20 (describing federal regulatory requirements potentially applicable to wind farm development).

220. *See* GAO WIND POWER STUDY, *supra* note 103, at 31.

221. *See* WIND ENERGY SITING HANDBOOK, *supra* note 62, at 4-33.

222. NAT’L WIND COORDINATING COMM., STATE SITING AND PERMITTING OF WIND ENERGY FACILITIES, at ii (2006), http://www.nationalwind.org/assets/publications/Siting_Factsheets.pdf.

223. *See, e.g.*, Thomas Content, *Doyle: Siting Bill Sends Message to Wind Industry*, MILWAUKEE J. SENTINEL, Sept. 30, 2009, <http://www.jsonline.com/blogs/business/62936992.html> (last visited Mar. 13, 2011).

224. WIS. STAT. ANN. § 66.0401(1m)(a) (West 2010).

225. *See, e.g.*, WIND ENERGY SYSTEMS LICENSING ORDINANCE, *supra* note 147.

226. *Ecker Bros. v. Calumet Cnty.*, 772 N.W.2d 240 (Wis. Ct. App. 2009).

227. *Id.* at 242–43. Specifically, the county passed restrictive regulations that would apply to all “large” wind farms and argued that those restrictions were always necessary to protect the public health and safety. *Id.*

228. S.B. 185, 2009 Leg. (Wis. 2009), available at <http://www.legis.wisconsin.gov/2009/data/acts/09Act40.pdf>; Press Release, Democratic Party of Brown County, Legislature Approves Wind Turbine Siting Bill (Sept. 17, 2009), <http://browncountydems.com/content/view/full/135/1> (“[c]urrently, wind projects are victims of delay tactics and obstructions often made possible by the lack of clear rules. Passage of this legislation will enhance Wisconsin’s economy by creating a clear and level playing field for everyone when a wind turbine project is proposed.”).

229. NAT’L WIND COORDINATING COMM., *supra* note 222, at 7–8.

230. *Id.* at 7.

231. *Id.* at 7.

232. *Id.* at 8.

ing process to local governments.²³³ In West Virginia, for example, the state Public Service Commission (“PSC”) is responsible for providing a certificate for all wind energy development.²³⁴ In deciding whether to issue this certificate, the state agency only weighs whether the project will benefit the public; it does not consider the wind farm’s environmental impact or its impact on the local community.²³⁵ In 2003, NedPower Mount Storm, LLC, a wind energy development company, retained a certificate from the PSC to construct a 200-turbine wind farm in Grant County, West Virginia.²³⁶ A group of homeowners whose properties would be close to the proposed wind farm brought a private nuisance suit against NedPower Mount Storm and challenged the PSC’s certificate of approval.²³⁷ The lower courts dismissed the suits on the pleadings, holding that approval by the PSC precluded the homeowners from filing a nuisance claim.²³⁸ The State Supreme Court reversed, finding that the siting certificate did not preclude a private nuisance claim because the PSC only decided that the wind farm would benefit the state overall.²³⁹ It “did not specifically decide the issue of whether the social utility of the wind power facility outweighs any interference with the appellants’ private use and enjoyment of their properties.”²⁴⁰ The court did mention, however, that the siting certificate was “persuasive evidence of the reasonableness and the social utility” of the project.²⁴¹ The court’s holding thus suggests that, had the PSC determined that the wind farm would not pose a private nuisance to the landowners, the suit would have failed. Accordingly, the more authority wielded by a state siting body, and the larger its sphere of determination, the fewer the opportunities private parties have to challenge state siting decisions.

Even when a statute makes it clear that a state agency’s determinations are binding, private citizens are sometimes still willing to challenge a wind farm siting in their neighborhoods. The high degree of deference the agency receives under judicial review generally makes these suits unlikely to succeed. In another West Virginia case, *Mountain Communities for Responsible Energy v. Public Service Commission of West Virginia*,²⁴² a group of property owners challenged the PSC’s issuance of a “Certificate of Convenience and Necessity” to a proposed wind farm.²⁴³ The court rejected the challenge, affirming the PSC’s balancing of the public interest, the general interests of the state and local economy, and the interests of the applicant.²⁴⁴ The court emphasized that any injured

plaintiffs could still bring a private nuisance suit.²⁴⁵ Similarly, the court in *Sprenger v. Public Service Commission of Maryland*²⁴⁶ held that plaintiffs had to exhaust their administrative remedies before challenging a siting commission’s findings.²⁴⁷ By contrast, the court in *Roberts v. Manitowoc Board of Adjustment*²⁴⁸ found that so long as a commission’s siting decision is not arbitrary and capricious, the plaintiff’s case must fail.²⁴⁹

