

Against the Wind: Conflict Over Wind Energy Siting

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Editors' Summary

With soaring gas prices, international commitments to reduce carbon emissions, and domestic pressure to reduce dependence on foreign oil, there is significant momentum for the development of alternative energy within the United States. As a mature existing technology, wind energy is the fastest growing source of domestic alternative energy. However, the local siting of wind turbines has been rife with conflict. This is profoundly evident in Hammond, a small town in upstate New York, where clashes between pro- and anti-wind factions have resulted in several lawsuits and created profound divisions between neighbors that will last generations. This conflict transcends simple “not in my backyard” sentiments and drives deep into the trade offs inherent in environmental policies and the tension over local land use control. Although traditional common law and statutory legal venues fall short of resolving these trade offs, states can offer municipalities oversight and institutional resources for landscape-scale, comprehensive planning to ensure the effective and equitable siting of wind turbines in their communities.

Wind energy production has accelerated in the United States with both large-scale wind farm development and localized small-scale production. However, as with many sources of renewable energy production, wind production has its own set of environmental costs and benefits. Heated debate over the siting of wind turbines has created rifts in communities facing potential wind development. Proponents of wind development who see potential economic opportunities for rural communities and environmental benefits of renewable technologies clash with opponents who see wind companies and private landowners utilizing gaps in regulation and inconsistent zoning to cash in on a land grab for future wind development.

While the local organizing against wind development has been dismissed as classic “not-in-my-backyard” (NIMBY) efforts with narrow self-interested motivation, the picture is more complex and involves questions of property interests, local control or “home rule” authority, and the role of environmental trade offs involved with developing alternative energy resources. Through a case study approach, this Article will examine the nature of the conflict over wind energy siting, analyze existing efforts to create regulatory solutions for wind development, and evaluate the role of the law and regulation in balancing the environmental trade offs of alternative energy development. The Article concludes that a hybrid regulatory model with basic siting standards must come from the state level to reduce local conflict and ensure the proper balancing of trade offs inherent in the development of wind power. However, involvement of local communities in comprehensive planning is essential to address local conditions and negotiate co-benefits of large-scale wind development in small towns.

I. Renewable Energy in the United States

With concern over energy security and climate change growing in the United States, alternatives to fossil fuel-based energy production are emerging as serious players in the energy sector. Benefits of alternative energy include the reduction in reliance on imports of oil, reduction in environmental impact from fossil fuel extraction and production, and reduced greenhouse gas (GHG) emissions. According to the National Renewable Energy Laboratory, wind energy in the United States has the potential to provide 20% of national energy demand.¹ By the end of 2008,

1. National Renewable Energy Laboratory, Wind Research, <http://www.nrel.gov/wind/> (last visited May 9, 2011).

more than 25 gigawatts (GW) of wind generation were deployed in the United States.²

One of the central drivers for wind power development is the mandate of state-adopted renewable energy portfolios standards (RPS). RPS regulations at the state level require a certain percentage of electricity be produced from renewable sources, such as solar, wind, biomass, or geothermal. RPS policies require investor-owned utilities and other power producers to purchase renewable power in the marketplace. States have been the driver of RPS policies, and as of June 2010, 31 states and the District of Columbia have adopted a form of RPS, requiring energy suppliers in the state to source a certain percentage of their energy from renewable energy sources.³ In addition, states have adopted various compliance mechanisms and RPS parameters, including preferences for low-cost and renewable credits, set-asides for specific energy sources, or exclusion of certain forms of production, such as hydropower or nuclear power. However, the clear winner in the past decade for growth in production has been wind energy. Between 1998 and 2007, approximately 98% of the renewable energy that has come online in states with RPS has been wind power.⁴ This is due to several factors, including the mature development of wind technology and lower cost of kilowatt production compared to other renewables and the availability of wind resources in many states. The mandated use requirement of RPS acts as a significant driver of renewable energy production along with federal funding incentives. In addition, with the specter of possible GHG regulation either through the U.S. Congress or the U.S. Environmental Protection Agency (EPA), investments in renewable portfolios are essential for the utility industry and serve to boost production of existing renewable technologies, with wind power at the forefront.

II. Environmental Trade Offs and Renewable Energy

In a speech to conservatives in late 2009, Sen. Lamar Alexander (R-Tenn.) spoke of the “perils of energy sprawl” and expressed his concern that the “unintended consequences of using renewable energy to mitigate climate change could damage the environment in the name of saving the environment.”⁵ Senator Alexander, an unlikely spokesperson for environmental causes, opposes the installation of

wind turbines along the scenic Appalachian Trail, which snakes through his home state of Tennessee.⁶ His dissent over the siting of renewable energy in a scenic area of Tennessee speaks to the larger issues at hand and the trade offs involved in renewable energy development. Wind power has been hailed as an existing technology with the potential to deliver energy independence and replace carbon-based energy sources. However, wind power production is not without environmental and social impacts, and conflict over the siting of wind turbines has threatened the development of this renewable technology. An examination of the costs and benefits of wind power and the nature of the conflict over the technology is essential to shape regulation and development of this dominant renewable resource.

A. Costs/Benefits Generally

In comparison with traditional fossil fuel energy production, wind offers many environmental benefits. Unlike coal-fired power plants, wind turbines do not require the use of water resources and provide co-benefits for human health through the reduction of particulate pollution and other emissions.⁷ As wind and other alternative energy sources replace fossil fuel-based energy sources, the reduction in mining of coal and extraction of oil and gas will also provide significant environmental benefits in the form of habitat preservation, reduced aquatic ecosystem damage, and associated risks from toxic releases.⁸

In economic terms, wind has been viewed as a possible boon for rural areas experiencing economic challenges, as small farms are increasingly economically unsustainable and economic downturns hit small towns.⁹ Wind companies often seek private leases for the operation of wind turbines on farmland in exchange for cash payment and can provide an average of \$2,000-\$5,000 in yearly rental

2. PAUL DENHOLM ET AL., NATIONAL RENEWABLE ENERGY LABORATORY, LAND USE REQUIREMENTS OF WIND POWER PLANTS IN THE UNITED STATES (Aug. 2009), available at <http://www.nrel.gov/wind/pdfs/45834.pdf>.
3. U.S. Department of Energy, Energy Efficiency & Renewable Energy, States With Renewable Energy Portfolio Standards, http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm, (last visited May 9, 2011). Five of these states have set nonbinding goals for renewable energy.
4. RYAN WISE & GALEN BARBOSE, LAWRENCE BERKELEY NATIONAL LABORATORY, RENEWABLE PORTFOLIO STANDARDS IN THE UNITED STATES (Apr. 2008), available at <http://eetd.lbl.gov/ea/ems/reports/lbnl-154e.pdf>.
5. Lamar Alexander, Press Release Mar. 9, 2010, http://alexander.senate.gov/public/index.cfm?p=PressReleases&ContentRecord_id=0bfad2bf-144f-44ed-8d0c-8c7db81da1e4&Content_Type_id=778be7e0-0d5a-42b2-9352-09ed63cc4d66&Group_id=80d87631-7c25-4340-a97a-72ccdd8a658&MonthDisplay=3&YearDisplay=2010 (last visited May 9, 2011).

6. The League of Conservation Voters 2008 scorecard gave Sen. Alexander 18% out of 100 for his voting record on environmental issues in the 110th Congress. See <http://www.lcv.org/2008-pdf.pdf>.
7. Health impacts from the combustion of coal include the emissions of nitrogen oxide, particulate matter, and mercury. See Robert D. Brook et al., *Air Pollution and Cardiovascular Disease: A Statement for Healthcare Professionals From the Expert Panel on Population and Prevention Science of the American Heart Association*, 109 CIRCULATION 2655-71 (2004); Yun-Chul Hong et al., *Effects of Air Pollutants on Acute Stroke Mortality*, 110 ENVTL. HEALTH PERSPECTIVES 187-91 (2005); Antonella Zanobetti, *The Effect of Particulate Air Pollution on Emergency Admissions or Myocardial Infarction: A Multicity Case-Crossover Analysis*, 113 ENVTL. HEALTH PERSPECTIVES 978-82 (2005). U.S. EPA, STUDY OF HAZARDOUS AIR POLLUTANT EMISSIONS FROM ELECTRIC UTILITY STEAM GENERATING UNITS, FINAL REPORT TO CONGRESS (Feb. 1998), available at <http://www.epa.gov/ttn/caaa/t3/reports/eurtc1.pdf>.
8. Surface and underground coal mining results in significant wastewater discharge, contamination of groundwater, and loss of terrestrial habitat. See National Pollutant Discharge Elimination System (NPDES) Topics: Mining, U.S. EPA, <http://cfpub.epa.gov/npdes/indpermitting/mining.cfm> (last visited Jan. 21, 2011); Oil and gas extraction impacts groundwater, produces large volumes of wastewater, and disrupts terrestrial ecosystems. See U.S. EPA, ASSESSMENT OF THE ENVIRONMENTAL IMPLICATIONS OF OIL AND GAS PRODUCTION: A REGIONAL CASE STUDY (Sept. 2008), available at <http://www.epa.gov/sectors/pdf/oil-gas-report.pdf>.
9. 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, 663 (2008).

income for landowners.¹⁰ In addition, wind power has been hailed as a growth industry for employment and manufacturing, although competition from China and other foreign manufacturers is fierce.¹¹

B. Nature of the Siting Conflicts and Environmental Trade Offs

At the heart, the conflict over renewable energy development is land use. Wind power is harnessed by tall turbines with either horizontal or vertical blades, which turn in the wind and rotate a shaft to produce electricity in a generator.¹² The turbines are connected to the electricity grid but often require the construction of additional power lines to link the turbine to existing distribution lines. Turbines range in height from 50 to 100 meters and are installed in several large fabricated sections, some of which can weigh 50 tons and require a 500-foot crane to construct. The installation of these large turbines can disrupt ecosystems in undeveloped areas, although this is less of a concern in areas with existing road systems and developed agriculture. As compared to traditional forms of generation, wind, along with other alternative energy technologies such as biomass and solar, has a higher land use intensity per unit of electrical production.¹³ Some of the impacts from wind power production include harm to avian and bat species, safety and health concerns, and harm to aesthetic or cultural values in local communities. Understanding these impacts is essential to any effort to reduce local conflict over siting wind turbines and to balance environmental trade offs.

I. Wildlife Impacts

One of the significant environmental impacts often cited by opponents to wind development projects is bird and bat deaths due to collisions with turbine blades. However, research has shown that the rates of wildlife impacts vary significantly from site to site. A U.S. Government Accountability (GAO) study in 2005 found that avian and bat mortality was concentrated in specific geographic areas, with significant mortality in northern California and Appa-

lachia.¹⁴ Turbines installed in the Altamont Pass Wind Resource Area in west-central California were found to kill an estimated 2,710 birds, including 67 golden eagles and 1,127 other raptors annually.¹⁵ Studies have found several factors were found to exacerbate rates of strikes with the turbines, including siting wind farms in established migratory flyways, turbine design (much of which is outdated in the Altamont pass development), and number of turbines in a given development.¹⁶ Because flyways can attract enormous populations of birds over time, wind turbines are especially problematic in these areas. This research underscores the role of siting and construction standards in minimizing harm to wildlife. However, one of the challenges identified in the GAO report is the lack of expertise at the state and local level to address wildlife impacts.¹⁷ While states have more resources within their own departments and state agencies, local governments have little access to regional data on migratory patterns and site-specific impact assessments for potential wildlife impacts.

