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NEWS & ANALYSIS

Why U.S. States Should Take the Power Back: Avoiding Paralysis in the Siting of Wind Energy Systems

by James R. Drabick

Editors' Summary: Despite the multitude of benefits offered by wind energy systems as compared to more traditional energy production methods, proposed wind developments in the United States often face an upwelling of community opposition. Because the siting of wind energy systems in most states is governed primarily at the local level, with little to no state intervention or guidance, the result is a repetition of the same debate, likely involving the same potentially exaggerated concerns, played out in different communities across the nation. In this Article, James Drabick argues that state governments can tackle this problem either by urging communities to engage in a planning process for wind energy development prior to the receipt of a development application, much as many European countries have done, or by taking back the permitting authority for themselves. These prospective frameworks are better equipped to serve the needs of wind developers, communities, and the nation because they bring stability and predictability to the permitting process.

I. Introduction

"There is not statewide consensus on the development of large wind generation projects in Vermont," concluded the Vermont Commission on Wind Energy Regulatory Policy in December 2004.¹ Such a conclusion likely did not come as a surprise. Despite the multitude of benefits offered by wind energy systems as compared to more traditional energy production methods, proposed wind developments in the United States often face an upwelling of community opposition. In Vermont, proposed wind developments have instigated citizens to form opposition groups² and local newspapers to rally behind elected officials that oppose wind turbines dotting the landscape.³ Such opposition forces are not uncommon and they often fight vociferously, sometimes turning their local land use battle into an item of national news, as the Alliance to Save Nantucket Sound has done in

Massachusetts.⁴ Given their clean energy attributes and robust development in parts of Europe,⁵ are wind generators really deserving of such noteworthy resistance?

Commentators often use the shorthand acronym NIMBY (Not in My Backyard) to describe land use situations where citizens support a project as a general proposition but prefer that it not be located within their community.⁶ Wind generators fit this mold nicely. The costs associated with wind energy systems tend to be localized, including altered landscapes and slight increases in avian mortality, while the benefits tend to be shared among regional, national, and global populations with respect to energy consumption, air pollution abatement, and climate change mitigation.⁷ The occurrence of community dissent when such projects are pro-

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1. VERMONT COMMISSION ON WIND ENERGY REGULATORY POLICY, FINDINGS AND RECOMMENDATIONS 4-12 (2004).
2. See, e.g., Glebe Mountain Group website, at <http://www.glebe-mountaingroup.org/> (last visited Dec. 20, 2005).
3. See *Save Our Ridgelines*, BURLINGTON FREE PRESS, Feb. 24, 2005, at 6A.

4. See, e.g., Anna Badkhen, *Residents Upset Over Cape Cod Wind-Farm Plan; Clean Power Source Would Be Unsightly, Opponents Argue*, S.F. CHRON., Nov. 21, 2004, at A2.

5. Of the 40,000 megawatts (MW) of wind energy capacity installed worldwide, 28,000 MW, or roughly 70%, is installed in Europe. See EUROPEAN WIND ENERGY ASSOCIATION, WIND ENERGY: THE FACTS, EXECUTIVE SUMMARY 6 (2004), available at http://www.ewea.org/documents/Thefacts_Summary.pdf (last visited Dec. 5, 2005).

6. Also referred to as LULUs (locally undesirable land uses), some classic NIMBY examples include wastewater treatment plants, prisons, and group homes. See ROBERT C. ELLICKSON & VICKI L. BEAN, *LAND USE CONTROLS: CASES AND MATERIALS* 876 (2d ed. 2000).

7. With respect to energy consumption, however, one-turbine wind energy systems primarily benefit only the owner, thereby creating the inverse problem of the costs being borne on many while the benefits are accrued by one.

posed, therefore, is not unexpected. However, the potential for, and prevalence of, denied permit applications and development moratorium is troubling, given the current energy needs of the nation.⁸

With natural gas prices continuing to reach record highs and blackouts occurring on both the East Coast and West Coast in 2003 and 2001, respectively, electricity production in the United States has become a hot topic. As with most hot topics, the federal government has recently gotten involved,⁹ passing a broad energy bill in July of 2005 that attempts to stimulate energy production and energy efficiency.¹⁰ Renewable energy technologies, of which wind generation is one, have taken a prominent role in the ongoing debate over the United States' energy future, and for good reason. While increased utilization of renewable energy sources shares the common benefits of traditional production methods, namely, increased availability of energy for domestic consumption, renewable energy sources offer a cleaner alternative to coal, natural gas, and nuclear-based electricity. For this reason, foreign governments, the U.S. federal government, and many U.S. state governments have adopted policies that provide incentives for the development and implementation of renewable energy technologies, such as renewable portfolio standards (RPS)¹¹ and production tax credits.¹² Ultimately, however, renewable energy sources such as wind cannot be tapped unless the equipment necessary for their utilization, i.e., wind turbines, are sited and installed.

Consistent with the U.S. predominant method of land use regulation, the siting of wind energy systems in most states is governed primarily at the local level, with little to no state intervention or guidance.¹³ While the federal government or

a state may pass an RPS mandating that energy utilities install a particular amount of renewable energy capacity, ultimately it is often the local land use authorities that determine whether a particular wind energy project can be pursued. Officials at the local level, however, more often than not lack the requisite expertise needed to address the specific and unique issues with which they are confronted when a wind developer approaches them for the first time. Compounding the problem, the officials also tend to lack a regulatory framework tailored to wind energy development that can help them analyze the application.¹⁴

The result is a repetition of the same debate, likely involving the same potentially exaggerated concerns, played out in different communities across the United States. First, a developer approaches a new community seeking the proper authorizations to install a wind energy system, such as a conditional use permit to violate a height restriction. Uninformed local citizens, potentially notified only by similarly uninformed local journalists, engage in a debate, often of a heated nature, over such concerns as avian mortality, noise, public safety, property values, and aesthetics. After mediating this debate, the permitting authority ultimately makes a decision on the permit(s) at issue, and at least one of the parties likely walks away with a sour taste in their mouth. The costs of this repetitious debate are borne both by the local communities involved and the nation as a whole; both the developers and the citizenry bear higher transaction costs, while the nation likely loses out on wind energy developments that were either denied in the application process or never offered by developers for fear of denial. Neither the goals of a community nor the energy needs of the nation are served in an effective manner.¹⁵

State governments, however, can play a role in improving this process. Wind energy is too vital to the future of the U.S. energy mix to be left to a hodge-podge, ad-hoc process that potentially allows previously debunked NIMBY concerns to trump rational application review every time a new system is proposed. If the United States is to match the capacity of its European counterparts, a more reasoned approach is necessary. Leaving wind generation siting decisions in the hands of local officials is not the problem, per se. Rather, the lack of a reasoned regulatory framework for assessing the merits of a particular application in any given community is the problem worthy of a solution. In the United States, state governments can tackle this problem, either by urging communities to engage in a planning pro-

8. See, e.g., Editorial, *Wind Energy Moratorium Approved*, WRIGHTSTOWN POST-GAZETTE (Wisconsin), Apr. 1, 2005, at 7A. Siting decisions by local land use officials are not the only reason that wind energy systems have not taken off in the United States as much as some have hoped. Other primary factors include high capital costs, uncertainty over the federal production tax credit, and availability of transmission lines.

9. See, e.g., David D. Kirkpatrick & Sheryl Gay Stolberg, *The Schiavo Case: The Campaign; How Family's Cause Reached the Halls of Congress*, N.Y. TIMES, Mar. 22, 2005, at A1.

10. See Energy Policy Act of 2005, H.R. 6, 109th Cong. (2005). The bill was entered into law on Aug. 8, 2005.

11. RPS are government regulations that require utilities to produce a specified amount of their energy from renewable sources. Thirteen states have implemented RPS. See generally J.R. Drabick, *Jump-Starting a Clean Energy Future for America*, IN BUSINESS, July/Aug. 2003, at 10. The United Kingdom has adopted a similar policy, setting a goal of producing 10% of its electricity from renewable energy sources by 2010. See DEPARTMENT OF TRADE & INDUSTRY, OUR ENERGY FUTURE: CREATING A LOW-CARBON ECONOMY 12 (2003).

12. Production tax credits (PTCs) provide a tax credit to an energy producer for every kilowatt hour (kwh) of renewable energy they produce. See Carolyn S. Kaplan, *Congress, the Courts, and the Army Corps: Siting the First Offshore Wind Farm in the United States*, 31 B.C. ENVTL. AFF. L. REV. 177, 182-86 (2004). The recent energy bill extended through 2007 the federal PTC of 1.8 cents per kwh. See Press Release, American Wind Energy Association, *Energy Bill Extends Wind Power Incentive Through 2007* (July 29, 2005), available at http://www.awea.org/news/energy_bill_extends_wind_power_072905.html (last visited Dec. 5, 2005). Denmark, France, Germany, and the United Kingdom employ similar subsidies for wind energy producers.

13. See NATIONAL WIND COORDINATING COMMITTEE, PERMITTING OF WIND ENERGY FACILITIES 11 (2002), available at <http://www.nationalwind.org/publications/permit/permitting2002.pdf> (last visited Apr. 23, 2005) [hereinafter NWCC REPORT]; see also TIMOTHY

L. McMAHON & PETER D. MOSTOW, *THE LAW OF WIND: SITING AND PERMITTING WIND PROJECTS* 1 (Stoel Rives L.L.P. 2004).

14. See, e.g., Patricia Breakey, *Roxbury Town, Residents Face Off on Construction of Wind Turbines in the Area*, DAILY STAR, Mar. 27, 2002, at <http://www.thedailystar.com/news/stories/2002/03/27/wind.html> (last visited Dec. 5, 2005) (discussing the town of Roxbury's desire to adopt a regulatory framework for wind energy system permitting after having been approached by wind developers).

