NEGOTIATING THE WIND:
A FRAMEWORK TO ENGAGE CITIZENS IN SITING WIND TURBINES

Sean F. Nolon*

INTRODUCTION

The need for more renewable sources of energy is unequivocal and the call can be heard from many quarters.1 Fossil fuel stocks are being depleted and what remains will be increasingly costly to extract and use.2 The scientific community has documented the long-predicted arrival of climate change as a result of increased greenhouse gas production.3 Renewable sources of energy must be addressed to limit the adverse impacts of these emissions, to live more sustainably, and to provide a hospitable planet for future generations.

Yet, despite the pressing need for renewable energy and proven technological capacity, the U.S. is struggling to replace the carbon dependent energy system with more renewable sources.4

* Associate Professor of Law and Dispute Resolution Program Director, Vermont Law School. I wish to thank, Michael Dworkin, Donald Kreis, for conversations on the subject, Patrick Parenteau, Jason Czarnezki, for reviews of earlier drafts, participants at the Colloquium on Environmental Law at Vermont Law School, participants at the Benjamin N. Cardozo School of Law’s symposium on environmental dispute resolution, Katelyn B. Bush for editing and research, and Antoinette Flora and Allison Silverman for their research assistance.


2 This can be seen with the increase in deep water drilling, hydraulic fracturing techniques to get at natural gas in shale formations, tar sands deposits in Canada, mountain-top removal coal mining in Appalachia. The economic and environmental costs of these projects are well documented.

3 See Patrick Parenteau, Come Hell and High Water: Coping with the Unavoidable Consequences of Climate Disruption, 34 Vt. L. Rev. 957, 957–60 (2010).

The lack of progress is not for want of technological innovation—our ability to produce energy through solar, wind, hydro and geothermal sources has increased dramatically.\(^5\) Other obstacles include the low cost of energy from fossil fuel sources, the lack of a unified energy policy, resistance to change from the fossil fuel industry, the need for new transmission lines to deliver electricity to population centers, and citizen opposition to siting of renewable energy facilities such as wind turbines, solar panels and dams.\(^6\)

The limited purpose of this article is to address the obstacle of citizen opposition to the siting of wind turbines. While there is little empirical data available on the impact of citizen opposition, several high profile cases have captured the media’s attention and highlighted the need for improved siting procedures. The framework proposed herein recommends dealing with siting opposition by involving citizens “upstream” in policy development as well as “downstream” in siting negotiations. This framework relies on federal-state-local partnerships that integrates citizens into a process that identifies areas appropriate for turbines, provides for mitigation of adverse effects, designates fossil fuel reductions, creates model leases and ordinances, provides for decommissioning, and enables siting negotiations at the local level.

The United States Department of Energy (“DOE”) states that the U.S. could source twenty percent of its electricity from wind power by 2030.\(^7\) In 2008, wind capacity grew by sixty-one percent, making it the most prevalent form of energy added to the nation’s capacity.\(^8\) Governors and legislatures of approximately twenty-four states have mandated that a percentage of energy used must come from renewable resources.\(^9\) For many reasons, wind energy


\(^6\) See Deborah Peel & Michael Gregory, Positive Planning for Wind Turbines in an Urban Context, 12 LOCAL ENVTL. 343, 343–44 (2007) (noting that renewable energy policies are often frustrated by “implementation impasses” at the local level where siting of facilities can be stalled for many reasons).


presents an attractive and accessible source of energy to help meet these specific obligations as well as our general need for more renewable energy. When compared to other sources of energy, wind has a relatively small terrestrial footprint\(^\text{10}\) and turbines have negligible impacts when compared to coal and nuclear. Aside from producing, servicing and constructing the turbines, the “cost” of these facilities is relatively low\(^\text{11}\) as compared to other forms of energy generation.\(^\text{12}\)

Wind sources, while temporally sporadic, are geographically well distributed throughout terrestrial and maritime jurisdictions of the United States. The temporal nature of wind resources makes it difficult to rely on wind as a constant source of energy. Energy is produced when the wind is blowing and that does not always match the times when energy is needed. Even though there have been massive improvements in wind turbine technology, allowing for more electricity output with smaller and less expensive units, wind energy is expensive and can vary greatly from site to site depending on wind speed and the topography of the land.\(^\text{13}\) The most favorable terrestrial wind resources are not always located near population centers, making transmission an important consideration. These limitations can be addressed through a range of technological fixes.\(^\text{14}\) For example, through technological advances wind power can cost between three and six cents per kilowatt-hour, making wind power cost-comparable, if not cost-competitive, with fossil fuel power plants.\(^\text{15}\)

In addition to the limitations of expense, storage, and transmission, wind turbines present other limitations. Adverse environmental impact can result from the construction of, and to a lesser


\(^{12}\) While the per project capital costs are relatively low, wind power produces less electricity, making per unit cost higher than other forms of generation.


\(^{15}\) Id. The Department of Energy estimates that wind power in some sites has a baseline of 5–8 cents per kWh, but the goal is to reduce this to 3.6 cents per kWh by 2012. See *Large Wind Technology: Goal*, U.S. DEPARTMENT OF ENERGY, http://www1.eere.energy.gov/windandhydro/large_wind_tech.html (last visited Sept. 6, 2010).
degree, the operation of wind turbines.\(^{16}\) While some of these impacts have technical solutions, most must be addressed through policy development and siting procedures. For example, linking "high wind" areas to population centers requires siting new transmission lines through undeveloped and sometimes sensitive habitat. Turbines may have impacts on avian and bat populations and habitat destroyed by construction and operation. Wind turbines also have national security and transportation implications because they can interfere with radar technology. Adequately addressing these impacts requires the involvement of citizens in decision-making processes that set wind energy policies and site the turbines. Accordingly, this Article deals directly with a central (and often overlooked) factor in successful policy development and facility siting: adequate and appropriate citizen involvement.

"Citizen involvement" as a label has different meanings depending on who is using it and the context in which it is used. In the context of the minimal governmental procedures that are required to make a legally defensible decision, it means notice and comment and possibly a public hearing. However, in the context of decision-making intended to fully incorporate a range of concerns, "citizen involvement" refers to a more inclusive, transparent and responsive process. Many agencies resist more robust levels of citizen involvement at the policy development stage, preferring to rely on the minimal processes with which they are familiar.

Resistance to this level of citizen involvement is endemic and springs from beliefs (and experiences) that engaging citizens takes too long, is too costly, and results in sub-optimal solutions.\(^{17}\) The assumption is that a more streamlined decision-making process, guided and informed by knowledgeable bureaucrats, will produce

\(^{16}\) 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, 665 (2008) ("Wind speed and availability can vary from day to day and, as a result, the amount of electricity produced can vary. Some critics have argued that utilities relying on wind power will have to develop or purchase costly reserve capacity to fill in if wind power is not available when it is expected."). See also Fry, supra note 13, at 436 (noting that advances in battery technology might help mitigate this problem, and large scale wind faces fewer problems than small-scale wind, but this "nostalgia" issue is still one of the largest problems facing wind development today).

NEGOTIATING THE WIND

better and timelier results.\footnote{KEITH W. ERHAN, PRINCIPLES OF ADMINISTRATIVE LAW § 1.5 (Thomson West 2008) (points out that in complex decisions, both processes are time-consuming, costly and that the minimal approach produces less creative solutions due to the adversarial climate).} Adherents to minimal citizen involvement in decision-making view the citizens as uninformed and parochial and involving them will only give strength to Not-in-My-Back-Yard ("NIMBY") sentiment.\footnote{See Jody Freeman, Collaborative Governance in the Administrative State, 45 UCLA L. REV. 1, 13 (2007).} Simply dismissing citizen opposition as self-interested, NIMBY whiners ignore the two realities addressed in this Article: (1) that many facility proposals subject to citizen opposition will impose significant, uncompensated burdens on communities; and (2) that successful citizen involvement is more than a statement of principle—it must be implemented following the best practices of consensus building and collaboration.\footnote{These two realities are central components to the increasingly popular field of Dispute System Design (DSD). DSD contemplates how systems deal with recurring streams of disputes and outlines how system-wide engagement can be used to manage conflicts. This field of study has expanded over the last thirty years to include concepts from dispute resolution, group decision-making, organizational development and business management. Since the approval for these turbines takes place in a decision-making process that is already established, DSD provides a valuable framework for exploring how citizen can be more effectively involved. See generally WILLIAM L. URY, JEANNE M. BRETT & STEPHEN B. GOLDBERG, GETTING DISPUTES RESOLVED: DESIGNING SYSTEMS TO CUT THE COSTS OF CONFLICT (1988); CATHY A. COSTANTINO & CHRISTINA SICKLES MERCHANT, DESIGNING CONFLICT MANAGEMENT SYSTEMS: A GUIDE TO CREATING PRODUCTIVE AND HEALTHY ORGANIZATIONS (1996); see also AMY J. COHEN, Dispute System Desings, Neoliberalism, and the Problem of Scale, 14 HARV. NEGOT. L. REV. 51, 60–74 (2009).}

In Section I, this Article explores the promotion of wind energy by looking at the current system of incentives and regulations, including the authority to mitigate adverse impacts. In Section II, the Article looks at the role of citizens in siting generally, how involvement can turn into opposition, and how that opposition can be managed productively. Section III explores three approaches to citizen engagement that have been used for decades—participatory planning, negotiated rulemaking and facility siting. Finally, Section IV provides a framework for the federal government to work cooperatively with state and local governments to create comprehensive wind energy plans with significant citizen involvement. While this framework is ambitious and novel, the individual process components have all been applied successfully in other contexts.

Research generally on citizen involvement in administrative decisions\footnote{See infra Section III.B.} and specifically in participation in wind energy siting
make the case for increased citizen involvement. The unique contribution of this framework is a structure to include citizens in the full range of policy decision in a comprehensive manner. Current policies only provide for incomplete and piecemeal participation in decisions about wind energy policy and turbine siting. The effect is that siting decisions are procedurally detached from important policy decisions like where turbines are appropriate, what mitigation measures are effective, and how losses should be compensated. This framework proposes these procedural linkages among related decisions in an attempt to improve decision-making throughout the system. The premise is that citizens who are involved in developing a comprehensive wind policy will be more effective and productive participants in the siting decisions that implement those policies.

