

ARTICLE

DEALS IN THE HEARTLAND: RENEWABLE ENERGY PROJECTS, LOCAL RESISTANCE, AND HOW LAW CAN HELP

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I. Introduction

This Article offers proposals for better engagements, relationships, and deals with local communities contemplating wind farms. Because the rapid expansion of wind energy to date has exhausted the first-mover rural communities, the promise of wind energy depends on reluctant rural communities that may require the legal, relational, and policy innovations proposed herein if they are to grant their consent to future wind farms and participate in the renewable energy transformation. The proposals herein are the result of empirical research exploring how occupants of rural spaces have reacted to wind developer's strategies in their communities and how local communities have employed legal mechanisms to welcome—or, more often, reject—wind farms in their home counties. While the field work informing this Article was based in Indiana, our findings have broad applicability.

II. Wind in Indiana's Rural Counties

A. Overview

Only six Indiana counties have permitted wind farms in their communities.¹ More importantly, since 2008, no

*Editors' Note: This Article is adapted from Christiana Ochoa et al., *Deals in the Heartland: Renewable Energy Projects, Local Resistance, and How Law Can Help*, 107 MINN. L. REV. 1005, and used with permission.*

1. See Zuzana Bednarikova et al., *An Examination of the Community Level Dynamics Related to the Introduction of Wind Energy in Indiana*, PURDUE UNIV. 13 (June 2020), https://cdext.purdue.edu/wp-content/uploads/2020/09/Wind-Energy_Final-report.pdf [<https://perma.cc/NW3C-ZP6L>].

fewer than 30 of Indiana's 92 counties have either placed outright moratoriums on wind farm construction or have passed land use ordinances placing restrictions on wind turbine placement, setbacks, noise levels, or shadow casting, that effectively prohibit wind farms within the counties' borders.² This number betrays the prevalence of restrictive or prohibitive ordinances, as many counties with less desirable wind profiles have not undertaken to pass ordinances addressing commercial wind farms.

B. Methods

Over the course of nearly 30 hours of interviews in 2021 spanning 11 Indiana counties, we spoke with anti-wind activists, company representatives, county officials, and county economic development corporation officers. We also spoke with employees at regional, state, and national governmental and nongovernmental organizations focused on the expansion of wind energy and the conflicts it is creating in local communities. This fieldwork supplemented our comprehensive research on wind farms in Indiana, including (1) the presence and absence of wind farms, and their dates of construction, (2) the presence, absence, content, and dates of adoption of county ordinances designed to attract, prohibit, or place moratoria on wind farm construction within the county limits, and (3) all searchable court cases arising from controversies related to wind farms. We also collected information on court cases, statutes, and lobbying efforts at the state level connected to the expansion of wind energy in Indiana. In addition, we searched databases and ran general internet searches for

2. See Christiana Ochoa et al., *Indiana County Data* (unpublished compilation of Indiana county land use ordinances and other relevant information on wind farm regulation) (on file with authors).

local, state, and national news addressing wind energy development in Indiana.

III. The Wind Imperative

A. National Policy and Law

Over the past 20 years, total energy capacity from installed wind farms in the United States has grown rapidly, from 2,472 megawatts (MW) in 1999 to 109,919 MW in 2020.³ Assisted by national and state-level incentives, the sector is slated to continue growing rapidly.⁴

1. Grants

In early 2021, the U.S. Department of Energy announced \$100 million in funding for transformative clean energy research and development, of which advancements in wind energy technology are a key part.⁵ Through its Rural Energy for America Program (REAP), the U.S. Department of Agriculture provides farmers, ranchers, and small businesses in rural areas with grants and loan guarantees for renewable energy development assistance.⁶

2. Tax Incentives

The current federal approach to wind energy development is seemingly designed to court massive investments from the private sector and inject “tens of billions of dollars in private capital”⁷ to jumpstart the transition away from fossil fuels.⁸

Among the mechanisms directed at this expansion, Production Tax Credits (PTC) provide “a tax credit of one cent to two cent-per kilowatt-hour for the first 10 years

of electricity generation for utility-scale wind.”⁹ The Inflation Reduction Act extended the PTC to projects with construction beginning before 2024 and extends the PTC for at least 10 years for any energy project with a zero or less greenhouse emissions rate.¹⁰ The Investment Tax Credit (ITC) operates in a similar fashion.¹¹

B. State-Level Initiatives

Six states offer corporate tax credits¹² for wind energy generation specifically, while two states offer corporate tax deductions.¹³ State property tax incentives are more widely available, with the majority of states offering some type of property tax incentive for wind energy projects.¹⁴

Among states, grant programs are a popular form of incentive for renewable energy development.¹⁵ At least 18 states offer some type of grant or loan program for renewable energy development generally, while 11 states offer grants for wind energy specifically.¹⁶

IV. Legal Conflicts Over Wind Projects

While federal and state policies support expansion, wind energy projects have experienced significant local resistance, in the form of political organizing, activism, and litigation, that is increasing over time.

A. County Ordinances

In Indiana, as in most states, conflicts over wind farms are deeply local. The majority of states¹⁷ have either constitutionally provided or legislatively delegated at least some powers to municipalities.¹⁸ For example, under Indiana’s Home Rule statute,¹⁹ the power over approvals for wind

3. See David Nderitu et al., *2020 Indiana Renewable Energy Resources Study*, PURDUE UNIV. & STATE UTIL. FORECASTING GRP. 32 (Oct. 2020), https://www.purdue.edu/discoverypark/sufg/docs/publications/2020_Renewables_Report.pdf [<https://perma.cc/4B4L-5PWS>] (stating that the Indiana Crossroads Wind Farm, located in White County, had an in-service date of December 2021).

4. *Id.* at 20-30.

5. *DOE Announces \$100 Million for Transformative Clean Energy Solutions*, U.S. DEP’T OF ENERGY (Feb. 11, 2021), <https://www.energy.gov/articles/doe-announces-100-million-transformative-clean-energy-solutions> [<https://perma.cc/LB25-ZHZB>].

6. Rural Development, *Rural Energy for America Program Renewal Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants*, U.S. DEP’T OF AGRIC., <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans> [<https://perma.cc/W4J2-WUH8>].

7. *Keynote Remarks by Secretary of the Treasury Janet L. Yellen at COP26 in Glasgow, Scotland at the Finance Day Opening Event*, U.S. DEP’T OF THE TREASURY (Nov. 3, 2021), <https://home.treasury.gov/news/press-releases/jy0457> [<https://perma.cc/K4BJ-K8CD>].

8. For a more complete array of national-level financial support programs for the wind industry, see generally Off. of Energy Efficiency & Renewable Energy, *Advancing the Growth of the U.S. Wind Industry: Federal Incentives, Funding, and Partnership Opportunities* U.S. DEP’T OF ENERGY (June 2021), <https://www.energy.gov/sites/default/files/2021-07/us-wind-industry-federal-incentives-funding-partnership-opportunities-fact-sheet-v2.pdf> [<https://perma.cc/G8HL-RNB8>].

9. Wind Energy Techs. Off., *Production Tax Credit and Investment Tax Credit for Wind*, U.S. DEP’T OF ENERGY, <https://windexchange.energy.gov/projects/tax-credits> [<https://perma.cc/YQ4U-78SN>].

10. See Inflation Reduction Act of 2022, Pub. L. No. 117-169.

11. LAURA B. COMAY ET AL., CONG. RSCH. SERV., IN11980, OFFSHORE WIND PROVISIONS IN THE INFLATION REDUCTION ACT 2 (2022).

12. See *Summary Maps*, DSIRE, <https://programs.dsireusa.org/system/program/maps> [<https://perma.cc/6824-NB5G>].

13. See *id.*

14. See *Summary Tables*, DSIRE, <https://programs.dsireusa.org/system/program/tables> [<https://perma.cc/2R8Y-UR9W>].

15. See *Programs*, DSIRE, <https://programs.dsireusa.org/system/program?type=87&> (click “apply filter,” then “type,” then “renewable energy” to see a list of renewable energy grant programs in various states) [<https://perma.cc/38UX-VTLV>].