15. This problem is not unique to the United States, but has been cited in the United Kingdom as well. Cathryn Ross has described the United Kingdom's predicament as follows: "The fundamental problem at the heart of the issue concerns the ultimate responsibility that rests with planners for the success of a much wider government policy, and the lack of guidance on that wider policy which planners receive." Cathryn Ross, *The Promotion of Renewable Energy in England and Wales: The Use of the Non-Fossil Fuel Obligation*, in ENERGY AND ENVIRONMENT: MULTIREGULATION IN EUROPE 72, 95-96 (Piotr Jasinski & Wolfgang Pfaffenberger eds., 2000).

cess for wind energy development prior to the receipt of a development application, much as many European countries have done, or by taking back the permitting authority for themselves.

Because the effective siting of wind energy systems is a very site-specific inquiry, this Article will not explore in detail the “optimal” regulatory framework for such decisions. The optimal framework will likely vary from state to state.¹⁶ Rather, this Article will discuss the manner in which the lack of *any* framework in many jurisdictions enables citizens with potentially exaggerated concerns to paralyze the permitting process, thus hurting not only the wind developer, but also the local, regional, and national communities. Section II will focus on these potentially exaggerated concerns, assessing which aspects of the common concerns raised by citizens have been studied and discredited. Section III will then critically assess the most common approach to siting wind energy systems in use today—that of almost total abrogation of the permitting process to local communities. This approach facilitates the unnecessary debates that often accompany wind energy proposals and engenders uncertainty for both wind developers and communities. Section IV will contrast the local approach with approaches involving state-level action. This section will first look to models of state- and federal-level action in Europe, where wind energy capacity dramatically exceeds that in the United States. The section will then turn to the two primary state-level approaches that have been developed in the United States. While these approaches do not extinguish debate at the local level, nor do they seek to, they do involve the preparation of prospective regulatory frameworks for the siting of wind energy systems. These prospective frameworks are better equipped to serve the needs of wind developers, communities, and the nation because they bring stability and predictability to the permitting process. The goal is not the elimination of public participation—public participation is a valuable and important aspect of democratic functioning in the land use planning process—but rather, a permitting framework that eliminates unnecessary debate and enables a reasoned assessment of the benefits and costs associated with proposed wind energy developments.

II. Wind Energy in the United States: Where Myth Meets Reality

Wind energy potential in the United States is enormous, and its attainment, thus far, has been encouraging. Despite placing third globally,¹⁷ U.S. wind energy capacity has grown

considerably over the past few years and will likely continue to grow at a fairly robust rate, assuming favorable policy conditions.¹⁸ The federal government openly supports the growth of wind energy capacity,¹⁹ and the public generally supports wind energy, according to polls.²⁰ Yet proposed wind energy projects continue to raise public outcry in communities for which wind energy development is new, instigating debates notable for their fervor. The complaints are often similar across jurisdictions, with concerns about impacts on avian mortality, public safety, noise, property values, and aesthetics taking top billing. Addressing each in turn, this section examines both the benefits of wind power and the costs, finding that the concerns raised by many citizens, while important, are often based on unfounded, and sometimes discredited, assumptions. The section concludes, however, by noting that aesthetic concerns remain the outlier, primarily for their subjective nature, and thus properly deserve their status as the most prominent sticking point during wind siting negotiations.

Without going into extended detail, the benefits of wind energy are the benefits of renewable energy generally: clean, reliable, domestic energy.²¹ Unlike the combustion of fossil fuels or the use of nuclear fission, producing electricity with wind energy systems produces no harmful emissions and little to no waste. The offset value of one utility scale wind turbine is roughly 5,000 tons of carbon dioxide emissions annually, with similarly impressive emissions savings for sulfur dioxide, nitrogen oxides, and mercury.²² These emissions savings translate into fewer air quality-related illnesses, reductions in acid rain and haze, and climate change mitigation.²³ In addition, wind energy systems rely on a fuel source that is both free and of infinite supply: the wind.²⁴ Finally, wind energy is a source of domestic energy

16. Compare, e.g., WISCONSIN DEPARTMENT OF ADMINISTRATION, DRAFT MODEL WIND ORDINANCE REFERENCE GUIDE (2004), available at http://www.doa.state.wi.us/docs_view2.asp?docid=2870 (last visited Dec. 5, 2005), with KANSAS ENERGY COUNCIL, GUIDELINES AND STANDARDS FOR THE SITING OF WIND-ENERGY DEVELOPMENT IN KANSAS AND THE FLINT HILLS (2004), available at [http://www.kansasenergy.org/KEC/SitingGuidelines\(KEC\).pdf](http://www.kansasenergy.org/KEC/SitingGuidelines(KEC).pdf) (last visited Jan. 6, 2006), and STATE OF MICHIGAN, MICHIGAN WIND ENERGY SYSTEM SITING GUIDELINES DRAFT #8 (2004), available at http://www.michigan.gov/documents/Wind_and_Solar_Siting_Guidelines_Draft_5_96872_7.pdf (last visited Dec. 5, 2005).

17. See Press Release, Global Wind Energy Council, Global Wind Power Continues Expansion (Mar. 4, 2005), at http://www.gwec.net/index.php?id=30&tx_ttnews%5btt_news%5d=1 (last visited Dec. 5, 2005). As of the time of this writing, the United States had a generating capacity of 6,740 MW, while Germany had a capacity of 16,629 MW and Spain a capacity of 8,263 MW. See *id.*

18. As a part of the U.S. total energy mix, wind energy accounts for roughly 2% of electricity consumed. See ENERGY INFORMATION ADMINISTRATION, RENEWABLE ENERGY TRENDS 2003, at 1 (2003). However, the American Wind Energy Association (AWEA) notes with pride that between 1999 and 2003, wind energy capacity grew 28% on average, with banner years in 2001 and 2003 during which the United States added 1,696 and 1,687 MW, respectively. See AWEA, WINDPOWER OUTLOOK 2004 2 (2004). AWEA likewise expects that 2005 will be a “record year,” with over 2,000 MW of new capacity installed. See Press Release, AWEA, U.S. Wind Industry Continues Expansion of Clean, Domestic Energy Source (Jan. 27, 2005), at <http://www.awea.org/news/news050127mkt.html> (last visited Jan. 6, 2006).

19. Secretary of Energy Samuel W. Bodman, Remarks to the U.S. Energy Association (Apr. 15, 2005), available at http://www.doe.gov/engine/content.do?PUBLIC_ID=17763&BT_CODE=PR_SPEECHES&TT_CODE=PRESSPEECH (last visited Dec. 5, 2005) (“We . . . are pursuing ways . . . to make greater use of renewable electricity sources such as wind and solar power.”).

20. See AWEA, *supra* note 18, at 7 (“Public opinion surveys conducted over the years and in 2003 in fact reveal strong backing for wind power, and for renewable energy in general.”).

21. For a more robust discussion of the benefits associated with wind power, see Dorothy W. Bisbee, *NEPA Review of Offshore Wind Farms: Ensuring Emission Reduction Benefits Outweigh Visual Impacts*, 31 B.C. ENVTL. AFF. L. REV. 349, 358-68 (2004).

22. See VERMONT AGENCY OF NATURAL RESOURCES, WIND ENERGY AND EMISSIONS (2004), available at <http://www.vermontwindpolicy.org/factsheets/Air%20Emissions1.pdf> (last visited Dec. 5, 2005).

23. See Bisbee, *supra* note 21, at 350.

24. For a discussion of the problems associated with intermittency, see KEMA-XENERGY, INTERMITTENT WIND GENERATION: SUMMARY REPORT OF IMPACTS ON GRID SYSTEM OPERATIONS (2004).

that provides economic development opportunities and strengthens energy supplies for local communities and the nation. The California State Legislature summed the benefits up nicely:

Wind energy is an abundant, renewable, and nonpolluting energy resource. When converted to electricity, it reduces our dependence on nonrenewable energy resources and reduces air and water pollution that result from conventional sources. Distributed small wind energy systems also enhance the reliability and power quality of the power grid, reduce peak power demands, increase in-state electricity generation, diversify the state's energy supply portfolio, and make the electricity supply market more competitive by promoting consumer choice.²⁵

Yet the installation and operation of wind energy systems is not without costs to society, costs that engender contentious debates in many communities throughout the nation. A sampling of recent newspaper headlines in communities facing permit applications for wind energy systems include "Debate Rages Over Wind Energy Farms: Issues Divide Community"²⁶ and "Wind Power vs. View: Project Pits Scenery Against Clean Energy."²⁷ The debates recounted in these articles touch on many of the recurring concerns that arise across jurisdictions. These concerns are important, and failing to address them in the regulatory process would do a disservice to both the wind energy industry and the nation's citizens. Nevertheless, the dispelling of these concerns through heated debate is not something that needs to be repeated on a continual basis. Rather, the underlying basis for these concerns should be addressed no more than once, as this Article seeks to do, so that local land use decisions about wind energy can be governed by rational analysis rather than emotional reactions.²⁸ As the Sierra Club, an environmental organization straddling both sides of the debate, has recognized: "The risk of NOT proceeding with large-scale development of wind power is great The time is ripe for the Club to face the tensions directly and substantively."²⁹

A. Avian Mortality

As the Sierra Club and other environmental organizations have come to realize, avian mortality due to collisions with wind energy systems can often pit environmentalists against one another when a wind developer approaches a new community.³⁰ The spinning turbines reaching several hundred

feet into the sky have caused some detractors to dub wind energy systems "raptor-matics" or "cuisinarts of the sky."³¹ Such impressions were likely created as a result of the poor siting of a wind energy system in Altamont Pass, California, at which significant numbers of legally protected raptors were injured or killed.³² Fortunately, many lessons have been learned from this early project, and site evaluation and turbine technologies have significantly improved, causing the overall avian mortality statistics to reveal that most concerns are exaggerated.³³

According to the American Wind Energy Association (AWEA), even if wind energy grew to the point that it could meet 100% of today's U.S. electricity needs, as opposed to the current 2%, wind energy systems would account for only 1 out of every 250 human-related bird deaths.³⁴ While the estimates vary, all analyses conclude that the other major causes of human-related avian mortality far outnumber the marginal additional deaths caused by wind energy systems.³⁵ For example, the National Wind Coordinating Committee (NWCC) has concluded that annual avian mortality rates break down by human-related causes as follows: vehicles, 60 to 80 million; buildings and windows, 98 to 980 million; powerlines, tens of thousands to 174 million; communication towers, 450 million; and wind energy systems, 10,000 to 40,000.³⁶ Similarly, the U.S. Government Accountability Office recently concluded a report on the avian impacts of wind energy development with the statement: "In the context of other sources of avian mortalities, it does not appear that wind power is responsible for a significant number of bird deaths."³⁷ On the whole, wind energy systems are not the "cuisinart" they are often made out to be when relative consideration is given to other man-made structures.