While impacts to raptors and avian species are significant, if wind power production supplants other traditional fossil fuel energy production, there will be gains for wildlife and ecosystem protection as well. For instance, one coal plant in Massachusetts was estimated to be responsible for the entrainment and destruction of 16 billion fish eggs and larvae through its open cooling system.¹⁸ The American Bird Conservancy identified a disastrous event, where 3,000 birds were killed in a nighttime collision with smokestacks from a coal-fired power plant in Florida.¹⁹ Indeed, comparison of wildlife impacts of electrical generation sources is important in the context of climate change, where it is increasingly apparent that changes in temperature, weather patterns, and precipitation will have a profound impact on wildlife.²⁰ The most recent Intergovernmental Panel on Climate Change (IPCC) technical report on climate change and biodiversity found that climate change is expected to increase the rate of species extinction already occurring through habitat loss and other human pressures on ecosystem resources.²¹ The IPCC's Fourth Assessment Report in 2004 found that 20-30%

10. U.S. GAO, *WIND POWER'S CONTRIBUTION TO ELECTRIC POWER GENERATION AND IMPACT ON FARMS AND LOCAL COMMUNITIES* (Sept. 2004), available at <http://www.gao.gov/new.items/d04756.pdf>.

11. Keith Bradsher, *To Conquer Wind, China Writes the Rules*, N.Y. TIMES, Dec. 14, 2010, http://www.nytimes.com/2010/12/15/business/global/15china-wind.html?_r=1&ref=windpower (last visited May 9, 2011); Tom Zeller, *China's Push Into Wind Worries U.S. Industry*, N.Y. TIMES, Dec. 15, 2010, <http://www.nytimes.com/2010/12/16/business/global/16wind.html> (last visited May 9, 2011).

12. Nat'l Renewable Energy Lab., *How Wind Energy Works*, http://www.nrel.gov/wind/systemsintegration/system_integration_basics.html (last visited May 9, 2011).

13. *Environmental Tradeoffs*, WASH. POST, <http://www.washingtonpost.com/wp-dyn/content/graphic/2009/04/16/GR2009041600093.html> (Wind requires 27.8 square miles per terawatt-hour per year of production, as compared with 7.1 for natural gas, and 3.7 for coal); see also Nat'l Renewable Energy Lab., *Wind Research*, <http://www.nrel.gov/wind/> (last visited May 9, 2011).

14. U.S. GAO, GAO-05-906, *WIND POWER: IMPACTS ON WILDLIFE AND GOVERNMENT RESPONSIBILITIES FOR REGULATING DEVELOPMENT AND PROTECTING WILDLIFE 1* (2005) [hereinafter U.S. GAO Study], available at <http://www.gao.gov/new.items/d05906.pdf>.

15. K. Shawn Smallwood & Carl Thelander, 72 J. WILDLIFE MGMT. 215-23 (2008).

16. U.S. GAO Study, *supra* note 14.

17. *Id.*

18. Meredith Lilly & Jeremy Firestone, *Wind Power, Wildlife, and the Migratory Bird Treaty Act: A Way Forward*, 38 ENVTL. L. 1202; Christina M. Jarvis, *An Evaluation of the Wildlife Impacts of Offshore Wind Development Relative to Fossil Fuel Power Production 62-64* (Fall 2005) (unpublished M.M.P. thesis, Univ. of Delaware).

19. American Bird Conservancy, *Wind Energy Policy*, http://www.abcbirds.org/abcprograms/policy/wind/wind_policy.html (last visited May 9, 2011).

20. See National Climate Change and Wildlife Science Center, U.S. Geological Society, <http://nccw.usgs.gov> (last visited May 9, 2011) (a program designed to coordinate scientific examination of climate change impacts on wildlife across special and temporal scales).

21. IPCC TECHNICAL PAPER V, *CLIMATE CHANGE AND BIODIVERSITY*, §6.2.1 (Apr. 2002), available at <http://www.ipcc.ch/pdf/technical-papers/climate-changes-biodiversity-en.pdf>.

of animal and plant species faced increased risk of extinction due to climate change impacts.²² The technical report finds that when appropriately sited, wind power has limited and species-dependent impacts on wildlife and birds but a more case-by-base analysis may be desirable.²³ While there are potential benefits to wildlife and biodiversity of reductions in GHG emissions through renewable energy development, the real impact of turbines on important species highlights the global nature of the trade offs in energy production. This perspective is essential when considering the role of government in the regulation and development of these renewable energy projects.

2. Cultural Values and Viewshed Impacts

Aesthetic impacts and viewshed impacts have been continuously identified as a central concern to local residents facing wind development.²⁴ The much-publicized debate over the siting of offshore wind turbines in Cape Cod, Massachusetts, is an example of the challenge of reconciling resource and aesthetic values.²⁵ Beyond the appearance of large turbines on the landscape or horizon, rotating blades can produce “shadow flicker” when blades cross sunlight and create intermittent shadows on adjacent land and buildings. This visual effect, along with the significant presence of large turbines in the viewscape, comprises a significant portion of local complaints and fears regarding the siting of wind turbines.²⁶

3. Safety and Health Concerns

Although wind farms do not present public health threats at the scale of coal-fired power plants, they are associated with a number of safety and health concerns. As with other renewable resources, wind power is intermittent, and production varies during the day. As a result, more reliable sources such as coal-fired power plants are needed to balance the fluctuations in wind production and to provide a consistent power supply to consumers.²⁷

One of the physical safety threats from wind turbines is “ice fall,” where ice slides off wind turbine blades and is thrown onto nearby land.²⁸ Possible mitigation measures include the siting of turbines at a safe distance from residential housing and roads. Another significant point of contention over wind siting in residential areas is noise pollution from the operation of the wind turbines.²⁹ Long-standing EPA safety guidance sets maximum acceptable levels of noise interference at 45 decibels indoors and 55 outdoors.³⁰ However, this guidance acknowledges that personal local conditions may be controlling factors in community and individual response to noise annoyance, as sound may be more noticeable in rural areas as there is less ambient noise than urban environments.³¹ In addition, the World Health Organization’s 2009 study of noise and sleep disruption found that noise between 40-55 decibels had measurable adverse health impacts due to sleep disturbance, especially in vulnerable populations such as children.³² Wind turbines produce an estimated 45 decibels at distances of 1,150 feet, which is typically reduced to 35-40 decibels at twice that distance.³³ Recent studies have evaluated the cumulative health impacts of living adjacent to wind turbines. A New York doctor recently dubbed these impacts as “Wind Turbine Syndrome,” a phenomenon that the American Wind Association disputes in a recent study.³⁴

4. Land Disturbance

The installation and production of wind power does not present the widespread ecosystem impacts of other renewable energy such as hydropower, but wind power has a strong presence on the landscape. Beyond the footprint of the turbines themselves, the installation and operation of utility-scale wind turbines requires the building of infrastructure, such as roads and transmission lines to transport energy to the utility grid. However, this disturbance is small when compared with traditional energy production

22. IPCC FOURTH ASSESSMENT REPORT, ECOSYSTEMS, THEIR PROPERTIES, GOODS, AND SERVICES 213, available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter4.pdf>.

23. U.S. GAO Study, *supra* note 14.

24. Charles Warren et al, *Green on Green: Public Perceptions of Wind Power in Scotland and Ireland*, 48 J. ENVTL. PLANNING & MGMT. 853, 867 (Nov. 2005); see also Maarten Wolsink, *Wind Power and the NIMBY-Myth: Institutional Capacity and the Limited Significance of Public Support*, 24 RENEWABLE ENERGY 49-64 (Sept. 2000) (finding aesthetic impacts was the greatest predictor of attitudes toward wind energy development, underscoring importance of siting and public participation).

25. See *infra* II.c., for discussion of the controversy over the Cape Wind project.

26. Tom Meersman, *Noise, Shadows From Wind Towers Create Uproar With Neighbors*, MINNEAPOLIS STAR TRIB., Jan. 17, 2010.

27. Because wind energy can be intermittent and not reliably available 24 hours a day, backup systems are needed to contribute energy production during low-wind periods and when demand outpaces wind production. These peaking generators include coal and natural gas power plants, but research into energy storage may allow for low-carbon alternatives for intermittent wind resources. See Wind Systems Integration Basics, National Renewable Energy Laboratories, http://www.nrel.gov/wind/systemsintegration/system_integration_basics.html, (last visited Jan. 21, 2011).

28. Henry Seifert et al., Risk Analysis of Ice Throw From Wind Turbines, paper presented at BOREAS VI: Conference on Wind Energy Production in Cold Climates, Finland (Apr. 2003), available at <http://web1.msue.msu.edu/cdnr/icethrowseifertb.pdf>.

29. See Tom Zeller, *For Those Near, the Miserable Hum of Clean Energy*, N.Y. TIMES, Oct. 5, 2010.

30. U.S. EPA, OFFICE OF NOISE ABATEMENT AND CONTROL, INFORMATION ON LEVELS OF ENVIRONMENTAL NOISE REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE (1974), available at <http://www.nonoise.org/library/levels74/levels74.htm#identified%20levels%20for%20interference>.

31. *Id.* at 21, D-10 (correction factor needed for estimation of intruding impacts in rural areas).

32. WORLD HEALTH ORG. EUROPE, NIGHT NOISE GUIDELINES FOR EUROPE 108, available at <http://www.euro.who.int/document/e92845.pdf>.

33. ACOUSTIC ECOLOGY INSTITUTE, WIND ENERGY NOISE IMPACTS 6 (Nov. 17, 2009), available at <http://www.acousticecology.org/docs/AEI%20Wind%20Turbine%20Noise%20report%202009.pdf>.

34. Dr. Nina Pierpont, Wind Turbine Syndrome, Official Book website, <http://www.windturbinesyndrome.com> (last visited May 9, 2011); DAVID COLBY ET AL., CANADIAN WIND ENERGY ASSOCIATION, WIND TURBINE SOUND, AND HEALTH EFFECTS: AN EXPERT PANEL REVIEW (Dec. 2009), available at http://www.canwea.ca/pdf/talkwind/Wind_Turbine_Sound_and_Health_Effects.pdf (finding that current science does not indicate that wind turbines have direct adverse psychological or physical effects on humans).

processes. Although coal-fired power plants may produce far more electricity than a wind farm occupying the same land area, when the production of coal is factored into the equation, the impacts from coal extraction are far greater than wind. It is estimated that over a 30-year period, a surface coal mine will use 21,844 acres of land, while an average wind array will use 4,720 acres to produce the same amount of power.³⁵ Wind turbines may be compatible with other land uses such as agriculture, but the siting of wind turbines can also fragment ecosystems through road construction and other impacts.