16. *Id.*

17. See Jessie J. Richardson Jr. et al., *The Law Behind Planning & Zoning in Indiana*, PURDUE UNIV. COOP. EXTENSION SERV. 2 (Feb. 2022), <https://www.extension.purdue.edu/extmedia/id/id-268.pdf> [<https://perma.cc/7HJU-8DLU>].

18. Adam Coester, *Dillon’s Rule or Not?*, 2 NAT’L ASS’N OF CNTYS. 1, 3 (Jan. 2004), <https://web.archive.org/web/20151010114031/http://celdf.org/downloads/Home%20Rule%20State%20or%20Dillons%20Rule%20State.pdf> [<https://perma.cc/LLT8-47ZR>]; see Jessie J. Richardson Jr. et al., *The Law Behind Planning & Zoning in Indiana*, PURDUE UNIV. COOP. EXTENSION SERV. 2 (Feb. 2022), <https://www.extension.purdue.edu/extmedia/id/id-268.pdf> [<https://perma.cc/7HJU-8DLU>].

19. See IND. CODE §36-1-3-6 (2022).

energy projects is placed in the hands of county councils, commissioners, and zoning boards.²⁰

The Indiana State Legislature attempted in 2021 to curb the power of county ordinances to prohibit or restrict wind projects. House Bill 1381 (HB 1381), as originally proposed, would have limited home rule with respect to wind farm regulations by creating a statewide set of industry-favorable standards.²¹

However, by the time the Senate was considering the bill, nearly 60 counties had expressed their opposition to HB 1381,²² and, ultimately, HB 1381 died on the Indiana Senate floor²³ and, even with new legislation to incentivize counties to adopt favorable ordinances,²⁴ anti-wind energy politics continue to prevail.

B. Litigation

Individuals and groups opposing wind projects have brought Fifth Amendment claims²⁵ and claims of violations of local zoning ordinances,²⁶ but most of this litigation has been fruitless before the courts.²⁷

A strong theme that emerges in Indiana is judicial deference to county commissions and county councils, with each of the two cases over the zoning of commercial wind farms that have been considered by the Indiana Court of Appeals being decided in favor of county zoning board discretion.²⁸

V. Community Resistance and Conflicts

This part relies on our fieldwork to describe county-level efforts to maintain local control over wind-energy regulations. It provides insights into the community-level organizing and political machinations that create obstacles or outright blocks on future wind farms.

By far, the four most strongly felt sources of resistance are concerns about: (1) poor process; (2) the substance of the deals that are struck for wind farms, and with whom they

are struck; (3) the inevitable viewscape changes wrought by wind farms; and (4) the impacts on property values.²⁹

A. “We Got Steamrolled . . . We Kept Feeling Like It Wasn’t Legal”³⁰

The most pervasive feature of our interviews throughout Indiana is that the process by which wind developers engage with communities causes resistance, resentment, anger, and long-lasting community divisions.

The deals surrounding wind energy projects are widely perceived as secretive, non-transparent, non-inclusive, and offering insufficient opportunities for participation in the design of projects.

Company lease-negotiators were described as inexpert, seemed guarded, oversold the upsides, and, in one instance, coaxed one farmer to sign a lease under the false pretext that their immediate neighbor had agreed to put in three turbines, only later to discover that this was untrue.³¹

“The result is that [we] didn’t know until the deals were all but done—very late in the game . . . Three wind projects were going by the time we learned of them.”³² By the time a broad pool of residents learned that a wind farm may be established in their county, they felt (or were explicitly told) “it’s a done deal.”³³ “We had the sense the commission was not going to follow the rules.” . . . We got steamrolled.”³⁵

The cumulative effect is that people who might have been agreeable or neutral on wind farms turned against them. “I believe that people took a relatively reasonable approach at first.”³⁶ But the process was seen as “arrogant, and the community reacted negatively. These things tend to get talked about over morning coffee more than any benefits [the community might receive].”³⁷ One interviewee summed up his feelings about the process by saying: “I’m not anti-wind. I’m anti-how-it-was-done-here.”³⁸

20. See *There When You Need It: County Government*, ASS’N OF IND. CNTY. 2 (May 2009), https://www.indianacounties.org/egov/documents/1251296396_485260.pdf [<https://perma.cc/4A7R-JCVU>].

21. H.B. 1381, 122d Gen. Assemb., 1st Reg. Sess. (Ind. 2021).

22. Ass’n of Ind. Cntys. and Ind. Ass’n of Cnty. Comm’rs, *HB 1381 Map*, ASS’N OF IND. CNTYS. (Mar. 16, 2021), <https://www.indianacounties.org/egov/apps/document/center.egov?view=detail&id=2531> [<https://perma.cc/47LY-WANA>].

23. See *IN HB1381, 2021, Regular Session*, LEGISCAN (Apr. 15, 2021), <https://legiscan.com/IN/bill/HB1381/2021> [<https://perma.cc/Y3S7-4B6G>].

24. See Senate Enrolled Act 390 of 2023, <https://legiscan.com/IN/text/SB0390/2023>.

25. *E.g.*, Complaint for Declaratory Judgment at paras. 14-16, *Smith v. Miami Cnty.*, No. 52C01-1801-PL-000020 (Miami Cir. Ct. 2018).

26. *Dunmoyer v. Wells Cnty.*, 32 N.E.3d 785, 791 (Ind. Ct. App. 2015).

27. *E.g.*, Order Dismissing Complaint at 1-2, *Mosburg v. Bd. of Comm’rs*, No. 21C01-1603-PL-00144 (Fayette Cir. Ct. Dec. 12, 2016).

28. *Flat Rock Wind, LLC v. Rush Cnty. Bd. of Zoning Appeals*, 70 N.E.3d 848, 850 (Ind. Ct. App. 2017) (regarding denial of a zoning permit); *Dunmoyer v. Wells Cnty.*, 32 N.E.3d 785, 797 (Ind. Ct. App. 2015) (regarding a challenge to an approval of a project).

29. Other frequently cited reasons to resist commercial wind farms which this Article will not explore in detail are (5) the potential health consequences of living in range of “blade flicker” and turbine sounds, and (6) the negative effects for flying animals.