Such statistics, however, do not and cannot quell legitimate concerns that arise at sites lying in bird migration paths. Siting wind energy systems in migration paths will undoubtedly increase avian mortality, a result that has plagued the Altamont Pass wind turbines and some devel-

ergy-Producing Towers Popping Up in Maryland and Other States, BALT. SUN, Jan. 2, 2005, at 1B ("Environmentalists are sometimes at each other's throats over questions of whether turbines kill excessive numbers of birds and bats.").

25. CAL. GOV'T CODE §65892.13 (2005).

26. Neil Rhines, *Debate Rages Over Wind Energy Farms: Issue Divides Community*, MANITOWIC HERALD TIMES REP., Mar. 6, 2005, at http://www.wisinfo.com/heraldtimes/news/archive/local_20102047.shtml (last visited Dec. 5, 2005).

27. Candice Page, *Wind Power vs. View: Project Pits Scenery Against Clean Energy*, BURLINGTON FREE PRESS, Mar. 6, 2005, at <http://www.burlingtonfreepress.com/specialnews/wind/18.htm> (last visited Dec. 5, 2005).

28. See, e.g., NATIONAL WIND COORDINATING COMMITTEE, AVIAN COLLISIONS WITH WIND TURBINES 1 (2001) (noting that "the potential for avian fatalities has delayed and even significantly contributed to blocking the development of some windplants in the [United States]").

29. Sierra Club, *Sierra Club Conservation Policies: Wind Siting Advisory*, at http://www.sierraclub.org/policy/conservation/wind_siting.asp (last visited Jan. 6, 2006).

30. See, e.g., Tom Pelton, *Ill Wind Blows in Turbine Debate; Eyesores or Clean Machines? Environmentalists Are Split Over the Giant En-*

31. See AWEA, Mick Sagrillo, *Putting Wind Power's Effect on Birds Into Perspective* (2003), at <http://www.awea.org/faq/sagrillo/swbirds.html> (last visited Dec. 5, 2005).

32. See NATIONAL WIND COORDINATING COMMITTEE, *supra* note 28, at 2; WINDUSTRY, *HARVEST THE WIND: A WIND ENERGY HANDBOOK FOR ILLINOIS* 46 (2004).

33. See NATIONAL WIND COORDINATING COMMITTEE, *supra* note 28; WINDUSTRY, *supra* note 32.

34. See AWEA, *supra* note 18, at 6.

35. Compare, e.g., NATIONAL WIND COORDINATING COMMITTEE, *supra* note 28, with Curly & Kellinger, LLC, *What Kills Birds: Human Causes of Bird Fatalities*, at <http://www.curlykellinger.com/birds.htm> (last visited Dec. 5, 2005).

36. See NATIONAL WIND COORDINATING COMMITTEE, *supra* note 28, at 1.

37. U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *WIND POWER: IMPACTS ON WILDLIFE AND GOVERNMENT RESPONSIBILITIES FOR REGULATING DEVELOPMENT AND PROTECTING WILDLIFE* 43 (2005), available at <http://www.gao.gov/new.items/d05906.pdf> (last visited Dec. 23, 2005). The report also concluded, notably, that more scientific research needed to be conducted and that wildlife-impact assessments of future, proposed wind energy developments should be done at a cross-jurisdictional level. *Id.*

opments in Appalachia.³⁸ Such relevant siting concerns should not be discounted, but rather, given full consideration in both the developer's site selection process and in the application review process.³⁹ These considerations, however, should be reasoned rather than reactionary or exaggerated. As the Sierra Club has concluded, "[w]e are confident that changes in technology . . . and siting practices, can assure future wind development without significant wildlife impact."⁴⁰

B. Public Safety

Citizens are likewise often concerned about potential adverse impacts on public safety as a result of the release of harmful emissions or materials, as well as from the throwing of ice from the turbines.⁴¹ Unaccustomed to the presence of wind turbines, such concerns are not illogical for neighboring citizens. Fortunately, these concerns are usually unnecessary, assuming standard construction and siting practices are followed. Wind energy systems do not employ a combustion process to produce electricity, and the only toxic or hazardous materials associated with such systems are small amounts of lubricating oils and hydraulic and insulating fluids.⁴² Similarly, proper siting usually involves setback requirements for the turbines, which protect the public from ice as well as from inadvertent public contact with electrical equipment or the guy wires supporting the turbines.⁴³

C. Noise

Despite often being segregated from the public by at least several hundreds or thousands of feet, wind turbines cannot help but make noise.⁴⁴ Such noise, however, has not only diminished markedly with technological improvements,⁴⁵ but is often masked by the ambient noise generated by the wind itself.⁴⁶ Today, the decibel level of wind turbines at distances of 750 to 1000 feet equate roughly to that of a moderately

quiet room.⁴⁷ Accordingly, given that wind energy systems are usually located in rural or remote areas, and tend to be subject to setback requirements, noise from wind turbines will in most circumstances have a negligible impact.

D. Property Values

Concerns about property values are intertwined with aesthetic objections, the largest driver of citizen opposition to wind energy systems. The addition of a large wind turbine, or for that matter dozens of large turbines, to a homeowner's landscape is certainly enough to make them wonder whether the value of their house or land is in for a hit.⁴⁸ Again, however, statistics reveal that homeowners should not be overly concerned. The Renewable Energy Policy Project (REPP) performed a study of property values in areas undergoing wind energy development during the period 1998 to 2002.⁴⁹ Counterintuitively, the study found that "[f]or the great majority of projects in all three of the [c]ases studied, the property values in the view shed actually [went] up faster than values in [a] comparable region."⁵⁰ While REPP was sure to note that gathering property values after the fact can be difficult, and that more data points should be taken, they concluded that their study "suggest[s] that there is no support for the claim that wind development will harm property values."⁵¹

E. Aesthetics

While the preceding concerns raised by citizens can more often than not be quelled through public education, aesthetic concerns are not as easily surmounted. Aesthetic values and tastes are inherently subjective. Accordingly, battles over wind energy permits tend to crystallize ultimately around aesthetics, the preeminent NIMBY concern.⁵² While one citizen may find a turbine pleasing to the eye, perhaps because he knows that it is producing clean energy, another will most likely find it an eyesore.⁵³ These concerns should certainly not be discounted. A predominant purpose behind abrogating land use decisions to local authorities is to enable citizens to shape their community in ways that they find aesthetically pleasing. Nevertheless, given the important role wind energy can play in ensuring a clean, reliable, and secure energy future for the United States, the role aesthetic concerns play in the siting process should be assessed carefully.

38. See *id.* at 43; Jim Herron Zamora, *Wind Farms to Spare the Birds; 2,500 Turbines in Altamont Pass to Stop for Winter Migration*, S.F. CHRON., Sept. 23, 2005, at B1.

39. Wind energy organizations that have published "how-to" guides for wind developers stress the importance of proper siting in order to mitigate avian impacts. See, e.g., NWCC REPORT, *supra* note 13, at 24-28; WINDUSTRY, *supra* note 32, at 46-47.

40. Sierra Club, *supra* note 29. The Sierra Club recommends the following hierarchy of sites for wind energy systems in order to best address wildlife impacts (in order from most to least preferable): Agricultural land and land that has been substantially disturbed; sites near population and electricity consumption centers; natural areas; and national/state parks and reserves. See *id.*

41. See NWCC REPORT, *supra* note 13, at 30; WINDUSTRY, *supra* note 32, at 45.

42. See NWCC REPORT, *supra* note 13, at 30-31.

43. See *id.*; WINDUSTRY, *supra* note 32, at 45.

44. Noise is produced by wind turbines from the swishing of the blades in the wind and the operation of the gears and generator inside the turbine. See WINDUSTRY, *supra* note 32, at 44.

45. "Aerodynamic noise has been reduced by changing the thickness of the blades' trailing edges and by making machines 'upwind' rather than 'downwind' so that the wind hits the rotor blades first, then the tower . . ." See AWEA, *Wind Web Tutorial: Wind Energy and the Environment*, at http://www.awea.org/faq/tutorial/wwt_environment.html#Noise (last visited Dec. 5, 2005).

46. See NWCC REPORT, *supra* note 13, at 23.

47. See *id.*

48. See, e.g., Rhines, *supra* note 26 (reporting on the concerns of a homeowner who "isn't sure exactly where the turbines will be in relation to him, but [would] like to know that his investment, made with retirement in mind [*sic*] wouldn't be for naught").