I. REGULATING WIND ENERGY

At present, there is no cohesive nationwide policy to promote wind energy. This absence of a unified policy has been noted as one of the major reasons why wind energy has not realized its potential. The current regime of laws and regulations provide limited authorities and incentives. While there are some successful components to encourage wind production, better coordination is needed overall if we want to take advantage of our wind resources.

A. Governmental Incentives

1. Federal Financial Incentives

A range of federal incentives for wind energy are available for local governments and private entities like individual property owners as well as owners of large wind generation facilities. Direct loan programs are available through the Tribal Energy Program,^24

---

^22 See infra Section 1B.3.d.


the Rural Energy for America Program, and the Energy Efficiency and Conservation Block Grant program. Monies provided under these programs can be used by eligible localities to fund a great diversity of renewable energy projects that are consistent with local priorities and goals. Private entities, such as owners of large turbine installations, can choose between using the Production Tax Credit (PTC) or Investment Tax Credit (ITC). Wind generators find these incentives instrumental in the growth of the wind energy industry and argue that they are essential for them to remain competitive in the future. Entities can recover investment in property, including small wind facilities, through depreciation deductions under the federal Modified Accelerated Cost-Recovery System. For owners of smaller wind generation facilities with less than 100 kilowatts, the Residential Energy Efficient Property Act permits individuals to claim a credit of thirty percent of eligible property expenditures. The federal government also provides a tax credit for those who invest in “clean renewable energy


26 See 42 U.S.C. §§ 17151–17158 (To qualify as the first type of governmental entity, if a city, it must have either 35,000 or more residents or it must be one of the top ten most populous cities in the state; if a county, it must have at least 200,000 residents or be one of the top ten most populous counties in the state. To qualify as an “eligible unit of local government-alternative-2,” it must have a population of at least 50,000 as a city and a county must have a population of at least 200,000).


29 See Salkin & Ostrow, supra note 23, at 1080.


32 Id. at § 25D(a)(4). The amount of credit an individual can take cannot be an amount more than their total tax liability for the year, but there is a specific formula in determining whether or not they can claim a credit based upon their taxable income for a taxable year. See 25 U.S.C.S. § 25D(b)(1); 25 U.S.C.S. § 25D(c)(1)(A); 26 U.S.C.S. § 55 (2011).
bonds” and loan guarantees for eighty percent or less on qualifying projects.

2. State Renewable Portfolio Standards

A majority of states have adopted Renewable Portfolio Standards (RPS) that require utilities to source a percentage of electricity from renewable sources. For example, Delaware will require twenty percent of its energy to come from renewable sources by 2019. California has the most ambitious RPS, mandating that twenty percent of its electricity will come from renewable resources by 2010 and requiring all retail electric utilities to produce thirty-three percent of their electricity from renewables by 2020. Interestingly, California takes a systemic view of the problem by limiting hazardous waste and pollution increases from renewable sources like solid waste incineration. Even some states with an RPS, such as Alabama and Mississippi, encourage the use of renewable energy to meet the energy demands. Wind is a key component of many states’ renewable energy portfolio standards.

B. Siting Wind Turbines

1. Federal Authority

The siting of wind turbines is a matter of state and local authority. The federal government does not have authority over the siting of wind generation facilities, unless federal land is involved.

33 See 26 U.S.C.S. § 54A; and 26 U.S.C.S. § 54D.
34 See 42 U.S.C.S. § 16511. To be a qualifying project, it must not emit, must reduce, or must sequester either greenhouse gas or air pollution, and use new or improved technology and must fall under the category of a renewable energy system. See 42 U.S.C.S. § 16513.
35 See Salkin & Ostrow, supra note 23, at 1050.
38 See Executive Order, supra note 37.
41 Rules, Regulations, supra note 40.
42 Several federal agencies have developed guidelines for siting wind turbines on federally owned land. See Salkin & Ostrow, supra note 23, at 1077.
There are several important areas, however, where the federal government plays a role in the permitting process.

[A] host of federal agencies may be involved in the wind farm permitting process including the Department of Energy ("DOE"), the Minerals Management Service ("MMS"), the United States Army Corps of Engineers, the Fish and Wildlife Service ("FWS"), the Bureau of Land Management ("BLM") the Environmental Protection Agency ("EPA"), the Department of Defense, the Federal Aviation Administration ("FAA") and the National Telecommunication and Information Administration ("NTIA").

In a related area, the Energy Policy Act of 2005 granted the Federal Energy Regulatory Commission ("FERC") the authority to site energy transmission lines in "national interest electric transmission corridors.") Transmission lines play a crucial role in connecting supply to demand—delivering energy from turbines in high wind locations to population centers.

2. State and Local Siting Authority

In general, the principal authority in the United States for land use siting decisions is vested in local government, as delegated by individual state legislatures. While authority varies from state to state, the general pattern is that local and regional governments are also responsible for the siting of wind turbines. In some states, such as in New York, location and operation of wind turbines is largely a function of local governments with little to no authority retained by the state. Some large wind farms are treated as utilities and need additional approval from the state utility commissions on matters related to rate setting. Some states segregate wind projects based on size, sending larger turbines to regional or state siting boards or agencies and allowing local governments to

43 Id. at 129–30.
44 See 16 U.S.C. § 824p(a) (2011). Areas qualify as “natural interest electric transmission corridors” if they are “experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers.” Id. However, under Piedmont Envt’l Council v. FERC, the courts have limited FERC’s authority to approve transmission lines only in corridors where the state has not taken action. According to Piedmont, “taking action” can be a denial as well as approval. 558 F.3d 304, 313 (4th Cir. 2009). “Simply put, the statute does not give FERC permitting authority when a state has affirmatively denied a permit application within the one-year deadline.” Id.
46 Id.
approve smaller turbines.\textsuperscript{47} Other states, such as Maine, use state-wide siting boards to make all decisions regarding wind turbines.\textsuperscript{48} In addition, some state legislatures have voted to ban turbines from significant landscapes.\textsuperscript{49}

Depending on the authority of the siting board, turbines can be conditioned or denied based on a variety of reasons, such as impacts to biodiversity, the environment, human safety, aesthetics, cultural resources, noise, and light. Some states require environmental impact statements to be completed as part of the approval process. For example, the Minnesota Public Utilities Commission requires an analysis of the potential environmental and wildlife impacts, mitigation measures, and any adverse environmental effects that cannot be avoided.\textsuperscript{50} In New York, the State Environmental Quality Review Act (“SEQRA”) requires local government agencies to mitigate the adverse impacts of any proposed actions—like approving the siting of a wind turbine. SEQRA requires the completion of an environmental impact statement if a proposed action

\textsuperscript{47} New Hampshire law prohibits localities from unreasonably limiting wind installations: “[o]rdinances or regulations adopted by municipalities to regulate the installation and operation of small wind energy systems shall not unreasonably limit such installations or unreasonably hinder the performance of such installations.” N.H. REV. STAT. ANN., § 674:63 (2010). The statute defines unreasonable behavior as excluding wind turbines from a municipality; using a generic ordinance to restrict tower height; requiring setbacks greater than 150% of a turbine’s height; setting noise limits lower than fifty-five decibels; and fixing electrical and structural standards that are more restrictive than applicable state and federal building and electrical codes. See id. Minnesota Public Utilities Commission has the authority to permit wind farms over 5 MW. See STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION, http://energyfacilities.puc.state.mn.us/wind.html (last visited Feb. 3, 2011). In Oregon, local governments can issue permits for turbines capable of generating up to 105 MW while projects exceeding 105 MW are permitted by the Oregon Energy Facility Siting Council. See OR. REV. STAT. § 469.300 et seq. (2009); see also Oregon Administrative Rules (OAR) Chapter 345, Divisions 1, 15, 20–23, 26, 27, and 29. On the other side of the spectrum, in “Texas, there are no state guidelines for wind turbine siting; counties can discourage but cannot prohibit wind power development. The Texas Parks and Wildlife Department will review a wind energy project against a draft set of guidelines for wildlife protection, if asked.” WINDOW ON STATE GOVERNMENT, TEXAS COMPTROLLER OF PUBLIC ACCOUNTS, http://www.window.state.tx.us/specialrpt/energy/renewable/wind.php#106 (last visited Mar. 3, 2011). The 2007 Texas Legislature considered a bill, HB 2794, that would have required a permitting process for wind energy projects, but it did not pass. Id.


\textsuperscript{50} See Wind Power Siting Regulations, supra note 48, at 25.
“is determined to have a potentially significant adverse environmental impact.”

3. Mitigating Adverse Impacts of Wind Turbines

In addition to the advantages of harvesting energy from the wind, there are significant impacts that must be addressed. The regulation of wind turbines is designed to address impacts that arise during construction and operation of wind turbines. An attempt to catalog the adverse impact on land use is incredibly complex and depends heavily on local circumstances, local and state land use patterns, zoning ordinances, cultural resources in the area, and other factors. For example, construction of wind turbines can cause interruptions in communication infrastructure (i.e., cell phone towers, fiber optic data cables), and operation can impact national defense by interrupting radar capabilities.

According to some anti-wind advocates, wind turbines are “gigantic wind machines . . . gut[ting] the landscape, killing wildlife, destroying culturally significant viewsheds, devaluing property, and creating major disturbances for those who live nearby.” A recent newsletter pondered the following possible impacts: damaged roads; increased traffic; changes to water supplies, streams and wetlands; blasting; habitat fragmentation; increased mortality of birds, bats and other wildlife and domestic animals; reduced quality of life; aesthetics; increased noise; human health; dangers to commercial aviation; reduced property values; lack of corporate accountability; catastrophic failure of turbines; injuries to community; and greenhouse gas emissions. Opponents can find many reasons to make the case against wind turbines.

Generally, state and local governments have attempted to mitigate adverse wind turbine effects on wildlife and natural resources by conducting risk assessments prior to construction and imposing conditions on location, size, operation, construction and mainte-

51 Id. at 34. See also N.Y. ENVTL. CONSERV. LAW § 8-0109 (2011).
52 See Rosenberg, supra note 16, at 668.
nance of wind turbines. Some of the specific conditions are described in more detail below.

a. Noise, Light, and Visual Impacts

Wind turbines create noise, cause shadow “flicker” and are highly visible on the landscape. The impact of the noise depends on the type of turbine, the manner in which it is operated, and the proximity to residences. Newer turbines are quieter than older models. The speed at which a turbine operates can also have an effect on the noise generated—the faster the turbine, the louder the noise. Depending on their location, turbines can create shadow or light “flicker” on residences. The effect of this “flicker” is alleged to be very aggravating and cause headaches, depression, and anxiety. And finally, simply having to look at turbines on the landscape can be seen as an adverse impact. Some people view flashing lights and the white towers along ridgelines and open expanses as visual pollution that degrades a common resource and lowers quality of life. Others take great pride in the towers, seeing them as symbols of our growing energy independence and commitment to a more sustainable future.

