

Addressing the Impacts of Large Wind Turbine Projects to Encourage Utilization of Wind Energy Resources

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INTRODUCTION

“. . . At this point they came in sight of thirty or forty windmills that are on that plain, and as soon as Don Quixote saw them he said to his squire, ‘Fortune is arranging matters for us better than we could have shaped our desires ourselves, for look there, friend Sancho Panza, where thirty or more monstrous giants present themselves, all of whom I mean to engage in battle and slay. . .’¹

Dramatic headlines like: *Somerset Wind Farm Proposal Generates a Tempest Over Birds*,² *Shaffer Mtn. Supporters Decry Gamesa Plan*,³ *Wind Turbine Foes*

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¹ Ecogen, LLC v. Town of Italy, 438 F. Supp. 2d 149, 152 n.1 (W.D.N.Y. 2006) (citing MIGUEL DE CERVANTES SAAVEDRA, DON QUIXOTE, Pt. 1, Ch. VIII (John Ormsby, trans.), available at http://www.online-literature.com/cervantes/don_quixote/).

² Don Hopey, *Somerset Wind Farm Proposal Generates a Tempest Over Birds*, PITTSBURGH POST-GAZETTE, Sept. 4, 2007, <http://www.postgazette.com/pg/07247/814415-113.stm>.

³ Kecia Bal, *Shaffer Mtn. Supporters Decry Gamesa Plan*, THE TRIBUNE-DEMOCRAT, Aug. 28, 2007, http://www.tribune-democrat.com/homepage/local_story_240233059.html?keyword=leadpicturestory (“A crowd of more than 450 heckled, cheered and jeered as speakers took the stand . . .”).

*Make a Flap*⁴ and *Hundreds Protest Wind Turbines*⁵ are all over the newspapers as proposed development of Wind Resource Areas (WRAs) intensifies. “Known Wind Resources,” or sites with an estimated average annual wind velocity of at least twelve miles per hour,⁶ are found in 46 of the 50 States.⁷ With increasing concerns about anthropogenic climate change,⁸ the growing public sentiment to reduce our dependence on foreign fossil fuel supplies,⁹ and the general public support of alternative energy sources like wind power,¹⁰ augmenting the US energy portfolio with alternative energy sources has never been a more popular proposition. No longer a gratuitous novelty; wind power is poised to be a major player in the 21st century energy mix.¹¹ With this increase in development of WRAs comes conflict with other stakeholders.

Often, the areas selected for wind-mill projects are in or near pristine natural and wilderness areas.¹² In general, areas with strong winds that are also near electrical transmission lines are the most desirable for wind energy development.¹³ Many of the pristine, natural WRAs that are targeted for large scale wind energy projects have no zoning to guide placement or to regulate the extent of such developments.¹⁴

⁴ Tom Barnes, *Wind Turbine Foes Make a Flap*, PITTSBURGH POST-GAZETTE, Sept. 18, 2007, <http://www.post-gazette.com/pg/07261/818475-113.stm>.

⁵ *Hundreds Protest Wind Turbines*, ALTOONA MIRROR, Aug. 28, 2007, <http://www.altoonamirror.com/News/articles.asp?articleID=14719>.

⁶ See 42 U.S.C.A. § 9202(5) (defining “known wind resources”).

⁷ AMERICAN WIND ENERGY ASSOCIATION, WIND POWER TODAY FACTSHEET at 2, http://www.awea.org/pubs/factsheets/WindPowerToday_2007.pdf (last visited Sept. 20, 2007).

⁸ PEW CENTER ON GLOBAL CLIMATE CHANGE, http://www.pewclimate.org/global-warming-basics/basic_science (last visited Sept. 20, 2007) (finding that:

The earth is warming. Temperatures at the Earth's surface increased by an estimated 1.4°F (0.8°C) between 1900 and 2005. The past decade was the hottest of the past 150 years and perhaps the past millennium. The hottest 22 years on record have occurred since 1980, and 2005 was the hottest on record. The growing scientific consensus is that this warming is largely the result of emissions of carbon dioxide and other greenhouse gases from human activities including industrial processes, fossil fuel combustion, and changes in land use, such as deforestation.).

⁹ YALE CENTER FOR ENVIRONMENTAL LAW & POLICY, SURVEY ON AMERICAN ATTITUDES ON THE ENVIRONMENT at 6 (2007), <http://research.yale.edu/envirocenter/uploads/epoll/YaleEnvironmentalPoll2007Keyfindings.pdf> (finding that “Americans are nearly unanimous in the belief that dependence on imported oil is a very serious problem. Fully 93% say it is a serious problem and 70% say it is a ‘very’ serious problem.”).

¹⁰ See *id.* at 6 (finding that 90% of Americans support building more wind turbine farms).

¹¹ See AMERICAN WIND ENERGY ASSOCIATION, WIND ENERGY: AN UNTAPPED RESOURCE, http://www.awea.org/pubs/factsheets/Wind_Energy_An_Untapped_Resource.pdf (last visited Mar. 31, 2008) (“With continued government encouragement to accelerate its development, this increasingly competitive source of energy will provide at least six percent of the Nation’s electricity by 2020”).

¹² See Pamela J. Podger, *In a Corner of Virginia’s ‘Switzerland,’ a Division Over a Planned Wind Farm*, N.Y. TIMES, Feb. 13, 2007, <http://www.nytimes.com/2007/02/13/us/13wind.html> (Where some see unwelcome industrialization of the wilderness, others see green energy . . .”).

¹³ See *Ecogen*, 438 F. Supp. 2d at 152 (upholding municipality’s temporary moratorium prohibiting construction of windmills).

¹⁴ See Felicity Barringer, *Debate Over Wind Power Creates Environmental Rift*, N.Y. TIMES, Jun. 6, 2006, at A18 (“The rush is on now because a lot of the places they’ve targeted have no zoning, and it’s easy to get in that kind of large-scale development,” he said. “This part of the country has really good energy prices. Developers are keying in on that.”).

Shaffer Mountain, in Somerset County, Pennsylvania, is one example of a pristine natural site, and the proposed large wind turbine project there has pitted environmental, local citizen, governmental, and industry stakeholders into a heated battle over the fate of the mountain and its wilderness habitat.¹⁵ Large wind turbine projects that are proposed in wilderness and natural areas create multiple issues and impacts, but large wind turbine projects are not only being installed in remote natural areas.