49. RENEWABLE ENERGY POLICY PROJECT, *THE EFFECT OF WIND DEVELOPMENT ON LOCAL PROPERTY VALUES* (2003).

50. *Id.* at 4.

51. *Id.* at 9.

52. See Bisbee, *supra* note 21, at 350 ("Popular visual aesthetic preferences are the primary obstacle to obtaining the emission reductions and other benefits wind power offers.").

53. For example, consider this quote from landowners grappling with the prospect of a wind energy system being sited near their homes: "Did we invest all that money to preserve the [park lands] so a developer could put up these gigantic, well-lit monsters like huge metal scarecrows?" Page, *supra* note 27.

There is no easy answer to the aesthetics problem. For that reason, it will linger on as the major sticking point in almost all wind energy system application processes. Some citizens will object to wind turbines in their community regardless of the benefits that a developer can cite or the amount of analysis performed by land use authorities. The wind industry, however, believes that there are mitigation techniques that developers can employ. For example, the Midwest wind energy advocacy group Windustry suggests that developers pursue visual uniformity in their projects in order to create harmony.⁵⁴ This uniformity applies to everything from layout to actual physical appearance to the direction the turbines spin. Other suggestions include burying power lines, storing equipment off-site, and prohibiting any advertising on the turbines.⁵⁵

Mitigation measures, however, likely cannot solve the problem, even though they may be of help. Truly solving the problem requires facilitating changes in the tastes of citizens and communities. That sounds like a tall task, and it undoubtedly is. But one fact of consequence is of acute importance here: public support for wind energy, at least as a general proposition, is very strong.⁵⁶ For example, when asked if they would support developing wind energy as a part of their energy mix, even if it meant electricity rates increased, 96% of citizens polled answered yes in Nebraska and 82% answered yes in Colorado.⁵⁷ According to Windustry, typically two-thirds or more of citizens polled, whether they live in areas that lack wind energy systems or not, support the development of wind energy.⁵⁸ With this kind of support, the underlying basis for urging a change of aesthetic tastes over time certainly exists.

The reminder that wind industry developers and advocates give themselves is that people's tastes change, and people get used to what is around them. Take, for example, AWEA's following rhetorical question: "Communities already accept water towers, billboards, relay towers, and utility lines as part of the landscape. Does a wind turbine constitute a greater intrusion on a neighbor's view than would the addition of a second story to a home or other property improvements that are legally permitted?"⁵⁹ The goal, accordingly, is to make wind energy a foregone conclusion in the eyes of the public. That point has not been reached thus far for three reasons. First, there are not enough wind energy systems installed for the public to be acclimated to them as a general matter. Second, they are unlike the structures mentioned above because they move.⁶⁰ Third, in most jurisdictions citizens that oppose a wind energy development, whether on legitimate grounds or not, can exercise great sway with the permitting authority.⁶¹ The second of these

three reasons is impossible to change, while the first and third are consequences, at least in part, of the present-day permitting processes that this Article seeks to address.

Ultimately, a majority of the concerns that arise when a developer applies to install a wind energy system can be quelled without heated debate if land use authorities adopt regulatory frameworks that account for the realities of wind energy. Namely, that concerns regarding avian mortality, public safety, noise, and property values, while undoubtedly important, are often exaggerated and thus not deserving of repeated debate in every community that considers a wind energy system for the first time. This Article will examine ways in which state governments can encourage and/or ensure that such frameworks are established, thereby nipping unnecessary debates in the bud.

However, given that instances will undoubtedly arise where a proposed project raises valid concerns in these areas, regulatory frameworks for wind energy siting should not shut out or downplay the important role of public participation. Not only is public participation necessary as a check on any framework that preempts unnecessary debate, but it is also necessary to address aesthetic concerns, which will continue to be inherently subjective. The hope must be that as the wind energy debate matures, aesthetic concerns will join the ranks of other foregone conclusions. As a Vermont landscape architect commented recently, "[t]he place we live expresses who we are, and who we are changes all the time."⁶²

III. The Local Approach: Engendering Uncertainty and Debate

Decisions regarding the regulation of land use, including both the enactment of controls such as zoning and any decisions to deviate from those controls, traditionally fall within the sphere of local governments.⁶³ Because wind energy systems are, in most jurisdictions, not incorporated into local land use plans and zoning ordinances, the siting of such a system usually requires a variance from land use restrictions governing facility attributes such as a height.⁶⁴ This general lack of pre-incorporation of siting considerations for wind energy developments presents the underlying need and motivation for this Article. Local governments, except in those states where they have been preempted by the state government, hold the keys to the castle for wind energy developers. They have the power to approve or disapprove a wind developer's application for a variance, such as a conditional use permit. While spread across literally thousands of jurisdictions, this power controls the success of the wind industry at a fundamental level; without sites for wind energy systems, there are no wind energy systems.⁶⁵

54. See WINDUSTRY, *supra* note 32, at 43.

55. See *id.*

56. See AWEA, *supra* note 18, at 7; Kaplan, *supra* note 12, at 178-79 ("[T]here is now strong, broad-based support for including renewable energy in our nation's fuel mix.").

57. See AWEA, *supra* note 18, at 7.

58. See WINDUSTRY, *supra* note 32, at 42.

59. AWEA, PERMITTING SMALL WIND TURBINES: A HANDBOOK 13 (2003).

60. See Mick Sagrillo, AWEA, *Aesthetic Issues and Residential Wind Turbines*, at http://www.awea.org/faq/sagrillo/ms_aesthetics_0405.html (last visited Dec. 5, 2005).

61. See *id.*

62. See Candice Page, *Hearings Begin Over Wind Energy*, BURLINGTON FREE PRESS, Mar. 15, 2005, at <http://www.burlingtonfreepress.com/specialnews/wind/19.htm> (last visited Jan. 6, 2006).

63. See, e.g., KAN. STAT. ANN. §§12-741 et seq. (2005).

64. See McMAHON & MOSTOW, *supra* note 13, at 1; WINDUSTRY, *supra* note 32, at 51; see, e.g., Scott Kraus, *Da Vinci Center Gets OK for Wind Turbine: 90-foot Pole Will Help Propeller Make Energy in West Allentown*, MORNING CALL, Apr. 19, 2005, at B1.

65. This Article is not addressing the siting of wind energy systems on federal lands. For information about wind energy on federal lands, see Bureau of Land Management, *Lands and Realty: Wind Energy*, at http://www.blm.gov/nhp/what/lands/realty/wind_energy.htm (last visited Dec. 22, 2005).

Local governments, whether at the county or municipal level, are the traditional barons of land use regulation. Either on purpose or out of indifference, most state governments have not taken for themselves the power to regulate the siting and/or permitting of wind energy systems.⁶⁶ Not surprisingly, given that the policy of leaving land use decision-making to local officials is premised upon valuing diversity and autonomy, the result is a regulatory morass in which the land use regulations governing wind development tend to vary from community to community.⁶⁷ Under some circumstances, this continued delegation of authority to local officials provokes few problems for wind developers and communities. But in many other circumstances, such as those that involve wind developments in valued view sheds or near urban areas,⁶⁸ such local control enables zealous citizens armed with potentially exaggerated concerns to paralyze the permitting process and potentially kill the project.

While the range of local land use controls may vary from community to community, the level of opposition facing wind developers can often be the same. For instance, in those communities that have failed to enact any land use controls, wind developers may be subject to little or no regulation, except to the extent they are subject to state or federal environmental or safety regulations, such as those administered by the Federal Aviation Administration governing lighting requirements.⁶⁹ Such communities, when they lack a say over the siting of wind energy systems, can understandably be upset, and are likely to react by attempting to regulate or kill the project through the quick enactment of land use controls.⁷⁰ These haphazard regulations, in turn, will likely neither strike an optimal balance between the costs and benefits of wind energy nor be crafted so as to enable efficient application review.

Conversely, communities that have enacted basic land use controls likely have not tailored them to govern wind development.⁷¹ Wind developers, in addition to potentially

facing the repetitious debate described earlier, must then pursue regulatory approval from officials inexperienced with wind energy, using land use controls not specifically crafted to address wind development. Uncertainty over the benefits and costs of wind development can envelop the community's citizens and officials, bogging down the permit negotiation process and potentially leading not only to permit denials, but even to moratoriums on wind development altogether.⁷²

The outlier communities, of course, are those that have enacted land use controls tailored specifically to address wind energy systems, thus providing a significantly improved level of regulatory certainty. Ironically, however, many of the communities that have adopted such land use controls did so in the wake of not having any such controls prior to receiving an application to install a wind energy system. Thus, in the majority of cases under the local authority approach, the likely scenario involving a community that has not previously been approached by a wind developer is the aforementioned repetitious debate involving an upwelling of citizen dissent in an absence of regulatory certainty.

The costs of this repetitious debate are multifaceted and substantial. At the transactional level, the costs for both wind developers and communities are significantly higher than they might have to be otherwise. Wind developers are forced to invest significant amounts of funds into community education for projects that may never reach approval,⁷³ while local governments are forced to mediate contentious debates. In mediating these debates local officials are likely pulled in multiple directions, constrained by political considerations yet still mindful of the economic development and environmental benefits at issue.⁷⁴ Wind developers, in turn, may accordingly decide against pursuing particular projects due to the regulatory uncertainty, or worse, lose the funding of investors who are concerned about the viability of the industry. Ironically, these costs can be exacerbated when state or national policies, such as RPSs, mandate the production of renewable energy. They can place existing energy producers in between a rock and a hard place in that they must site their renewable energy technologies, such as wind energy systems, in communities that may not have regulatory frameworks capable of addressing such development.