Several jurisdictions have taken action, through a variety of measures, to mitigate adverse aesthetic impacts. For example, the California Environmental Quality Act (“CEQA”) allows the imposition of noise limits and set backs from property lines to mitigate the harm. Minnesota’s Pipestone County adopted an ordinance regulating turbines based on the state’s model ordinance that re-

---


57 However, the faster the turbine, the more energy it produces. This obviously creates a tension between people who want slow turbines to reduce noise and those who want faster turbines to generate more electricity.

58 Shadow flicker occurs when unnatural shadows from rotating wind turbines are cast. For a story on how noise and shadow flicker affect everyday life, see Noise, Shadow Flicker from Wind Farms Causing an Uproar, Watertown DailyTimes.com (Jan. 18, 2010), available at http://www.watertowndailytimes.com/article/20100118/NEWS03/301189978.


quires wind turbines to be set back 750 feet from property lines of homes. That model ordinance also has various formulae for calculating other setbacks depending on the property use.\textsuperscript{62} In Oregon, "regulations protect against impacts on the surrounding community by requiring that minimal lighting be used to reduce visual impacts," and wind power "must not adversely impact scenic and aesthetic values and is prohibited in certain areas, such as state parks."\textsuperscript{63} These regulations that specifically address wind energy facilities state that the source of the noise, in this case, the wind turbine, must be at least 400 feet from any "quiet areas."\textsuperscript{64}

Paint color and location can also minimize visual impact. For example, the Danish Wind Industry Association ("DWIA") (an entity that assists in planning efforts) asserts, "the choice of paint color may help improve the visual impact of wind farms," and [in flat areas, it is often a good idea to place turbines in a simple geometrical pattern which is easily perceived by the viewer. Turbines placed equidistantly in a straight line work well . . . In hilly landscapes it is rarely feasible to use a simple pattern, and it usually works better to [allow the] turbines [to] follow the . . . contours of the landscape.\textsuperscript{66}

b. Wildlife and Natural Resource Impacts

The construction and operation of wind turbines can have a significant impact on a host of natural resources. Sediment-laden runoff from the construction site, as well as from service roads, can quickly destroy stream habitat.\textsuperscript{67} Service roads fragment habitat endangering plant and animal communities.\textsuperscript{68} This fragmentation can have adverse impacts on local and global migrations of avian and land-based fauna.\textsuperscript{69} Service roads can also increase the rate of

\begin{itemize}
\item \textsuperscript{63} Wind Power, supra note 61, at 26–28.
\item \textsuperscript{65} See Brisman, supra note 60, at 73–80.
\item \textsuperscript{66} Id. at 78.
\item \textsuperscript{67} Increased sediment loads visit a host of ill effects on aquatic ecosystems including habitat destruction from increased scouring, altered hydraulic flows that can rapidly change water-courses, and changed temperature gradients. See Watershed Protection and Restoration, Center for Watershed Protection, http://cwp.org/your-watershed-101/watershed-protection-and-restoration.html (last visited Feb. 19, 2011).
\item \textsuperscript{68} See generally Nature in Fragments: The Legacy of Sprawl (Elizabeth A. Johnson & Michael W. Klemens, eds. 2005).
\item \textsuperscript{69} See Rosenberg, supra note 16, at 668–69.
\end{itemize}
introduction of invasive species into native populations. Traffic on service roads and the operation of the turbines inevitably increases species mortality.

States have come up with a variety of mechanisms to deal with these impacts on wildlife and natural resources. For example, in California, Alameda County approved a plan to reduce bird mortality at Altamont Pass by “removing some existing turbines, turning off selected turbines at certain times, implementing other habitat modification and compensation measures, and gradually replacing existing turbines with newer turbines.”70 Also in California, a project in Contra Costa County reduced the number of turbines, redesigned the turbines, and buried electrical lines to reduce avian deaths.71 In Sherman County, Oregon, officials have required that turbine developers conduct an avian post-construction study.72 Other states have studied wildlife impacts and have decided not to impose mitigation measures.73

c. Human Health, Safety, and Culture Impacts

Wind turbines may also have an impact on human health and culture related to the adverse impacts on wildlife and natural resources.74 Runoff from a site can decrease water quality, construction and use of service roads can reduce air quality, ice can be thrown from rotating turbines, and cultural resources can be destroyed.75 Construction may disturb burial grounds or battlefields. The placement of turbines may impact native rituals and practices.76 Death rates from the construction of wind turbines are small, but something to be considered: fourteen people died in the mid-1990s from working on wind turbines or with wind energy.77

70 Wind Power, supra note 61, at 24.
71 Id. at 24.
72 Id. at 27.
73 After a four-year, $800,000 avian impact study and a two-year bat study, Minnesota concluded that the impacts of wind turbines on bats and birds were minimal. “Therefore . . . state and local agencies in Minnesota are not requiring post construction studies for wind power development in the [southwestern part] of the state” where wind development is concentrated. Id. at 25.
74 Ironically, one of the driving factors behind the installations of wind turbines is the protection of human health that will hopefully reduce the consumption of fossil fuels and minimize the effects of climate change.
75 See generally Sutton & Tomich, supra note 55.
76 The WBUR Newsroom, Salazar Meets With Mashpee Wampanoag Over Cape Wind Concerns, WBUR.ORG (Feb. 2, 2010, 6:01 PM), http://www wbur.org/2010/02/02/cape-wind-5.
Overall there have been at least forty fatalities due to construction, operation, and maintenance of wind power equipment.\textsuperscript{78} Fires from malfunctioning wind turbines have created problems in Australia where a turbine caught fire and was destroyed.\textsuperscript{79} This incident has turned many Australians against the potential benefits of wind power.\textsuperscript{80}

As wind turbine technology improves and more turbines are installed, the likelihood of casualty and death should be reduced. Likewise, preventative measures used during construction can reduce harm from increased sedimentation in waterways and reduced air pollution. Reducing impacts on archeologically significant locations requires a thorough environmental review process to uncover resources and preserve what is valuable. Similarly, when locating a tower will impact cultural resources, relocation should be considered. For example, there are some areas where wind turbines should not be installed due to their religious and cultural significance.

d. Impacts on Property Values

Depending on its location, a wind turbine can reduce property values of adjacent landowners. If the noise and visual impacts are significant, property could even be made uninhabitable. Conditions during the permit process can effectively minimize negative effects on property values. Increasing setbacks from property lines to minimize noise and light flicker, slowing the rotation speed in the evenings to reduce noise, and avoiding placements that cause light flicker should be considered first. However, when impacts cannot be avoided, wind turbine applicants should provide compensation for reasonable losses. Compensation can be calculated through many methods that have been successfully used in many environmental and real estate transactions. Applicants can make direct payments, agree to cover any value lost in the future, or provide for revenue sharing in the project. Compensation mechanisms do more than just make those who are injured whole; these mechanisms can also change opinions of the project. Empirical evidence suggests that compensation mechanisms and revenue sharing ar-

\textsuperscript{78} Id.


\textsuperscript{80} Id.
rangements increase the overall perception of wind turbines.\footnote{Patrick Devine-Wright, Beyond NIMBYism: Toward an Integrated Framework for Understanding Public Perception of Wind Energy, 8 Wind Energy 125, 133 (2005).} Danish studies have found that economic involvement in wind energy projects increases community acceptance.\footnote{Id.; c.f. Vicki Been, Compensation Siting Proposals: Is It Time To Pay Attention?, 21 Fordham Urb. L.J. 787, 796–801 (1994) (referring to general surveys finding that involvement in monitoring had a greater impact on public perception of hypothetical hazardous waste treatment facilities).}

A common fear among many communities is that turbines and towers will not be removed when no longer in use, left to rust on the landscape, and a reminder of a failed project.\footnote{At South Point on the Island of Hawai'i, two rows of towers have not been removed despite the fact that they are no longer in use. This creates an eyesore on an otherwise inspiring landscape and is likely to engender some distaste for wind energy producers (as it did in this author).} Many communities address this problem ahead of time by planning for decommissioning. If not decommissioned properly, wind turbines can damage the environment, erode aesthetic features, and devalue property. Some states and countries have used a variety of measures to ensure that wind power sites are decommissioned properly.\footnote{See Karen N. Scott, Tilting at Offshore Windmills: Regulating Wind Farm Development Within the Renewable Energy Zone, 18 J. Envtl. L. 89, 111 (2006) (speaking specifically to the United Kingdom’s plan for decommissioning wind power sites according to their 2004 Energy Act).} In Minnesota, Pipestone County adopted a wind power ordinance that provides for decommissioning of wind turbines.\footnote{Wind Power, supra note 61, at 24.} In Sherman County, Oregon, local zoning permits wind turbine approvals to be conditioned on decommissioning and removal provisions.\footnote{Id. at 27.}

While years of experience with wind turbines have provided many opportunities to minimize adverse impacts, as with any human development, some remain. Some wind proponents will look to the improvements in mitigation and be tempted to rely solely on the merits of those claims. More strategic proponents will recognize that technological fixes have limited effectiveness when dealing with communities. Instead, proponents will be more effective if their substantive fixes are subordinate to the creation of an inclusive, transparent and responsive process.\footnote{See generally, Sean F. Nolon, The Lawyer as Process Advocate: Encouraging Collaborative Approaches to Controversial Development Decisions, 27 Pace Envtl. L. Rev. 103 (2009).} The next section explores the nature of citizen involvement and how opposition can be harnessed to improve the siting of wind turbines.
II. CITIZEN INVOLVEMENT: FROM OPPONENTS TO ADVOCATES

This section looks at the many different opinions of citizen involvement ranging from derogatory to salutary and explores the nature of opposition with an aim to understanding how processes can lead to constructive engagement. The goal is to develop a better appreciation of how citizens become opponents and some of the cognitive phenomena that define their experiences. Building off of this understanding, this section then explores how process options have been used to satisfy opponents’ needs and interests.