30. Interview 203 with Anti-Wind Organizer (June 16, 2021) (on file with authors).

31. Interview 201 with Anti-Wind Organizer (June 11, 2021) (on file with authors).

32. Interview 204 with Anti-Wind Organizer (Sept. 20, 2021) (on file with authors).

33. Interview 202 with Anti-Wind Organizer (June 14, 2021) (on file with authors).

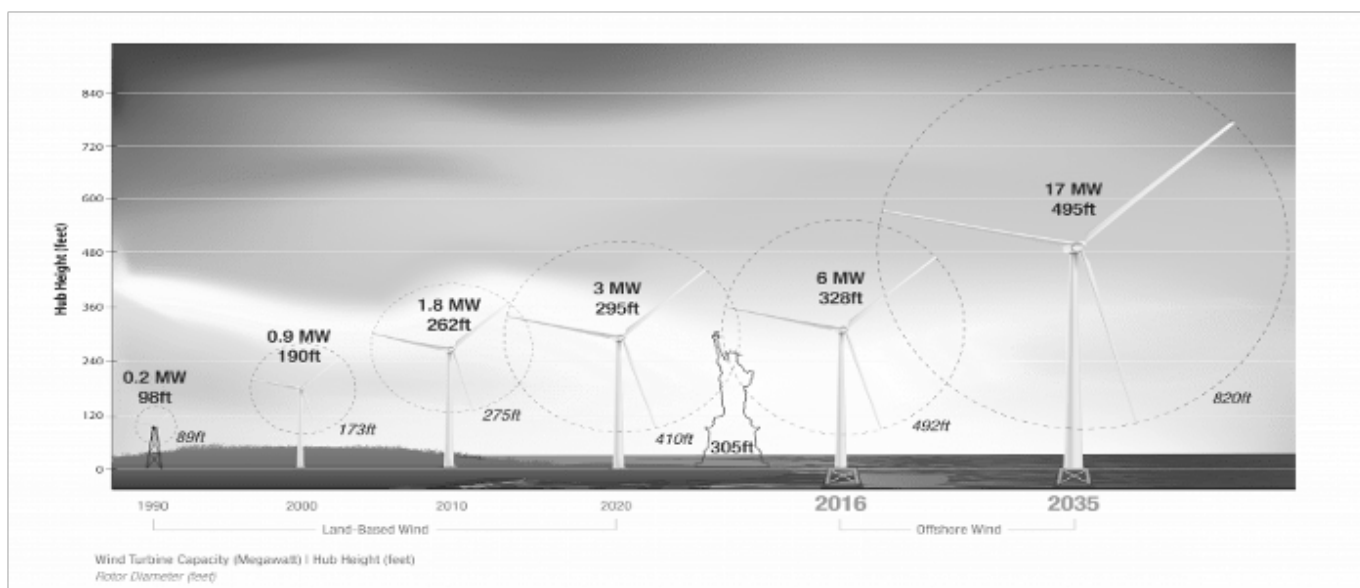
34. This is a concern shared in other instances as well. See, e.g., Interview 204 with Anti-Wind Organizer, *supra* note 32.

35. Interview 203 with Anti-Wind Organizer, *supra* note 30.

36. Interview 201 with Anti-Wind Organizer, *supra* note 31.

37. *Id.*

38. *Id.*

Fig. 1. Demonstrating Growing Wind Turbine Hub Heights Over Time

Source: Off. of Energy Efficiency & Renewable Energy, *Wind Turbines: The Bigger, the Better*, U.S. DEP'T OF ENERGY (Aug. 16, 2022), <https://www.energy.gov/eere/articles/wind-turbines-bigger-better> [<https://perma.cc/6NEX-TL23>].

B. Organized Opposition: “It Starts With a Ringleader, Then Eight to Ten People, Then Hundreds.”³⁹

Residents, tenant farmers, and neighbors all have reasons to oppose wind farms. When opposition to wind farms takes hold in a particular county, it often does so with force, garnering large numbers of county residents to the anti-wind farm camp. In each county we visited, concerned citizens quickly formed into anti-wind organizations.

Those who oppose wind farms are skeptical that the economic development agreements negotiated between companies and county governments are sufficient to compensate for the prolonged tax abatements that counties grant to companies, at least in the short term.

For those who reside where wind farms are slated to be built, their concern is much deeper. Many farmers in this part of the country have long, inter-generational connections to their land, some dating back over 200 years.⁴⁰

Our team repeatedly heard stories of large-farm absentee owners contracting with wind farm operators: “The big farmers wanted to sign up early. The vast majority of the people that signed up don’t live on the land. For example, one farmer signed up for 49 turbines without regard

to his tenants.”⁴¹ The “leaders of the opposition are often tenant farmers.”⁴²

The neighbors of wind farms are also among the most aggrieved in recipient communities, given that neighbors often are in the noise and flicker zone of turbines, and experience vastly changed landscapes, while typically receiving no economic benefit.

C. “It’s Like Living in an Industrial Zone”⁴³

The earliest commercial wind towers erected in Indiana from 2008-2010 have hub-heights of approximately 262 feet.⁴⁴ By 2020, the total average height of onshore wind turbines was 410 feet, nearly the height of the London Eye Ferris Wheel.⁴⁵

People who have lost wind farm battles (or never fought them) have seen their surroundings transformed from rural countryside and farmland with wide-open vistas to large-scale, industrial energy-production facilities. To understand the experience of living on land now occupied by a large-scale wind farm, one must imagine a bright, blinking red light on the top of hundreds of wind turbines (these are necessary and required for air safety). One couple we talked with said it was “horrifying the first time we saw the towers at night.”⁴⁶

39. Interview 502 with Former Economic Development Director (June 25, 2021) (on file with authors); see also Interview 204 with Anti-Wind Organizer (Sept. 20, 2021) (on file with authors); Interview 203 with Anti-Wind Organizer (June 16, 2021) (on file with authors).

40. See *Hoosier Homestead List*, IND. STATE DEP'T OF AGRIC., https://www.in.gov/isda/files/1976-2014_Hoosier_Homestead_List_pdf.pdf [<https://perma.cc/E75P-88LM>] (listing Hoosier Homestead farms, with one dating back as early as 1791, that were recognized by the Indiana government from 1976-2014).

41. Interview 202 with Anti-Wind Organizer, *supra* note 33.

42. Interview 502 with Former Economic Development Director, *supra* note 39.

43. Interview 203 with Anti-Wind Organizer, *supra* note 30.

44. Bednarikova et al., *supra* note 1 at 13 tbl.1.

45. Off. of Energy Efficiency & Renewable Energy, *Wind Turbines: The Bigger, the Better*, U.S. DEP'T OF ENERGY (Aug. 16, 2022), <https://www.energy.gov/eere/articles/wind-turbines-bigger-better> [<https://perma.cc/6NEX-TL23>].

46. Interview 203 with Anti-Wind Organizer, *supra* note 30.

Fig. 2. Benton County, Indiana, Farmhouse Surrounded by Wind Turbines

D. “How Can They Not Be Hurting Property Values?”⁴⁷

One of the leading concerns expressed by communities contemplating wind farms is the effect they may have on property values. The conclusions in the literature on the effects of wind farms on property values are mixed.

Perhaps most interesting is a study indicating that the community attitude toward wind farms is a strong predictor of their effect on property values. Where communities have voiced no opposition to the establishment of wind farms, property prices rise, though not enough to be statistically significant.⁴⁸ On the other hand, where communities have received wind farms despite notable opposition, properties located within about two-and-a-half miles of a turbine tend to drop between 5% and 10%.⁴⁹

E. Other Concerns

Other reasons for opposing wind farms relate to shadow flicker (the notable light flicker created by the shadow of rotating turbines), sounds from wind turbines, and the ecological effects of wind farms.

F. The Results: Slower Transitions to Clean Energy, Distorted Electoral Politics, and Broken Communities

There are at least three reasons to heed the concerns driving opposition to wind farms.

1. Transitioning to Renewable Energy Will Be Slower and More Difficult

Opposition to wind farms is shutting down the United States’ ability to reduce its reliance on non-renewable energy. In Indiana, for example, more than 30 viable wind energy counties have passed ordinances effectively or actually prohibiting wind farms in their boundaries.⁵⁰ The same is occurring in other wind-viable states.⁵¹

2. Local Politics and Elections Are Distorting

In small communities, this type of mobilization is unusual and has resulted in many county-level elections being characterized as strident “single-issue elections” for the purpose of ensuring anti-wind farm ordinances will be passed in the period immediately following elections. “Our county government is substantially different as a result of wind farms. Incumbents are losing even to unknown people with no experience.”⁵² This raises concern about the effects that single-issue elections have on local governance.

3. Local Communities Are Suffering

Finally, there is the enduring erosion of the value of living in a peaceful community. Some interlocutors described feeling threatened even four years after a contentious vote over wind farms.⁵³ Many people lamented that their community has not returned to its previous levels of peace and civility.

47. Interview 202 with Anti-Wind Organizer, *supra* note 33.

48. Benton Cnty. Assessor’s Off., Benton County—Wind Turbine Taxes, Assessed Values, and Residential Properties (on file with authors).

49. *Id.*

50. Jennifer Miller, Opinion, *30-Plus Counties Hit the Brakes on Wind Farms. Indiana May Soon Blow That Up.*, INDYSTAR (Mar. 10, 2021), <https://www.indystar.com/story/opinion/2021/03/10/op-ed-indiana-may-over-rule-local-governments-wind-and-solar/6814301002> [https://perma.cc/DUS7-RPLM].