However, large wind turbine projects are also being proposed for areas that are much closer to human population centers. The proximity of this type of development with residential areas can cause a distinct set of issues and impacts. For instance, a proposed large wind turbine project in West Virginia led to a citizen nuisance suit by local residents seeking injunctive relief from the installation of up to 200 nearly 450 foot tall wind-mill towers spanning an area 14 miles long.¹⁶ While in New York State, the town of Italy has gone as far as to enact a moratorium on all wind energy projects in the town pending adoption of a comprehensive ordinance dealing with the issue.¹⁷ The concerns voiced against these large wind turbine projects are multitudinous.¹⁸ The Shaffer Mountain project, for instance, is proposed to be built within the migratory fly zone of several types of raptors including hawks, falcons, and Eastern Golden Eagles.¹⁹ No less important are noise impacts, aesthetic impacts, forest fragmentation, ice throws,²⁰ strobe light effects, and collapse dangers, to name a few.²¹

Over the course of this Journal Comment, I plan to discuss the issues facing installation of large wind turbine projects, with a focus on issues surrounding projects that are being built near human population centers. I plan to review the regulatory issues facing these projects and the techniques used to regulate, limit, and even prohibit the installation of these projects. A review of current legal challenges to installation of large wind turbine projects will discuss the nature of these challenges in light of competing social and private interests. Finally, a summary of the current state of wind power as a viable alternative energy source in light of the serious conflicting stakeholder interests and a proposed methodology for review and approval of proposed large wind turbine projects will be offered.

¹⁵ Hopey, *supra* note 2.

¹⁶ Burch v. Nedpower Mount Storm, LLC, 647 S.E.2d 879, 885 (W.Va. 2007).

¹⁷ *Ecogen*, 438 F. Supp. 2d at 152.

¹⁸ Hopey, *supra* note 2.

¹⁹ See *id.* (quoting a local biologist who doesn't want to see a repeat of the Altamont Pass wind project near San Francisco, which led to the death of 4,700 birds, including 1,300 raptors, stating: "The golden eagle is our big concern because the population is only 1,000, and one-third of them go through the wind turbine site and could get whacked."); See also *Hot Air Over Bird Deaths to Stall Windmills? Activist Likens Turbines to Terrestrial Exxon Valdez*, WORLDNETDAILY, http://www.worldnetdaily.com/news/article.asp?ARTICLE_ID=36016) (last visited Nov. 13, 2007) (finding that closer to 22,000 birds have been killed at the Altamont Pass wind farm).

²⁰ See, e.g., Bomba v. Zoning Bd. Of Appeals of Town of Princeton, 2005 WL 2106162, at *2 (Mass. Land Ct. 2005) (describing ice chunks up to eight feet long thrown over 300 feet from windmills).

²¹ See Hopey, *supra* note 2 (explaining concerns relating to the environment, wildlife, strobe light effects, noise, forest fragmentation, tourism, and aesthetics).

OVERVIEW OF EXISTING LAW

Prior to 1983, wind power was not a part of the United States energy portfolio.²² From 1983 through 1989, a negligible amount of energy was produced from wind resources.²³ Beginning in 1989 and continuing through 2006, wind energy increased as a source of domestic energy production in the United States.²⁴ This growth in wind power continues today and is expected to continue into the future.²⁵ Concerns about global warming and US dependence on foreign fossil fuel supplies are in great measure spurring this development.²⁶

Wind energy produces zero carbon dioxide (CO₂) per kilowatt-hour of energy production versus 2.13 pounds of CO₂ per kilowatt-hour of energy production from coal.²⁷ Further, wind energy is a completely renewable resource. Wind is a function of uneven solar heating of the Earth.²⁸ In addition to being a clean and renewable energy source, wind energy resources are abundant in the US.²⁹

It is thought that the U.S. has ample Wind Resource Areas³⁰ with capacity to produce 20% of its energy needs via wind power in the future.³¹ Fully utilizing the available wind resources in the U.S. is estimated to have the potential to supply one and a half times our current yearly energy consumption.³² North Dakota alone is estimated to have the potential to produce one quarter of the entire U.S. yearly energy consumption.³³ Although ample wind resources are available in the US to meet this 20% goal, there are several important barriers that stand in the way of full

²² ENERGY INFORMATION ADMINISTRATION, ANNUAL ENERGY REVIEW 2006, Table 1.2 Energy Production by Primary Energy Source, Selected Years, 1946–2006, http://www.eia.doe.gov/aer/pdf/pages/sec1_7.pdf (last visited Mar. 31, 2008).

²³ *See id.* (producing less than 0.0005 quadrillion BTU).

²⁴ *See id.* (increasing wind energy production from 0.022 quadrillion BTU in 1989 to 0.258 quadrillion BTU in 2006).

²⁵ *See* U.S. DEPARTMENT OF ENERGY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, INSTALLED U.S. WIND CAPACITY, http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_installed_capacity.asp (last visited Mar. 27, 2008) (illustrating that U.S. current installed wind power capacity as of 12/31/07 is 16,596 Megawatts (MW), up from 11,575 MW in 2006).

²⁶ PEW CENTER ON GLOBAL CLIMATE CHANGE, *supra* note 8; YALE CENTER FOR ENVIRONMENTAL LAW & POLICY, *supra* note 9, at 6.

²⁷ AMERICAN WIND ENERGY ASSOCIATION, COMPARATIVE AIR EMISSIONS OF WIND AND OTHER FUELS, WIND ENERGY FACTSHEET, <http://www.awea.org/pubs/factsheets/EmissionKB.PDF> (last visited Mar. 31, 2008).

²⁸ *See* ENERGY INFORMATION ADMINISTRATION, RENEWABLES AND ALTERNATE FUELS - WIND, <http://www.eia.doe.gov/cneaf/solar.renewables/page/wind/wind.html> (last visited Apr. 15, 2008) (stating that winds are created by uneven heating of the atmosphere by the sun).

²⁹ *See* AMERICAN WIND ENERGY ASSOCIATION, WIND ENERGY POTENTIAL, http://www.awea.org/faq/wwt_potential.html#How%20much%20energy (last visited Mar. 31, 2008) (showing the wind energy generation potential in the U.S.).

³⁰ *See* 42 U.S.C.A. § 9202(5) (West 2005) (“‘known wind resource’ means a site with an estimated average annual wind velocity of at least twelve miles per hour”).

³¹ RYAN WISER & MARK BOLINGER, ANNUAL REPORT ON U.S. WIND POWER INSTALLATION, COST, AND PERFORMANCE TRENDS: 2006 22 (2007), <http://www.nrel.gov/docs/fy07osti/41435.pdf>.

³² *See* U.S. DEPARTMENT OF ENERGY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, WIND ENERGY RESOURCE POTENTIAL, http://www1.eere.energy.gov/windandhydro/wind_potential.html (last visited Oct. 19, 2007) (“Good wind areas, which cover 6% of the contiguous U.S. land area, have the potential to supply more than one and a half times the current electricity consumption of the United States”).