C. Conflict Within the Environmental Community

Although embraced as a potentially viable alternative to carbon-based energy production, wind power development has not enjoyed universal support by the environmental community, at least without significant caveats. This was evident in the debate over the offshore Cape Wind project, when longtime environmentalist Robert Kennedy spoke out against the destruction of the sound's viewshed.³⁶ In the case of Cape Wind, over nine years of debate stalled the development of an offshore wind farm within view of the famed Kennedy estate in Hyannis, Massachusetts. This debate highlighted the conflict between progressive energy policy and the reality of installing industrial-scale wind development. These "green versus green" conflicts have emerged across the country. In the highlands of West Virginia, those who used to fight side-by-side for protection of the Alleghany ecosystems now find themselves at odds over the development of wind power in the region.³⁷

However, most of the large national environmental and conservation advocacy organizations have embraced wind power as an alternative to fossil fuel-based energy. Many encourage the management of the trade offs of environmental benefits and impacts from wind power. For instance, the Sierra Club urges local chapters to support projects that use siting procedures that avoid and mitigate wildlife impacts and reduce noise to ambient levels for "nonvoluntary" neighbors adjacent to wind projects, and to discourage development in recognized state and national conservation areas.³⁸ The Natural Resources Defense Council advocates for careful siting decisions with impacts mitigated and operations conducted in an environmentally responsible manner.³⁹ Both the Audubon Society and the American Bird Conservancy support the development of wind power along with state and federal guidelines for siting, including required assessments

of bird and bat impacts before turbines are approved and constructed.⁴⁰ The Center for Biological Diversity (CBD) pursues policies that avoid and mitigate impact from renewable energy on threatened species, but has pursued legal action against wind projects with significant harm to wildlife and emphasizes the relative benefits and costs of different forms of alternative energy to at-risk wildlife species.⁴¹ However, unlike other debates over land use and conservation that often pit environmentalists against developers, renewable energy siting is a debate over the best ways to mitigate impacts of green energy while realizing the benefits of low-carbon energy production.

III. Existing Legal and Regulatory Framework

A. Going to the Courts

The siting and operation of wind turbines stirs controversy, often resulting in legal challenges. For individuals and organizations seeking legal routes to test the siting of wind turbines, there are several statutory and common-law avenues for such a challenge. In addition to local challenges over public process and nuisance, wind turbines can threaten federally and state-protected species. Several environmental nonprofits have used the legal hooks of wildlife law and other strategies to challenge the siting and ongoing use of wind turbines in sensitive areas. The following section summarizes and provides analysis of the legal challenges to wind power development in order to illuminate the viability of legal methods for settling disputes on the siting of wind turbines.

I. National Environmental Policy Act and State Environmental Review

The National Environmental Policy Act (NEPA)⁴² plays an important role in wind energy development on federally owned public lands or in projects with significant federal funding or management. Because NEPA requires a "hard look" at the environmental impacts of federal actions, large-scale wind farm developments require a detailed analysis of potential impacts and alternatives.⁴³ For example, the U.S. Department of the Interior (DOI) has established standardized methods to evaluate the environmental impact of wind farms on public lands in western states, including impacts on wildlife, best management practices, and potential mitigation measures.⁴⁴ NEPA provides for

35. PAUL GIPE, *WIND ENERGY COMES OF AGE* (1995).

36. Robert Kennedy, *An Ill Wind off Cape Cod*, N.Y. TIMES, Dec. 16, 2005, Op-Ed.

37. Felicity Barringer, *Debate Over Wind Power Creates Environmental Rift*, N.Y. TIMES, June 6, 2006, A18.

38. Audubon Society, Audubon's Position on Wind Power, <http://www.audubon.org/campaign/windPowerQA.html> (last visited May 9, 2011); Sierra Club, Conservation Policies: Wind Siting Advisory, http://www.sierraclub.org/policy/conservation/wind_siting.aspx (last visited May 9, 2011).

39. Natural Resources Defense Council, Renewable Energy for America, <http://www.nrdc.org/energy/renewables/> (last visited May 9, 2011).

40. Am. Bird Conservancy, Wind Energy Policy, http://www.abcbirds.org/ab-cprograms/policy/wind/wind_policy.html (last visited May 9, 2011).

41. Interview with Ctr. for Biological Diversity lead staff member, Apr. 12, 2010, names on file with author.

42. 42 U.S.C. §§4321-4370f, ELR STAT. NEPA §§2-209.

43. See The White House Council on Environmental Quality, The National Environmental Policy Act, <http://ceq.hss.doe.gov/welcome.html> (last visited May 9, 2011).

44. U.S. DOI, Final Programmatic EIS on Wind Energy Development in BLM-Administered Lands in the Western United States, 70 Fed. Reg. 36651 (June 24, 2005).

public comment and the potential for citizen suit challenges. However, NEPA is only available as a legal tool to challenge the siting of wind turbines on federal land or for federally funded projects. As this Article is concerned with conflicts over siting of wind turbines on private land, state NEPA derivatives, or “baby NEPAs,” provide more context for legal challenges on a local level.

Several aspects of a wind power development project can trigger state NEPA environmental reviews, and standards vary by state. For example, in New York, the state environmental review law requires analysis of environmental impacts early in the planning process when wind projects result in physical alteration of 10 acres of land, when local zoning changes are made to accommodate a wind project, when Town Boards grant a permit for wind development, when projects impede on wetlands, or when tower heights exceed 100 feet in towns without zoning.⁴⁵ The state agency that administers New York’s State Environmental Quality Review (SEQR) Act, the Department of Environmental Conservation (DEC), does not have approval authority over the installation of wind turbines in the state, but the agency has presented guidelines for wind development that include assessment of wildlife impacts, water resource impacts, visual impacts, cultural resources, and an alternatives analysis.⁴⁶

The triggering of the SEQR process requires the state or local agency to assess the environmental impacts of a proposed project or policy. When local Town Boards pass local wind zoning laws, grant permits, or variances for the development of a wind project, they are considered the “lead agency” for purposes of completing the state environmental review process, typically under a “Type 1” or “unlisted” SEQR action.⁴⁷ The first step in this process is the completion of an Environmental Assessment Form (EAF) to determine whether potential impacts from the action will result in a significant environmental impact and require a robust review and study process.⁴⁸ This provides local boards both the power to grant project permits or variances and the responsibility to conform to SEQR requirements. As a result, the lead agency is subject to a lawsuit by affected citizens who may file an Article 78 petition in state supreme court against the municipal board’s zoning or siting decision.⁴⁹ Even if the challenge is ultimately unsuccessful, the process can delay a project or action for years and threaten the financing of expensive projects such as wind farms.

Article 78 challenges have been used extensively in disputes over the siting of wind turbines and wind ordinance or zoning provisions in upstate New York by local citizen groups. These challenges have met varied treatment in state

courts. In a successful challenge, residents of the town of Warren brought an Article 78 petition to invalidate special use permits for a wind farm in the town.⁵⁰ The court found the town’s analysis of alternatives was inadequate and that it improperly delegated responsibilities to other agencies.⁵¹ In addition, the court found the town violated the state’s Open Meetings Law during the permit approval process.⁵² Another less successful legal challenge under Article 78 focused on procedural deficiencies in the environmental review of local laws regulating wind development.⁵³ While the court in that case dismissed the petitioner’s challenge, the case delayed a proposed wind farm by seven years.⁵⁴ As will be discussed, compliance with the SEQR Act has been a contentious issue in Hammond, New York, as the Town Board passed its first wind law in December 2009, without preparing an environmental impact statement (EIS), and was challenged with an Article 78 lawsuit.⁵⁵ It is clear that Article 78 challenges pose a significant hurdle for wind development at the local level and that the procedural requirements of the SEQR can be a formidable undertaking for Town Boards.

2. Liability Under the Migratory Bird Treaty Act and the Endangered Species Act

The Migratory Bird Treaty Act (MBTA) is important to examine in the context of wind farm siting, as it establishes criminal liability for the direct “take” or death of listed migratory birds. Enforcement of the MBTA is within the discretionary authority of the U.S. Fish and Wildlife Service (FWS) and contains no citizen suit provision. The application of this law to deaths of migratory birds incidental to the operation of wind turbines is not entirely clear. Unlike the Endangered Species Act (ESA),⁵⁶ the MBTA’s definition of “take” of a species does not include “harm” or “harass” provisions in the ESA, which extend protection to habitat destruction. Therefore, the MBTA has more limited habitat protections for migratory birds whose habitat may be affected by the siting of wind turbines.

In a U.S. Court of Appeals for the Ninth Circuit case challenging U.S. Forest Service logging activities, the court found that the MBTA only covers direct, unintended bird deaths.⁵⁷ For many years, it was unclear if intentional takes were covered by the MBTA. However, in *United States v. Moon Lake Electric Ass’n, Inc.*,⁵⁸ a district court took issue with the Ninth Circuit’s interpretation of the MBTA and

45. 19 N.Y. C.R.R. pt. 617.4.

46. Dept. of Envtl. Conservation, Review of Wind Energy Generation Projects.

47. N.Y. STATE DEP’T OF ENVTL. CONSERVATION & GLOBAL ENERGY CONCEPTS, N.Y. STATE ENERGY RESEARCH & DEV. AUTH., OVERVIEW OF THE SEQR PROCESS 3 (2005), available at http://www.powernaturally.org/programs/wind/toolkit/17_overviewSEQRprocess.pdf.

48. *Id.* at 5.

49. N.Y. C.P.L.R. art. 78.

50. *Brander v. Town of Warren Town Bd.*, 847 N.Y.S.2d 450 (Sup. Ct. Onondaga County 2007).

51. *Id.* at 455, 458.

52. *Id.* 457-58; see Open Meetings Law, N.Y. Pub. Off. L. §107.

53. *Friedhaber v. Town Bd. of Sheldon*, No. 38491, 2007 WL 2727794 (N.Y. Sup. Ct. Wyoming County, Sept. 18, 2007).

54. *Id.*

55. A SEQRA form was completed in its entirety during the lame-duck Town Board meeting.

56. 16 U.S.C. §§1531-1544, ELR STAT. ESA §§2-18.

57. *Seattle Audubon v. Evans*, 952 F.2d 297, 302, 22 ELR 20372 (9th Cir. 1991).

58. 45 F. Supp. 2d 1070 (D. Colo. 1999) (bird electrocution on power lines was foreseeable consequence of unprotected lines).

found that unintentional bird deaths were covered as misdemeanors, as long as they were a probable consequence of the action in question. Because the company failed to install inexpensive protections on its power lines, the court found the resulting bird deaths were foreseeable consequences of the company's action and warranted liability under the MBTA.⁵⁹ Further solidifying the inclusion of incidental take in the MBTA's reach, President William J. Clinton issued Executive Order No. 13186, which clarified that the Act covered both intentional and unintentional takes.⁶⁰ The proximate cause analysis applied by the district court is an important limiting factor of the MBTA's misdemeanor provision.

Current case law has not settled the application of incidental take and proximate causal analysis of the MBTA to the wind context. Under the strict liability framework of the MBTA, scholars have argued whether wind farms are inherently dangerous activities and if bird deaths are foreseeable results of the activity.⁶¹ Some of the factors identified as key to this inquiry are whether operators undertook appropriate environmental review or mitigation efforts to reduce avian impact through cost-effective measures and whether there is ongoing monitoring.⁶² These factors would likely discourage prosecution under the MBTA. One of the lessons to be drawn from MBTA enforcement cases is the role of compliance with FWS guidelines. As demonstrated in *Moon Lake*, selective enforcement appears to focus on violation of existing guidelines and whether cost-effective mitigation tools are used. Even when environmental and wildlife advocates have brought suits against the operators of wind farms due to avian mortality, the FWS has not responded with action against the wind farm development under the MBTA.⁶³ However, there exists a level of uncertainty over the wind industry's potential liability under the MBTA, as the bounds of compliance and judicial treatment of the Act are not clear.