51. David Nderitu et al., 2020 Indiana Renewable Energy Resources Study, PURDUE UNIV. & STATE UTIL. FORECASTING GRP. 37 (Oct. 2020), https://www.purdue.edu/discoverypark/sufg/docs/publications/2020_Renewables-Report.pdf [https://perma.cc/4B4L-5PWS].

52. Interview 503 with Former County Commissioner (June 29, 2021) (on file with authors).

53. Interview 204 with Anti-Wind Organizer, *supra* note 32.

VI. Recommendations Rooted in Resistant Communities

A. Theoretical Premise: Interventions in Contract Formation

The current practices of wind companies in local communities are not working. Outsider wind energy companies must engage communities early, transparently, respectfully, and generously to credibly propose mutually beneficial relationships. The proposals have to build trust such that communities are at least willing to enter relationships with the companies that may last a generation or more. They must also be attractive enough that communities can envision how the burden they will bear—an irreparable transformation of their land into an industrial power plant—is sufficiently compensated.

B. Recognizing the Burden

One feature we noted in our conversations with wind farm resisters is that they believe they are perceived as unreasonably or irrationally attached to “the view,”⁵⁴ caught up in “their greed,”⁵⁵ or jealous of their neighbors who wind up with lucrative leases.⁵⁶ The tendency to diminish the value of what is dear to a community is an ongoing reason companies are having trouble establishing in America’s heartland.

C. Improving the Process

So many of the people with whom we spoke spent most of our conversations detailing what, for them, was a terrible experience with wind farm operators and county officials. They told us about companies whose mode of operation was intentionally secretive, such that leases were signed and county meetings had already been scheduled by the time they learned that a wind farm was proposed in their county. They also remarked on how little opportunity there was for participation in official county meetings.

These practices are pervasive—we have learned of only one wind company experimenting with a community engagement model similar to what we propose here.⁵⁷

1. Registering Interest and Reporting Process

Before a company sends employees or contracts to offer leases to landowners in a particular county, the company should be required to publicly register its interest in developing a wind farm in that county. County officials could

be required to report any such registration at the next possible public meeting. Any company that has registered interest could be required to submit a short report of any steps taken during the prior quarter toward the realization of their interest. County officials could, in turn, be required to relay those reports at quarterly public meetings. This process would give community members notice that companies are working toward signing leases in their area and their rate of progress.

2. Invite Engagement and Participation

Under the typical wind company model, companies: (1) look at technical maps to find a good location for a wind farm; (2) send people out to sign leases; (3) conduct environmental and other studies to determine viability; (4) use computer-generated models to determine the optimal location for turbines; and (5) go to the relevant county boards with fully developed plans.⁵⁸

Under a new pilot being conducted by one innovative company, the goal is to design a project that fits the requirements of the community. As an alternative to the standard model, they intend to: (1) engage the community; (2) work with the community on how to design the project (this includes identifying important locations that should be protected); (3) take time to work through the concerns community members have and discuss the real trade offs; and (4) give the community a 1% royalty on the project in addition to the taxes due, with the community empowered to decide who collects and administers these funds.⁵⁹

3. Transparent and Robust Information-Sharing

Companies can be required to hold ongoing information sessions and two-way dialogues separate and ahead of formal county government decision points.

The need to remain transparent and share all relevant information will extend over the life of the relationship. Such information should include effects on property values, health effects, and effects on birds and bats. It must also include robust information on revenues paid and public projects funded as a result of the company’s operations.

Among the greatest challenges our team faced was the inability to access first-hand information about the private contracts between landowners and companies due to stringent non-disclosure clauses. One possibility would be to require companies to submit the contracts to the county assessor or recorder, with permission to redact information vital to the company’s competitive position.

4. Spaces for Voicing Concerns

The concept of “exit and voice”⁶⁰ is a useful framework for understanding how the limited spaces for public conversa-

54. Interview 501 with County Commissioner (June 16, 2021) (on file with authors).

55. Interview 503 with Former County Commissioner, *supra* note 53.

56. Interview 702 with Wind Farm Company Representative (Sept. 10, 2021) (on file with authors).

57. Interview 701 with Company Representative (Aug. 27, 2021) (on file with authors).

58. *Id.* at 3.

59. *Id.*

60. See ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY 19-20 (1970); see also Albert O. Hirschman, “Exit, Voice, and Loyalty”: Further Reflections and

tions result in highly contentious public meetings. When the ability or will to exit (move to another county or to an urban location) is low, the propensity toward political action—voice—in the face of challenges such as the arrival of wind farms is elevated.⁶¹ If that political action is limited or derided, it would be rational for communities to reject wind projects to avoid relating with them. This is clearly an attractive alternative to moving. The companies, rather than the residents, are thus forced to exit. County officials who are perceived as overly solicitous of wind companies are similarly ousted (from office if not from the county) at the next elections.

If this dynamic is to improve, company and incumbent county officials must open additional public spaces for earnest community input, evidence, discord, and discussion.

5. Lessons From International Development

Over the past decade, Free Prior Informed Consent (FPIC) has emerged as a mechanism in the foreign direct investment context designed to enhance the role communities have in negotiations over large-scale mining and development projects in much of the developing world.⁶² The concept emerged to assist primarily Indigenous communities in securing a role in striking (or denying) deals that would affect their ancestral lands.⁶³ While FPIC has received merited criticism, the core principles at its heart have been very useful to our team as we consider how community engagement and relationships could be improved.

D. Fair Compensation

One consequence of not recognizing the burden local residents are asked to bear is that the deals companies offer to communities are not perceived by local communities as adequate compensation for all they stand to lose. This is a lost opportunity to enhance public infrastructure and services that can act to revitalize rural communities.

1. Contingent Tax Incentives and Abatements

If companies are not voluntarily seeing the utility of sharing the benefits of tax incentives, federal and state governments could force sharing by requiring companies to pass along a simple percentage of gross revenues or a substantial portion of tax credits to host communities.⁶⁴

Similarly, the tax credits for counties establishing Wind Energy Ready Communities under legislation such as Indiana's recently adopted Senate Enrolled Act 390⁶⁵ could be enhanced to further benefit the residents of such communities whose land is not the subject of a lease with a wind company. This would assure additional benefit to the most immediate neighbors of wind turbines who are not receiving direct financial benefit from leases.

2. Categorical Grants

The federal government could also use categorical grants for counties committed to engaged, transparent, and participatory wind farm permitting. Counties that are able to show their commitment to such processes leading to the establishment of a commercial wind farm could apply for project or formula-project categorical grants created specifically for this purpose.⁶⁶ State grants-in-aid can act as a mechanism for states to create similar incentives.⁶⁷

3. Local Benefits

In the context of the renewable energy imperative, it may be time to use or create paths for communities and companies to strike deals that assure that local communities will receive an enduring benefit in the form of local tax enhancements, the creation or revitalization of public infrastructure and services through project and maintenance funds, etc. in exchange for agreeing to see their county transformed into an industrial electricity generation facility.

4. Permanent Fund Dividends

A final model for assuring that local communities receive financial benefits in exchange for allowing wind farms in their borders can be found in examples such as the Alaskan Permanent Fund Dividend. The Permanent Fund Dividend is designed to provide an “annual payment . . . for Alaskans to share in a portion of the State minerals revenue in the form of a dividend to benefit current and future generations.”⁶⁸ Dividends of this form could enhance the bargain between wind companies and local communities. If adequately managed and responsibly funded, such programs would also contribute to enduring relationships between companies and communities.

a Survey of Recent Contributions, 58 MILBANK MEM'L FUND Q. HEALTH & SOC'Y 430 (1980) [hereinafter Hirschman, *Further Reflections*]; OLIVER P. WILLIAMS, METROPOLITAN POLITICAL ANALYSIS: A SOCIAL ACCESS APPROACH 29 (1971).