³³ *See* AMERICAN WIND ENERGY ASSOCIATION, *supra* note 29 (showing that an estimated 1,210 billion kilowatt-hours/year from wind energy could be produced in North Dakota which would be equivalent to one quarter of the current U.S. energy consumption).

utilization of wind energy resources. Electric transmission availability,³⁴ multifaceted wind mill siting concerns,³⁵ avian mortality,³⁶ private nuisance suits,³⁷ and municipal moratoria³⁸ are just a few of the issues that stand as stark reminders that wind power is not a miracle alternative energy source with no associated drawbacks or complications.

Notwithstanding the barriers to full utilization of wind energy, the federal government as well as several states, including Pennsylvania, have enacted legislation to help encourage the development of wind energy resources. As early as 1980 the federal government enacted the “Wind Energy Systems Act of 1980”³⁹ The Act acknowledged that “the United States is faced with a finite and diminishing resource base of native fossil fuels” and that “it is in the Nation's interest to provide opportunities for the increased production of electricity from renewable energy sources.”⁴⁰ Further, the Act noted that the “wide-spread utilization of wind energy for the generation of electricity . . . could lead to relief on the demand for existing non-renewable fuel and energy supplies.”⁴¹ From an environmental standpoint, the Act noted that “the widespread use of wind energy systems to supplement and replace conventional methods for the generation of electricity . . . would have a beneficial effect upon the environment.”⁴²

In addition to the “Wind Energy Systems Act of 1980”, Congress enacted the “Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989”⁴³ which outlined national goals and provided multi-year funding for federal wind, photovoltaics, and solar thermal programs.⁴⁴ Congress made the finding that it is in the Country’s “national security and economic interest” to pursue greater utilization of renewable energy technologies.⁴⁵ This legislation provided general and specific goals and funding including improving design methodologies and developing more reliable and efficient wind turbines.⁴⁶

³⁴ *Id.*

³⁵ See, e.g., Hopey, *supra* note 2 (“Many residents oppose the project because of concerns about degradation of two ‘exceptional value’ streams, impacts on the endangered Indiana bat, flashing strobe lights on the turbine towers, blade noise, forest fragmentation, tourism, aesthetics and even rattlesnakes.”).

³⁶ See WALLACE P. ERICKSON, ET AL., AVIAN COLLISIONS WITH WIND TURBINES: A SUMMARY OF EXISTING STUDIES AND COMPARISON TO OTHER SOURCES OF AVIAN COLLISION MORTALITY IN THE UNITED STATES, 1, 6 (2001), http://www.nationalwind.org/publications/wildlife/avian_collisions.pdf (comparing and putting into perspective avian mortality associated with wind power with other causes of avian mortality).

³⁷ See *Burch*, 647 S.E.2d at 893 (holding that landowners’ allegation of noise was cognizable as an abatable nuisance, sufficient to state a claim to prospectively enjoin construction of wind power facility).

³⁸ *Ecogen*, 438 F. Supp. 2d at 149.

³⁹ 42 U.S.C.A. §§ 9201-9213 (West 2005).

⁴⁰ *Id.* at § 9201(a).

⁴¹ *Id.* at § 9201(a)(4).

⁴² *Id.* at § 9201(a)(9).

⁴³ 42 U.S.C.A. §§ 12001-12007 (West 2005).

⁴⁴ See 42 U.S.C.A. § 12003 (West 2005) (declaring national goals for the wind, photovoltaics, and solar thermal energy programs being carried out by the Secretary).

⁴⁵ See *id.* § 12001(a) (“The Congress finds that it is in the national security and economic interest of the United States to foster greater efficiency in the use of available energy supplies and greater use of renewable energy technologies.”).

⁴⁶ *Id.*

More recently, Congress enacted the “Energy Policy Act of 2005”⁴⁷ on August 8, 2005, requiring the Secretary of the Department of Energy to conduct a balanced set of programs dealing with areas such as energy research, development, and demonstration.⁴⁸ The general goals of these programs are to increase the efficiency of all energy intensive sectors through conservation and improved technologies; promote diversity of energy supply; decrease the dependence of the United States on foreign energy supplies; improve the energy security of the United States; and decrease the environmental impact of energy-related activities.⁴⁹ Further, the Secretary shall publish measurable cost and performance based goals in a variety of areas including renewable energy technologies, most notably wind power technology.⁵⁰

Congress also encouraged the development of wind power under the “Energy Policy Act of 1992.”⁵¹ The Act requires that the Secretary of Energy develop a least-cost energy strategy designed to achieve to the maximum extent practicable and at least-cost to the Nation several goals including energy production, utilization, and conservation priorities, reductions in greenhouse gases, increases in energy efficiency, increases in the energy derived from renewable resources, and a reduction in the Nation’s oil consumption.⁵² Specifically, in regard to achieving the goal of increasing the amount of energy derived from renewable resources, the act called for a 75 percent increase over the 1988 levels in the percentage of energy derived from renewable resources by 2005.⁵³ Further, the Act set as a Federal priority the promotion of the use of renewable energy resources, including wind power.⁵⁴

In Pennsylvania, the Alternative Energy Portfolio Standards Act⁵⁵ was passed on November 30, 2004 outlining the Commonwealth’s plan to increase the amount of retail electricity that is produced from alternative energy sources. The Act provides that within “[t]wo years after the effective date of [the] act, at least 1.5% of the electric energy sold by an electric distribution company or electric generation supplier to retail electric customers . . . [should] be generated from Tier 1 alternative energy sources.”⁵⁶ Tier 1 alternative energy sources include wind power and other renewable energy sources.⁵⁷ Further, the Act requires that the percentage of energy produced from Tier 1 alternative energy sources shall reach a minimum of 8% within

⁴⁷ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 42 U.S.C.A.).

⁴⁸ 42 U.S.C.A. § 16181(a) (West 2005).

⁴⁹ *Id.*

⁵⁰ *Id.* at § 16181(b) (stating that the Secretary must publish measurable cost and performance goals in areas such as energy efficiency for buildings, energy-consuming industries, and vehicles; electric energy generation, transmission and storage; renewable energy technologies including wind power, photovoltaics, solar thermal energy, geothermal energy, hydrogen fueled systems, biomass based systems, biofuels, and hydropower; fossil energy, including power generation, onshore and offshore oil and gas resource recovery, and transportation fuels; and nuclear energy).

⁵¹ See Energy Policy Act of 1992, Pub. L. No. 102-489, 106 Stat. 2776 (codified as amended in scattered sections of 30 U.S.C.A.) (providing energy policy to address global climate change).

⁵² *Id.* at § 13382(a)(1-5).

⁵³ *Id.* at § 13382(a)(4).