A. State Streamlining: Creating Wind Siting Supercenters

State streamlining places the entire siting process under the authority of one state agency and not with the local governments. Under this system, a state-level agency, like the Public Utilities Commission or a specific renewable-energy siting agency, reviews all applications for large-scale wind energy projects.²⁵⁰ The agency evaluates the applications from a broader statewide perspective, which enables it to consider the wind farm’s impacts on neighboring communities and the environment.

The first advantage of state streamlining is that it centralizes consideration of all applications in one agency, which can assess the applications under a uniform standard.²⁵¹ Washington’s statute, for example, specifies that “any certification shall bind the state”²⁵² and any other political subdivision, and that a certification from the board shall control over any type of permit granted by another state or local body,²⁵³ thus removing the need for multiple levels of review.

A second advantage of the state streamlining system is that it allows for democracy without permitting NIMBY opposition to impede wind energy development unreasonably. The degree of separation between the state agency and the community that will host the wind farm strikes the proper balance between objectivity and sympathy. The state agency is objective enough to resist NIMBY opposition,²⁵⁴ but not so removed from the process that the agency can ignore the impact of their determinations.²⁵⁵ Furthermore, while the agency ultimately makes the final decision, the siting process often allows for local participation. In Minnesota, before the state siting board approves a wind farm, the public must be notified of the application and the state must hold “a public information meeting and a public hearing”²⁵⁶

233. See, e.g., *Ecker Bros.*, *supra* note 226, at 248; see also Eriksen, *supra* note 16, at 193–96 (discussing New York State’s reversion from state control to local control and the corresponding increase in lawsuits and petitions filed by opponents of wind energy development).

234. See, e.g., *Burch v. NedPower Mount Storm, LLC*, 647 S.E.2d 879, 884 (W. Va. 2007).

235. See *id.* at 889.

236. *Id.* at 884–85.

237. *Burch*, 647 S.E.2d 879, 885 (W. Va. 2007).

238. *Id.*

239. *Id.* at 889.

240. *Id.* at 895.

241. *Id.*

242. *Mountain Cmty. for Responsible Energy v. Pub. Serv. Comm’n of W. Va.*, 665 S.E.2d 315 (W. Va. 2008).

243. *Id.* at 318–19.

244. *Id.* at 324, 326.

245. *Id.* at 330.

246. *Sprenger v. Pub. Serv. Comm’n of Md.*, 926 A.2d 238, 253 (2007).

247. *Id.*

248. *Roberts v. Manitowoc Bd. of Adjustment*, 721 N.W.2d 499, 505, 507–08 (Wis. App. 2006).

249. *Id.* at 507–08.

250. See GAO WIND POWER STUDY, *supra* note 103, at 26.

251. See MINN. STAT. § 216E.03 (2010). Uniform standards enable wind energy developers to save time and resources tailoring their proposals to fit local regulations and procedures. See *supra* Part V.A.

252. WASH. REV. CODE ANN. § 80.50.120(1) (2010); see also MINN. STAT. § 216F.04 (2010) (“No person may construct a LWECs (Large Wind Energy Conversion System) without a site permit from the commission.”).

253. WASH. REV. CODE ANN. § 80.50.120(3) (2010).

254. See Rosenberg, *supra* note 54, at 679.

255. Kuehn, *supra* note 190, at 2382.

256. MINN. STAT. § 216.F.04 (2010).

on the proposal. Washington's statute also includes a public hearing requirement.²⁵⁷ As a way to include local residents in the review process, Washington also allows one member of the municipality in which the proposed wind farm would be sited to serve on the state licensing council.²⁵⁸

Washington's state streamlining framework recently survived a challenge from one of the state's counties. In *Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council*,²⁵⁹ Kittitas County asserted that the state's Growth Management Act²⁶⁰ (a general statute that conferred the authority to zone upon counties) gave the county the power to subject a wind developer to a local permitting process, in spite of the state-mandated framework.²⁶¹ The Washington Supreme Court's holding confirmed that the state agency's preemption powers supersede all generally applicable statutes and local land use laws.²⁶² This holding affirmed the validity of Washington's state streamlining system and protected it from further NIMBY resistance.²⁶³