The ESA, on the other hand, provides a strong tool for opponents of wind farms with potential to harm or take specific federally listed endangered or threatened species of birds or bats.⁶⁴ The ESA defines the term take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."⁶⁵ When a nonfederal project poses potential threats to the habitat of listed species or to individual birds or bats, the ESA requires an incidental take permit and consultation with the FWS to demonstrate that such impacts will be minimized.⁶⁶ In a recent challenge to a wind energy project in West Virginia, a federal judge found that extensive

expert testimony showed that endangered bats would be harmed or killed by the proposed project and therefore required a permit from the FWS.⁶⁷ While this case demonstrates the power of the statute to halt wind power projects, plaintiffs must present compelling expert evidence showing the imminent harm to listed species. This may act as a high bar for groups opposing wind projects without clear impacts on specific species and without resources to conduct wildlife impact studies.

3. Nuisance Suits

The law of nuisance provides another, and perhaps last, legal outlet for those seeking recourse for the externalities of nearby wind turbines. Private nuisance doctrine provides a common-law tort remedy for the interference with quiet use and enjoyment of private property. While zoning often preempts nuisance claims when designated property uses are followed, in areas with no zoning, nuisance claims present a possible venue for legitimate concerns about impacts on property values and "use and enjoyment" of private property in the face of permissive local regulation. However, results in the courts have been mixed for plaintiffs seeking injunctive relief, as the threshold for interference is often quite high.

The most common nuisance complaint centers on noise pollution or interference created by wind turbines. Factors that influence nuisance findings include whether the plaintiff "came to the nuisance" by choosing to live in proximity to wind turbines, whether the resident had control over noise levels, and if local property values are negatively impacted by turbines. Several lower court decisions have found that wind turbines create a nuisance and provided injunctions for residents. In a New Jersey case, a court found that a wind turbine erected in a neighbor's yard was a private nuisance because the noise produced "was offensive to people of normal sensibilities in that the character, duration, and volume of the noise interfered with plaintiffs' quiet enjoyment of their homes and caused them to suffer stress-related symptoms."⁶⁸ The court focused on the physical impacts to the residents, in addition to the changes in their lifestyles due to the noise interference.⁶⁹ The court's decision may also have been influenced by an alleged violation of local zoning law in the operation of the turbine and in recorded noise levels above the 50-decibel limit under local ordinance. The court also examined the relative social utility of the wind turbine. The owner of the turbine argued that the production of renewable energy outweighed the costs. Without stating that all wind turbines would fail the test, the court declared that the social utility had to be carefully weighed with the quantum of harm to the resident and, in this case, found the disruption

59. *Id.* at 1071.

60. Responsibility of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3583 (Jan. 17, 2001).

61. See Lilly & Firestone, *supra* note 18, at 1167.

62. *Id.* at 1187.

63. *Id.* at 1198.

64. The ESA also has a citizen suit provision to enforce compliance with the law for the benefit of the public interest. See *Bennett v. Spear*, 520 U.S. 154, 165, 27 ELR 20824 (1997).

65. 16 U.S.C. §1532(19).

66. *Id.* §1539(a)(1)(B).

67. *Animal Welfare Institute et al. v. Beech Ridge Energy LLC et al.*, 675 F. Supp. 2d 540 (D. Md. 2009); see PR Newswire, *Federal Court Rules Massive Wind Energy Project in Violation of Endangered Species Act*, Dec. 9, 2009.

68. *Rose v. Chaikin*, 453 A.2d 1378, 1380 (N.J. Super. Ct. Ch. Div. 1982).

69. *Id.* at 1380-81.

in habits and physical symptoms warranted an injunction against the turbine's use.⁷⁰

However, this case-by-case approach articulated in the court's analysis leads to varying results for plaintiffs, due to the subjective nature of "reasonable" interference with private rights of use and enjoyment. In a case in the North Carolina Supreme Court, plaintiffs claimed that a neighbor's wind turbine located 40 feet from their home constituted a private nuisance. The court affirmed the lower court's dismissal of their claim, as other neighbors did not complain of noise impacts, the turbine was installed before the plaintiff moved to the area, and the owner of the turbine permitted the plaintiffs to control the turbine when it became noisier.⁷¹

One of the limits of nuisance suits in the wind power context is the type of interferences on private use and enjoyment that courts will recognize. In one of the highest profile nuisance suits against a wind farm, a Texas appellate court found that harm to aesthetic values should not be considered in a nuisance context.⁷² This served as a significant blow to plaintiffs looking to aggregate various physical, emotional, economic, and aesthetic impacts from nearby wind power installations. While nuisance will remain a common-law remedy for individual impacts from wind turbines, the courts have not treated claims in a consistent manner, and recent cases tend to indicate a narrowing of the range of impacts a court will consider.

4. Other Legal Theories

Wind farms have also been challenged under public trust doctrine theories. The environmental nonprofit CBD sued the operators of the controversial Altamont Pass Wind Farm in the Bay Area for violation of the public trust doctrine due to the turbines' killing of bats and birds.⁷³ While the appellate court recognized the protection of undomesticated wildlife fell under the purview of the public trust doctrine and overturned the lower court on this point, it found that the CBD must challenge the governmental actors responsible for the permitting and authorization of the wind farm, not the wind company. Because the state (or relevant agency actor) has the affirmative duty to consider the public trust in managing resources and sovereign supervision over commonly held resources, the court found that the state was the appropriate party to be challenged.⁷⁴ However, the court found that judicial abstention was appropriate in this case, because CBD's appropriate avenue for challenging the permits had long passed. The court also

opined on the agency's careful consideration and awareness of the wind turbine's impact on wildlife and the balancing of interests in developing wind power in the region as "complex and value laden and outside proper judicial intervention."⁷⁵ While the public trust doctrine clearly creates opportunity for public involvement in state resource allocation decisions, this area of law may have limited application for environmental challenges to wind projects.

IV. Case Study: Hammond, New York

A. *Wind Divides a Town*

A drive down Route 37 in Hammond, New York, a town barely 10 miles from the Canadian border, reveals wide-open fields over rolling hills, tidy stone farmhouses, and cows surrounding barns built nearly 200 years ago. But what catches the eye are the lawn signs. Placed prominently in small yards and next to mailboxes, signs read, "Our Future Blows in the Wind" and "I Want Wind in Hammond," among others. These lawn signs flanking the main routes into town are only a hint of the deep divide in Hammond over the development of wind turbines in this small town.

Hammond has a population of approximately 1,207 and, with around 20 people per square mile, is considered rural.⁷⁶ Hammond has long been a farming town with economic ties to nearby Ogdensburg, a larger town with a port along the St. Lawrence River, which is also host to two large state correctional facilities. With the decline of small farms and economic challenges in the region, many local businesses in the town have shut their doors, leaving the town without a grocery store, year-round gas station, or restaurant. The town, while full of dedicated residents, remarkable natural scenery, and a vibrant history tracing back to the War of 1812 and the Underground Railroad, is a pale shade of its more bustling past.

Wind development arrived in Hammond without great fanfare. At the time, few residents were aware that their neighbors had been approached by companies interested in building turbines on their land. Some had even signed leases for the construction of wind turbines. Wind development was not a foreign concept in the region, as residents were well aware of nearby wind farms with large developments dotting the landscape in neighboring counties. The largest wind development in the state, Maple Ridge Wind Farm, is located 70 miles south of Hammond and has 195 turbines at 270 feet tall.⁷⁷ However, with little talk of wind development among residents, Hammond was unprepared for the havoc the controversy over wind power would create in the small town.

70. *Id.* at 1383.

71. *Rassier v. Houim*, 488 N.W.2d 635 (N.D. 1992) (no nuisance found as landowner "came to the nuisance" and had control over noise levels).

72. *Rankin v. FPL Energy*, 266 S.W.3d 506, 513 (Tex. App. 2008) (equivocating private nuisance based largely on aesthetic values with the right of private zoning).

73. *Ctr. for Biological Diversity v. FPL Group, Inc.*, 166 Cal. App. 4th 1349 (Ct. App. 2008).

74. *See National Audubon v. Superior Court*, 33 Cal. 3d 419, 441 (1983) (maintenance of water flows are protected by the public trust with the state as trustee).

75. *FPL Group* at 1371.

76. St. Lawrence County, Population Characteristics (based on 2000 Census), <http://www.co.st-lawrence.ny.us/About/AboutPopulation> (last visited May 9, 2011); U.S. Economic Research Service, What Is Rural, <http://www.ers.usda.gov/Briefing/Rurality/WhatIsRural/> (last visited May 9, 2011).

77. Wind turbine heights are described with the combined tower and rotor height unless indicated otherwise.

I. Wind Comes to Hammond

Beginning around 2008, several wind companies negotiated with landowners in Hammond and quietly signed leases for land use rights to build and operate wind turbines on their private land. One such company was Iberdrola, a Spanish wind company hoping to install approximately 50 two-megawatt (MW) turbines over 400 feet high in the town, the first wind project in St. Lawrence County.⁷⁸ The town of Hammond, like many rural areas in the state, has no local zoning. In New York, zoning authority is delegated to local governments under a system dubbed “home rule.”⁷⁹ Municipalities have the discretion to create zoning laws that are consistent with the purposes and standards of state law, but are not required to do so.⁸⁰ At the time many of the initial private leases were signed for wind turbine options, the only limitation on construction was compliance with international building codes.⁸¹ No municipal or state laws provided regulation for height of the wind turbines, the proximity to homes, noise limitations, or other considerations. Without zoning, the town had no permitting power over the siting conditions of the turbines. However, as several members of the Town Board signed private leases and potential conflict with neighbors became apparent, the idea of local control over wind siting began to gain appeal. A local wind law would limit conflict and concentrate siting power with the town government, which was supportive of wind development. With a wind law in place, the five-member Town Board, along with the Town Planning Board (appointed by the town supervisor), would have the nexus of power in the contest over the future of wind power in Hammond.⁸²

In the fall of 2008, the Town Board drafted a wind law for Hammond, without notice in local newspapers or to landowners. The law would create certain siting requirements through a formalized special permitting process.⁸³ However, with many private lease arrangements made without the knowledge of neighbors and little awareness a draft wind law was in the works, the debut of this law was about to ignite conflict in the small town.

With two of five Town Board members forced to recuse themselves from a vote due to their own private wind lease arrangements, the Hammond Town Board passed a “Wind Energy Facilities” law in October 2008, “to promote the effective and efficient use of the town’s wind energy resource.”⁸⁴ In addition to creating a special use permit for wind turbine construction, the law created a “wind overlay district,” which delineated a significant portion of

the settled areas of town for possible town-approved wind development, including land with existing wind leases. A “wind overlay district” is a basic land use planning exercise and functions as local zoning for wind development in towns without traditional zoning classifications. The law was described by a county planning official as unusual, as it created “wind zones” without formally enacting town-wide land use zoning, a process that would have required comprehensive environmental review and planning.⁸⁵ Once granted, special use permits provide developments with significant flexibility.⁸⁶ A SEQR EAF was completed in a single special meeting of the Town Board, concluding that environmental impacts from the wind law were below the significance requiring further analysis and review.⁸⁷ An official involved in the county planning process described the ensuing reaction of many residents as “visceral.”⁸⁸

2. Factions Form

In response to the unexpected passage of the town’s first wind law, an informal group of residents began to meet and discuss concerns over wind development in Hammond and their frustrations over the lack of transparency in the process. This group developed into the Concerned Residents of Hammond (CROH), and with the advice of an attorney, filed an Article 78 challenge against the town for noncompliance with the state’s environmental impact review requirements and New York State Open Meetings laws.⁸⁹ The passage of this law was described by many residents as “rushed,” as residents only had five days to review the draft law before the board vote.⁹⁰ In addition, there were allegations of backdoor dealings with the wind companies, which many believe led to significant discretionary siting power with the Town Board.⁹¹

Residents also complained that requests for minutes from board meetings were ignored and meetings were held in violation of the state Open Meetings law.⁹² These alleged violations included the failure of the board to provide copies of the law to interested parties in advance of the Town Board meeting, the conducting of town business before

78. David Winters, *Wind Farm Project Eyed*, WATERTOWN DAILY TIMES, Feb. 6, 2008; David Winters, *Hammond, N.Y. Boards to Review Wind Farm Ordinance*, WATERTOWN DAILY TIMES, June 23, 2008.