A. The Conventional View of Citizen Involvement

To some applicants, citizen involvement is synonymous with opposition. The belief that opposition often serves as an impasse to implementing well-developed and planned wind energy infrastructure policies must be balanced with the reality that opposition plays an important civic function. The goal for proponents of wind turbine siting policies should be to design processes that minimize the destructive effects of typically adversarial processes that avoids fanning the flames of opposition and still put together a proposal that will meet their objectives. Citizen involvement should not just be an afterthought—an inconvenient consequence of participating in the approval process.

Before exploring the nature of citizen opposition, an exploration of the underlying assumptions is helpful to frame the circumstances under which opposition arises. Even the most disinterested observer of community dynamics is likely familiar with the notion of “Not-In-My-Back-Yard” (“NIMBY”) opposition. These are citizens who seem to greet any development with staunch opposition. According to a simplistic and derisive vision of NIMBYs, they are people motivated solely by self-interest, afraid of change and uninformed of the benefits that result from new development.88 Their protests over-emphasize the costs of a project, exaggerate the risks of negative impacts on the community, and treat any benefits as illusory and inadequate. NIMBYs are often characterized as selfish, simple-minded, ignorant, arrogant and parochial.

Their efforts to highlight real and perceived risks are pursued with callous disregard for any community benefits that may result from the proposed project. As many developers and government officials know, NIMBY campaigns should not be taken lightly; they are incredibly effective at stopping developments, for better or for worse.

An equally simplistic, but favorable vision of NIMBYs is that of David against Goliath. The courageous and resourceful citizens who take an unpopular cause defending valuable, but under-protected, community resources against well-funded, ruthless and rapacious corporations. This is the NIMBY as savior who, at risk of great personal and financial loss, sets out to hold governmental officials accountable, to make sure that treasured community resources are not stolen, and rail against back-room deals that only line the pockets of a select few. There are many examples of citizens who have done “good” by opposing ill-conceived proposals. Many of the pivotal moments in environmental law are the result of NIMBY-like opposition that produced broad benefits, for which many are thankful. On balance, citizen opposition plays an important role in making wise use of community resources.

The siting of wind turbines provides an opportunity to observe the full landscape of oppositional behaviors. A number of groups have formed to oppose site-specific turbine projects. The effec-


91 See generally John Cronin & Robert Kennedy, Jr., The Riverkeepers: Two Activists Fight to Reclaim Our Environment as a Basic Human Right (1997); Devra Davis, When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution (2002).


tiveness of these groups has been mixed, but, as efforts to site new turbines increase, these groups can be expected to respond with increased sophistication and effectiveness. To realize the potential for wind energy generation, the proponents must effectively engage this growing opposition and use it productively. Doing so requires a more nuanced appreciation of citizen involvement and the nature of opposition.

B. Citizen Opposition Explored

The traditional approach to dealing with opponents is first to rationally engage them through education. The assumption is that once the right facts are explained, they will see the wisdom of the proposal and drop their concern. Anyone who does not buy-in after attempts to educate is treated as irrational and should be marginalized in future interactions.94 As a result, these tactics lead to increased hostility and an emphasis on discrediting the other side instead of focusing on the underlying facts.95

Many studies have revealed that NIMBYism is not fueled by ignorance and cannot be managed through a lens of rational decision-making that simply provides more information and education.96 A more robust analysis shows how community opposition, while rooted in rational decision-making, is related to a wide range of psychological principles that have been more thoroughly explored in recent years. For example, research shows that community opposition is “related to social perception of risk, to the complex process of attribution of causes, and to perceived inequity.”97 The remainder of this section provides a structure for understanding the importance of these principles by looking at three central components of a typical siting decision: first, how the community responds to the applicant; second, the community’s attach-

---

95 SUSAN L. CARPENTER & W.J.D. KENNEDY, MANAGING PUBLIC DISPUTES: A PRACTICAL GUIDE FOR GOVERNMENT BUSINESS, AND CITIZENS’ GROUPS 16 (2d ed. 2001).
96 Eric R. A. N. Smith & Holly Klick, Explaining NIMBY Opposition to Wind Power 4 (2008), available at http://www.polsci.ucsb.edu/faculty/smith/wind.pdf (“The claims that project critics lack relevant knowledge and are responding emotionally or irrationally have been rejected by a number of studies.”).
97 E. Pol et al., Psychological Parameters to Understand and Manage the NIMBY Effect, 56 REVUE EUROPEEENNE DE PSYCHOLOGIE APPLIQUEE 43, 43 (2006).
ment to the status quo; and third, how the typical decision-making process ignores emotions, and what effect that has on the involved parties.

1. Responding in Kind

How an applicant prepares and presents a proposal will affect how the community responds to it. If the applicant keeps the community at a distance, withholds critical information, surprises the community with new information, and makes attempts to marginalize dissenters, the community will likely respond in kind. In The Evolution of Cooperation, Robert Axelrod explains how competitive behavior from one side leads to reciprocal behavior from others involved in the interaction. The tactics used by the proponents shapes tactics used by the opposition.

While the resulting escalation of hostility is well known to most people, there are several reasons why it is difficult for parties to avoid getting caught in this spiral. Four cognitive barriers that present the primary obstacles to overcoming the trap of competitive interaction include: (i) naïve realism; (ii) optimistic overconfidence; (iii) reactive devaluation; and (iv) mythical fixed pie.

According to naïve realism, people believe that they see “the world as it is,” causing them to over-weigh information that confirms their existing beliefs and under-weigh any disconfirming information. For example, in a study by The Cultural Cognition Project, a scientific report was given to two groups with different views on climate change. After reading the study, both groups believed that the report confirmed their pre-existing beliefs. In an even more disturbing study, it was revealed that people will go to great lengths to minimize the effectiveness of communication that contradicts their beliefs. A message about the dangers of smoking was played to a group of non-smokers and to a group of smok-

---

98 Nolon, supra note 87, at 129–33.
100 See Richard Birke, Neuroscience and Settlement: An Examination of Scientific Innovations and Practical Applications, 25 OHIO ST. J. ON DISP. RESOL. 477, 493 (2010) (also called biased assimilation and related to confirmation bias or confirmatory evidence bias where parties look for information that buttresses preexisting hypotheses in places likely to produce it).
102 JONAH LEHRER, HOW WE DECIDE 207 (2009).
ers. The recording was designed to have static that could easily be removed by pressing a button. While listening to the message, it was the group of non-smokers who were more inclined to push the button and remove the static, while the smokers tended to leave the static in place. In the community context, naïve realism can cause opponents to overvalue behavior that confirms their pre-existing suspicions of the developer and local officials. “We all silence the cognitive dissonance through self-imposed ignorance.”

According to the second phenomena, optimistic overconfidence, parties assess elements of uncertainty optimistically to favor the outcomes they desire. In experiments where subjects are asked to assess their level of confidence in their answers, they consistently assign a higher percentage to their results than is, in fact, the case. For example, when subjects were asked to decide on a group of two-option questions for which they were seventy-five percent certain they chose correctly, they were only correct sixty percent of the time. When negotiating in groups, we find the pattern changes slightly in two ways. First, under the right conditions, groups can make more accurate judgments than individuals, and second, that groups can also suffer from overconfidence. Similar to simpler studies, ninety-eight percent of the participants in group exercises felt that their results were better than the average.

This is even more pronounced when groups are engaged in cooperative interaction as compared to those engaged in competitive interactions. Groups tend to amplify optimistic tendencies. This is an important observation to consider when designing a dispute resolution process. If parties working in a group are too cooperative, and are not questioning their assumptions, it is possible that any agreement they reach will not reflect the sensibilities of the broader community. In these situations, a mediator can manage the process to ensure that there is a healthy mix of behaviors.

103 Id.
105 Id. at 106 (citing Sniezek and Henry (1989)); see also James Surowiecki, The Wisdom of Crowds iii (2004).
106 Neale & Bazerman, supra note 104, at 106.
107 Id.
108 Id. (citing Boje and Murnighan (1982)).
that will lead to more accurate assessments. The same may not be true for groups whose efforts are not organized by a mediator.110

Reactive devaluation arises in the context where parties are evaluating the attractiveness of offers from other parties. For example, a citizen is evaluating the developer’s offer to install siltation fences to protect water quality. The oppositional relationship among the parties produces two conditions: “(1) things that are offered are less valuable than things that are not offered; (2) offers from an opponent are evaluated according to the status of the offeree relative to the offeror.”111 If the proponent is perceived as an adversary, the proposal is likely to be devalued simply through association with the source of information.112 For example, if a wind developer makes an offer to mitigate some impact, those in the community who view the developer with suspicion are likely to see the offer as insincere and inadequate. A neighbor might state, “If she is offering it, it must not be valuable.” This is related to the third principle, known as the mythical fixed pie, which leads parties to believe that if one side gets something they want, the other side must give up something they want.113 According to this principle, there is no room to create value and any attempt to do so will only disadvantage one side over the other. With these three phenomena unabated, the parties are likely to engage in a downward spiral of adversarial and destructive interactions that we have all seen before.114 It is up to the applicant to manage the process in a different way—in a way that does not encourage an oppositional and adversarial framework.

110 Cass Sunstein presents the case for group polarization in homogeneous groups but does not address the impact of an effective mediator who can work against polarization. A mediator who asks parties to explain why their assumptions might be wrong has the effect of decreasing overconfidence. See id. See also Neale & Bazerman, supra note 104, at 55.

111 See Birke, supra note 100, at 495. See also Neale & Bazerman, supra note 104, at 75–77, 106–07.

112 A study was conducted where a group of U.S. citizens was asked to assess the fairness of treaty provisions with Russia. The study found that the citizens’ assessments were highly correlated with who the subjects were told suggested the provision. The subjects that were told the Americans suggested the provision were more likely to find the proposal fair. Subjects who were told the Russians suggested the provision were more likely to find the proposal unfavorable. See Deepak Malhorta & Max H. Bazerman, Negotiation Genius 110–11 (2007).