⁵⁴ *Id.* at § 13382(d)(4).

⁵⁵ Alternative Energy Portfolio Standards Act, 73 PA. CONS. STAT. ANN §§ 1648.1–1648.8 (West 2004).

⁵⁶ *Id.* at § 1648.3(b).

⁵⁷ *Id.* at § 1648.2.

15 years from the effective date of the Act.⁵⁸

Considering the enactment of a whole group of State and Federal legislation aimed at encouraging the development of wind power,⁵⁹ one might conclude that there is consensus at all levels of government in the efficacy of wind power. However, at the local government level there is an increasing sense of trepidation at the prospect of legions of massive wind mills invading their municipalities.⁶⁰ The “not in my backyard” ethic, usually associated with toxic and hazardous facilities, is expanding into the siting and development of wind farms.⁶¹

States have a wide variety of methods they can utilize to regulate large wind turbine projects and the method selected varies from State to State.⁶² Regulatory authority may be retained by the state Government or be delegated by the state to the county or local level.⁶³ In general, there are five main approaches to regulation of large wind turbine projects: “1) mandatory, state-level [wind turbine] siting statute, 2) voluntary guidelines for [wind turbine] siting within a state, 3) model ordinances for local governments to apply and use, 4) local government siting rules, and 5) voluntary checklists and resources for local governments to recommend.”⁶⁴ Where States delegate the power to control and regulate large wind turbine projects to local government units, this delegation can create a disconnect between state-level energy policies encouraging alternative energy sources, such as wind, and local government policies limiting or even prohibiting the installation of such technologies.

In New York State, for example, the Town Board of Italy enacted a moratorium prohibiting “the construction or erection of wind turbine towers, relay stations, and/or other support facilities in the Town of Italy.”⁶⁵ The Town Board stated that they enacted the moratorium, *inter alia*, to “protect the value, use and enjoyment of property in the town” by its citizens and also “scenic and aesthetic attributes” of the Town.⁶⁶ The moratorium was to last “for a reasonable time pending the completion of a plan for control of construction of such structures . . . as part of the adoption of comprehensive zoning regulations . . .”⁶⁷

In 2001, prior to enactment of the moratorium, Ecogen, LLC investigated the feasibility of building approximately 20 – 30 windmills in the towns of Italy and

⁵⁸ *Id.* at § 1648.3(b).

⁵⁹ See *supra* notes 39–58 and accompanying text (discussing Federal and State legislation encouraging utilization of wind energy resources).

⁶⁰ See, e.g., Paul Heimel, *Potter County Planning Commission Took Steps to Regulate Construction of Wind Turbines*, THE BRADFORD ERA, Oct. 9, 2007, <http://www.bradfordera.com/articles/2007/10/09/news/doc470c4f28735d8673444248.txt> (discussing county planning commissions efforts to regulate wind power development); *Ecogen*, 438 F. Supp. 2d at 152-53 (upholding municipality’s temporary moratorium prohibiting construction of windmills).

⁶¹ See Margot Hornblower, *Not In My Backyard, You Don’t*, TIME, Jun. 27, 1988, available at <http://www.time.com/time/magazine/article/0,9171,967772,00.html> (stating that NIMBY “is the battle cry against a proposed hazardous-waste incinerator”).

⁶² See NATIONAL WIND COORDINATING COMMITTEE, STATE SITING AND PERMITTING OF WIND ENERGY FACILITIES, ii (2006), http://www.nationalwind.org/publications/siting/Siting_Factsheets.pdf (outlining methods States can utilize in regulating large wind turbine projects).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Ecogen*, 438 F. Supp. 2d at 152.

⁶⁶ *Id.* at 153.

⁶⁷ *Id.* at 152-153.

Prattsburgh, New York.⁶⁸ After investigations, Ecogen determined that it would be feasible to build the windmills on certain ridge tops in the two towns and began moving forward with plans for installation.⁶⁹ The Town of Prattsburgh was reasonably amenable to the windmill installations. However, the Prattsburgh portion of the project was dependent upon installation of an electrical transmission substation in the town of Italy.⁷⁰ The moratorium enacted by the Town of Italy brought the entire Ecogen project to a screeching halt.⁷¹

In response, Ecogen brought an action under 42 U.S.C. §1983⁷² against the Town of Italy, seeking equitable relief from the moratorium.⁷³ Section 1983 allows for civil actions where a deprivation of rights has occurred.⁷⁴ The court analyzed Ecogen's challenge of the moratorium both as a facial⁷⁵ and as an as-applied⁷⁶ challenge.⁷⁷ Utilizing rational basis review, the court rejected the facial challenge, finding that the town had a legitimate concern in restricting the construction of wind towers, and therefore the moratorium was not completely irrational.⁷⁸ The court also rejected the as-applied challenge, finding it was not ripe for review because Ecogen did not receive a "final decision" from the town.⁷⁹ The moratorium had an "alleviation of extraordinary hardships" exception, which an effected entity could file with the town to get a special review of their project when the moratorium would enact an extraordinary hardship on a landowner or applicant.⁸⁰ Ecogen did not seek such a waiver, and thus did not receive a final decision from the town.⁸¹

The court concluded its analysis noting that "a moratorium must be of reasonable duration, and that at some point, a so-called 'moratorium' can amount to an unconstitutional taking or violation of a property owner's due process rights."⁸² In dicta, the court opined that the "critical question bearing on the reasonableness of the duration of a moratorium is how much time the municipality needs to study the situation before it and develop a comprehensive zoning plan."⁸³ In addition, the

⁶⁸ *Id.* at 152.

⁶⁹ *Id.*

⁷⁰ *Ecogen*, 438 F. Supp. 2d at 152.

⁷¹ *Id.* at 153 ("[b]ecause of the Moratorium, then, Ecogen has been unable to erect any wind turbines or related facilities within the Town of Italy, including the substation.").

⁷² 42 U.S.C.A. § 1983 (West 1996).

⁷³ *Ecogen*, 438 F. Supp. 2d at 154.

⁷⁴ *See* 42 U.S.C.A. § 1983 (providing that citizens may bring civil suits if a constitutionally protected right is unlawfully deprived).

⁷⁵ *See* BLACK'S LAW DICTIONARY 244 (8th ed. 2004) (defining "facial challenge" as "[a] claim that a statute is unconstitutional on its face—that is, that it always operates unconstitutionally"); *see also* U.S. v. Salerno, 481 U.S. 739, 745 (1987) (stating, in dictum, that in order to mount a successful "facial" challenge one must establish that no set of circumstances exists under which the Act would be valid).