61. See Hirschman, *Further Reflections*, *supra* note 61, at 448-50 (citing John M. Orbell & Toru Uno, *A Theory of Neighborhood Problem Solving: Political Action vs. Residential Mobility*, 66 AM. POL. SCI. REV. 471, 484 (1972)).

62. See, e.g., Mauro Barelli, *Free, Prior, Informed Consent in the Aftermath of the U.N. Declaration on the Rights of Indigenous Peoples: Developments and Challenges Ahead*, 16 INT'L J. HUM. RTS. 1, 2-4 (2012).

63. *Id.*

64. Email from Roberta Mann, Mr. & Mrs. L.L. Stewart Professor of Bus. L., Univ. of Oregon Sch. of L. to Leandra Lederman, William W. Oliver Profes-

or of Tax L., Indiana Univ. Maurer Sch. of L. and author, Christiana Ochoa (July 1, 2021) (on file with authors).

65. See Senate Enrolled Act 390 of 2023, *supra* note 24.

66. See ROBERT JAY DILGER & MICHAEL H. CECIRE, CONG. RSCH. SERV., R40638, FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS: A HISTORICAL PERSPECTIVE ON CONTEMPORARY ISSUES 8-12 (2019), <https://sgp.fas.org/crs/misc/R40638.pdf> [<https://perma.cc/9YFC-G2AP>] (discussing the federal government's historic use of categorical grants).

67. *Guide to Indiana County Government*, ASS'N IND. CNTYS. 34 (2009), <https://www.pfw.edu/dotAsset/c78253c7-7f49-4d54-b3aa-6c44ccd4d8db.pdf> [<https://perma.cc/FK3G-XHRK>].

68. See generally About Us, STATE OF ALASKA: DEP'T OF REVENUE: PERMANENT FUND DIVIDEND, <https://pfd.alaska.gov/Division-Info/About-Us> [<https://perma.cc/X2R3-RL5A>].

VII. Conclusion

The empirically informed recommendations we have made here are not easily implemented. They will also not always be successful. However, climate change is arguably our greatest current global existential threat. A rapid transition from fossil fuels to renewable energy is crucial to reducing greenhouse gas emissions. To get there, states in America's heartland will have to increase their wind energy capacity by factors of 10 and 20. Indiana's onshore wind energy capacity, for example, would have to increase by 16 times its current load.⁶⁹ At the same time, the rural land suitable for wind farms in states like Indiana has largely become unviable due to local ordinances that restrict or prohibit their construction.

Fortunately, there are alternatives to the divisive dynamic emerging throughout rural America. The recommendations we have made here offer tools to shift the process by which wind farms are being introduced to small communities, the form and extent of community involvement, the benefits shared with local communities, and the protections and guarantees offered to those communities.

The proposals we have made here can create new models for individuals, groups, and communities to more openly consider the benefits that will come along with the undeniable burdens they will bear if, or when, a wind farm is constructed in their locations. These recommendations may help provide nuance and open possibilities where a binary antipathy to wind farms has emerged as the dominant reaction.

69. Mark Jacobson, *Zero Air Pollution and Zero Carbon From All Energy Without Blackouts at Low Cost in Indiana*, STAN. UNIV. tbl. 4 (Dec. 7, 2021), <http://web.stanford.edu/group/efmh/jacobson/Articles/I/21-USStates-PDFs/21-WWS-Indiana.pdf> [<https://perma.cc/AT7M-EFAR>].

C O M M E N T

REINFORCING THE POSITIVE BENEFITS AND ATTITUDES

by Hilary Clark

Hilary Clark is Senior Director of Siting & Permitting, Social Licensing at American Clean Power.

I am going to address some high-level topics, because we could easily get into the weeds on a lot of these discussions, and it is an industry that invokes a lot of emotion. I want to step back and level set on the truth about wind. There are 150 gigawatts of installed wind capacity across the United States. There are greater than 72,000 wind turbines currently operating across the United States. Wind generates about 10% of U.S. electricity. There is a significant amount of capital investment that has been made across the country in wind energy.

I want to jump to some facts about Indiana specifically. The installed capacity currently in Indiana is 29 projects: \$24.6 million in state and local taxes and \$23.2 million in average annual lease payments. Breaking that down into the average land-lease payment per megawatt for a landowner, it equates to, on average, \$6,355 per megawatt, adding a significant amount of income to landowners who host these projects and helps diversify their income.

Unfortunately, the article highlights the current trend across the United States of local opposition, which is one of the biggest threats to deploying clean energy. In 2023, the Sabin Center for Climate Change Law at Columbia Law School found that organized opposition is in 35 states, resulting in at least 228 significant local restrictions against wind and solar and other renewable energy facilities.¹

However, Lawrence Berkeley National Lab has looked at attitudes toward wind in recent surveys and, even though we are seeing an uptick in local opposition, generally, the attitudes toward these projects over time, once installed, are positive among the majority of people who live nearby. Similarly, in a recent solar survey, 85% of the

respondents had a positive or neutral attitude toward the projects located near them. The overall positive attitudes outnumbered the negative by a 3:1 margin in those surveys. So, we are seeing more positive attitudes toward these projects, but they can be drowned out by the opposition tactics, which is highlighted in Prof. Christiana Ochoa et al.'s article.

Additionally, the study did indicate that fairness of the process, which the article highlighted, is one of the main factors that can influence peoples' attitudes. That is something that the industry recognizes and understands that there are opportunities for improvement.

In the past, there may have been some mistakes made, and the industry recognizes there are things that we can do better to engage with the community. We hear about the importance of communicating early and often, sharing information, working with trusted advisors, and sharing data. The industry recognizes and is working toward this approach.

However, the article disproportionately focuses on the negative and the opposition's talking points. For example, the authors reiterate a lot of the negative impacts around wildlife, sound, health, aesthetics, shadow flickering, and property values. But even though the authors mention that people who are skeptical of wind projects will say they are concerned about health, there are hundreds of studies over 20 years that show that wind turbines do not have significant health impacts.

Similarly, with shadow flicker, there are studies that show it does not result in negative health impacts. Recent property value studies indicate there may be an initial dip upon mention of a project and during construction, but they recognize a recovery over time within five to seven years. There is no evidence of long-term property value impacts adjacent to these projects.

It is important to be able to counter some of the opposition tactics or it is playing into the opposition. And while it is important to highlight the challenges that we are facing, it is also important to highlight the actual data.

Similarly, we do recognize there is a change in landscape with the addition of wind projects. However, visual impacts are subjective and what one person might find as a negative, another person might find as a positive. We do see that in some of these studies around attitudes.

Editors' Note: Hilary Clark's Comment is based on an edited transcription of her remarks at the Environmental Law and Policy Annual Review conference. See 2023-2024 Environmental Law and Policy Annual Review Conference, available at <https://www.eli.org/events/2024-environmental-law-and-policy-annual-review-elpar-conference>.

1. Matthew Eisenson, *Opposition to Renewable Energy Facilities in the United States*, Sabin Center for Climate Change Law, https://scholarship.law.columbia.edu/sabin_climate_change/200/ (2023).

The industry recognizes that there is room for improvement in host community engagement and countering misinformation. The article highlights a lot of recommendations. However, they are not as simple as they may seem, and the authors do allude to the implementation challenges. For example, one of the recommendations is for a company to publicly register its interest in developing a wind farm and report regularly on progress.² However, development and power markets are competitive so this type of registration or reporting could cause developers to look elsewhere, as it could give competitors insights as to their development plans before they are fully set. It could also result in the opposition getting a head start in trying to influence the communities and landowners. We have heard anecdotally from some communities that opposition to projects can intimidate landowners who are interested in finding leases. Therefore, it is important to recognize that while well-intended, such requirements could do the opposite and create a market that developers may not find favorable.