79. New York Municipal Home Rule Law §10(1)(a).

80. *Id.*

81. Phone Interview with county planning official, May 5, 2010, names on file with author.

82. Local Law No. 02-2008, passed Oct. 27, 2008, rescinded Dec. 29, 2008, available at http://croh.info/docs/HammondWindLawPart1_64.pdf.

83. *Id.* §5.

84. *Id.*

85. Conversation with county planning official, May 5, 2010, names on file with author.

86. Kristin Choo, *The War of Winds Wind Farms Are a Growing Source of Clean Energy—But Some of the Neighbors Are Beginning to Complain*, 96 A.B.A. J. 54, Feb. 2010.

87. Hammond Wind Law EAF, available at <http://croh.info/docs/EnvironmentalAssessmentForm.pdf>. For a description of the resident’s reaction to the SEQR review, see CROH home page, http://croh.info/index.php?option=com_content&view=article&id=17&Itemid=9 (last visited May 9, 2011).

88. Phone Interview with county planning official, May 5, 2010, names on file with author.

89. Max Mitchell, *Town Board Rescinds Wind Farm Regulations*, WATERTOWN DAILY TIMES, Dec. 30, 2008, B1; see also Concerned Residents of Hammond home page, <http://www.croh.info> (last visited May 9, 2011) [hereinafter CROH home page].

90. Phone Interview with CROH president Mary Hamilton, Apr. 4, 2010.

91. Matt McAllister, *Hammond Wind Law Challenged in Court*, WATERTOWN DAILY TIMES, Dec. 9, 2009; Max Mitchell, *Group Seeking Freeze on Wind—“Just Talking”: Concerned Citizens of Hammond Asking for a Moratorium*, WATERTOWN DAILY TIMES, Nov. 7, 2008, B2.

92. McAllister, *supra* note 91.

meetings were convened, and material alterations to the law after the public hearing was completed.⁹³ In response to these concerns, Town Board member Ronald Tulley II said: “[CROH] will pressure the board into creating a moratorium to push their agenda, I want them to get the proper information, I don’t want them spreading misinformation or fear among the residents.”⁹⁴ A month after the wind law was passed, the lawsuit led to the rescission of the local law, due to concerns over compliance with environmental review, but this rescission did little to close the chapter on the Town Board’s role in wind development in Hammond.

Opposition to the wind turbines is rooted in the externalities the turbines create for residents who neither share in lease profits nor have control over the private arrangements of their neighbors. The specific concerns include safety impacts from the turbines, ice throw, shadow flicker, noise pollution, and diminution of property and aesthetic values in the town. As Mary Hamilton, the president of CROH, explained in a public meeting: “Y’know, you see all these commercials with wind turbines in them. But you don’t see the people. And that’s my biggest concern is that we’re going to put these too close to people.”⁹⁵ These questions of compatible uses and who will bear the impacts of the project are at the core of the debate over siting wind turbines in Hammond. In addition, many residents believe that the town as a whole should benefit from the industrial wind operation through targeted payments to local schools and other community benefits.⁹⁶ However, members of CROH do not view themselves as advocates of a NIMBY mentality for the siting of alternative energy projects. Many of the local opponents openly identify themselves as dedicated environmentalists. As one member of CROH explained, exasperated: “I’ve had a subscription to Mother Jones for thirty years, and I plan to have solar panels on my home.”⁹⁷ However, even for the most ardent of environmentalists in the town, the trade offs for wind development in Hammond may not add up.

On the other side of the wind debate in Hammond stand longtime residents holding lease agreements with wind developers and others in favor of wind development. Supporters of wind power development in the town see wind power as a significant economic opportunity in difficult times and a positive “green” technology. As one leaseholder expressed in a public meeting: “I think [wind development]’s a good economic boost for this town. I think it’ll be the best thing that ever happened to this town. With the oil and everything and the pollution, I have two small children. I have to worry about whether there’s going

to be an Earth here.”⁹⁸ Divisions in the town were stark and visible soon after the passage of the wind law. Anti-CROH signs appeared on the yard of the town supervisor in January 2009. A former member of the wind advisory committee in Hammond described how some residents avoid frequenting and supporting local businesses owned by those with opposing views on wind development.⁹⁹ One member of CROH sadly noted that she thought it would take more than a generation to overcome the bad feelings and resentment the controversy over wind power has created in Hammond.¹⁰⁰ Several years into the wind power controversy, it is clear that divisions in the town are deep and continue to impact both sides of the conflict.

Beyond the local interests at stake, the region is host to significant numbers of visitors every summer for its rich fishing and recreational offerings on the picturesque St. Lawrence River. Seasonal residents live on the outlying islands off the coast of Hammond on the St. Lawrence River and have also participated in vocal opposition to the wind turbines.¹⁰¹ One such visitor in a Letter to the Editor of the regional paper complained that the “town government is poorly equipped to properly handle issues of a regional scope,” as “the prospect of 400-foot-tall spinning structures running up and down the length of the St. Lawrence area is much more than a private property or home rule matter.”¹⁰² These sentiments decry the loss of unique natural beauty and rural heritage of the area beyond the local impacts to Hammond. In response to concern over loss of aesthetic and cultural resources, wind advocates vented their frustration with the “rich [summer visitors] on the islands who don’t care if farmers get money from the wind.”¹⁰³

3. A Changing Political Wind in Hammond

After the original wind law was withdrawn due to deficiencies in the environmental impact review, CROH sought a moratorium on wind development to allow for more public process over the content of a wind law. However, this proposal was rejected, and through the fall of 2009, the Town Board continued to work to revise the original law, rejecting suggestions from the county planning office to conduct more studies to determine setbacks, noise levels, and the aesthetic and assessment effects of building turbines along the town’s southern border.¹⁰⁴ With heated debate over wind development in Hammond, the local election in

93. *Id.*

94. *Id.*

95. David Sommerstein, *Hammond Meeting Portends More Conflict*, National Public Radio, Mar. 9, 2010, <http://www.northcountrypublicradio.org/news/story/15343/hammond-wind-meeting-portends-more-conflict> (last visited May 9, 2011).

96. Conversation with CROH member, Apr. 19, 2010, names on file with author.

97. *Id.*

98. *Id.*

99. Phone Interview with CROH member, Apr. 11, 2010, names on file with author.

100. *Id.*

101. Disclosure: author has been a life-long summer resident of the St. Lawrence River region.

102. Claire Jones, Letter to the Editor, *Town Government Fails to Preserve Beauty of TI Region*, WATERTOWN TIMES, Sept. 1, 2009, A6.

103. Pam McDowell, *Hammond Board Adopts Wind Law, Citizens Take Legal Action*, 1000 ISLANDS SUN, Dec. 9, 2009.

104. Max R. Mitchell, *Public Hearing Mulled; Town Closer to Passing Legislation*, WATERTOWN DAILY TIMES, Sept. 9, 2009.

November 2009 turned into a referendum on wind.¹⁰⁵ On the eve of the election, with a largely pro-wind development Town Board on the brink of reinstating the original wind law, much was riding on the election. Tensions in the town were evident, as a 78-year-old member of the Town Planning Board was caught on camera and charged with a misdemeanor for destroying and urinating on a campaign sign from the group that advocated for a moratorium on wind development.¹⁰⁶ A member of the local wind opposition group was charged and then dismissed with harassment of the same planning board member at a summer 2009 public hearing on the town's wind law.¹⁰⁷ The election results yielded a significant victory for opponents to the town's wind law, as the town supervisor and two board members, all ardent wind development supporters, were voted out of office with wide margins and replaced by candidates who promised to take a more critical look at wind development in the town.

With the shift to a newly constituted Town Board promising a more critical evaluation of industrial wind development in Hammond, the lame-duck board moved to pass a version of the original wind law before their terms expired in December 2009. The Town Board completed the state environmental review process during a single board session, by concluding the action of the board had no direct environmental impacts, despite the pending lawsuit against the town for a more complete review as required for changes in land use regulation.¹⁰⁸ Reports of the passage of the law by the lame-duck board, considered favorable to wind development, registered outrage in the town. The actions by the board were described by residents as "arrogant," and CROH president Mary Hamilton described:

We were hoping the outgoing supervisor and councilmen would have better understood the November election results. If this board truly had the best interests of the residents of Hammond in mind, they would have allowed the incoming board members the opportunity for input on this issue and would have ceased this process and cooperated to allow that to happen.¹⁰⁹

This action resulted in further division in the town, as CROH filed for an injunction for permits for new wind turbines and the newly elected members of the board prepared to enact a moratorium on wind development and to review the wind law when the new board met in January.

4. Future of Wind in Hammond

The new direction of the Town Board has resulted in proposals for several significant amendments to the wind law

105. Matt McAllister, *Wind-Law Skeptics Win in Hammond*, WATERTOWN TIMES, Nov. 5, 2009.

106. David Winters, *Hammond Planning Board Chairman Facing Charges*, ADVANCE-NEWS (Ogdensburg, N.Y.), Nov. 1, 2009, 2B.

107. *Harassment Charge Dismissed*, ADVANCE-NEWS (Ogdensburg, N.Y.), Aug. 23, 2009, Local News, 8A.

108. McDowell, *supra* note 103.

109. Matt McAllister, *Hammond Wind Law Challenged in Court*, WATERTOWN TIMES, Dec. 9, 2009.

for Hammond, including the creation of a wind advisory committee created by the new Town Board. The amendments take several steps to mitigate the impacts of wind development on the town and provide more local benefits for residents. For example, the law opts out of the New York State 15-year exemption for wind projects from local property taxes, allowing for local tax revenue from the turbine operation.¹¹⁰ In addition, there are proposals to link revenues from the taxes to local schools and services.

The Spanish wind company, Iberdrola, holds many lease options for wind turbines in Hammond and has announced plans in development for several years to install 75 turbines in Hammond reaching heights of 475 feet to the top of the blades.¹¹¹ As of January 2011, the town is still debating siting issues, including setbacks, wildlife impacts, noise, and property values.¹¹² It is anticipated that the town's revised wind law will be voted on by the end of the month.