113 Neale & Bazerman, supra note 104, at 76; Malhorta & Bazerman, supra note 112, at 111.

114 Carpenter & Kennedy, supra note 95, at 17.
2. Maintaining the Status Quo

Obviously, when wind turbines are proposed, they will impact the immediate and surrounding areas by placing large structures in shared vistas, building roads through working landscapes and increasing the local need for future transmission lines. There is an ingrained bias in most of us towards maintaining the status quo. The bias is caused by a host of psychological phenomena, particularly prospect theory, endowment effect pseudo/true sacredness and concession aversion. Therefore, how parties view the resource that is being adversely affected and how they evaluate the alternatives should be taken into consideration when designing an application strategy. The process matters because parties’ assessments of the proposal are closely linked to how the proposal is framed and presented. The presentation will play a role in parties’ perception of the risks and benefits. “Many equivalent deals are accepted or rejected depending on the framing of the offer as opposed to the value of the offer.” In situations where parties are evaluating potential gains, they will tend to be more risk averse. In situations where parties are evaluating potential losses, they will tend to seek more risk. For example, gamblers are more likely to make higher bets when they are down than when they are up. While this is easily illustrated in a two-party context, in group negotiations, the interaction is more complex, making it more difficult to impose a dominant frame.

Central to the concept of maintaining the status quo is our inclination to place higher value on things we feel we own. Studies have shown that negotiators who possess an object adopt different reference points to those objects than others. In the community context, if a group of residents feels a sense of owner-
ship over a common resource, like a viewshed a watercourse, or a park, they will place higher values on that resource than those who do not share the ownership sentiment. The applicability of this principle may be further complicated in the land use context by the fact that the applicant is often the actual owner of the land perceived as a community resource. In these situations, a principle labeled pseudo/true sacredness can cause the opposition to feel the loss more acutely and lead to more intense commitment to opposition.\footnote{The guiding conceptual framework is the sacred-value-protection model which maintains that: (a) moral communities tend to treat certain values as sacred, as though (at least at a rhetorical level) the community has an unbounded or infinite commitment to the values that precludes trade-offs, compromise, or other mingling with secular values or considerations; (b) members in good standing in the moral community are supposed to direct the moral outrage at those who mix secular and sacred values considerations (and indeed are supposed to engage in meta-norm enforcement: to punish those who fail to punish); (c) members of the moral community who have merely witnessed the profanation of sacred values are also supposed to engage in moral cleansing to purify the self and to reaffirm solidarity with the normative order.}

Another phenomenon that drives parties’ preferences for maintaining the status quo is the fact that we place more value on losses than on gains.\footnote{See generally Amos Tversky & Daniel Kahneman, Loss Aversion in Riskless Choice: A Reference-Dependent Model, 106 Q.J. ECON. 1039 (1991) (in consumer choice situations there is significant evidence suggesting that losses have greater impact on preferences than gains).} “[P]eople typically require a potential gain of at least $100 to make up for exposure to a potential loss of $50 because the subjective impact of losses is roughly twice that of gains.”\footnote{Birke, supra note 100, at 520 (quoting Sabrina M. Tom et al., The Neural Basis of Loss Aversion in Decision-Making Under Risk, 315 SCIENCE 515, 515 (2007)).} Concession aversion or status quo bias suggests that a party’s preference for avoiding losses discourages them from making concessions.\footnote{See Birke, supra note 100, at 497 (citing Russell Korobkin, The Status Quo Bias and Contract Default Rules, 83 CORNELL L. REV. 608 (1998)). See also Howard Kunreuther et al., Siting Noxious Facilities: A Test of the Facility Siting Credo, 13 RISK ANALYSIS 301, 303 (1993) (citing W. Samuelson & R. Zeckhauser, Status Quo Bias in Decision Making, J. RISK & UNCERTAINTY 1, 7–59 (1989)).} Studies of siting decisions have shown that “residents are more likely to be concerned with the potential negative impacts from a waste facility than they are to be attracted by the benefits of the same magnitude.”\footnote{Kunreuther et al., supra note 127, at 303 (citing C. Zeiss, Community Decision-Making and Impact Management Priorities for Siting Waste Facilities, ENVT. IMPACT ASSESSMENT REV. 11, 231–55 (1991)).} Overcoming this principle may require the reframing of a siting decision as a gain instead of a loss.
Negotiating the Wind

Similarly, Ellsberg’s paradox, which posits that we prefer known risks to unknown risks, suggests that some parties in a community dispute may prefer to take their chances with the required decision-making process instead of attempting to negotiate a solution.\footnote{See Birke, supra note 100, at 494 (citing Daniel Ellsberg, Risk, Ambiguity, and the Savage Axioms, 75 Q.J. ECON. 643 (1961)).}

While knowing these principles are at work can provide an opportunity to reshape siting decisions, these situations are often so complex that it is difficult to determine which principles are engaged at any given time.\footnote{Id. at 497.} Applying the lessons to complex, multi-party, multi-issue negotiations can be challenging as most of the principles have been studied in the individual consumer choice context. Moreover, they have been identified through controlled experiments designed to isolate behaviors. Still, an awareness of these behavioral norms can be very helpful when planning to engage citizens in policy and siting decisions with potential opponents.\footnote{Some studies have explored how these principles change in the group compared to individual context. See, e.g., Amira Galin et al., The Endowment Effect in Individual and Team Negotiations (Apr. 2006), available at http://y2007.recanati.tau.ac.il/Eng_Uploads/dbs/AttachedFiles/WP_8-2006_Galin_Gross.pdf (confirming some of Professor Sunstein’s observations in Deliberative Trouble, supra note 107).}

For example, it is valuable to recognize that citizens may be more concerned with the costs and risks of a project, not because they are selfish and simple-minded, but because they tend to perceive losses greater than the benefits. “The claims that project critics lack relevant knowledge and are responding emotionally or irrationally have been rejected by a number of studies.”\footnote{Smith & Klick, supra note 96, at 4.}

Fortunately, studies of community opposition, both generally and as applied to wind turbines, give us valuable information about the efficacy of legislative approaches to siting controversial facilities.\footnote{See generally Michael Wheeler, Negotiating NIMBYs: Learning from the Failure of the Massachusetts Siting Law, 11 YALE J. ON REG. 241 (1994); Been, supra note 82; Devine-Wright, supra note 81; Pol et al., supra note 97; William R. Freudenburg & Susan K. Pastor, NIMBYs and LULUs: Stalking the Syndrome, 48 J. SOC. ISSUES, 39–61 (1992); Smith & Klick, supra note 96; Kunreuther et al., supra note 127; Rabe, supra note 88; O’Hare et al., supra note 94, at 85, 90.}

While siting decisions present obviously complex and variable conditions that shape opposition, there are some common themes and findings worth mentioning. Kunreuther and colleagues identify three motivating forces of opposition: disagreement about...
values and goals, maintaining the status quo, and lack of trust.\textsuperscript{134} Similarly, Pol and colleagues attribute community opposition to social perception of risk, the complex process of attribution of causes, and to the perception of inequity.\textsuperscript{135} Devine-Wright elaborates on these observations with a sweeping literature review suggesting that proximity to a facility and involvement in both decision-making and revenue sharing have significant impacts on the nature and extent of community opposition.\textsuperscript{136} Finally, in his assessment of the failed attempt to improve the siting of hazardous water treatment facilities in Massachusetts, Michael Wheeler advises against restricting local authority, mandating negotiation among applicant and community, and imposing an arbitration mechanism if no agreement is reached. Before setting out a framework to improve decision-making, it will help to look at how the decision-making process does (not) deal well with most of these phenomena.

3. From Opponents to Advocates (or “How the Typical Decision-Making Process Ignores Emotions and What Can Be Done About It”)

In \textit{Descartes’ Error}, Antonio Damasio makes the case that mind and body are inextricably linked and that our attempts to separate rational discourse from feelings and emotions inaccurately depict how the brain functions.\textsuperscript{137} We can see this Cartesian error in the way most required decision-making processes operate. Through \textit{notice} of an action and \textit{opportunity to be heard} on the merits, the citizenry should be content to have the proposed action rationally explained. No space is created to deal with the feelings and emotions associated with the proposed action and any attempt to express them is met with ambivalence, if not hostility. While the last twenty years of scientific research have debunked the separation of mind and body,\textsuperscript{138} society (and especially government) has been slow to adopt new practices that more accurately reflect the connection between rational thought and feelings.\textsuperscript{139}

\textsuperscript{134} \textit{See generally} Kunreuther, \textit{supra} note 127.
\textsuperscript{135} \textit{See} Pol et al., \textit{supra} note 97.
\textsuperscript{136} \textit{See generally} Devine-Wright, \textit{supra} note 81.
\textsuperscript{137} \textit{Antonio R. Damasio, Descartes’ Error: Emotion, Reason and the Human Brain} 245–52 (1994).
\textsuperscript{138} \textit{Id.}; Birke, \textit{supra} note 100, at 490 (“Rationality, in the strict, old-school sense of a robotic and effective utility maximizer, has fallen off its pedestal.”).
\textsuperscript{139} There are, of course, exceptions where society has made the connection by instituting new practices that reflect the connection. One could argue that the intervenor funding mechanism present in the California Environmental Quality Act recognized the value of more robust en-
Realizations about these links are critically important for improving the way wind turbines are sited. Since dealing with local opposition involves emotional as well as rational engagement, any process must address the emotions associated with the proposed action. The most effective way to affect emotional pathways is through involvement, engagement and empowerment.

By involving citizens in the process authentically, they will trust it more. The more parties trust in the process, the more likely they are to accept the outcome. Involvement has the effect of reducing opposition by dealing directly with the psychological phenomena identified in the previous section. Much of this has to do with how our brains process threats, both actual and metaphorical. Since human brains were not created from scratch, but rather evolved from simpler platforms, our brains use identical pathways to process both simple (an actual threat) and complex (metaphorical threats) thought processes. For example, the feeling of disgust associated with smelling rotting meat is processed in the same location (the insula) as feelings that arise when experiencing a morally reprehensible act. Similarly, our brains use the same areas to process actual and metaphorical threats. The rustling of leaves that might suggest a tiger preparing to pounce fires a similar neurological pathway as the perceived threat of a proposed wind farm on a cherished ridgeline. By relying on redundant pathways, the brain links literal threats and the metaphorical threats, giving both the same level of importance and impact. It is no wonder we see such passionate displays of emotion when large projects are proposed.