With regards to community benefit agreements, as mentioned, developers often do make these arrangements to provide financial and other benefits to communities beyond the taxes paid, and beyond the economic benefits from construction and operations. In some cases, they do so with the neighboring landowners as well.

However, when you start mandating these types of agreements and requiring uniformity, it removes the flex-

ibility that can be important for developers in tailoring plans for specific projects in communities and ensuring a viable project economically or otherwise. Therefore, it is important to think about the potential converse outcome of a recommendation that is well-intended.

Furthermore, the profit margins of these projects are small, and they do not have a lot of flexibility—so requiring property value guarantees or a 1% royalty on top of the taxes could also be prohibitive for development. The developers may look elsewhere to build their projects because they would not be able to economically build a project.

A lot goes into siting these projects. Developers weigh many factors, including transmission interconnection, environmental constraints, land use, and industry. To build trust with host communities through transparent communication throughout all stages of the project is important, and we recognize that. It could also include community meetings, open houses, sharing data with trusted sources, and engaging with community leaders more regularly.

The industry agrees that these measures are important to move projects forward. It is just important to recognize the implementation challenges. Getting too prescriptive can become more prohibitive than helpful and, in some cases, can be weaponized. For example, there might be a community that says, “We’re going to write this in knowing that it will be a de facto ban on projects.” We do need to consider all these aspects of the wind siting process.

2. Christiana Ochoa et al., *Deals in the Heartland: Renewable Energy Projects, Local Resistance, and How Law Can Help*, 107 MINN L. REV. 1055, 116 (2023).

C O M M E N T

BROAD UNDERSTANDING AS A STARTING POINT FOR CONSTRUCTIVE SOLUTIONS FOR SITING WIND ENERGY PROJECTS

by Eric Lantz

Eric Lantz is Director of the Wind Energy Technologies Office at the U.S. Department of Energy.

Wind energy siting tends to be an emotionally charged issue that requires nuance to address—from my experience and past research those two things don't often go together. With that in mind, Prof. Christiana Ochoa et al.'s *Deals in the Heartland: Renewable Energy Projects, Local Resistance, and How Law Can Help* is a thought-provoking piece that coincides with significant growth in the wind industry, as well as broad-based expansion of county-level ordinances regulating wind power. It is a useful contribution to the literature and to the conversation around this topic, which is a very important one, and one that is dear to me. I do, however, have a handful of comments that I would like to include in the public discourse.

Before I delve into the specifics, I want to say a little bit more about my background and how my perspective has been shaped. I started studying the social acceptance of wind energy in 2007. As a graduate student working at the National Renewable Energy Laboratory, I was invited to be part of an international working group—with researchers from Northern Europe, Japan, and the United States—focused on understanding how we can better integrate wind energy into society. It was a privilege to be able to work with both social scientists and practitioners in that context and at that time. I recognized that to be successful with wind energy projects, we need to have partnerships, and we need to have the buy-in of local communities. I also had the opportunity through participation in the working group to influence the direction of research conducted by colleagues to better understand the subtleties and nuances that are associated with human experiences of wind turbines.

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For example, I was able to participate in the Social Acceptance Baseline Study that was led by colleagues at the Lawrence Berkeley National Laboratory. We focused on studying and surveying the experience of people who live next to wind turbines. Prior to that time, most of the literature internationally had been surveys on general issues such as what people think about wind energy. There were only a few examples where researchers had engaged people who had lived next to wind turbines for an extended period of time and who had been through the process, so had a relatively long-term view on it. We found that, yes, there are some individuals who are frustrated or disappointed—and there are people who moved away. Yet, there is also a significant majority who are supportive or neutral toward wind facilities.

My current role is serving as the Director of the Wind Energy Technologies Office at the U.S. Department of Energy (DOE), which is a slightly different role from my prior research work. We fund a portfolio that spans foundational science to technology demonstration, but also capacity-building for communities to be able to think about how they plan for and implement new deployments of wind energy. We are focused on catalyzing society's access to clean energy technology. We want to think about how we can easily integrate wind energy technologies into the grid, the landscape, and the ecology, including impacts on wildlife and people.

Within the domain of social acceptance or human experience, we are really interested in technologies and technical solutions that can alleviate community impacts and the burdens that people experience. We want to invest in capacity-building that can support an overall energy transition, and of course, we are also interested in financial and regulatory policy solutions. We think there is a lot of work that can be done to create financial, regulatory, and policy structures that can better balance the costs and benefits associated with clean energy deployment, including wind.

I want to emphasize that human experience with wind energy is highly subjective. This is particularly important with respect to the aesthetic perceptions of wind turbines

and wind plants. Throughout my time studying human experiences with wind energy, the opinions have been vastly differing. A lot of people talk about seeing wind turbines as these sentinels of a new age pushing back against climate change and helping to create energy independence for local communities. I've also heard, similar to the authors' points, of wind turbines being perceived as an industrial blight that is ruining the landscape and the aesthetics of a particular area. Ultimately, how people experience the visual effects of wind energy is heavily impacted by what they bring to the table. Essentially the stories that they have lived and whether they see wind energy as the bastion of technological advancement and humans overcoming societal challenges, or something that's a negative transformation of your landscape depends heavily on the individuals.

There is a section in the article that talks about property values and how at least one of the studies that was cited drew a connection between property values and the social experience. In communities where there was less conflict, and where the plants were relatively well-received, property value impacts were negligible and didn't materialize. Whereas, in those communities where it was more negative or more challenging, there was lower willingness to pay for homes and residences.

Ultimately, it is very difficult to find clear objective and predictive measures of whether property values are going to be impacted—positively or negatively—because it can be a bit of a self-fulfilling prophecy. If a community is welcoming to projects, then people tend not to worry about it. On the other hand, if you have high anxiety or are very fearful of what might happen, then of course that gets talked about, and it is reasonably going to affect local home markets.

DOE has funded many studies, mostly at the national level, looking at property values impacts. We applied a statistical approach (there are clearly anecdotes that can be exceptions), and the latest work in this space has shown that there can be impacts during the period immediately following the announcement of a project. And, of course, that is the point at which the unknowns are the greatest. You know a project is coming, you know it's going to mean a change, but you don't know what that change is going to look like—so you might be more fearful in those situations. However, what they also see in the statistical trends is that on average within five years home prices, even in those communities where you see a dip, return to a more normal long-term trend. This suggests that the impacts are not long-lasting and that with time and experience these impacts are generally resolved.

Further, unlike a nuclear facility, a coal-powered electricity generation plant, or even a natural gas facility, by and large, at the end of a wind project's life, it can be decommissioned and all the equipment disposed of in a relatively economical and safe manner. Some of the foundation concrete can be left in place, but it is much easier to dig a wind turbine foundation out of the ground and restore that to a relatively pristine pre-wind facility condition than it is to decommission and restore the land impacted by a nuclear power plant to its preconstruction

status (nuclear power is often talked about in terms of future clean electricity generation so in a sense, it's an alternative to wind power). The legacies, however, at least for these two technologies are tremendously different. If there are particularly problematic turbines or if there is a plant that ultimately doesn't work in a community, it doesn't have to be a permanent land transformation. At the same time, maybe people will become accustomed to living next to wind turbines in the same way that we live next to other sorts of human infrastructure, whether it's an interstate highway, a shopping mall, or even a collector road that runs by many of our houses. The turbines could be integrated into the landscape and integrated into our culture, and more broadly accepted over time.

We know a lot about the science and engineering that drives the critical factors that affect human experiences. I had a colleague in Germany who did great work looking at when people are bothered by the sound. For example, people find it particularly bothersome when there is a lot of turbulence in the atmosphere interacting with the blades. These conditions produce aerodynamic sounds that are like shoes bouncing around in a dryer. Shadow flicker is another problem that is talked about frequently. Shadow flicker is actually relatively easy to manage from an engineering perspective, because we know what track the sun is going to take every year and how the shadows are going to be formed so we can very precisely model when and where shadow flicker could occur. As a result, plant operators and developers actually have tools that they can use to alter the operation of individual turbines or plants to mitigate particularly bothersome periods of wind plant operations. This is one of those areas where the nuance is incredibly important—we have tools that can manage impacts so it doesn't have to be a binary yes/no on wind.