From an environmental standpoint, authorizing a single state agency to review all the environmental impacts of a wind farm proposal will produce a more efficient permitting process than requiring separate agencies to conduct their own investigations. In addition, officials working for the state agency are likely to have superior training and education,²⁶⁴ and a state agency will have the resources to subject wind farm proposals to a thorough environmental review.²⁶⁵

Finally, state wind siting agencies have the perspective and ability to coordinate their permitting process with connection to new or existing transmission lines. The combination of state streamlining with incentives to construct transmission lines would maximize wind energy development.²⁶⁶ Currently, most states require power generators to pay for new transmission lines.²⁶⁷ This is difficult for wind energy companies because wind farms tend to be located in more remote areas and require more transmission than traditional power plants.²⁶⁸ The combination of state streamlining with incentives like including transmission generation in state RPS goals²⁶⁹ or the "fast tracking"²⁷⁰ of connection requests from renewable energy sources could result in a significant increase in the amount of wind energy developed in a state.

VII. Conclusion

Wind energy is a very attractive solution to the problems of global warming and the United States' dependence on foreign fossil fuels. Siting wind farms remains a complicated undertaking, however, and has the potential to ignite local resistance, damage the environment, and disappoint investors through transmission delays. The manner in which a wind farm is sited can significantly influence that wind farm's likelihood of being constructed in the first place, as well as its ultimate success.

While there are benefits to local and federal-level approaches, as well as to Texas's unregulated approach, state streamlining is the best regulatory framework for siting wind farms. State streamlining enables local communities to participate in the siting decision without permitting NIMBY opponents to control the siting process. State streamlining also allows for effective environmental review, including assessment of a wind farm's impact on wildlife and the environment beyond the immediate area of the wind farm. A state's superior funding and human resources is another advantage of state streamlining over local authority. At the same time, state streamline does not place the entire process in the hands of a distant federal agency that might be less understanding of local sensitivities. Finally, state streamlining allows for coordinated transmission construction and interconnection. For maximum effectiveness, states should follow Texas's example and combine state streamlining with aggressive legislation that incentivizes transmission construction.

State streamlining is therefore the best system for implementing wind energy in a way that ensures maximum acceptance by the surrounding community and interconnectivity with the transmission grid, while minimizing the chances that a wind farm will cause significant environmental damage. By following these guidelines, states can fully take advantage of wind energy's potential to reduce American dependence on fossil fuels and expand the role of renewable energy in meeting this critical challenge.

257. WASH. REV. CODE ANN. § 80.50.010 (2010).

258. WASH. REV. CODE ANN. § 80.50.030(4) (2010).

259. *Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council*, 197 P.3d 1153 (Wash. 2008).

260. WASH. REV. CODE ANN. § 36.70A.011 (West 2010).

261. *Residents Opposed to Kittitas Turbines*, 197 P.3d at 1169.

262. *Id.* at 1170–71.

263. See, e.g., Tim McMahan & Erin Anderson, *Renewable Energy Facility Siting Legislation on the Right Track*, RENEWABLE ENERGY WORLD (Dec. 15, 2008), <http://www.renewableenergyworld.com/real/news/article/2008/12/renewable-energy-facility-siting-legislation-on-the-right-track-54211>.

264. Rosenberg, *supra* note 54, at 677.

265. See Dietz, *supra* note 142, at 1153.

266. See *supra* Part II.C.

267. See GREEN POWER SUPERHIGHWAYS, *supra* note 19, at 17.

268. ARI REEVES, WIND ENERGY FOR ELECTRIC POWER: A REPP ISSUE BRIEF 19 (Fredric Beck ed., 2003), http://www.repp.org/articles/static/1/binaries/wind%20issue%20brief_FINAL.pdf.

269. *Renewable Energy Transmission Initiative (RETI)*, THE CAL. ENERGY COMM'N, <http://www.energy.ca.gov/reti/index.html> (last visited Mar. 13, 2011).

270. See, e.g., MICH. COMP. LAWS ANN. § 460.1149 (West 2010).