B. Rural Wind Development and the Hammond Story

I. Land Use Compatibility and Zoning

The story of Hammond represents the nature of the conflict over the siting of wind turbines in rural areas across the country. Debates over wind siting have ensued in towns and villages near Hammond, in neighboring counties, and across the border in Canada.¹¹³ Especially in areas with little formal zoning, decisions over siting requirements and standards fall to a local level. Local government may not have the internal will or resource capacity to investigate impacts or assess community concerns. New York is an especially interesting case study in this respect, as it has home rule, a powerful tool that empowers towns and municipalities to control land use regulation such as zoning. Because Hammond is currently without zoning and residents have historically resisted zoning limits, absent a zoning law, there is little to control where wind turbines are sited in the town. Instead, installations of wind turbines are purely market-based. As a planning official noted, in the market for wind development, private landowners are willing sellers and wind companies are willing buyers seeking to expand their production.¹¹⁴ As a result, in towns like Hammond with no zoning and little municipal control over siting, many feel the law and the town govern-

110. Wind Energy Facilities Draft Law §4(15), available at <http://croh.info/docs/RevisedHammondWindLaw071309.pdf>.

111. Jimmy Lawton, *Company Presents Wind Farm Plan—Taller Than Maple Ridge: Iberdrola Wants to Construct 75 Turbines in Hammond, Waiting on Town Input*, WATERTOWN TIMES, Feb. 15, 2010, A1.

112. Hammond Wind Committee Meeting Notes #25, 26, CROH home page, http://www.croh.info/index.php?option=com_content&view=category&id=29&Itemid=40 (last visited May 9, 2011).

113. Marian Scott, *Wind Power Pits Neighbour vs. Neighbour*, THE GAZETTE (Montreal, Canada), Sept. 12, 2009, B1. In a community near Montreal, conflict over siting 50 450-foot wind turbines in a local community has resulted in vandalism of pro- and anti-wind lawn posters, raucous Town Board meetings, and a divided citizenry.

114. Interview with county planning official, May 5, 2010, names on file with author.

ment should stay out of such business transactions. This framework creates challenges when considering the costs and benefits of wind development for municipalities as a whole, as the individual benefits are not balanced with the public good through a public permitting process.

2. Shared Costs, Individual Benefits

With local decisions and interests driving land use decisions, conflict over land uses and divergent interests are practically unavoidable. Without zoning or with inadequate zoning, impacts from industrial developments can encroach on existing residential settlements, a central issue in the conflict over siting wind turbines in Hammond. However, the controversy in Hammond is not unique in this respect. As wind power projects are developed in proximity to existing transmission and on private land, conflicts over noise impacts have emerged across the country. In Minnesota, complaints of dizziness, headaches, and trouble sleeping from residents living in the shadows of private wind developments may lead to changes in the state Public Utilities Commission's setback requirements for turbines.¹¹⁵ While these kinds of externalities impact all residents in proximity to wind turbines, the benefits that accrue from the installation and generation of these turbines may not be similarly dispersed. This lack of congruence leads to conflict in small communities. A resident in rural Wisconsin described how the wind development project in his area has "really turned the township upside down," as \$5,000 in monthly payments flow to private wind leaseholders in his community, while he and his wife experience headaches and sleep disruption from the turbines located 1,560 feet from his home. The depth of the conflict in Hammond is not unique in the upstate New York region. In a town an hour's drive from Hammond, the Town Board failed to agree in an extended four-hour session on the appropriate decibel limits for wind turbine noise in their community of Cape Vincent, New York.¹¹⁶ Two board members rejected a 50-decibel limit for the homes of non-wind lease-participating residents as too high. A wind power advocate vowed at the meeting to acquire enough signatures on a petition to require a supermajority of the Town Board for any votes limiting wind development. Conflict continues in Cape Vincent, as in Hammond.

This classic tragedy of the commons conflict hits at the heart of siting wind turbines in proximity to small communities.¹¹⁷ Instead of the infamous common pasture in Hardin's parable, the community's common resource is the unobstructed viewshed, and the quiet and rural setting of the town. The benefits for private landowners to develop wind power on their land are not shared with the community, while the physical and aesthetic costs are shared

by all.¹¹⁸ As wind development continues to boom through government incentives in rural areas, issues of land use capability and externalities from turbines will persist and require a more exacting policy solution.

C. Local Opposition and NIMBYism

Local efforts to block construction of wind turbines have been painted with the NIMBY label and drawn the ire of both environmental advocates and wind power producers. During the heated debate over wind siting in Hammond, signs declaring, "I Want Wind in My Backyard" were seen in town. In response to conflict in upstate New York over siting, the executive director of the Alliance for Clean Energy New York, a group of environmentalists and wind companies, described local opposition to wind development as "people not wanting to look at windmills."¹¹⁹ The U.S. Chamber of Commerce has created a website to track NIMBY opposition to wind power, tracking projects held up in local conflicts state-by-state.¹²⁰ While the label of NIMBY opposition carries a loaded meaning, the underlying nature of the conflict deserves further examination in the context of wind power development.¹²¹

The siting of wind turbines revives the established and problematic social dilemma of underproduction of a common good (renewable power), which can offer benefits to the greater public but concentrate costs locally. Criticism against so-called NIMBYs assumes that local residents are subverting the value of the common good for the myopic protection of personal and local interest.¹²² Inherent in this assumption is that substantive concerns and motives are so intertwined that any opposition raised is simply a shell for purely selfish interests for property or aesthetic values. The NIMBY label also carries the implication of elitism, as opponents of wind require access to political capital to fight off development of a locally undesirable development.¹²³ Traditionally, NIMBY battles have been fought without acknowledgement that undesirable land uses are likely to end up in the backyard of those without the resources to mount an opposition.¹²⁴

115. Dan Gunderson, *Wind Turbine Noise Concerns Prompt Investigation*, Minnesota Public Radio, Aug. 4, 2009, <http://minnesota.publicradio.org/display/web/2009/08/03/wind-turbine-noise/> (last visited May 9, 2011).

116. Jaegun Lee, *Talks on Noise Limits on Hold*, WATERTOWN DAILY TIMES, May 2, 2010.

117. Garrett Hardin, *Tragedy of the Commons*, 162 SCI. (Dec. 13, 1968).

118. This paradigm might change with possible co-benefits for the community through new amendments currently being examined in Hammond.

119. Ken Belson, *Amid Talk of Hidden Deals, Wind Farms Agree to Code of Conduct*, N.Y. TIMES, Oct. 31, 2008, Sect. A, Metro.

120. U.S. Chamber of Commerce, Project No Project, <http://pnp.uschamber.com/> (last visited May 9, 2011).

121. See Jeffrey Swofford & Michael Slattery, *Public Attitudes of Wind Energy in Texas: Local Communities in Close Proximity to Wind Farms and Their Effect on Decision-Making*, 38 ENERGY POL'Y 2508 (2010) (concluding the NIMBY phenomenon does not adequately explain public perceptions and opposition to wind energy siting).

122. Maarten Wolsink, *Entanglement of Interests and Motives: Assumptions Behind the NIMBY Theory on Facility Siting*, 31 URBAN STUDIES 851, 855 (1994).

123. This paradigm might change with possible co-benefits for the community through new amendments currently being examined in Hammond.

124. Environmental justice advocates have long criticized the role of NIMBYism in diverting polluting industries to low-income minority neighborhoods where local opposition has less political traction and capital to prevent siting. See ROBERT BULLARD, *DUMPING IN DIXIE, RACE, CLASS, AND ENVIRONMENTAL QUALITY* (2000).

However, the NIMBY label does little to cast light on the motivations for opposition, especially in the context of wind development. Because local opposition is a significant impediment to the development of wind power, it is important to dig deeper into the root causes of the conflict. While noise impacts, shadow flicker, and economic impacts present tangible costs for landowners, much of the opposition in Hammond is related to the *process* of decisionmaking and regulation of wind power in local government. The lack of access to the decisionmaking process and public documents was at the core of CROH's opposition to the wind law in Hammond and its legal challenges. The lack of transparency when the first wind law was passed in Hammond created distrust in the motives of local government so deep that most of the leading Town Board members were soon voted out of office. Regardless of substantive opposition to impacts from wind power development, it is clear that the nature of the decisionmaking process led to increased polarization of opinions in the town.

These concerns may be better explained in a procedural justice paradigm.¹²⁵ Social psychology research has shown when people perceive they have the ability to express opinions freely, to be heard, are given respect, have adequate information, and the decisionmakers are impartial and responsive to new information, they are more likely to accept the decisions resulting from the process.¹²⁶ It is a mistake to dismiss NIMBY opposition as a failure of rational weighing of cost benefits and lack of technological expertise.¹²⁷ NIMBY movements can be grounded in distrust in government decisionmaking and a desire for thorough analysis of the short- and long-term risks to their community.¹²⁸ From the vantage of this perspective, opposition that may be lumped together as purely NIMBY in nature may have more to do with the actual and perceived lack of access to the decisionmaking process in Hammond.

Related to the issue of opposition to the decisionmaking process is the assumption that the self-motivated NIMBY views lead to static, nonnegotiable positions. In this view, the design of project plans and local regulation of wind siting is not the point of contention as much as the fight to prevent or avoid the siting altogether. Again, a closer examination of the opposition to siting projects demonstrates a more nuanced position. For instance, CROH's stated mission is to provide factual information to the public about the impacts of wind development in the town and ensure that, "all levels of the governmental processes concerning this project are handled in a manner that are ethical, legal, honest, open and fair to all residents of Hammond."¹²⁹

The group is currently seeking to amend the existing law to create more community co-benefits from turbine development. While there may be individuals with steadfast opposition to any construction of wind power facilities in Hammond, organized opposition has focused on access to decisionmaking, content of regulations, and integrity in the local governmental process. This provides insight for future solutions to reduce the conflict over wind siting in small communities.

Lessons from this more-considered analysis show that it is often the process that drives opposition as much as the concept of the siting itself. There is evidence that early and effective engagement of the affected public can lead to higher rates of acceptance and compromise over mitigation strategies.¹³⁰ In addition, with much opposition based on the "gold rush" nature of the wind permitting and regulatory process, a more strategic approach to planning and transparency is needed. This has implications for those seeking to work with local communities over siting of wind facilities and for the design of policies.

V. Regulation of Wind Power Siting: Home Rule Versus Centralized Control

Beyond legal challenges, states have taken different approaches to regulating wind power at the local level. Because land use and zoning decisions have long been the province of local government, wind power development, unlike large-scale fossil fuel energy production, is often left to local regulatory control.¹³¹ A government-funded national study of existing local wind ordinances found that many communities have no regulation in place controlling the siting and design of wind turbines.¹³² As discussed, siting of wind turbines in rural communities requires the balancing of many economic, safety, and environmental concerns. Often, municipal governments lack the capacity to evaluate these impacts and, as a result, decisions often lead to a division between municipal government and local residents.¹³³

Wind power development highlights a tension between traditional local control over land use regulation and the management of environmental trade offs at a local *and* national, even global, scale. In theory, local governments are best situated to take into consideration local concerns.

visited May 9, 2011).

130. See Christopher Jones & J. Richard Eiser, *Understanding "Local" Opposition to Wind Development in the UK: How Big Is a Backyard?*, 38 ENERGY POL'Y 3106 (2010) (finding local opposition to siting varied depending on concern over visual impacts could be mitigated by more deliberate approach to public participation and planning).

131. See *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 387 (1926) (zoning found to be a valid exercise of local police power).

132. NAT'L RENEWABLE ENERGY LAB., AN OVERVIEW OF EXISTING WIND ENERGY ORDINANCES (2008), available at <http://www.nrel.gov/wind/pdfs/44439.pdf>.