Despite these problems associated with local regulatory authority, to say that all wind developments subject to this approach are case studies in failed land use regulation would be wrong. Many proposed wind generation projects have successfully obtained regulatory approval from local land use authorities without suffering, at least to a significant degree, the litany of consequences described above.⁷⁵ Accordingly, the placement of regulatory authority over land use

66. See, e.g., KANSAS ENERGY COUNCIL, *supra* note 16, at 1 (noting that the council's guidelines "do not address an enactment of [s]tate land-use regulations [for wind-energy development], even though the topic has been discussed").

67. See OREGON OFFICE OF ENERGY, OREGON'S SITING PROCESS FOR LARGE WIND ENERGY SYSTEMS 4 (2005), available at <http://egov.oregon.gov/ENERGY/SITING/docs/WindSite.PDF> (last visited Dec. 5, 2005) ("Local-level siting is subject to local procedures and ordinances that vary from county to county and city to city."); WINDUSTRY, *supra* note 32, at 52 (warning prospective wind developers that in Illinois, a state that follows the local authority model, the "rules for wind turbines . . . could be similar or completely different on a county-by-county basis").

68. See Pelton, *supra* note 30 ("In the Midwest, turbines are seldom opposed when they rise on farms, because many people there view wind as just another cash crop But in the more densely populated [e]astern states, some groups have opposed projects, especially in scenic vacation areas").

69. See NWCC REPORT, *supra* note 13, at 11.

70. See, e.g., Breakey, *supra* note 14 (noting that for the town of Roxbury, which had previously enacted no land use regulations and, thus, could not prohibit a wind development, "the only other options the town had to regulate windmills would have been a site plan review local law [sic] or zoning").

71. See, e.g., OREGON OFFICE OF ENERGY, *supra* note 67, at 4 ("Most local land use ordinances address energy facility siting in a superficial way, if they address it at all. It may not be clear what standards the local jurisdiction will apply in deciding whether to issue a conditional use permit."); WISCONSIN DEPARTMENT OF ADMINISTRATION, *supra* note 16, at 4 ("There are very few local laws or regulations that specifically apply to construction and operation of typical wind energy projects. Many municipalities have no or insufficient

regulations in place to balance the needs of wind energy projects and those of communities").

72. See, e.g., *Wind Energy Moratorium Approved*, *supra* note 8.

73. Several wind advocacy and trade organizations have developed permitting guidelines to help wind developers. All of them stress the importance of early and substantial public outreach. See NWCC REPORT, *supra* note 13, at 2; WINDUSTRY, *supra* note 32, at 51.

74. Cf. Robert Long, *Allocating the Aesthetic Costs of Cellular Tower Expansion: A Workable Regulatory Regime*, 19 STAN. ENVTL. L.J. 373, 394-95 (2000).

75. See, e.g., WINDUSTRY, *supra* note 32, at 52-55 (discussing the pending and existing wind energy developments in Illinois along with the different regulatory controls employed by the applicable counties).

decisions with local authorities is not, per se, the problem. Rather, on those occasions where unnecessary transactional costs and reactionary regulation have arisen, the lack of a prepared regulatory framework specifically adopted to address wind energy development was likely the root cause. The take-away lesson thus becomes one of procedure: avoiding the repetitious and contentious debate in jurisdiction after jurisdiction requires urging land use officials, whether they be at the local level or the state level, to craft a regulatory framework prior to the receipt of their first application to install a wind energy system.

IV. State-Level Action: A Method for Avoiding Unnecessary Debate

While abrogation to local officials remains the dominant approach employed in the United States today, it is not the only approach employed worldwide. Rather, by contrast, several European countries employ more centralized forms of land use planning, ones that do not eliminate local control but instead amend it with guidelines and regulations drafted at the county or federal level. By doing so, local municipalities in these European countries are better prepared to address the issues surrounding wind energy development than are their U.S. equivalents.

Two primary forms of state-level action have emerged in the United States with respect to the siting of wind energy systems. First, a handful of states have regulated the manner in which local governments can assess and/or deny applications for wind energy systems. This form of regulation seeks the best of both worlds: protections for wind developers against unreasonable permit denials coupled with local authority to manage the permitting process. The second approach does not attempt a balance but rather completely preempts the right of local governments to regulate the siting of wind energy systems, reclaiming that authority at the state level. This form of state action responds directly to the concerns raised earlier by centralizing the permitting authority, in turn providing "one-stop" permitting processes that theoretically are better able to balance the pros and cons of a proposed development.

As a reference point, this section first provides a brief overview of the different approaches four European countries employ for permitting wind energy systems, contrasting them to the dominant mode of complete abrogation currently in place in the United States. The section then critically analyzes both of the state-level approaches used in the United States. While neither rids the permitting process of public participation and debate, nor should they hope to, this section concludes that both provide more predictability and stability to wind developers and communities, with the second approach doing so slightly better than the first. By urging and/or forcing the preparation of a regulatory process prior to the receipt of an application to install a wind energy system, these state-level approaches serve the needs not only of wind developers but also of the communities they join and the nation as a whole.

A. Europe as a Model: Federal and Regional Involvement in Local Decisionmaking

Much like the United States, several European countries believe that investing in and promoting wind energy is a prior-

ity. Germany, Denmark, Spain, and the United Kingdom, among others, have all pursued strategies to increase wind capacity, including the enactment of tax credits and demand-side incentive programs.⁷⁶ Unlike the United States, however, several of these countries also employ a more centralized form of land use planning that has enabled them to more efficiently address, prior to the submission of a wind development application, several of the issues mentioned in Section II of this Article.

Germany is often cited as one of the most successful countries in terms of wind energy development. With an installed wind energy capacity of over 16 gigawatts (GW) at the end of 2004, Germany has the highest installed capacity of any country in the world.⁷⁷ German capacity grew at a staggering pace to attain this honor, having started with an installed capacity of 0.2 GW in 1992.⁷⁸ Germany has also set very robust goals for itself moving forward, hoping to achieve a 25% share of energy produced from renewables by 2025, doubling to 50% by 2050.⁷⁹

In order to facilitate this growth in wind energy capacity, Germany employs a hybrid land use planning model for wind generators. A federal building code grants preferential status to wind turbines under certain conditions, with the rest of the planning process controlled primarily at the lander, or state, level.⁸⁰ Each lander has its own set of land use permitting requirements, often with planning guidelines specifically drafted for wind energy developments.⁸¹ Such guidelines regulate, inter alia, when an environmental impact statement (EIS) is required and distance minimums from roads and electricity lines.⁸² While local officials still ultimately make the planning decisions on individual projects, the pre-formed regional and local development plans provide prescriptive outlines for wind energy projects ahead of time.⁸³ The results sharply contrast the results of the process employed in most jurisdictions in the United States. Rather than experience the same debate time and time again, German officials have drafted regulations governing the appropriate siting of wind energy projects beforehand, presumably taking into account the concerns that arise when inexperienced officials address such projects for the first time.

76. For general information about wind energy in Europe, see the European Wind Energy Association website at <http://www.ewea.org/> (last visited Dec. 20, 2005).

77. See EUROPEAN WIND ENERGY ASSOCIATION, WIND POWER INSTALLED IN EUROPE BY END OF 2004 (CUMULATIVE) (2004), available at http://www.ewea.org/fileadmin/ewea_documents/documents/graphs_maps_tables/europe_data_05_final.pdf; UNITED KINGDOM DEPARTMENT OF TRADE & INDUSTRY COMMUNITY BENEFITS FROM WIND POWER 62 (2005) [hereinafter DTI]. The United States ranks second.

78. DTI, *supra* note 77, at 62.

79. *Id.*

80. *Id.* at 64; see also Wolfgang Schulz, *Promotion of Renewable Energy in Germany*, in ENERGY AND ENVIRONMENT: MULTIREGULATION IN EUROPE 128, 138 (Piotr Jasinski & Wolfgang Pfaffenberger eds., 2000). Germany has 16 regional governments, known as landers. DTI, *supra* note 77, at 63. For more information about wind energy in Germany, see the German WindEnergy Association website at <http://www.wind-energie.de/index.php?id=166> (last visited Jan. 6, 2006).

81. DTI, *supra* note 77, at 63; Schulz, *supra* note 80, at 138.

82. DTI, *supra* note 77, at 63.

83. *Id.*

The Danish take this model one step further. In order to ensure that the nation's wind energy development goals would be met, in 1995 all of Denmark's counties and municipalities submitted, pursuant to a national requirement, a set of pre-approved wind farm locations.⁸⁴ To aid in this site selection process, Denmark commissioned a detailed national wind survey. Thus, while the ultimate permitting and development decisions remain in the hands of local officials, such officials were required to plan in advance for wind energy development.⁸⁵ Further ensuring that wind energy is encouraged, Denmark also issues national guidelines with which regional, municipal, and local land use officials must comply.⁸⁶ The result is a land use planning process that both values local participation and public input in permitting but also ensures that the national interest in wind energy development is not subverted by unfounded NIMBY concerns. As a result, Denmark not coincidentally joins Germany as one of the most successful countries at manufacturing, installing, and utilizing wind energy systems. Denmark has installed just over 3 GW of wind energy capacity, roughly 27% of its technical potential.⁸⁷

Wind energy system siting in Spain, the world's third largest wind energy producer, is predominately a regional, or county-level, activity. Regional governments are responsible for issuing "Administrative Authorizations" and approving environmental impact assessments, while local municipalities issue the building licenses, which tend to be mere formalities.⁸⁸ Of the 17 regional governments, 10 have adopted special legislation for the development of wind farms, usually known as Strategic Wind Plans, that regulate the permitting process and establish the criteria for approval.⁸⁹ In stark contrast to the United States, national land use planning legislation governs the permitting process in those areas where a regional authority has failed to adopt a specific plan.⁹⁰ With over 8 GW currently installed, Spain's wind energy capacity has grown at a spectacular pace of over 1 GW per year each of the last three years.⁹¹