One of the challenges though is that oftentimes what we hear in our conversations with both manufacturers and technology developers who are pursuing these types of solutions is that the customers, in this case the developers, are not asking for those tools. There are a couple of reasons this may be the case. One is the slim margins that exist in this industry. We often, as wind technology researchers, get compared to the aerospace industry because we are dealing with composites and air foils, but the profit margins in the electricity generation field are orders of magnitude different than in an industry like aerospace—the margins are really razor thin.

There is also stiff competition from other sources of electricity generation and societal pressure to keep power prices low. For example, many utilities are regulated such that they have to accept the lowest cost form of electricity generation. Although low-cost electricity is good for society, there are trade offs—here, it seems the legal and the regulatory frameworks are almost working against each other. In sum, profitability pressures coupled with low expressed demand for changes to wind plant design or operation means that available engineered solutions are not being developed and deployed at the levels that might be expected based on their availability and potential to mitigate community concerns.

Further, the development period is the highest-risk portion of the capital stack that goes into a wind energy facility. It is a relatively small piece compared to the overall cost of the facility, but it is totally exposed. When developing a project, you don't know if you actually have a project or not—you could lose all of the investment. This creates reasonable challenges for developer-funded, long, and participatory development processes that may not work in an industry like electricity where the margins are thin and there is a lot of pressure on power producers to keep prices very, very low.

Another point I want to make is that wind energy is not a monolith. Wind facilities exist in all different sizes. In the Netherlands, there are turbines sprinkled here and there, squeezed into niches in industrial landscapes and urban centers. We need to exploit the diversity that is possible with wind energy to help solve some of these challenges.

I also want to acknowledge the complexity of balancing the costs and benefits. The regulations and the way prices are set in power markets are controlled by so many different factors, none of which—I'll go out on a limb and say—account for the experiences of the local communities where projects are sited. This applies to any power generation technology, not only wind.

Lastly, there are significant power imbalances that exist both on the side of the developers and on the communities. We heard today about how developers may not be transparent and can leverage information asymmetries and the balance of power to try to get projects through. On the other hand, because we have broad-based home rule policies in this country, and in many localities around the world, the success of a project can come down to the votes of a few individuals. I think that is a power imbalance on the community side. I would love to see objective criteria developed that can help inform both how projects are developed and how they are approved so that we can achieve a rebalance.

Ultimately, we should not just be asking what the wind energy industry can do differently. We should also ask what communities can do differently. Communities can take a proactive approach here. They can think about how they want to develop wind energy or solar energy or other clean energy technologies in their community, and then they could even go out and solicit proposals for projects and pick from among those. I don't think communities have to be purely in a reactive space.

C O M M E N T

PRINCIPLES FOR SITING RENEWABLE ENERGY PROJECTS: A RESPONSE TO DEALS IN THE HEARTLAND

by Josh Mandelbaum

Josh Mandelbaum is a Senior Attorney at the Environmental Law & Policy Center.

I am a Senior Attorney at the Environmental Law & Policy Center (ELPC). I am based in Iowa, a state with 13,000 megawatts of wind generation—a significant amount of generation. I also have a second role not related to ELPC, but relevant to this panel: I’m a local elected official, so I deal with zoning. I am in a city so I don’t deal with large-scale renewable energy siting, but I know exactly how contentious zoning discussions can be and the impacts zoning fights can have on a community. Resistance to changed land use is not unique to rural communities, but it does impact how we solve renewable siting problems in this country.

This article is really important and timely in that it asks some key questions and makes some key points. One of the important observations in the article, and the authors’ rationale for tackling these siting issues, is that if we continue to do things as we have, there will be more renewable energy projects that fail than need to fail. Part of what that means is tackling the conflicts around renewable siting. Addressing conflict is part of the role that law plays—trying to help navigate how we balance competing interests.

There are a lot of different competing interests that come into play when addressing renewable energy siting. There are different policy goals. The climate policy goal is a central one and one of the motivations of this article. There are also local economic development and quality of life goals that impact how local officials react. There is also the broader philosophy of local control, which is a central piece of policy discussions in this country. As a local elected official, I value the importance of local control highlighted in this article, but local control isn’t an absolute. It can exist on a continuum and that sometimes is missing from discussions about renewable energy siting.

Editors’ Note: Josh Mandelbaum’s Comment is based on an edited transcription of his remarks at the Environmental Law and Policy Annual Review conference. See 2023-2024 Environmental Law and Policy Annual Review Conference, available at <https://www.eli.org/events/2024-environmental-law-and-policy-annual-review-elpar-conference>.

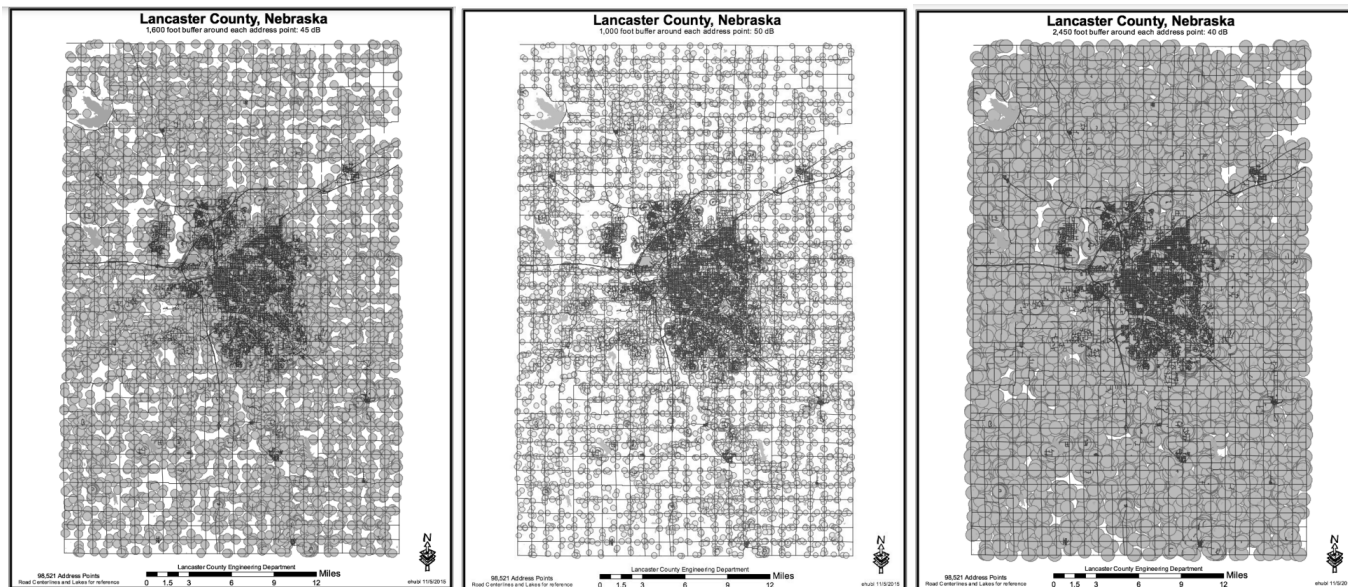
One policy interest that wasn’t really talked about in this article—but that is very much relevant—is that there are implications for property rights policy in how we resolve siting issues: What does the landowner get to do? How does a use impact the property rights of neighbors? Property rights are a piece of the cultural fabric in a lot of rural communities. Anecdotally, my in-laws chose to live in rural Story County, because my father-in-law’s hobby is ham radio. He wanted to put a 100-foot tower in his backyard, which he couldn’t do in the city. Property rights and greater freedom to do what one wants with their property is a piece of why people live in parts of rural America, and this property rights piece is an interest that needs to be considered and valued in the balancing of interests around renewable siting.