⁷⁶ *See* BLACK'S LAW DICTIONARY 244 (8th ed. 2004) (defining "as-applied challenge" as "[a] claim that a law or governmental policy, though constitutional on its face, is unconstitutional as applied, usu. because of a discriminatory effect; a claim that a statute is unconstitutional on the facts of a particular case or in its application to a particular party").

⁷⁷ *Ecogen*, 438 F. Supp. 2d at 156 (deciding that rather than try to "pigeonhole" the claim into either facial or as-applied challenges, the court will analyze the claims under both theories).

⁷⁸ *Id.* at 159.

⁷⁹ *Id.* at 154.

⁸⁰ *Id.* at 153.

⁸¹ *Id.* at 161.

⁸² *Ecogen*, 438 F. Supp. 2d at 161.

⁸³ *Id.*

court noted suspicion that a two-year period would be necessary to implement a comprehensive plan regarding wind energy projects.⁸⁴ Ultimately, the court required that the town implement a comprehensive zoning plan within ninety days of their opinion, thus putting an end to the over two year long moratorium.⁸⁵

Not just municipalities are concerned about large wind turbine projects. Private residents that live close to proposed wind turbine projects also have increasing concern about massive wind mills invading their neighborhood. The response to this concern has come in the form of private citizen suits, often under the common law of nuisance.⁸⁶ For instance, New Jersey citizens sought to enjoin the operation of a single, private windmill as a private nuisance.⁸⁷ The citizens were concerned that the wind mill created offensive noise levels which interfered with the quiet enjoyment of their properties.⁸⁸ The court found that the impact from this single windmill did represent an actionable nuisance.⁸⁹ In light of this case, it is clear why private citizens would be extremely concerned about the possibility of a large wind turbine project, with hundreds of wind turbines, being installed near their neighborhood.

In West Virginia, seven homeowners brought a suit to permanently enjoin the construction and operation of a wind power facility, comprising over 200 wind turbines.⁹⁰ The citizens' legal theory was that operation of the wind turbines would create a private nuisance that would impact the quiet enjoyment of their properties.⁹¹ The homeowners were not only concerned about the potential offensive level of noise from the wind turbines, but also about "flicker" effects from the turbines when the sun is near the horizon, the threat of broken blades being thrown great distances, ice throws, collapsing towers, and reduction in property values.⁹² The circuit court dismissed the action holding that it had no jurisdiction to enjoin a project approved by the Public Service Commission (PSC), that the project constituted a public rather than a private nuisance, and that a "wind facility is not a nuisance *per se* and does not pose an impending or imminent danger."⁹³ The Supreme Court of Appeals of West Virginia reversed, holding that the homeowners had stated a legally sufficient cause of action to prospectively enjoin a nuisance.⁹⁴

The Supreme Court of West Virginia held that the grant of a "siting certificate"⁹⁵ for a wind power project by the PSC did not abrogate "the right of a person under the

⁸⁴ *Id.* at 162.

⁸⁵ *Id.*

⁸⁶ *See Burch*, 647 S.E.2d at 893 (holding that landowners' allegation of noise was cognizable as an abatable nuisance sufficient to state a claim to prospectively enjoin construction of wind power facility).

⁸⁷ *Rose v. Chaikin*, 453 A.2d 1378, 1380 (N.J. Super. Ct. Ch. Div. 1982).

⁸⁸ *Id.* at 1380.

⁸⁹ *Id.* at 1382.

⁹⁰ *Burch*, 647 S.E.2d at 885.

⁹¹ *Id.* at 885.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.* at 893-894. Specifically the court found that:

[t]he appellants have alleged certain injury to the use and enjoyment of their properties as a result of constant loud noise from the wind turbines, the turbines' unsightliness, and reduction in appellants' property values. If the appellants are able to adduce sufficient evidence to prove these allegations beyond all ground of fair questioning, abatement would be appropriate).

Id.

⁹⁵ *Burch*, 647 S.E.2d at 889.

common law to bring . . . a nuisance claim to enjoin the construction and/or operation of an electric generating facility.”⁹⁶ The PSC, in deciding whether to grant or deny a citing certificate to an electric generating facility, was to “appraise and balance the interests of the public, the general interests of the state and local economy, and the interests of the applicant.”⁹⁷ The court noted that consideration of the interests of nearby landowners, whose unencumbered use and enjoyment of their properties may be “substantially interfered with” by the construction or operation of a wind power facility was absent from the balancing of interests.⁹⁸

Other states have also had citizen challenges to wind turbine projects. In Maryland, several private residents brought a declaratory judgment action against the Maryland Public Utility Commission regarding an order authorizing the construction of wind turbines.⁹⁹ The thrust of the petitioner’s substantive argument was that their farm and residential properties would be negatively affected by the visual and noise impacts of the proposed wind turbine project.¹⁰⁰ The court did not reach the merits of petitioners’ claim for declaratory judgment, dismissing the case on procedural grounds relating to petitioner’s failure to fully pursue available administrative remedies.¹⁰¹ In Wisconsin, where the State had enacted legislation preventing municipalities from placing restrictions on the installation or use of wind energy systems,¹⁰² citizens still sought review of a municipality’s decision to issue a conditional use permit to build forty-nine wind turbines.¹⁰³ This group of cases illustrates a general concern among affected citizens regarding proposed wind turbine projects and their willingness to mount legal challenges to these projects.

Several states have developed regulations as well as review and approval procedures for proposed large wind turbine projects, including Minnesota,¹⁰⁴ Kansas,¹⁰⁵ Vermont,¹⁰⁶ and Wisconsin.¹⁰⁷ These procedures are intended to address the broad range of impacts of these projects and ensure that effected parties are considered during the planning and approval process, hopefully preventing delays and even moratoria in the installation process. The approaches adopted vary from state to state. Some states vest the authority to review these projects in a centralized

⁹⁶ *Id.*

⁹⁷ *Id.* (quoting W. VA. CODE § 24-1-1(b) (West 2008)).

⁹⁸ *Id.*

⁹⁹ Sprenger v. Pub. Serv. Comm’n of Maryland, 926 A.2d 238, 247-48 (Md. 2007).

¹⁰⁰ *Id.* at 247.

¹⁰¹ *Id.* at 257.

¹⁰² WIS. STAT. ANN. § 66.0401 (West 2003).

¹⁰³ Roberts v. Manitowoc Bd. of Adjustment, 721 N.W.2d 499, 500-01 (Wis. Ct. App. 2006).

¹⁰⁴ See generally MINNESOTA PUBLIC UTILITIES COMMISSION, WIND TURBINE SITING, <http://energyfacilities.puc.state.mn.us/wind.html> (last visited Mar. 28, 2008) (stating the review procedures in Minnesota for large wind turbine projects).