In contrast, the United Kingdom has until recently employed a planning system for wind energy development that closely resembles the system in place in the United States. Not unexpectedly, the United Kingdom also suffers from a slower overall growth rate in wind energy capacity than its European counterparts, with only 888 megawatts of wind energy capacity installed at the end of 2004.⁹² The United Kingdom relies on local development plans and local municipalities to manage the permitting process, often depending on officials who have little direct experience to evaluate applications.⁹³ Given the vigorous community opposition

that can often arise when a new project is proposed,⁹⁴ it is not surprising that "since the early days of wind power in the [United Kingdom], planning permission has been cited as barrier to development."⁹⁵ However, in order to address this problem, the United Kingdom recently adopted Planning Policy Statement 22 (PPS22), a policy guidance document setting out key principles of land use planning that must be implemented at the regional and local levels to enable, rather than restrict, the growth in capacity of renewable energy.⁹⁶ Specifically, the PPS22 requires the creation and implementation of specific criteria in the permitting process at the local level that address prospectively the issues surrounding renewable energy development, including wind energy.⁹⁷ To ensure that wind and other renewable energy developments are not unnecessarily obstructed by exaggerated or unfounded concerns, the PPS22 explicitly states:

Planning policies that rule out or place constraints on the development of all, or specific types of, renewable energy technologies should not be included in regional spatial strategies or local development documents without sufficient reasoned justification. The Government may intervene in the plan making process where it considers that the constraints being proposed by local authorities are too great or have been poorly justified.⁹⁸

The goal of such a shift in policy is not to subvert local land use authority and community participation, but rather, to ensure that local NIMBY concerns are properly weighed against the nation's pursuit of a clean energy future. The PPS22 explicitly recognizes the importance of community participation,⁹⁹ but also ensures that the local and regional planning officials develop and employ a regulatory framework for rationally assessing the pros and cons of any given wind energy proposal. In doing so, the PPS22 moves the

84. *Id.* at 71, 72. In 1994 the Minister of the Environment set a national target of 1,500 MW of wind energy capacity by 2005. *Id.* at 72. For more information about wind energy in Denmark, see the Danish Wind Industry Association website at <http://www.windpower.org/en/core.htm> (last visited Dec. 20, 2005).

85. DTI, *supra* note 77, at 72, 87.

86. *Id.* at 71.

87. *Id.* at 86; EUROPEAN WIND ENERGY ASSOCIATION, *supra* note 77.

88. DTI, *supra* note 77, at 79.

89. *Id.* at 79-80.

90. *Id.*

91. *Id.* at 79, 86; EUROPEAN WIND ENERGY ASSOCIATION, *supra* note 77.

92. EUROPEAN WIND ENERGY ASSOCIATION, *supra* note 77.

93. DTI, *supra* note 77, at 30-31.

94. See BRIAN EDWARDS, TOWARDS SUSTAINABLE ARCHITECTURE: EUROPEAN DIRECTIVES AND BUILDING DESIGN 95 (1996) ("Sites currently being developed in the UK are being vigorously opposed by local pressure groups while simultaneously attracting sightseers on family outings.").

95. DTI, *supra* note 77, at 30; see also EDWARDS, *supra* note 94, at 93 ("These collisions of interest are not well handled via the British planning system with its adversarial politics and resolution of conflict via the mechanism of public inquiries.").

96. See OFFICE OF THE DEPUTY PRIME MINISTER, PLANNING POLICY STATEMENT 22: RENEWABLE ENERGY 7 (2004) [hereinafter PLANNING POLICY STATEMENT 22]; see also BRITISH WIND ENERGY ASSOCIATION, PLANNING FOR WIND ENERGY 2 (2005).

97. In the companion guide to the policy statement, the purpose of the criteria is explained as follows:

The use of criteria-based policies is an essential part of the approach established under PPS22. The policies at regional level will provide the link between targets and the identification of broad areas where different renewable technologies may be located without causing unacceptable environmental impacts. At local planning authority level, criteria based policies should be developed to reflect specific local circumstances.

OFFICE OF THE DEPUTY PRIME MINISTER, PLANNING FOR RENEWABLE ENERGY: A COMPANION GUIDE TO PPS22 18 (2004) [hereinafter PLANNING FOR RENEWABLE ENERGY].

98. PLANNING POLICY STATEMENT 22, *supra* note 96, at 7.

99. PLANNING FOR RENEWABLE ENERGY, *supra* note 97, at 17-18 ("Community involvement is especially important in planning for renewable energy because it can help provide an opportunity to engage local people actively in the development of schemes; to address concerns about the impacts of potential schemes; and to explain the wider benefits of renewable energy.").

United Kingdom away from the United States approach and closer to that of its European counterparts.

B. The Wisconsin Model: Limiting the Discretion of Local Decisionmakers

Similar to the approach recently adopted in the United Kingdom, Wisconsin has sought to find a balance between enabling wind energy development and leaving land use permitting authority with local officials. Thus, rather than completely preempt local permitting authority, Wisconsin enacted a statute limiting the power of a local land use authority to deny a permit for a wind energy system or to impose conditions on the grant of that permit.¹⁰⁰ This approach seeks to both protect wind developers from unjustified denials while also maintaining communities' key role in determining their land use destiny. This approach has precedent in the United States, as the federal government has used it in another context: cellular communications towers. That experience, however, has identified the major drawback of this approach: the potential imposition of high transaction costs on wind developers who seek to challenge a permit denial. If wind energy developers would rather withdraw their proposal than go to court, this approach might fail to meaningfully alter the status quo.

In 1994 Wisconsin enacted its preemption of local authority with respect to siting wind energy systems in order to encourage local governments to grant special exceptions and variances to wind energy developers.¹⁰¹ Codified at §66.0401 of the Wisconsin Statutes, the legislature required the following:

No county, city, town, or village may place any restriction, either directly or in effect, on the installation or use of a solar energy system . . . or a wind energy system . . . unless the restriction satisfies one of the following conditions:

- (a) Serves to preserve or protect the public health or safety.
- (b) Does not significantly increase the cost of the system or significantly decrease its efficiency.
- (c) Allows for an alternative system of comparable cost and efficiency.¹⁰²

Under this scheme, local land use officials retain the authority to receive and review applications for the installation of a wind energy system, but they cannot deny a permit unless they can prove that the system as proposed will be a public health or a public safety hazard.¹⁰³ Officials likewise retain the power to condition the grant of a permit, but they cannot impose conditions, such as a height limit, that significantly increase the cost of the system or decrease its efficiency.¹⁰⁴

By limiting local officials in this manner, Wisconsin attempted to take a giant step toward eliminating from the permitting process the exaggerated concerns discussed in Section II. Wisconsin succeeded when the U.S. Court of Appeals of Wisconsin decided in *Nimrich v. Mequon Board of Zoning Appeals* that concerns regarding aesthetics and property values were not permissible factors under §66.0401 that a local land use authority could use to deny a permit application.¹⁰⁵ In that case, the city of Mequon's planning commission denied conditional use permits for two landowners who wished to install 95-foot tall wind turbines. The Board of Zoning Appeals (the Board) affirmed. The Board stated that the denial was reasonable for a variety of reasons, the most prominent of which were concerns about aesthetic impacts and impacts upon property values. In justifying their decision, the Board stated in its findings that "homeowners in proximity to the proposed towers are convinced that their quality of life will be negatively impacted, and in turn, their property values negatively impacted."¹⁰⁶ The Board added that the towers posed a threat to "the harmonious character of the neighborhood, its quality of life, and its property values."¹⁰⁷

The Wisconsin Court of Appeals struck down the denial of the permit and remanded the issue to the Board.¹⁰⁸ Relying on the plain meaning of the statute, the court found impermissible the Board's consideration of "the negative impact of the energy systems on the property values of neighboring properties and on the aesthetics of the neighborhood."¹⁰⁹ No denials, except those that serve the public health or safety, or restrictions, except those that do not significantly increase the cost or decrease the efficiency of the system, were allowed.¹¹⁰

No doubt the Wisconsin Legislature adopted this approach because of the balance the approach seeks to achieve. By restricting the factors a local land use authority can consider in permitting a wind energy system, the approach seeks to provide predictability and certainty to wind developers and, thus, to ensure that wind energy systems are installed in the state. Balanced against this protection for wind developers is the continued delegation of the actual permitting authority to local land use authorities, enabling them to play a role in shaping any necessary conditions, such as setback requirements, for wind energy systems in their community. The result, as a theoretical matter, is a step in the right direction for extinguishing the repetitious debate over concerns such as those surrounding property values and noise.

Notably, the federal government has employed a similar approach in a different context. In 1996, the U.S. Congress enacted §704 of the Telecommunications Act (TCA) with the goal of ensuring the orderly installation of cellular communication towers nationwide while also maintaining local

100. See WIS. STAT. §66.0401 (2004).

101. See *Nimrich v. Mequon Bd. of Zoning Appeals*, 626 N.W.2d 366, 372 (Wis. Ct. App. 2001). The legislature acted out of concerns about the diminishing supplies of nonrenewable energy resources, finding that renewable energy systems, including wind energy systems, could help address the problem. See *id.*

102. WIS. STAT. §66.0401.

103. See MICK SAGRILLO, HARVESTING YOUR OWN WIND-GENERATED ELECTRICITY 3 (Focus on Energy 2004), available at http://www.focusonenergy.com/data/common/dmsFiles/W_RI_MKFS_Wind%20for%20Farms%20.pdf (last visited Dec. 6, 2005).