Behavioral studies have also revealed some clues to pathways that can be used to soothe those fears. Because our brains process these seemingly different events (actual and metaphorical threats) through the same pathways, there are linkages in behavior that shed light on why citizen involvement processes can decrease opposition. Behavioral psychologists have found links between unrelated actions. Consider the following experiments:

Volunteers were asked to recall either a moral or immoral act in their past. Afterward, as a token of appreciation, [experimenter]
offered the volunteers a choice between the gift of a pencil or of a package of antiseptic wipes. And the folks who had just walloped in their ethical failures were more likely to go for the wipes.\footnote{Id. (citing Chen-Bo Zhong & Katie Lijenquist, *Washing Away Your Sins: Threatened Morality and Physical Cleansing*, 313 SCIENCE 1451, 1452 (2006)).}

Volunteers were told to recall an immoral act of theirs. Afterward, subjects either did or did not have the opportunity to clean their hands. Those who were able to wash were less likely to respond to a request for help (that the experimenters had set up) that came shortly afterward.\footnote{Id.}

Volunteers would meet one of the experimenters, believing that they would be starting the experiment shortly. In reality, the experiment began when the experimenter, seemingly struggling with an armful of folders, asks the volunteer to briefly hold their coffee. As the key experimental manipulation, the coffee was either hot or iced. Subjects then read a description of some individual, and those who had held the warmer cup tended to rate the individual as having a warmer personality, with no change in ratings of other attributes.\footnote{Id. (citing studies by Lawrence Williams and John Bargh).}

These experiments show how process has a direct effect on how we perceive a situation. They make a strong case that the substance of a proposal is just one of many factors considered by citizens when evaluating how to respond. Dr. Sapolsky points out that this neural confusion gives actions and symbols enormous power over our decision-making process. He explains how Nelson Mandela welcomed the leader of a large Afrikaans resistance group into his homey living room instead of a formal conference room. As a result, resistance between the two “melted away” and they were able to move on to the next chapter in governing South Africa.\footnote{Sapolsky, *supra* note 140.}

Applicants who are aware of the complex nature of cognition should embrace the need for well designed decision-making processes to effectively manage the complicated phenomena that is opposition. The process of proposing a wind farm begins long before the application is filed. The process must include opportunities for the citizen to process metaphorical threats in the same way that it would deal with an actual threat, to explore our aversion to particular ideas, and to reframe conflicting realities. Our brains will only be satisfied after we have had a chance to investi-
gate further. It is arguable that robust and authentic involvement in the decision-making process satisfies this need for investigation. An effective approval process must provide similar opportunities for the participants to investigate on their own. The following section provides a framework for how that process can be structured to allow for that involvement on multiple levels.

III. Citizen Involvement in U.S. Public Policy

A. History and Overview

Historically, citizen involvement in governmental decision-making has consisted of providing notice of a proposed action and giving an opportunity for citizens to be heard. Since the 1960s, the United States has expanded opportunities for citizens to be more informed in the official decision-making process. The National Environmental Policy Act, the Freedom of Information Act, the Administrative Procedure Act, and the Toxic Release Inventory are a few examples of laws that have increased opportunities for citizen input and have increased transparency. However expansive they may have been perceived, these provisions still represent minimal efforts to increase citizen involvement in decision-making processes. Efforts to involve citizens directly in governmental decision-making have showed great promise and produced modest successes. However, not all levels of government have fully embraced such processes. Specifically, three approaches to citizen involvement have produced promising results over the last few decades: participatory planning, negotiated rule making and consensus building techniques. These approaches can be generally grouped under the title of Collaborative Governance.

147 See Werhan, supra note 18, at § 3.
148 There are, of course, exceptions illustrated by the ascendance of AmericaSpeaks, the National Coalition of Dialog and Deliberation, and a host of other organizations and efforts that are working to increase citizen participation in U.S. governance.
149 See, e.g., Lisa Blomgren Bingham, Collaborative Governance: Emerging Practices and the Incomplete Legal Framework for Citizen and Stakeholder Voice, 2009 J. Disp. Resol. 269, 273–77 (2009). This label, first used in the legal literature by Jody Freeman, in Collaborative Governance the Administrative State, has been used narrowly, referring only to negotiated rulemaking, and broadly, referring to a wide range of collaborative approaches to public policy. The framework that follows adopts the broad definition of Collaborative Governance, including a wide range of approaches ranging from participatory planning, negotiated rulemaking, negotiation and mediation.
B. Collaborative Governance

While agencies provide an increasingly dangerous and complex world with much needed expertise and efficiency, their introduction into the civic structure has created a more complicated system of governance. Agencies, by design, move the nexus of decision-making further away from the citizens. This has the effect of making decisions both more remote and more corruptible. To counter this trend, the U.S. has seen an increase in judicial and legislative intervention into the regulatory process in an effort to increase accountability and transparency. Some have argued that this interference has led to an “ossification” and “malaise” that have obstructed agencies from fulfilling their statutory obligations. Enhanced citizen involvement has been advocated as one of the many cures to these ills.

Under the banner of Collaborative Governance, Deliberative Democracy, and Dispute System Design, a host of models have emerged to engage citizens more effectively in governmental decision-making. While these approaches have produced successes, systemic obstacles and cultural biases have slowed their widespread use. Recent efforts of the Obama administration have given exposure to the importance of open government and

150 See generally Robert W. Hamilton, Procedures for the Adoption of Rules of General Applicability: The Need for Procedural Innovation in Administrative Rulemaking, 60 CALIF. L. REV. 1276 (1972); Wehman, supra note 18, at 24.
155 See Freeman, supra note 19.
have explored the use of technology to assist in that effort.\textsuperscript{158} Groups such as America Speaks, the National Coalition for Dialog and Deliberation and the International Association for Public Participation have been promoting and documenting a wide range of collaborative approaches to governance.

This Article will focus specifically on three practices that can help to create an implementable wind energy policy: participatory planning, negotiated rule making, and siting negotiations. The proposed framework in Section IV explains how each approach should be used to accomplish a designated goal as part of a comprehensive citizen involvement plan.

Participatory planning can be used to poll a large, representative group of citizens to identify their priorities on appropriate locations for wind turbines, the amount of wind power desired, and the rate at which fossil fuel use should be phased out. Negotiated rule making can be used to convene a discrete group of affected parties in their effort to reach agreement on the contents of model ordinances, recommended lease provisions, compensation mechanisms, appropriate mitigation measures, and decommissioning provisions. Finally, siting negotiations can be used to ensure that the siting process for individual turbines is tailored to local conditions.

1. Participatory Planning

Participatory planning refers to practices that engage citizens to serve a central advisory role in making important and often complicated policy decisions that do not require specified technical experience or knowledge. These processes have been used to provide valuable information about how to manage financial resources,\textsuperscript{159} set energy priorities,\textsuperscript{160} manage natural resources,\textsuperscript{161} and enable disadvantaged populations to assess their current circum-


stances.162 Some of the labels for these techniques include participatory planning, citizen juries, deliberative polling,163 participatory budgeting,164 and citizen boards/advisory committees.

As compared to negotiated rulemaking, participatory planning approaches are not used to reach agreement among a discrete group of stakeholders, but to identify priorities among broad swaths of the community. These approaches can be used to identify appropriate areas for wind turbines, the amount of wind energy desired, and if desired, the amount of fossil fuels to be reduced. In fact, deliberative polling—a popular form of participatory planning—has already been used in Texas to gauge the public’s interest in building out the renewable energy infrastructure.165

2. Negotiated Rule Making

Negotiated rulemaking is generally defined as a supplemental process in which representatives from agencies and affected interest groups negotiate the terms of a proposed administrative rule.166 Historically, it has been used at the federal and state levels of government, but it has applicability at the local level as well. The Negotiated Rulemaking Act of 1990 provides the basic structure for agencies to design and implement appropriate processes.167 This practice has been successfully employed in the U.S. with varying frequency since it was introduced in the early 1980s.168

---

165 See The Center for Deliberative Democracy, supra note 160.
rulemaking was seen as a way to deal with what seemed like a never-ending cycle of regulations being adopted and then being overturned after years of legal appeals. Instead of being limited to the minimal process required for promulgating rules with notice, public comment, and publication of a rule that would then be subject to a lawsuit, many agencies supplemented this required process to get input earlier. This supplemental process came to be called Negotiated Rulemaking or “reg-neg.”

Negotiated rulemaking brings interested parties around the table early on, before the rule has been drafted and before the required regulatory approval process is triggered, to see if the affected parties can reach agreement. By setting up a negotiating forum before drafting the rule, the agency can engage those who are most likely to be affected by (and most likely to challenge) a rule. The nature of this negotiation is drastically different than the nature of the formal rule making process because the parties have an opportunity to talk to each other instead of directing all comments through the agency. They can share information about what is important to them and what is not. They are free to collectively explore and evaluate different regulatory possibilities. If all the parties can reach agreement, then the text of their rule becomes the proposed rule that is then subject to the required regulatory process.

The benefits of reg-neg include greater access to key information, ability to rank and trade off interests to maximize value, and opportunities to interact with and educate other stakeholders and bureaucrats. The regulatory negotiation process also facilitates more informed, workable, and pragmatic rules than traditional rulemaking provides. Other studies have identified the following benefits: more interaction builds relationships and increases commitment to a successful result, reg-neg is a powerful vehicle for learning, and a majority of participants consider their contributions to have major or moderate impact on the outcome. For example, reg-negs were effective in negotiating permit modifications

171 Id.
172 Freeman & Langbein, supra note 156, at 82–101.
under the Resource Conservation Recovery Act ("RCRA"), setting emissions standards for wood stoves, and implementing underground injection controls.\textsuperscript{173} Parties involved in the permit modifications under RCRA felt as though they would not have been able to reach the consensus that they did with the conventional approach to EPA rulemaking.\textsuperscript{174} The parties considered the open access to information as one of the strengths of using reg-neg. That same open access to information can be used in wind siting negotiations. All parties involved would have the opportunity to express their opinions and why those opinions are important.

Negotiated rulemaking is certainly not appropriate for all situations. When deciding appropriateness, factors taken into consideration should also include the opportunity for trade-offs among parties, the level of conflict, and the importance of gathering information from affected parties, among others. As described further in the next section, reg-neg can be helpful to develop policy on model ordinances, required lease provisions, compensation mechanisms, and decommissioning.