¹⁰⁵ See generally THE KANSAS RENEWABLE ENERGY WORKING GROUP, SITING GUIDELINES FOR WIND POWER PROJECTS IN KANSAS 1 (2003), http://www.naseo.org/committees/energyproduction/documents/wind/kansas_siting_guidelines.pdf (outlining a comprehensive list of impacts that should be considered in siting large wind turbine projects in Kansas).

¹⁰⁶ See generally CITIZENS’ GUIDE TO THE VERMONT PUBLIC SERVICE BOARD’S SECTION 248 PROCESS, http://www.state.vt.us/psb/document/Citizens_Guide_to_248.pdf (providing guidance to the public regarding procedures for review of wind energy projects).

¹⁰⁷ WIS. STAT. ANN. § 66.0401 (restricting municipalities from regulating wind energy projects except in certain enumerated situations).

entity, typically an administrative agency.¹⁰⁸ Others have decentralized regulation of these projects.¹⁰⁹ Creating a common framework for the states to use could be a first step toward ensuring that large wind turbine projects move forward with the least possible obstruction.

DISCUSSION/SOLUTION

With the highlighted concerns regarding anthropogenic climate change and United States dependence on foreign fossil fuel supplies,¹¹⁰ the time has come to move alternative energy, including wind power, into the mainstream as a legitimate energy source for the future. There appears to be increasing clarity at the federal and state level that utilization of wind and other alternative energy sources should be encouraged.¹¹¹ However, there is conflict between the impacts of wind energy projects, including municipal concerns about the siting of wind turbines,¹¹² effects on migratory bird populations,¹¹³ and affected citizens' quiet enjoyment of their properties,¹¹⁴ with the general statutory encouragement of wind turbine projects at the federal and state level.¹¹⁵ This blend of conflicting stakeholder interests is leading to delays, and in some cases even moratoria, in installing large wind turbine projects.¹¹⁶ Steps need to be taken to ensure these projects move forward, while at the same time safeguarding the interests of others impacted by these projects.

Several States have begun to streamline the review, placement, installation, approval and regulation of large wind turbine projects to help make the process more efficient and less prone to legal challenges, and to ensure that these projects move forward in a way that is sensitive to all effected parties. For example, Kansas created a comprehensive guidance document to help "wind power project stakeholders as they consider potential project sites in the state."¹¹⁷ The overarching goal of the Kansas guidance document is to:

encourage developers to select potential wind sites using a process

¹⁰⁸ *E.g.*, MINNESOTA PUBLIC UTILITIES COMMISSION, WIND TURBINE SITING, *supra* note 104 (tasking state level utility regulatory agency (PUC) with review of proposed wind turbine projects).

¹⁰⁹ *E.g.*, *Ecogen*, 438 F. Supp. 2d at 152-53 (highlighting conflict between regulatory approaches of Plattsburgh, NY and Italy, NY and discussing New York States general town-by-town approach to regulation of wind turbine projects).

¹¹⁰ PEW CENTER ON GLOBAL CLIMATE CHANGE, *supra* note 8; YALE CENTER FOR ENVIRONMENTAL LAW & POLICY, *supra* note 9, at 6.

¹¹¹ *See supra* notes 39-54 and accompanying text (discussing federal and state legislation encouraging utilization of wind energy resources).

¹¹² *See Ecogen*, 438 F. Supp. 2d at 162 (upholding municipality's temporary moratorium prohibiting construction of windmills).

¹¹³ *See* WALLACE P. ERICKSON, ET AL., AVIAN COLLISIONS WITH WIND TURBINES: A SUMMARY OF EXISTING STUDIES AND COMPARISON TO OTHER SOURCES OF AVIAN COLLISION MORTALITY IN THE UNITED STATES, 1, 6 (2001), http://www.nationalwind.org/publications/wildlife/avian_collisions.pdf (comparing and putting into perspective avian mortality associated with wind power with other causes of avian mortality).

¹¹⁴ *See Burch*, 647 S.E.2d at 893 (holding that landowners' allegation of noise was cognizable as an abatable nuisance, sufficient to state a claim to prospectively enjoin construction of wind power facility).

¹¹⁵ *See supra* notes 39-54 and accompanying text (discussing federal and state legislation encouraging utilization of wind energy resources).

¹¹⁶ *See Ecogen*, 438 F. Supp. 2d at 162-63 (upholding municipality's temporary moratorium prohibiting construction of windmills).

¹¹⁷ THE KANSAS RENEWABLE ENERGY WORKING GROUP, *supra* note 105, at 1.

that is acceptable to all stakeholders, to protect the State's natural beauty, to minimize deleterious effects to wildlife, to reduce suspicions, to facilitate the education and understanding of all those involved in the process, and to promote a responsible approach to the siting of wind power projects in Kansas.¹¹⁸

Among the impacts that the Kansas guidance document suggests should be considered are: land use; noise management; natural and biological resources; visual impacts; soil erosion and water quality; safety; cultural, archaeological, and paleontological impacts; socio-economic, public service, and infrastructure impacts; and public interaction considerations.¹¹⁹ Some of these considerations may not apply to every project, and others not mentioned on this list may need to be considered, depending upon the exigencies of the project. However, this list should be used as a starting framework for review of proposed projects.

In Wisconsin, the legislature enacted a statute which prevents municipalities (counties, cities, towns, or villages) from placing restrictions, either directly or in effect, on the installation or use of a wind energy system unless the restriction meets one of three criteria.¹²⁰ The criteria are that the restriction must: preserve or protect the public health or safety, not significantly increase the cost of the system or significantly decrease its efficiency, or allow for an alternative system of comparable cost and efficiency.¹²¹ This legislation was cited in *Roberts v. Manitowoc Board of Adjustment*, where Wisconsin citizens sought review of a County Board's decision to issue a conditional use permit to build 49 wind turbines.¹²² In rejecting the citizens' challenge the court referred to § 66.0401,¹²³ finding that "the Board's interpretation [was] consistent with the State's decision to promote renewable energy resources, including wind power."¹²⁴ This type of statutory limitation on restrictions of wind energy projects by municipalities could be a very helpful tool in promoting wind energy as a viable alternative energy source.

In neighboring Minnesota, the State has developed a policy to site large wind energy conversion systems in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.¹²⁵ Minnesota has appointed their Public Utilities Commission as the permitting body with authority to issue site permits for such projects.¹²⁶ The Minnesota wind permitting process requires that developers secure a permit for any site larger than 5 Megawatts, that an environmental review be built into the permit process, and that affected landowners and local governments receive a copy of the pending permit and a 30 – 45 day period to comment on the permit.¹²⁷ Further, the State permit process allows the State to place conditions on several characteristics related to siting a wind

¹¹⁸ *Id.* at 2.