104. *Id.*

105. See *Nimrich*, 626 N.W.2d at 372-73.

106. *Id.*

107. *Id.*

108. *Id.* at 372.

109. *Id.* The court found that "the Board [is] duty bound to confine its consideration of the conditional use applications in the light of the restrictions placed on local regulations pursuant to §[66.0401]." *Id.* (emphasis in original).

110. *Id.* at 371. Notably, the Wisconsin statutory scheme actually goes one step further, protecting wind energy system owners from "impermissible interferences" with their system by neighboring landowners, upon application for a wind access permit. See WIS. STAT. ANN. §66.0403 (2004); *Nimrich*, 626 N.W.2d at 371.

authority over land use decisions.¹¹¹ Cell towers, which are just as aesthetically unappealing as wind towers, if not more so, need to be installed throughout the country for cellular communications networks to be comprehensive. Identifying the proliferation of a nationwide cellular network as an important need, as well as the potential for opposition at the local level,¹¹² Congress enacted §704. Much like Wisconsin's §66.0401, §704 does not completely preempt local authority to deny permits for cellular communications towers, but it does place restrictions on local officials, such as a requirement that local officials not effectively prohibit cellular communications towers in their jurisdiction and a requirement that all denials be supported by "substantial evidence."¹¹³

Most commentators conclude that this portion of the TCA has had mixed success, in large part due to the vague language Congress employed, which has been interpreted in different ways among the federal circuits. Nearly 10 years after its enactment, a national consistency in its application "remains elusive," as the courts struggle with what types of actions effectively prohibit installations and what the "substantial evidence" requirement entails.¹¹⁴ The Act has had some success, however, in urging communities to enact ordinances that address cellular tower installations. In 1996, for example, Gwinnett County, Georgia, reviewed an application for a "Tall Structure Permit" needed to install a cellular communications tower.¹¹⁵ The county, which lacked an ordinance tailored to address cellular tower siting at the time, denied the application without explanation. The U.S. District Court for the Northern District of Georgia over-

turned the denial for lack of "substantial evidence," and granted mandamus relief, compelling the land use officials to grant the permit.¹¹⁶ The county responded, as did other neighboring local governments, by holding a series of meetings to evaluate the effectiveness of their zoning ordinances with respect to the siting of cellular communications towers.¹¹⁷ The result was the enactment of the Gwinnett County Telecommunications Tower and Antenna Ordinance, establishing a permit system for cellular towers in the county.¹¹⁸ Such a reaction to the Act, although it required an intervening judicial action, was beneficial to both the county and the telecommunications industry because it provided certainty and predictability for both parties in the future. This is the exact form of success that Wisconsin §66.0401 hopes to engender with respect to the siting of wind energy systems, evidenced by its drafting of a model land use ordinance and accompanying guidance document for local officials.¹¹⁹

As a practical matter, however, Wisconsin's approach is not without relevant costs that may limit its effectiveness in much the same way the effectiveness of TCA §704 has been limited. Specifically, for those communities that attempt to deny a permit on "public health and safety" grounds, judicial review may ensue. Just as the courts have struggled to interpret the provisions of the TCA consistently,¹²⁰ there is a chance that the Wisconsin courts will struggle with this provision as well.¹²¹ More importantly, however, unless developers are willing to front the costs associated with taking communities to court on these grounds, this approach cannot provide the desired protections for wind developers in those communities that remain averse to wind energy systems. While Wisconsin's intention is that of protecting wind developers, the protection comes with a high price tag, one that might be too high for some wind developers. A review of case studies compiled by the NWCC reveals that several proposals for wind energy systems in Wisconsin were withdrawn due to community opposition in recent years despite the statutory protections.¹²² Project opponents took actions that included organizing groups such as the "Town of Addison Preservation Group," funding lobbying efforts to get county boards to pass anti-wind power resolutions, and filing lawsuits.¹²³ Rather than look to the protections afforded

111. See 47 U.S.C. §332(c)(7) (2004). The U.S. Court of Appeals for the First Circuit described the Act as a scale that "attempts to balance two objects of competing weight: on the one arm sits the need to accelerate the deployment of telecommunications technology, while on the other arm rests the desire to preserve state and local control over zoning matters." *ATC Realty, Ltd. Liab. Co. v. Town of Kingston*, 303 F.3d 91, 94 (1st Cir. 2002), cited in Robert B. Foster & Mitchell A. Carrel, *Delaney's Semi-Scientific Test and Other Adventures in Cellular Networks and Land Use Under the Telecommunications Act of 1996*, 36 URB. LAW. 529, 529 (2004).

112. For a recent discussion of the continuing debate over the siting of cellular communications towers, see Katie Hafner, *First Come Cellphone Towers, Then the Babel*, N.Y. TIMES, May 1, 2005, at A1.

113. See 47 U.S.C. §332(c)(7)(b)(i)-(iv). Without going into extended detail, the substantive portions of §704 prohibit local officials from discriminating against different providers, effectively prohibiting the installation of towers, or from regulating providers on the basis of the environmental effects of radio frequency emissions. The procedural provisions require that any application be acted upon within a reasonable period of time and that any permit denial be in writing and supported by substantial evidence. For a more robust explanation, see generally Foster & Carrel, *supra* note 111.

114. See Foster & Carrel, *supra* note 111, at 539; Mitchell A. Carrel & Robert B. Foster, *Sprouting Towers: Resolving the Struggle Between Cellular Towers and Nature Under the Telecommunications Act of 1996*, 34 URB. LAW. 901, 901 (2002) ("For courts charged with applying and enforcing the TCA, achieving the balance between local zoning authority and national telecommunications growth has proved elusive."). This portion of the Act has also been criticized for its effect on local authority over land use decisionmaking, particularly because cell towers "may be considered public nuisances and can adversely affect property values." See Nick Tinari, *Cell Phone Towers in Residential Areas: Did Congress Let the Pig in the Parlor With the Telecommunications Act of 1996?*, 73 TEMP. L. REV. 269, 292 (2000); see also, e.g., Susan Lorde Martin, *Communications Tower Siting: The Telecommunications Act of 1996 and the Battle for Community Control*, 12 BERKELEY TECH. L.J. 483 (1997).

115. See *Bellsouth Mobility, Inc. v. Gwinnet County*, 944 F. Supp. 923, 924 (N.D. Ga. 1996).

116. See *id.* at 928-29. For an in-depth discussion of the case and its aftermath, see Long, *supra* note 74.

117. See Long, *supra* note 74, at 378.

118. See GWINNETT COUNTY, GWINNETT COUNTY TELECOMMUNICATIONS TOWER AND ANTENNA ORDINANCE (1997), available at <http://www.co.gwinnett.ga.us/departments/planning/pdf/tower.pdf> (last visited Dec. 6, 2005).

119. See WISCONSIN DEPARTMENT OF ADMINISTRATION, DRAFT MODEL WIND ORDINANCE FOR WISCONSIN (2004); see also WISCONSIN DEPARTMENT OF ADMINISTRATION, *supra* note 16.

120. See *supra* note 114 and accompanying text.

121. Notably, while the court of appeals in *Nimrich* determined that concerns about aesthetics and property values were not included in "public health and safety," the court did not determine what considerations would qualify under this standard. See 626 N.W.2d 366, 372-73 (Wis. Ct. App. 2001).

122. See NWCC REPORT, *supra* note 13, at 39-42. For example, the report cites one proposed project in Addison Township, Wisconsin, where the developer withdrew its first proposal on account of public opposition. After hosting a series of information meetings, it filed a revised proposal, which local citizens responded to by filing a lawsuit. The citizens ultimately withdrew the lawsuit on account of the decision in *Nimrich*, but the developer has since opted to not pursue wind energy development in the township. *Id.* at 41-42.

123. *Id.* at 41.

wind developers by §66.0401, the wind developers tended to withdraw their applications in the face of heated community opposition, taking their proposals to other jurisdictions.

While the intentions behind §66.0401 were that of providing a stable and predictable regulatory framework for wind developers, the transactional costs associated with invoking that framework might limit its effectiveness. By leaving the residual authority over the permitting process with the local officials, Wisconsin has effectively allowed local officials to frustrate wind developers to the point that the statutory protections might as well not exist. With this in mind, we turn to the second approach to state-level action: total preemption of siting authority.

C. Complete State Preemption: Taking the Power Back

Minnesota has declared it to be “the policy of the state to site [large wind energy conversion systems] in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.”¹²⁴ To implement this policy, Minnesota joins Oregon and Vermont as one of three states that have formally centralized the permitting authority over wind energy systems at the state level. Rather than rely on the discretion and inexperience of individual communities, or rely on the courts to strike the appropriate balance between wind development and local decisionmaking, these states have completely preempted the authority over wind energy system siting from local officials.¹²⁵ The goal, as stated by Vermont, is to “ensure the consistent treatment of proposed wind generation projects across the state.”¹²⁶

After outlining the three states’ policies, this section argues that the total preemption approach cures, to a large extent, many of the ills outlined earlier. While not without costs of its own, this approach requires state-level officials to consider the exaggerated concerns outlined in Section II only once, rather than every time a new project is proposed. This centralized permitting authority thereby enables states to enact a comprehensive regulatory framework for reviewing wind energy system applications, providing stability and predictability for wind developers. Rather than be subject to varied regulatory frameworks from community to community, developers can plan their projects in accordance with the single framework in place for the state as a whole. The result is an approach that outperforms both the local authority approach and the Wisconsin model at serving the needs of wind developers, communities, and the nation.