133. See Gregory Eriksen, *Note: Breaking Wind, Fixing Wind: Facilitating Wind Energy Development in New York State*, 60 SYRACUSE L. REV. 189, 201 (2009) (case studies of upstate New York legal challenges to wind development shows patterns of procedural errors in local planning and local opposition).

125. Catherine Gross, *Community Perspectives of Wind Energy in Australia: The Application of a Justice and Community Fairness Framework to Increase Social Acceptance*, 35 ENERGY POL'Y 2727-28 (2007).

126. E. ALLAN LIND & TOM R. TYLER, *THE SOCIAL PSYCHOLOGY OF PROCEDURAL JUSTICE* (1988).

127. John Fielder, *Autonomous Technology, Democracy, and the NIMBYs*, in *DEMOCRACY IN A TECHNOLOGICAL SOCIETY* 112, (Langdon Winner ed. 1992).

128. GREGORY E. McAVOY, *CONTROLLING TECHNOLOGY: CITIZEN RATIONALITY AND THE NIMBY SYNDROME* 3 (1999).

129. CROH homepage, About Us, http://www.croh.info/index.php?option=com_content&view=article&id=16:about-croh&catid=4:about&Itemid=2 (last

However, as discussed, mitigation of wildlife impacts from wind projects may require regional data on migration patterns across county and state lines. When decisions over the siting and development of wind projects are made at a local level, it may be difficult to balance the scope of these impacts into permitting and zoning decisions.

Although the decentralized model of regulation seen in Hammond is widespread, states and counties have developed varied approaches to wind turbine siting, often choosing to limit or modify local control through permitting or environmental review requirements. States have taken varied approaches to addressing this tension, and the following examples help to illuminate the regulatory options available to reduce conflict over siting decisions and to balance the environmental trade offs of wind development. Notable distinctions are states' approaches to preemption of local land regulation, the role of environmental review, and use of voluntary guidelines for siting design.

A. State and Local Approaches to Regulating Wind Turbine Siting

I. Preemption of Local Land Use: Minnesota

Minnesota stands out as a state with significantly centralized siting authority. The state Public Utilities Commission (PUC) holds the power to grant, modify, suspend, or revoke permits for wind energy facilities producing an output of five MWs or greater.¹³⁴ This results in a "one-stop shopping" for energy developers. The size determination involves an analysis of the construction timing, location of turbines, and other shared project characteristics.

With decisions centralized at the PUC board, comprised of five members appointed by the governor, decisions on siting can be made in a more comprehensive manner, with the balancing of statewide interests by a staff of trained "experts" instead of a local municipal board. The siting policies describe balancing of resource values in the state, the need for transmission lines, minimizing additional road-building and right-of-way designations, and consideration of impacts across local entities.¹³⁵ Local governments are not precluded from developing siting policies for small wind generation units. However, with the state PUC as the final arbiter of permitting power, public input is more limited.

2. Anticorruption and County Models: New York

New York has adopted an ambitious renewable energy goal of 25% of total energy use by 2013. Land use decisions are highly decentralized in the state. The state's environmental agency, the DEC, only becomes involved in the siting

process when projects involve impacts on certain protected resources, such as wetlands, protected wildlife, or navigable streams. Amid investigations by New York State officials into allegations that wind energy developers used bribery or intimidation to gain approval of municipal wind projects, Attorney General Andrew Cuomo announced in October 2008 a "code of conduct" for companies seeking authorization for such projects.¹³⁶ This Wind Industry Ethics Rule prevents companies from using favors in the form of construction contracts and other windfalls for granting rights to build wind turbines in the community.

Corruption in wind development is a serious problem with an international scope. Significant government subsidies have led to entrepreneurial efforts to establish long-term leases with local farmers, construction of turbines, and then lucrative sales of the turbines to larger entities.¹³⁷ In New York, this flow of investment in wind has been encouraged by federal subsidies covering nearly 30% of construction costs and direct multimillion-dollar grants to wind companies.¹³⁸ It has been suggested that the ethics law was not only an attempt to rein in questionable corporate conduct, but a "back-door" regulation of municipal government with the requirements for disclosure of payments from wind companies to municipal officers and their family members.¹³⁹ The new anticorruption law requires that companies sign a voluntary agreement to cease hiring municipal officials or providing them with gifts in addition to disclosing, on the public record, wind leases and payments to leasees. Violations can lead to \$50,000 fines for the first offense, and up to \$100,000 for a second offense. As of July 2009, more than 90% of the wind companies doing business in the state had signed the agreement, including Iberdrola, the company hoping to develop a large wind project in Hammond.¹⁴⁰

While the code of conduct may provide citizens with basic knowledge and protection against conflicts of interest, it is clear that these problems persist in upstate New York. The attorney general reported a growing number of complaints from community groups, residents, and law enforcement officials in upstate New York, where town officials were considering wind development.

136. Ken Belson, *Amid Talk of Hidden Deals, Wind Farms Agree to Code of Conduct*, N.Y. TIMES, Oct. 31, 2008, Sect. A, Metro; N.Y. Attorney General, Attorney General Cuomo Establishes Code of Conduct for Wind Energy Companies Operating in New York, Press Release, Oct. 30, 2008, http://www.ag.ny.gov/media_center/2008/oct/oct30a_08.html (last visited May 9, 2011).

137. See Doreen Carvajal, *With Wind Energy, Opportunity for Corruption*, N.Y. TIMES, Dec. 13, 2009, http://www.nytimes.com/2009/12/14/world/europe/14wind.html?pagewanted=2&_r=1&csq=wind%20ethics%20law&st=cse&scp=6 (last visited May 9, 2011).

138. *Id.*

139. Patricia Salkin, *New Code of Ethics for Wind Energy Companies Doing Business in New York: A Back-Door Approach to Regulating Municipal Ethics*, 23 MUNICIPAL LAW. (Winter 2009).

140. N.Y. Attorney General, Attorney General Cuomo Announces New Ethics Code Adopted by Wind Industry Companies Across NY, Press Release, July 29, 2009, http://www.ag.ny.gov/media_center/2009/july/july29a_09.html (last visited May 9, 2011).

134. MINN. STAT. ANN. §216F.04(a) (West Supp. 2008); determination of threshold size for state regulation involves an analysis of the construction timing, location of turbines, and other shared project characteristics. *Id.* §216F.011.

135. *Id.* §216E.03.

3. County Model Wind Ordinance: St. Lawrence County

In response to the proliferation of possible wind power development in upstate New York, there has also been development of standards at the county level. St. Lawrence County, which includes Hammond and 32 other towns, has developed a Model Wind Ordinance. This model ordinance was the result of the studies and efforts of an ad hoc committee formed in 2006. The purpose of the model ordinance is to create standardized approaches for towns considering wind farm development, many of which operate currently without zoning. The ordinance is essentially a citizen-developed zoning plan for wind zone development. This includes development of standards for siting within municipalities, such as a 500-foot setback from roads, property boundaries, and bodies of water. In addition, the turbines are required to be a distance of 1.5 times their height from the nearest structure and 1,000 feet from the nearest residence. Procedurally, the ordinance triggers other regulatory requirements. To develop wind projects in towns using the model ordinance and local law provisions, a company would need to apply for a special use permit, a process that involves a public hearing. Another significant requirement is the classification of wind projects as Type I for the purpose of New York's state NEPA law, the SEQRA Act. While this ordinance ushers in siting standards for wind development in the county, many residents feel the standards reflect the industry's proposal and do little to mitigate local safety and economic concerns. One resident expressed frustration that wind power maintenance workers follow guidelines to remain 400 meters (-1,300 ft.) away from turbines for safety, but setback requirements under the ordinance only require 700-foot setbacks from homes, and 500 feet from roads.¹⁴¹

4. State Model Zoning: Pennsylvania

States are also moving to standardize siting policies through voluntary measures. Although the state has yet to emerge as a leader in wind energy production, Pennsylvania has taken a proactive approach to providing resources for local planning for wind power siting. In 2005, the state introduced a Model Wind Ordinance prepared by a diverse stakeholder task force to aid municipalities unprepared for the development of wind power. Gov. Ed Rendell described the model ordinance as a tool that "strikes a balance that ensures continued investments in advanced energy technologies, protects the quality of life for residents and reinforces Pennsylvania's position as a national energy leader."¹⁴² With an RPS of 18% by 2020, the state has incentives to avoid conflict over siting of wind power. The model ordinance is entirely voluntary for municipalities,

however, and, with setback requirements of only 1.1 times the height of the turbines from residences, allows for development of turbines relatively close to settled communities. The model ordinance includes a provision for public hearings and methods for residents to field public complaints. This nonbinding standard provides a tool for localities with few resources for their own planning measures, but it is not preemptive of local control. As shown in Hammond, conflict is often based both on the process of siting and the levels of transparency and opportunities for participation. Providing substantive standards to municipalities is a start, but as demonstrated in Hammond, minimum setbacks are often inadequate for residents facing development in close proximity. In addition, model ordinance measures are voluntary, and may not have the enforcement mechanisms necessary to reduce land use conflict on a local level.

5. Laissez Faire: Texas

Texas stands as the state with the most installed generation of wind power with the least restrictive regulatory environment. Surpassing California in installed capacity in 2006, Texas is experiencing significant investment in wind power not unlike past surges in oil and gas production in the state.¹⁴³ The state has been proactive in planning strategic transmission development and creating incentives for wind development through renewable portfolio standards and tax abatements for equipment used in renewable energy production.¹⁴⁴ Perhaps the most decisive factor in Texas' wind development boon has been the permissive siting standards in the state. Wind developers do not have to address wildlife impacts, obtain environmental certification, or conduct a local permitting review. In 2007, a bill to create a statewide wind siting permit process for wind turbines was stalled in the legislature.¹⁴⁵ The lack of permitting, however, eliminates opportunity for public involvement in siting decisions and consideration for state and national concerns. In addition, counties may discourage but cannot prohibit wind energy projects.¹⁴⁶ Without local control or statewide permitting, there is little to prevent private lease arrangements from dominating the siting process in Texas. These permissive policies, combined with favorable tax incentives and significant investment in transmission capacity, have propelled Texas as the national leader in wind production.¹⁴⁷

141. Phone Interview, member of CROH, Apr. 12, 2010, names on file with author.

142. Governor Rendell Unveils Model Ordinance to Help Local Governments, Wind Energy Developers, Press Release, Apr. 24, 2006.

143. Am. Wind Energy Assoc., Texas Overtakes California as Top Wind Energy State, July 26, 2006, http://www.awea.org/newsroom/releases/awea_quarterly_market_report_072506.html (last visited May 9, 2011); Clifford Krauss, *Move Over, Oil, There's Money in Texas Wind*, N.Y. TIMES, Feb. 23, 2008, <http://www.nytimes.com/2008/02/23/business/23wind.html?pagewanted=1&r=1> (last visited May 9, 2011).

144. Brent Stahl et al., *Wind Energy Laws and Incentives: A Survey of Selected State Rules*, 49 WASHBURN L.J. 137-38 (2009).

145. Texas H.B. 2794 (2007).

146. See SUSAN COMBS, TEX. COMPTROLLER OF PUB. ACCOUNTS, THE ENERGY REPORT 174 (2008), available at <http://www.window.state.tx.us/specialrpt/energy/pdf/11-WindEnergy.pdf>.