¹¹⁹ *Id.* at 2–6.

¹²⁰ WIS. STAT. ANN. § 66.0401 (West 2003).

¹²¹ *Id.*

¹²² *Roberts*, 721 N.W.2d at 500-01, 504.

¹²³ WIS. STAT. ANN. § 66.0401 (West 2003).

¹²⁴ *Roberts*, 721 N.W.2d at 504.

¹²⁵ MINNESOTA PUBLIC UTILITIES COMMISSION, WIND TURBINE SITING, *supra* note 104.

¹²⁶ *Id.*

¹²⁷ NATIONAL WIND COORDINATING COMMITTEE, STATE SITING AND PERMITTING OF WIND ENERGY FACILITIES, at 6 (2006), http://www.nationalwind.org/publications/siting/Siting_Factsheets.pdf.

turbine including turbine design and layout, noise, vegetation, natural resources, and wildlife.¹²⁸

The Minnesota approach is interesting in that Minnesota vests in its Public Utility Commission the responsibility to look at the wider ranging impacts that a large wind turbine project may have on the environment, affected landowners, and wildlife.¹²⁹ Vesting this broad responsibility in one agency may prove to be an efficient mechanism with which to address the multitude of concerns facing these projects in one permitting process. Further, the ability of the State to impose conditions on the project to address noise, wildlife impacts, and design and layout may alleviate some concerns. Also, the mandatory involvement of local affected landowners in the permitting process with a 30 – 45 day comment period could help to put the concerns of local landowners on the table earlier in the process when compromises could be struck, thus potentially preventing the necessity for local landowners to resort to common law nuisance actions.

When we compare the Minnesota approach to that of West Virginia, as highlighted earlier in *Burch*,¹³⁰ we find that their Public Service Commission was not required to consider impacts to local landowners or the environment in their deliberations about issuing a siting certificate for the Nedpower wind project.¹³¹ The West Virginia court found that the West Virginia Public Service Commission was to appraise and balance the interests of current and future utility service customers, the general interests of the State's economy, and the interests of the utilities subject to its jurisdiction in its deliberations and decisions regarding siting certificates.¹³²

The Minnesota approach, compared to that of West Virginia, ensures that a wider range of considerations such as environmental issues, avian impacts, impacts to local affected landowners, noise concerns, and aesthetic concerns are addressed during the permitting or siting review by their State level utility regulatory agency.¹³³ By broadening the inquiry beyond purely energy needs and economic issues, state level utility regulatory agencies can better assess the overall compatibility of a proposed project with the multitude of stakeholders impacted by a potential project. Furthermore, they can do so at an early stage in the approval process, prior to physical construction of the wind turbines and landowners, wildlife, or the environment are impacted.

State level utility regulatory agencies are ideal candidates to conduct this broad inquiry since they are independent administrative agencies with specialized expertise, knowledge, and experience in the energy field¹³⁴ and can utilize flexible procedures in reviewing and approving proposed projects.¹³⁵ The Kansas guidance

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ 647 S.E.2d at 879.

¹³¹ *Id.* at 889.

¹³² *Id.*

¹³³ MINNESOTA PUBLIC UTILITIES COMMISSION, WIND TURBINE SITING, *supra* note 104.

¹³⁴ See *Ark. Bd. of Collection Agencies v. McGhee*, No. 07-129, 2008 WL 151612 (Ark. 2008) (finding that “administrative agencies are better equipped . . . by specialization, insight through experience, and more flexible procedures to determine and analyze underlying legal issues”); see also Hoang Dang, *New Power, Few New Lines: A Need for a Federal Solution*, 17 J. LAND USE & ENVTL. L. 327, 340 (2002) (finding that “state regulatory commissions are in a better position to protect the public welfare of their citizens”).

¹³⁵ *Ark. Bd. of Collection Agencies*, No. 07-129, 2008 WL 151612 at ¶ 20.

document¹³⁶ creates a comprehensive list of considerations and could be used as a model for the types of things that should be considered when State level utility regulatory agencies make their determinations on proposed large wind turbine projects. In addition, coordination with other state agencies, including environmental and wildlife protection agencies, can provide additional expertise in these areas and also help to aid state level utility regulatory agencies in reviewing and deliberating on large wind turbine projects.

Utilizing and combining aspects of the Kansas, Minnesota, and Wisconsin approaches (which I will hereinafter refer to as the “KMW” approach), a comprehensive and potentially very effective method to regulate the construction of large wind turbine projects emerges. First, the Kansas guidance document,¹³⁷ which outlines a broad list of impacts that should be considered in developing a large wind turbine project, should be used as a comprehensive touchstone for reviewing proposed large wind turbine projects. Each element of the Kansas guidance document should be addressed in a report that could resemble a quasi-environmental impact statement.

Second, following the Minnesota approach,¹³⁸ state utility regulatory agencies should be given the authority to review and issue permits for any new large wind turbine projects; as part of this review, the items in the Kansas guidance document should be considered and a report outlining the projects impacts should be created (quasi-impact statement), meaningful public notice and comment should be provided, the state utility regulatory agency should have the authority to impose operational conditions on both the installation and on-going operation of large wind turbine projects as well as the authority to have on-going oversight of construction and operation of the wind turbine project, and the state utility regulatory agency should provide meaningful and accessible administrative remedies for affected parties.

Finally, the state should enact legislation similar to that of Wisconsin, which limits the ability of municipalities to restrict the construction of large wind turbine projects in their jurisdiction.¹³⁹ Municipalities should have the ability to restrict these projects in limited circumstances, such as to preserve or protect the public health or safety, when a restriction does not significantly increase the cost of the system or significantly decrease its efficiency, or when a restriction allows for an alternative system of comparable cost and efficiency.¹⁴⁰ Aside from these established circumstances, the ability of local government units to regulate large wind turbine projects should be limited with the understanding that the state-level utility regulatory agency is safe-guarding the interests of the local government and their residences through their multi-faceted review and approval process.

The KMW approach should lead to a more streamlined review and approval

¹³⁶ See The KANSAS RENEWABLE ENERGY WORKING GROUP, *supra* note 105 *passim* (encouraging consideration of the following: (1) land use; (2) noise management; (3) natural and biological resources; (4) visual impacts; (5) soil erosion and water quality; (6) safety; (7) cultural, archaeological, and paleontological impacts; (8) socio-economic, public service, and infrastructure impacts; and (9) public interaction concerns).

¹³⁷ *Id.*

¹³⁸ MINNESOTA PUBLIC UTILITIES COMMISSION, *supra* note 104.

¹³⁹ WIS. STAT. ANN. § 66.0401 (West 2003).