3. Facility Siting Negotiations

In addition to citizen engagement in policy development, a successful turbine siting policy must include opportunities for citizens to participate in siting decisions. This level of involvement is necessary so that mitigations are tailored to meet local conditions and should take the form of pre-application negotiations. To be successful, such negotiations should create a cooperative environment that is designed to build relationships, enhance communication, share information, and generate solutions.\textsuperscript{175}

Creative solutions are needed to successfully mitigate the adverse impacts of turbines. The adversarial climate created by the required process creates a structural barrier to identifying creative solutions. Processes that demand adversarial interactions, like the required decision-making process, create barriers to creative solutions.\textsuperscript{176} In an adversarial process, communication among the par-

\textsuperscript{173} Fiorino, supra note 170, at 766–67.
\textsuperscript{174} Id. at 766.
\textsuperscript{175} Too many options, however, will make it more difficult to choose. See generally Sheena Iyengar, The Art of Choosing (2010) (referencing an experiment where too many choices make choosing more difficult because it amplifies self doubt); Chris Guthrie, Panacea or Pandora’s Box?: The Costs of Options in Negotiation, 88 Iowa L. Rev. 601, 603–06 (2003).
\textsuperscript{176} See Freeman, supra note 19, at 11 (citing Harter, Malaise, supra note 151, at 19–23).

Specifically, Harter identifies these grievances about the regulatory process: (1) agencies and private parties tend to take extreme positions; (2) parties may be reluc-
ties is either non-existent or misleading. The parties become more focused on their differences than on their similarities, simulating a sense of oppositeness. The parties are inclined to be suspicious and hostile instead of interacting in the trusting exchanges that can foster joint efforts and rewards. Finally, the parties tend to believe that a conflict will only be resolved by one side imposing a solution on the other. This encourages the belief that one’s power is enhanced by minimizing the legitimacy of the other parties’ desires and priorities. Creating a cooperative environment allows participants to enter into a different relationship with each other and the dispute. Decision theorists have long recognized that complex negotiations are best handled through cooperative approaches that encourage more holistic perspectives from the participants, which allow for creative exploration of underlying interests, and the evaluation of options that are appropriate to reach a satisfactory outcome.

The types of issues that are appropriate to negotiate in the siting context include mitigation of adverse impacts on biodiversity, water quality, noise and aesthetics, compensation for lost property value and nuisance, monitoring, and decommissioning of facilities once out of use. Monitoring (of construction, operation and decommissioning) and compensation are held out as the most important to show data that may be abused or reveal weaknesses; (3) it is difficult for parties to join forces to directly address factual and policy questions; (4) parties have difficulty expressing true concerns for fear of losing on minor issues without gaining concessions; (5) parties raise every issue with equal emphasis and raise more issues than may be necessary in order to preserve them for later; (6) parties present their concerns to the decisionmaker rather than directly to each other; (7) the issues in controversy may be limited to those within the jurisdiction of the forum though they may not be what truly separates the parties; (8) adversarial processes are unsuitable for resolving polycentric disputes involving many parties and many possible outcomes; (9) parties engage in defensive research to bolster the factual record supporting their positions; (10) the adversarial process breeds specialists whose expertise is the process itself and encourages actual decisionmakers to abdicate responsibility to them; and (11) dialogue bout and exploration of creative solutions to resolve vexing problems is inhibited.

*Id.*


178 *Id.*; see also Jeffrey R. Seul, Settling Significant Cases, 79 WASH. L. REV. 881, 907–12 (2004) (discussing how litigation tends to cause one side to assume the other groups’ views are more homogenous and extreme than they really are).


180 *Id.* at 30.

181 *Id.*

fluential issues from the perspective of the community. Surveys of local communities reveal that provisions to include citizens in the design and monitoring of industrial facilities are highly persuasive at changing perspectives from neutral to favorable.\textsuperscript{183} Other scholars, following a rational actor model, argue that the compensation issues should be the focus of negotiations.\textsuperscript{184} The reality is that some turbine siting negotiations will be incredibly complicated and difficult and must quilt together a host of issues in order to make a passable attempt to avoid impasse.

Due to the varied nature of negotiations, some will take the form of “deal making” processes while others will involve more “dispute resolving” orientations.\textsuperscript{185} In either event, these negotiations should follow a basic structure that starts with gathering information, identifying interests, generating options, evaluating those options and then implementing any agreement that is reached.\textsuperscript{186} Ideally, one party should be designated as a process manager to shepherd the negotiation through this structure. In substantively complex negotiations where relationships are strained, the parties should strongly consider using a process manager who is a neutral party with skills in mediation and facilitation.

Finally, siting negotiations should not be seen as a substitute for the required decision-making process. They should be used before the required process begins, or early on, as a way to negotiate a concept that will meet as many interests as possible. That concept can then be converted into an application and submitted to the appropriate decision-making body. In this way, the siting negotiations are intended to supplement the required decision-making process. Such negotiations do not, in any way, subvert the required process.\textsuperscript{187} In fact, by utilizing these pre-application negotiations the required process is likely to function more efficiently and produce satisfying results for all involved.

\textsuperscript{183} See Been, \textit{supra} note 82, at 796–800.

\textsuperscript{184} O’Hare \textit{et al.}, \textit{supra} note 94, at 85, 90; but see Wheeler, \textit{supra} note 133, at 278–80 (pointing out how the Massachusetts’ compensation scheme was perceived as an effort to “bribe” the community into accepting a facility).


\textsuperscript{187} This commonly cited, but uninformed criticism, reflects a failure to understand how collaborative processes fit into the required process. See William Funk, \textit{Bargaining Toward the New Millennium: Regulatory Negotiation and the Subversion of the Public Interest}, 46 Duke L.J. 1351, 1356 (1996).
IV. A FRAMEWORK FOR CITIZEN ENGAGEMENT IN SITING WIND TURBINES

The U.S. has enough wind capacity to generate a significant amount of our domestic energy yet our progress to realize that potential is limited. One problem is the lack of a comprehensive federal policy to promote wind power.188 Telephone, highway, electricity generation infrastructure, and, more recently, cell phone and Internet infrastructure have benefited from coordinated and comprehensive federal laws and regulations. Obviously, the federal government will play an important role in the build out of our wind power generation infrastructure; the question remains as to how. Many of the proposed solutions fail to incorporate the involvement of citizens. For example, some advocates suggest increased involvement of administrative agencies,189 the creation of new administrative agencies with sweeping approval authority, 190 or top-down statutory mechanisms that limit local control.191 A missing component in many of these proposals is recognition of the need for governmental coordination with effective citizen involvement.

As noted by scholars and practitioners, building out our renewable energy infrastructure requires participation from all levels of government.192 The need for this level of coordination is well established in other areas of environmental policy.193 The federal government is best suited to identify the contours of appropriate policy, create incentives, and provide technical assistance to those

188 See William H. Meadows, Letter: Wind and Solar Energy, N.Y. TIMES (Nov. 1, 2010), http://www.nytimes.com/2010/11/02/opinion/l02energy.html (stating that, “The smart path to a sustainable energy future means moving from a scattershot approach of project-by-project permitting to clear policies that guide companies to the right places, with early public engagement and consistent environmental review.”); see also Zeller, supra note 23.
189 See Rosenberg, supra note 16, at 642.
191 See Salkin & Ostrow, supra note 23, at 1082–97 (proposing a federal law similar to the Telecommunications Act that limits local governments’ authority to exclude wind turbines); see also Alexandra B. Klass, Property Rights on the New Frontier: Climate Change, Natural Resources Development, and Renewable Energy (2010), available at http://works.bepress.com/alexandra_klass/8 (Wind turbine siting should be subject to state-wide siting and permitting structure “with much more limited local government involvement.”).
192 See Pursley & Wiseman, supra note 27.
193 Id. at n.224 (quoting Daniel B. Rodriguez, The Role of Legal Innovation in Ecosystem Management: Perspectives from American Local Government Law, 24 ECOLOGY L.Q. 745, 747–48 (1997)) (“[t]he necessity of inter-governmental collaboration is a settled principle in the emerging literature on biodiversity protection.”).
who are willing to participate. State governments are the best entities to designate appropriate areas and develop guidance (with citizens) on model local ordinances, draft regulations, and decommissioning. Local governments are best suited for siting turbines because they are most likely to know what is best for their area and know what is appropriate for their constituents. Without more intergovernmental coordination wind energy policy will continue to produce disappointing results. Our current approach does exactly that—it relies on state renewable portfolio standards and on temporary federal incentive programs, and provides little guidance or support to local governments making the siting decisions.194

A. Federal Incentives

A successful federal model could offer greater federal tax incentives than currently exist, subsidies to landowners and producers, technical assistance for policy development and siting decisions, and risk abatement to qualifying states. In order to qualify, states would need to implement a robust citizen involvement program in at least three crucial aspects of wind turbine siting: (1) designating regions that are appropriate for different sizes of wind turbines; (2) addressing adverse impacts through model ordinances, leases, compensation provisions, decommissioning, and mitigation measures; and (3) enabling siting negotiations at the local level.

This model of providing incentives to encourage state and local action has been used successfully in the past. The Coastal Zone Management Act (“CZMA”) offers model approach for providing incentives.195

Congress enacted the Coastal Zone Management Act to help preserve natural and man made resources of coastal areas while promoting economic development of those areas. The program does not mandate that states develop their own plan, but provides policies to guide those states that decide to create a plan. States that develop Coastal Management plans consistent with the policies enumerated by the Department of State may receive

194 See Pursley & Wiseman, supra note 27, at n.26 (making the case that local governments should no longer be ignored by cooperative federalism approaches).

funding to complete portions of their plans. Once a state adopts a plan, compliance is mandatory.\footnote{See Sean F. Nolon & Cozata Solloway, Preserving Our Heritage: Tools to Cultivate Agricultural Preservation in New York State, 17 PACE L. REV. 591, 641 (1997).}

A structure similar to the CZMA could be adopted to encourage the goals of this framework.

1. Incentives

While the current system of federal incentives outlined in Section I provide some support for wind turbines, many of these programs are short-term and limited in scope. To effectively encourage the construction of wind turbines, investors need to have more opportunity to recover costs and to receive a return on their investment. Nuclear power plants, with the catastrophic risk of a core meltdown, would never be built without federally backed liability insurance. Similar assurances should be made to wind turbine operators to level the playing field. In addition, direct financial incentives for wind energy, like those available to oil refineries and other conventional fuel producers, should be expanded beyond the current portfolio of production tax credits and other incentives.