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

6. Federal Regulation and Guidelines

The federal government plays an active role in wind energy development as manager of public lands in the United States, where currently nearly 30% of the nation's energy production through coal, oil, and gas extraction is conducted. Wind development plans on federal land trigger NEPA review, a comprehensive review process often involving the FWS as a cooperating agency, due to potential conflict with migratory birds or endangered species.¹⁴⁸ However, beyond its land management role, the DOI and its FWS has played a significant role in the debate surrounding wind energy siting. In 2007, then-Secretary Dirk Kempthorne created the Wind Turbine Guidelines Advisory Committee, comprised of various stakeholders in the wind energy field, including industry, wildlife advocates, utilities, state and local officials, tribal representatives, and researchers.¹⁴⁹ The Committee was tasked with creating guidelines for evaluating wind energy development on public and private lands to minimize impacts from land-based wind farms on wildlife and habitat areas. Their recommendations center on the concept of coordination between levels of government to provide consistent mitigation of impacts to wildlife in the siting process.¹⁵⁰ However, most steps are voluntary and provide general guidance for reducing wildlife impacts through siting processes. While federal agencies have taken a more hands-off approach to the siting of wind turbines on state and private land, it is increasingly apparent that the coordinated expertise and landscape-scale approach is necessary to mitigate impacts from wind power development.

VI. A Way Forward

A. Nature of the Problem

The case study of Hammond, New York, and examination of the regulation of wind nationally reveals several important elements to the conflict over wind power siting. First, conflict often emerges when the benefits of wind power development accrue to individuals and the imposition of costs and impacts are distributed locally. This problem is exacerbated in local permitting and zoning processes when individual landowners who benefit from wind power hold decisionmaking power. The lack of legitimacy of local planning processes only ignites conflict and sows long-term distrust between pro- and anti-wind factions. Local Town Boards also lack the capacity to evaluate the various human and environmental impacts of wind development

and the knowledge of how to reduce these impacts and realize local benefits in an equitable manner.

Second, while the courts provide potential recourse for conflict over wind power siting, the results are limited and the legal battles often protracted. It is clear that the federal legal framework provides few avenues to settle disputes over siting of wind turbines on private land. While the federal wildlife protections are strong in the form of the MBTA, plaintiffs have to show direct and foreseeable harm to birds. In addition, enforcement of these provisions is discretionary and does not provide for citizen enforcement when wind projects may threaten wildlife. On the common-law side, nuisance suits are a traditional method for disputes between neighbors without the benefit of zoning. However, the definition of "reasonable" interference is subjective, as seen in the highly contested science of noise from wind turbines. The case-by-case nature of nuisance suits does little to address the common problems of local conflict over wind siting and can only serve to fuel ongoing discord in small communities. Likewise, public trust legal theory has been traditionally used to challenge public agency decisions; therefore, its application to municipal actions may be limited.

State environmental review statutes appear to come the closest to creating an approach to wind siting that engages constituencies and provides deliberative analysis of impacts. However, it is clear that in the case study of upstate New York, local Town Boards have consistently failed to implement the requirements of SEQR properly, resulting in Article 78 challenges and drawn-out legal challenges. While SEQR provides a more in-depth consideration of local impacts and alternatives, the analysis is conducted on a case-by-case basis and may do little to quell the deep disputes in small towns over the role of wind development. In addition, SEQR and other environmental review statutes are largely procedural in nature and may fall short of providing the substantive mandates and predictability for effective siting of wind turbines.

B. Goals for Policy Change

I. Reduce Conflict and Legal Battles

One approach to reduce conflict over wind siting is to distribute more benefits from wind power production locally. This will aid in the concern over the shared costs and benefits in the town and provide more incentive for residents to support wind tower development. In an area not far from Hammond where large numbers of turbines have been installed, town and county officials negotiated a payment-in-lieu-of-taxes (PILOT) agreement that gave the three towns involved \$8.1 million in the first year of the contract.¹⁵¹ These payments balance the loss of revenue from local taxes when wind projects on private land do not lead

148. As a bureau in the DOI, the FWS oversees duties under the Migratory Bird Treaty Act of 1918, 16 U.S.C. §701, and consultation over possible harm to endangered avian species covered by the ESA.

149. For a full list of committee members, see U.S. FWS, Wind Turbine Guidelines Advisory Committee home page, http://www.fws.gov/habitatconservation/windpower/wind_turbine_advisory_committee.html, (last visited May 9, 2011).

150. U.S. FWS, Wind Turbine Guidelines Advisory Committee, Draft Report, Oct. 26, 2009, available at http://www.fws.gov/habitatconservation/windpower/Wind_FAC_Synthesis_Workgroup_Draft_Recommendations_v6.1.pdf.

151. Helen O'Neill, *Windmills Split Towns and Families*, ASSOC. PRESS, Aug. 16, 2008, <http://www.msnbc.msn.com/id/26242604>, (last visited May 9, 2011).

to higher taxes from the landowner. In one of the towns, Lowville, the school district is investing in new computers and expanding athletic fields with the funds.

However, not all communities find this compensation worth the costs. Nearby Malone, New York, decided to ban wind turbines after witnessing the conflict in Lowville, and as Malone town supervisor Howard Maneely stated: "It seemed like the cost, in terms of how it changed the community, was too high."¹⁵² Another market-based solution has emerged in Michigan, where a wind company has offered to pay neighbors of a proposed wind project \$1,500 per year if they live within one-half mile of the project.¹⁵³ In addition, some communities, including Hammond, are considering residential property value guarantees where permit holders for wind development must compensate nonparticipating landowners living in the vicinity of the wind project for any loss of property value resulting from the presence of the wind turbines.¹⁵⁴

It is clear that local compensation measures are not a panacea to address conflict over the development of wind turbines in local towns, but the existence of such agreements may provide towns with leverage for negotiation with large wind companies, reduce future conflict, and present an opportunity for communitywide benefits from the projects.

2. Increase Capacity and Effectiveness of Local Planning

Many towns are unprepared for the arrival of wind development. This is especially true in towns such as Hammond, where an aversion to zoning and lack of comprehensive planning led to a "wait-and-see" approach to land use planning. While home rule offers municipalities the flexibility to determine the character and development of their town, it is clear that hurried planning processes, often in response to overtures from developers, result in deep and prolonged conflict among residents. If the state were to mandate landscape planning at the local level, this would serve both those who support wind development on their property and those who are adverse to potential impacts. Local planning processes would trigger SEQR review and require public input, which in turn could reduce future Article 78 lawsuits and legal conflicts. This will maintain the sanctity of home rule in places like New York.

This case study also shows that small Town Boards do not have the resources to conduct landscape-scale planning and to balance the full costs and benefits of large-scale developments such as wind power. As demonstrated in Hammond, it is common for conflicts of interest to arise at the local level, and these conflicts can interfere with thorough assessments of wind projects. New York

has started down the right path in its ethics regulations, but ethics obligations for wind companies may do little to rectify the local conflicts.¹⁵⁵ Procedural errors by local boards in environmental reviews can also result in years of protracted conflict.

State environmental boards, agencies associated with energy production, wildlife management, and health and safety must provide resources to these towns. New York has developed model wind ordinances, and the state power authority provides a wind energy toolkit to the public to consider the impacts and planning issues around siting.¹⁵⁶ This toolkit includes technical information on wind turbines, potential impacts, and planning options. As discussed, model wind ordinances also provide a template for local wind laws. However, these tools fall short of providing the expertise needed at the local level to manage the proper siting of wind turbines and assessment of costs and benefits.

In addition to providing resources for mandating local planning, state subsidy programs can do more to encourage comprehensive planning for siting wind power in small towns. For instance, in a recent wind power incentive program run by the New York State Energy Research and Development Authority (NYSRDA), developers were required to demonstrate compliance with SEQR, show the demonstrated wind resources and speeds in the project area, meet minimum setback requirements, and were required to provide benefits to local utility customers.¹⁵⁷ In Massachusetts, a 2009 legislative bill proposed to establish standardized siting requirements statewide and a "one-stop" permitting process at the state level.¹⁵⁸ To allay concerns over the bill's intrusion into home rule authority, the bill provides that rejection of a wind project at a local level must be respected by the state siting authority, but if a municipality approves a project, opponents could appeal to the state boards. This hybrid model provides opportunity for more state oversight of projects and predictable standards for municipalities and wind power developers. In addition, Massachusetts has created a "green communities program" where municipalities can gain access to grants if they create standardized siting procedures for renewable power, including wind.¹⁵⁹ These kinds of incentive systems provide more protection for local residents from wind

152. *Id.*

153. Staff Report, *Energy Company Offers Payments to Turbine Neighbors*, THE DAILY TELEGRAM, Jan. 22, 2011.

154. Matt McAllister, *Hammond Wind Panel Ok Property Guarantee*, WATERTOWN DAILY TIMES, Dec. 30, 2010, <http://www.watertowndailytimes.com/article/20101230/NEWS05/312309963> (last visited May 9, 2011).

155. Hammond continues to battle with the conflicts of interest for wind leaseholders on its Town Board and recently passed a local ethics law to attempt to curb these conflicts. A Board member whose sister holds a wind lease has refused to recuse himself from votes on the town's wind law. See Matt McAllister, *Will Hammond's Ethics Code Affect Wind Voting?*, WATERTOWN DAILY TIMES, Jan. 11, 2011.

156. N.Y. State Energy Research & Dev. Auth., *Wind Energy Toolkit*, available at <http://www.powernaturally.org/programs/wind/Wind%20Energy%20Toolkit.pdf>.

157. NYSRDA, *On-Site Wind Turbine Incentive Program Opportunity Notice (PON) 8*, available at <http://www.nyserda.org/funding/1098pon.pdf>.

158. *Wind Energy Siting Bill*, S.B. 2260, 186th Sess. (Mass. 2009).

159. Bylaws for siting under the Green Communities Act include the existence of minimum wind speeds, preferred wind siting zones based on wind resources and local communities characteristics, setbacks from property lines and buildings, and requirements to avoid significant adverse effects on neighbors due to shadow flicker or sound. MASS. EXECUTIVE OFFICE OF ENVTL. AFFAIRS, MODEL AS-OF-RIGHT ZONING ORDINANCE OR BYLAW (2009),

development impacts while respecting home rule authority and providing incentives for well-planned wind projects.

VII. Conclusion

Wind power development in small towns across the country is a reality that state and local governments must address with appropriate regulation. While centralized control over siting decisions is a viable policy option in use in states such as Minnesota, local input on projects is limited. Centralized control offers a more comprehensive approach to planning wind power development, but may be disruptive to communities that balk at the loss of control and involvement in the siting process. Likewise, laissez-faire models do little to balance the environmental trade offs of wind power and to address local concerns. With the strong tradition of decentralized land use controls and home rule

in New York and other states, removing decisionmaking power to the state level would be highly controversial. However, hybrid models exist, and states should prioritize providing resources to small towns to better understand the costs and opportunities for communitywide benefits of wind development. In addition, comprehensive planning is essential at the local level before wind projects are proposed. These processes can prevent future lawsuits, engage citizens and future NIMBY opponents, and head off painful conflicts between residents in small towns. States must provide needed expertise in regulatory compliance and landscape-scale planning to avoid wildlife impacts and to develop wind in areas with the highest production potential. With more concerted planning, open public process, and institutional support from states, small towns will have a greater chance to determine whether wind is right for their communities.

available at http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/model_wind_bylaw.pdf.