While the exact application review processes differ among them, Minnesota, Oregon, and Vermont similarly implement their approach by placing siting authority with a single, state-appointed committee. In Minnesota, wind developers submit an application for a site permit to the Minnesota Environment Quality Board (MEQB), which oversees a review process that includes public participation and

an environmental assessment.¹²⁷ Similar permit review functions are performed in Oregon by the Energy Facility Siting Council (EFSC)¹²⁸ and in Vermont by the Public Service Board (PSB).¹²⁹ While the guidelines followed by these committees differ across the three states, the motivation governing the committee action is similar: to apply a rigorous and comprehensive process adapted specifically for wind energy development.¹³⁰

The rules adopted by the committees to facilitate such rigorous and comprehensive processes govern everything from the procedures and criteria the committees use in their decisionmaking to permit conditions for site layout and operation. In Minnesota, for example, the MEQB is directed to not issue a site permit for a wind energy system “unless the board determines that the project is compatible with environmental preservation, sustainable development, and the efficient use of resources, and the applicant has complied with this chapter.”¹³¹ The MEQB likewise retains the power to “include in a site permit conditions for turbine type and designs, site layout and construction, and operation and maintenance of the [system].”¹³² In Oregon, by comparison, a more specific list of standards has been enacted such that if the EFSC deems them met by an applicant, the application cannot be denied.¹³³ These standards touch on a range of issues, including organizational expertise, waste minimization, and scenic and aesthetic values.¹³⁴ Vermont likewise employs a range of requirements, requiring the PSB to determine that the project, *inter alia*, “will not unduly interfere with the orderly development of the region” and “will not have an undue adverse effect on esthetics, historic sites, air and water purity, the natural environment and the public health and safety.”¹³⁵ In addition, all three states require significant public involvement, usually in the form of public hearings, as well as prescribe direct routes for judicial review.

As compared to the lack of a prepared regulatory framework generally found at the local level, these regulatory frameworks are the key to extinguishing the need for unnecessary debate over wind energy systems. These rules reflect a commitment by the state to prepare a regulatory framework *prior* to receiving permit applications rather than in reaction to those applications. As a result, these states’ permit-

127. See MINN. STAT. §116C.694; MINN. R. 4401.0100 to 4401.0800 (2004).

128. See OR. REV. STAT. §469.350 (2004).

129. See VT. STAT. ANN. tit. 30, §248 (2004).

130. See VERMONT COMMISSION ON WIND ENERGY REGULATORY POLICY, *supra* note 1, at 4-14; OR. REV. STAT. §469.310 (“It is . . . the purpose of [these provisions] to exercise the jurisdiction of the [s]tate of Oregon to the maximum extent permitted by the [U.S.] Constitution and to establish in cooperation with the federal government a comprehensive system for the siting, monitoring and regulating of the location, construction and operation of all energy facilities in this state.”); MINN. STAT. §116C.693.

131. See MINN. R. 4401.0600.

132. *Id.*

133. See OREGON OFFICE OF ENERGY, *supra* note 67, at 5.

134. See OR. ADMIN. R. 345-022-0000 to 345-022-0120 (2004).

135. See VT. STAT. ANN. tit. 30, §248(b)(1), (5). Vermont employs a two-prong test, known as the Quechee Test, to evaluate a project’s aesthetic impacts. The first prong asks whether the project would have an adverse impact on aesthetics by not being in harmony with the surroundings, and if it would, the second prong asks if the adverse impact would be “undue.” For a more detailed look at the Quechee Test, see *In re Halton*, 811 A.2d 161, 163 (Vt. 2002).

124. See MINN. STAT. §116C.693 (2005).

125. See, e.g., *id.* §116C.697 (“A permit under sections 116C.691 to 116C.697 is the only site approval required for the location of [a large wind energy conversion system]. The site permit supersedes and preempts all zoning, building, or land use rules, regulations, or ordinances adopted by regional, county, local, and special purpose governments.”).

126. See VERMONT COMMISSION ON WIND ENERGY REGULATORY POLICY, *supra* note 1, at 4-15.

ting processes employ more objective criteria and are less subject to local political bias than approaches leaving local officials with the permitting authority.¹³⁶ Accordingly, the ability for exaggerated concerns to hold the permitting process hostage is severely curtailed. Members of the siting committees not only have a prepared regulatory framework for addressing these concerns, but are also more likely to be experienced in determining which concerns are legitimate and which are not. Wind developers, communities, and the nation benefit from this experience as it brings stability and predictability to the permitting process. Rather than facing the risks associated with uninformed local officials and uncertain regulatory circumstances, wind developers are able to deal with the same committees on a repeat basis. Unlike the repetitive debate over whether wind energy systems affect property values, for example, this form of repetition helps wind developers develop expectations about what kinds of projects are and are not permissible, while also enabling the state committees to become experienced in understanding the technological aspects of wind energy systems.

Centralizing the permitting authority over wind energy systems at the state level, however, does not come without costs. First, robust, state-level regulatory frameworks for site permits are just that, robust. They can often entail longer time spans for obtaining permits and the completion of impact studies.¹³⁷ Second, there is the obvious cost to the individual autonomy of local communities over land use decisionmaking. While wind developers may be forced to deal with more paperwork, they are receiving the benefit of a more stable and predictable permitting process. The communities within which these wind energy systems are sited receive no comparable benefit. Rather, they lose regulatory authority previously granted to them, a loss that could potentially cause a backlash against both the wind developers and the state officials. These costs are important and are ones the states recognize. The Vermont Commission on Wind Energy Regulatory Policy, in response to concerns that Vermont's centralized permitting process was not adequately taking into account community concerns, recently recommended requiring two public hearings on each project rather than the currently required one.¹³⁸

The costs imposed by the preemption approach, however, are small compared to both the costs born by communities and the nation under the local authority approach and the costs imposed on wind developers under the Wisconsin model. Complete preemption of the permitting process for wind energy systems avoids, to a large extent, the unnecessary and repetitious debate that creates disincentives for wind developers to pursue projects and the increased transactional costs imposed on all parties involved. Complete preemption engenders the development of regulatory frameworks that are tailored to address the issues associated with wind energy rather than the use of existing and insufficient land use controls to react to wind energy applications after the fact. Such reactionary regulation not only potentially denies a community a valuable economic develop-

ment opportunity, but also severely hurts the energy needs of the nation when it is repeated ad infinitum.

V. Conclusion

Vermont's internal conflict over the issues associated with siting wind energy systems may be the most difficult in the nation. A state known both for its progressive politics and its ban on billboards,¹³⁹ wind energy development unsurprisingly engenders a significant amount of community debate and uproar. Fortunately, Vermont is one of the few states that has adopted a state-level approach to the permitting of wind generation systems. Given the level of uproar at present,¹⁴⁰ it is likely that wind energy developers would be significantly less inclined to pursue projects in Vermont if the state employed the local approach. At least in part because it does not, wind developers are actively pursuing several projects at the moment, and the state is moving forward with its permitting process in an orderly manner.¹⁴¹ To everyone's advantage, the developers know what regulatory framework they will be subject to and what requirements they must meet in order to receive the necessary permits.

These benefits of stability and predictability, however, should not be taken to mean that under the complete preemption approach wind developers should never be denied a permit to install a wind energy system. The focus of this Article has been the need for regulatory frameworks that limit the impact of exaggerated and unfounded concerns. That legitimate concerns, such as the impact of a proposed wind energy system on migratory birds, can and often do exist should not be discounted. Along with ensuring that unfounded concerns do not hold a permit review process hostage, properly tailored state-level actions that limit and/or preempt local authority over siting must also ensure that wind energy systems are not sited in areas that raise legitimate concerns. A case in point, the Vermont PSB denied a siting permit in 2002 for the wind energy developer's failure to analyze alternative sites for its turbine after neighbors testified that they found the turbine aesthetically unappealing. The Supreme Court of Vermont upheld the denial, deferring to the regulatory process implemented by the state.¹⁴² Just as the use of a state-level regulatory framework is a success when it preempts unnecessary debate, so to is it a success when it denies a permit based on failures to comply with the framework.

To conclude, there are numerous benefits associated with the state-level approach employed by Minnesota, Oregon, and Vermont. They require the state to develop in advance a regulatory framework to address the permitting of wind energy systems, thus engendering stability and predictability within the permitting process. While the processes and criteria may vary from state-to-state, such variance is far superior to variance among local communities within every state. The Wisconsin model, while it potentially imposes significant transaction costs on developers seeking its protection, also provides incentives for local communities to

136. See OREGON OFFICE OF ENERGY, *supra* note 67, at 4 ("A defined set of objective standards governs the state-level siting decision."); McMAHON & MOSTOW, *supra* note 13, at 2.

137. See McMAHON & MOSTOW, *supra* note 13, at 2.

138. See VERMONT COMMISSION ON WIND ENERGY REGULATORY POLICY, *supra* note 1, at 4-18.

139. See VT. STAT. ANN. tit. 10, §488 (2004).

140. See, e.g., Burlington Free Press, *The Wind Turbine Issue*, at <http://www.burlingtonfreepress.com/specialnews/wind/> (last visited Dec. 6, 2005).

141. See, e.g., Page, *supra* note 62.

142. See *In re Halnon*, 811 A.2d 161, 165 (Vt. 2002).

prepare regulatory frameworks that address wind energy systems. Like the complete preemption approach, this model is similarly preferable to complete abrogation of the permitting process to local land use officials. Given the energy needs of the nation, the potential for repetitious debates

over exaggerated concerns is too high a price to pay for blind adherence to the traditional land use approach. State-level action is needed to ensure that wind energy is capitalized upon in the United States, just as it is being capitalized upon in Europe.