¹⁴⁰ *Id.*

process for large wind turbine projects. States should appoint their state-level utility regulatory agency as the permitting body with authority to review proposed projects and issue site permits for such projects. By vesting the authority to review and approve these projects in a single administrative agency, with the expertise to balance broad ranging concerns, the process is simplified and made more efficient. Affected parties can easily identify the agency with responsibility over a proposed wind turbine project and can provide comments during the notice and comment period.

Although the KMW approach advocates limiting the authority of local municipalities to restrict large wind turbine projects (in line with the Wisconsin approach), it is imperative that the state-level utility regulatory agencies still work closely with local municipal government units during the review of proposed projects.¹⁴¹ A municipality should have close contact and involvement with all stages of review of a proposed large wind turbine project and municipal level concerns should be heard and addressed via the review process.¹⁴² Comments from municipalities to the state-level utility regulatory agency should be given meaningful consideration in the review process since municipalities often are best positioned to understand local dynamics including economic conditions, environmental impacts, and citizen concerns.¹⁴³

In addition, following the Maryland Supreme Court's analysis in *Sprenger*,¹⁴⁴ the provision of adequate administrative procedures and remedies for affected landowners may prohibit a resort to judicial review of a proposed project when administrative remedies have not been exhausted and may even prevent the use of common law nuisance doctrine when administrative procedures and remedies have not been exhausted.¹⁴⁵ To that end, providing a meaningful public notice and comment period on proposed projects may help to foster compromise on the scope, design, location, or other impacts of the project. Also, on-going regulatory limitations on the operation of the wind turbine project can help the project to operate in a fashion that is compatible with neighboring land owners use of their properties.

The State of Vermont offers a good example of a regulatory scheme which

¹⁴¹ See Sagar A. Williams, Jr., Comment, *Limiting Local Zoning Regulation of Electric Utilities: A Balanced Approach in the Public Interest*, 23 U. BALT. L. REV. 565, 609-610 (1994) (stating that state regulatory agencies do not always make decisions that sufficiently consider and protect vital local interests; a balanced regulatory approach would provide the benefit of administrative agency expertise, within a legal framework that establishes guidelines for weighing both local and broader public interests).

¹⁴² *Id.* (noting that state regulation has historically ignored *local* concerns about adverse health effects, safety hazards, property value decreases, and aesthetics--concerns traditionally addressed by zoning laws enacted at the municipal level).

¹⁴³ See Peter H. Lehner, *Act Locally: Municipal Enforcement of Environmental Law*, 12 STAN. ENVTL. L.J. 50, 54-5 (1993) (finding that local governments are more knowledgeable about their citizens' lives than their counterparts at the federal and state level, live closer to the issues at hand, have frequent interactions with residents, and are able to craft "individualized responses" to problems).

¹⁴⁴ 926 A.2d at 238; *but see Burch*, 647 S.E.2d at 889 (finding that common law nuisance claim is not precluded by the fact that a state agency has granted a citing certificate as such action does not conflict with the permitting role of the agency).

¹⁴⁵ See *id.* at 252 (stating the general rule in the state, that when an administrative remedy is provided by the General Assembly, administrative process must be exhausted before the aggrieved party may resort to the courts for other relief).

emphasizes meaningful public involvement. Vermont vests authority for review and approval of large wind turbine projects in their Public Utility quasi-judicial decision making board, the Vermont Public Services Board. The Vermont Public Services Board provides an elaborate set of administrative procedures which emphasize public involvement in all phases of the review process.¹⁴⁶ A large wind turbine project cannot move forward without first obtaining a Certificate of Public Good from the board.¹⁴⁷ Public hearings are a required element of the review process,¹⁴⁸ and members of the public may also intervene as a party to a case.¹⁴⁹ This type of meaningful public involvement during the course of review and approval proceedings can allow affected citizens to air their concerns early in the process when changes and adjustments can more easily be made to the proposed project to address these concerns. Further, under *Sprenger*,¹⁵⁰ if members of the public fail to fully avail themselves of these administrative procedures, they may be estopped from seeking judicial remedies.¹⁵¹

The KMW approach is designed to avoid legal and other challenges that can delay or even halt large wind turbine projects by utilizing a process that is streamlined, centralized, and straight forward. As outlined earlier in this comment, there is a whole group of Federal and State legislation aimed at promoting renewable energy sources and increasing the share of electricity produced in the U.S. from renewable sources, including wind. Policies are needed to insure that these policy goals are translated into real world results, and the KMW approach should be one such policy.

CONCLUSION

Looking back to the five main approaches to regulation of large wind turbine projects: “1) mandatory, state-level wind turbine siting statute, 2) voluntary guidelines for wind turbine siting within a state, 3) model ordinances for local governments to apply and use, 4) local government siting rules, and 5) voluntary checklists and resources for local governments to recommend,”¹⁵² it seems that the KMW approach should be added as a sixth approach, closely mirroring and including key aspects from the Kansas, Minnesota and Wisconsin approaches. This approach would vest authority in state-level utility regulatory agencies to analyze a multitude of impacts from proposed large wind turbine projects prior to granting approval of a project. The comprehensive list of impacts created by the State of Kansas should be used as a model by state utility regulatory agencies in their review

¹⁴⁶ CITIZENS' GUIDE TO THE VERMONT PUBLIC SERVICE BOARD'S SECTION 248 PROCESS, *supra* note 106, at 1.

¹⁴⁷ *See id.* at 2 (requiring a petitioner to obtain a certificate prior to beginning site preparation or construction for “in-state electric transmission and generation construction projects”).

¹⁴⁸ *Id.* at 5.

¹⁴⁹ *See id.* at 6 (describing the four criteria that must be addressed for a party to intervene in a case. (1) the party must demonstrate a “substantial interest which may be adversely affected by the outcome” of the review, (2) the party must show that their interests will not be adequately safeguarded by other parties already involved, (3) there must not be other adequate means by which the parties interests can be protected, and (4) the intervention must not “unduly delay” the proceedings).

¹⁵⁰ 926 A.2d 238.

¹⁵¹ *Id.* at 252.

¹⁵² NATIONAL WIND COORDINATING COMMITTEE, STATE SITING AND PERMITTING OF WIND ENERGY FACILITIES, ii (2006), http://www.nationalwind.org/publications/siting/Siting_Factsheets.pdf (last visited Nov. 17, 2006).

and deliberation on large wind turbine projects. Further, states should work toward creating legislation similar to that of the State of Wisconsin, which would limit the ability of municipalities to restrict large wind turbine projects from being constructed. All the while, state-level utility regulatory agencies should work closely with affected municipalities and citizens during all phases of their review process. Meaningful opportunities for public involvement should be made available throughout the process and administrative procedures and remedies for formal consideration and redress of affected parties concerns should be made available.