2. Subsidies

In addition to tax incentives and related devices, the federal government is in an ideal position to offer direct subsidies to wind energy producers. These subsidies can be through direct grants for planning, construction and operation. Funding for these grants can come from a variety of sources, including existing and future taxes on fossil fuel energy producers, and revenue from any carbon trading mechanism implemented in the future. Conventional fossil fuel producers benefit from a host of subsidies that decrease the cost of exploration, extraction, production and energy generation. It has been observed that these subsidies artificially depress the cost of energy production, thus making it harder to finance renewable energy projects. For example, in Italy, where the cost of electricity is three to four times as high as in the U.S., energy generated from wind turbines cost the same, if not less, than energy generated from fossil fuels.\footnote{Elisabeth Rosenthal, Ancient Italian Town Has Wind at its Back, N.Y. TIMES (Sept. 28, 2010), http://www.nytimes.com/2010/09/29/science/earth/29fossil.html?_r=1&ref=Windpower.}
3. Substantive and Procedural Assistance

To make the right decisions about where turbines should go, communities need substantive assistance and process assistance. Substantive assistance can include information about the location of adequate wind resources, best available turbine technologies, a database of existing and model local wind ordinances, sample leases for landowners, and best practices for mitigating adverse environmental impacts. Process assistance comes in the form of decision-making practices that can be used for gathering large groups of citizens for a participatory planning exercise, convening a citizen committee to help with siting a turbine, or running meetings for a negotiated rulemaking process.

4. Municipal Risk Abatement

In most states, the siting of wind turbines is a local matter. Local and regional governments are, most often, the subdivision of government that must either approve or deny an application to construct a wind turbine. In controversial situations, the losing party often challenges these decisions. These judicial appeals are expensive, time consuming, and often have a chilling effect on actions taken in the future. While some of these decisions deserve to be challenged, many are filed to harass and intimidate local boards. One way for any wind energy plan to assist local governments is to allow for the recovery of legal fees for prevailing parties.\textsuperscript{198} There are “more than 100 different federal statutes with a ‘fee shifting’ provision permitting the trial court to award reasonable fees and costs if plaintiff has substantially prevailed.”\textsuperscript{199} These provisions help local boards make the difficult decisions necessary to implement a wind energy plan. Boards that are sued for denying applications inconsistent with the state plan should be able to recover legal fees and costs if they prevail. Such provisions encourage good faith applications, discourage frivolous lawsuits, and insulate local governments from intimidation.

\textsuperscript{198} Prevailing parties under the Clean Water Act and Section 1983 causes of action can petition the court for an award of attorney’s fees and the costs of experts.

B. Qualifying State Programs

These incentives should only be made available to states that meet the goals of the program. In order to qualify, states must adopt a wind turbine siting policy that incorporates significant citizen involvement into the following tasks: identifying areas that are appropriate for different sizes and densities of turbines, identifying best practices for mitigating adverse impacts, and enabling the negotiation of wind turbine siting decisions at the local level. As part of the second requirement—mitigating adverse impacts—states should draft model ordinances that regulate the placement of turbines, draft model leases for land owners to use when contracting with turbine companies, provide for decommissioning of defunct turbines, set goals for energy production from wind power and identify corresponding reductions in fossil fuel use, and establish a public-private entity to provide process and technical support to local siting commissions.

Normal policy making requires a minimal level of public participation to meet the statutory and constitutional requirements of due process while this framework sets a higher bar. To comply with the federal structure, these policy provisions must be adopted through the use of citizen engagement techniques such as participatory planning and negotiated rulemaking. Participatory planning techniques can be used to designate areas appropriate for wind turbines while negotiated rulemaking can be used to identify appropriate mitigation measures.

Texas used deliberative polling, a form of participatory planning, to identify citizens’ energy policy priorities. In a report titled, Listening To Customers: How Deliberative Polling Helped Build 1,000 MW of New Renewable Energy Projects in Texas, the authors present a case study for how participatory planning techniques can be used to shape energy policy and produce results. Similar techniques can be used very effectively to engage citizens in wind energy policy. Specifically, participatory planning can be used in identifying appropriate areas for wind turbines, appropriate turbine technologies, the amount of wind energy desired as well as other sources of energy.

Negotiated rulemaking approaches can be used to help reach agreement on mitigation measures, compensation mechanisms,
decommissioning, model ordinances, and sample leases. Reg-neg provides the appropriate structure for reaching agreement among stakeholders on the adverse impacts of wind turbines and appropriate mitigation measures. Section I.B above identifies some of the mitigation measures already in use. Mechanisms to compensate for lost property value (both real and perceived) can be very effective to address local opposition. Through reg-neg, parties can explore successful approaches used in other contexts or invent their own approaches. Decommissioning can be addressed through a number of strategies, such as establishing a trigger for decommissioning, posting of bonds to fund dismantling the turbines, and establishing a public review board to monitor progress. The structure found in the Negotiated Rulemaking Act can be used to identify a representative group of affected parties and help them reach agreement on the types of impacts and appropriate mitigation measures.

Once policy priorities are identified and agreements reached on model ordinances, mitigation measures and recommended lease provisions, state legislatures and agencies should convert these findings into laws, regulations and guidelines. This process of conversion would obviously follow the procedures and practices required by law to ensure that the policies adopted are consistent with reasoned deliberation, statutory authorizations and constitutional limitations.

Siting negotiations are a key ingredient in this framework and are necessary to provide local citizens with an opportunity to be involved in the decision-making process. In addition to the above requirements, states must ensure that siting decisions allow the opportunity for negotiation. This opportunity can be available on an ad hoc basis or, as some states provide, through the creation of a local siting board. (A draft overview of a local advisory siting board is included for reference as Appendix A). Citizen involvement in policy development is valuable but very distinct from involvement at the siting stage. At the siting stage, local citizens must have an opportunity to review the proposal, assess the mitigation measures, provide input on conditions, and participate in mon-

201 See O’HARE ET AL., supra note 94, at 67–89.
203 See Deborah Peel & Michael Gregory Lloyd, Positive Planning for Wind Turbines in an Urban Context, 12 Loc. Env’t 343, 343–44 (noting that renewable energy policies are often frustrated by “implementation impasses” at the local level where siting of facilities can be stalled for many reasons).
Monitoring of the facility. Fortunately, the theory and practice of siting negotiations have been thoroughly explored to provide an instructive and effective road map for action. Experience with siting mechanisms for hazardous waste treatment facilities in Massachusetts, Wisconsin, and Alberta reveals valuable information about what to do and what not to do.

While this Article does not attempt to catalog the best practices for negotiated agreements, there are a few lessons worthy of mention. In Facility Siting and Public Opposition, the authors identify four conditions that must be present for successful voluntary exchanges in a siting negotiation: (1) each party must possess something to trade; (2) “deals” must be possible that are better than “no deal”; (3) each party must trust that the other will honor its promises; and (4) each party must believe the above is true. Past siting legislation in Massachusetts revealed that local governments are not likely to accept an erosion of their land use authority and should not be forced into mandatory negotiations. Lessons from past experience provide valuable guidance on the basic elements of siting negotiations. Much like agreements reached at the policy level, any agreement reached during a siting negotiation must become part of the wind turbine application and be subject to the rigors of the required decision-making process.

CONCLUSION

Despite demonstrated need and available technology, the promise of wind energy has yet to live up to its potential. As a society, we see the benefits of renewable sources of energy but struggle to implement our vision through siting of new facilities. In

---


205 See Wheeler, supra note 133, at 255–83.

206 See Been, supra note 82, at 819–22.

207 See Rabe, supra note 88, at 58–86.

208 O’Hare et al., supra note 94, at 90.

209 Wheeler, supra note 133, at 273–76.
some instances, this gap results from opposition caused by applicants’ and regulators’ emphasis (read: overemphasis) on the substance rather than the process of decision-making. Applicants often enter an approval process expecting that doling out concessions will adequately address citizen opposition. The resulting opposition is often as much a product of what was proposed as how it was proposed.210 Attending to procedural needs as well as substantive needs can offer some solace to weary and suspicious citizens and provide the substrate on which a satisfactory solution can be reached.

What this commitment to the minimal level of citizen involvement fails to acknowledge is that citizens are also looking for assurances that regulations will be effective and that applicants can be trusted. Citizens want to be assured that their vision of the community will be protected. Applicants and regulators who fail to make those assurances through the robust involvement of citizens will continue to struggle when siting wind turbines, or any renewable energy facility. They will find that the general societal support enjoyed by renewable resources may not translate to site-specific support. Pairing substantive mitigation (such as setbacks, buried wires, property loss compensation) with procedural mitigations that encourage more citizen involvement (such as participatory planning, reg-neg, and siting negotiation) has been used to bridge this divide between general support and local opposition. For the purposes of siting wind turbines, collaborative approaches should be the centerpiece of any governmental policy aimed at improving wind turbine siting.

210 I do not suggest that all opposition is solely a product of poor process. There are many wind turbine proposals and projects that are so offensive substantively that no process would serve as a cure.
2011] NEGOTIATING THE WIND

APPENDIX A

Draft Local Siting Board

When an eligible wind project is proposed, the application to the principal decision-making body shall not be complete until an advisory board has been assembled to deliberate over the details of the proposal. The board will be convened following best practices of collaborative decision-making. A designated party with appropriate experience and training in mediation and group decision-making shall manage the process. This process manager shall be the unanimous choice of the group. Members shall be appointed by the local elected legislature and shall, at a minimum, represent the following interests: the applicant, adjacent property owners, biodiversity, water protection, aesthetic concerns, and the generation of renewable energy. The local government shall provide adequate technical and advisory support as the group deliberates. Funding for the board shall be provided by the escrow payments from the applicant to the town or some other fiduciary agent. It is recommended that board members receive a modest honorarium. Decision-making of the board shall be by consensus. The board shall deliberate for at most three months. Regardless of whether an agreement is reached, the application may be submitted to the decision-making body after this three-month period. If a consensus agreement is reached, the decision-making board can use that agreement as a basis for its decision. If consensus is not reached, the decision-making board will review the application using its normal procedures.