Siting principles for renewable projects can help bring balance to these conflicts. Principles can make their way into local or state law. They can also be reflected in the way developers approach projects and voluntary negotiations, and that’s important, too. Not all renewable project developers are equal. Developers can approach projects in vastly different ways and that impacts a community’s experience. Principles can help provide a check on what can sometimes be bad actors in the development community.

The first principle is that the door should remain open for clean energy development—wind, solar, and storage at all scales in all communities, including in the rural working landscapes. This principle takes one of the premises of this article, “I’m not anti-wind. I’m anti-how-this-was-done,”¹ at face value and really tries to engage and help solve that. There is another sentiment that was acknowledged in the conclusion of the article—even with all the policy recommendations on transparency and compensation, there are some folks who are going to be anti-wind regardless of those efforts. This principle makes a policy determination and reflects that more renewable generation projects is a direction that we need to go and that solv-

1. Christiana Ochoa et al., *Deals in the Heartland: Renewable Energy Projects, Local Resistance, and How Law Can Help*, 107 MINN L. REV. 1055, 1099 (2023) (“One interviewee summed up his feelings about the process by saying: ‘I’m not anti-wind. I’m anti-how-it-was-done-here.’”).

Figure 1. Wind Turbine Siting Potential in Noise Ordinance Scenarios of 50, 45, and 40 Decibels in Lancaster County, Nebraska



Source: Center for Rural Affairs, Information Guide: Wind Energy Ordinances, <https://www.cfra.org/publications/information-guide-wind-energy-ordinances> (2018).

ing siting conflicts means balancing interests, not banning renewable energy development.

Following from that is a second principle: Regulation should follow planning best practices. Any variation on a regulation that deviates too much from best practice into a de facto ban should be avoided. There are a lot of different pieces that can be covered in “best practices”—setbacks, decommissioning, and construction mitigation. Best practices will vary by technology and differ for wind versus solar, but best practices are pretty well-established and constantly worked on—and should be reflected in policy and law.

Avoiding the de facto ban on new renewable projects is an important part of this principle because the de facto ban is where local control may go too far. De facto bans happen with setback requirements. De facto bans happen with noise standards. In Iowa, a legislator proposed a solar bill to use Corn Suitability Rating² to determine what land was eligible for solar projects. Those are all ways to get to de facto bans.

To illustrate how a seemingly reasonable standard can become a de facto ban, it helps to review real world examples. For example, the Center for Rural Affairs *Information Guide: Wind Energy Ordinances* provided maps of Lancaster County, Nebraska, demonstrating where it was possible to build wind turbines with a noise ordinance of 50 decibel, 45 decibels, and 40 decibels. As the standard gets

more stringent (lower decibel limit), the buffer required from a turbine gets larger and the places that a turbine can be sited gets progressively smaller. Eventually, there is literally nowhere that a renewable developer can build. It makes projects impossible. Another common example is setbacks requirements. In Butler County, Nebraska, a 1,300-foot setback requirement limits siting options, but there are still multiple areas where a project can be built. Increase that setback requirement to 3,400 feet and a developer can build almost nowhere.

De facto bans get things out of balance and that is when state laws may look to bypass or preempt local laws. State-wide siting has happened in a number of different ways. One particularly interesting example that has not become law yet is the Iowa Legislature’s recent consideration of a gas station ban preemption. The local anti-wind folks were some of the most opposed to the proposed gas station ban because it was a ban on de facto bans. They were concerned that it would impact the local ordinances that were a major part of their tactics.

A third key principle is that the landowner should be the decisionmaker over whether their land is developed for clean energy development. This principle can be compatible with regulation particularly if the regulation gives property owners the ability to opt out or waive requirements as to their property. All of the current renewable projects are voluntary projects. Eminent domain has not been used for wind projects—a major piece of critical infrastructure—and that is unusual. In contrast, think about an interstate highway or a transmission line—those projects can’t be built without some use of eminent domain. Wind projects are being built because there are folks who voluntarily enter into contracts, who feel like they have been treated fairly, and will get something out of agreeing to host a renew-

2. See, e.g., Iowa Public Radio, “Iowa lawmakers advance a bill placing restrictions on solar panels built on farmland,” <https://www.iowapublicradio.org/state-government-news/2022-02-15/iowa-lawmakers-advance-a-bill-placing-restrictions-on-solar-panels-built-on-farmland> (proposed bill would prohibit installation of solar panel field on agricultural land “unless the land they want to install it on has a corn suitability rating of 65 or lower”) (2022).

able project on their land. As long as the law continues to provide property owners with the ability to make decisions about their land, there will continue to be siting options for renewable energy projects.

Part of the reason that landowners will consider renewable energy development has to do with the fact that rural America has been changing over time. Farms have become larger and larger, and large farms have pushed out small farms in a lot of cases. Wind and solar projects have been a lifeline to diversify revenue and sustain the existence of small farms in multiple cases by allowing a farmer to use a portion of land to add revenue from wind and solar leases. In other words, the lease provides a real and significant benefit to the participant.

Anecdotally, I have a neighbor who lives in Des Moines and grew up on a family farm. They now have wind turbines on their farm, and those wind turbines are retirement security for his father and allows him to continue living on the farm. The other interesting story related to that particular project is that it was outside of a small town. The small town annexed the land that the wind turbines were on to incorporate it into the city limits. The town wanted the tax benefits that were associated with the wind project, because it would help make tangible investments in the community.

An important principle for maintaining balance and protecting the rights of non-participating property owners in the siting discussion is that renewable projects should be

designed to reasonably protect health, safety, welfare, and quality of life. What that means is that a project or local ordinance can take steps to require radar systems to reduce nighttime light pollution from flashing red lights, because technology exists to solve the issue. Projects can also be designed using best practices to limit shadow flicker and to require construction mitigation. Projects can be sited to avoid unique local places and environmentally sensitive areas. But it does not mean that a community can regulate to the point of a de facto ban or use a vague notion of quality of life to prevent any change in the landscape. Rural landscapes are dynamic landscapes and always have been. The laws should balance quality of life with new uses but should not be used to prevent any change.

Finally, the principle of transparency should allow residents to understand and have input into a project before approval of the project. It is critical to engage communities so that they have input into a project and the potential for input as a project is being designed. But, again, transparency does not mean a veto over a project—transparency should be reasonable as well. There is more that can be done to have community engagement outside of the zoning or regulatory process. This includes public meetings where people can come provide input, identify sensitive areas in a county, and engage and share their concerns. There is research that shows that developers are willing to engage in this way and that their projects can benefit from such engagement.

C O M M E N T

COMMENT ON DEALS IN THE HEARTLAND: RENEWABLE ENERGY PROJECTS, LOCAL RESISTANCE, AND HOW LAW CAN HELP

by Christopher McLean

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What I found so compelling in this article was the human factor—the authors could have written the same article about what is going on in solar, biodigesters, hydro projects, or trash-to-energy projects. There is a good amount of research that could be done as to why this has cropped up recently. The human stories in the article are heartbreaking—this issue is dividing families, and people are being effectively excommunicated from their churches because of what side they are on.

The slides I want to share give context as to why I am so worried about this trend and what we are trying to do at the U.S. Department of Agriculture (USDA) to address some of these issues. This includes investments we are making under the Inflation Reduction Act (IRA), such as requiring community benefit planning that includes community engagement and an expression of the benefits that are outside the scope of particular projects. Secretary Tom Vilsack, in particular, is interested in farmer benefit planning to show how we can use clean energy to increase farm income.

Federally funded projects must go through environmental review under the National Environmental Policy Act, the Endangered Species Act, and Section 106 of the National Historic Preservation Act.¹ Those reviews can get very complicated and take a long time. It is sometimes frustrating for those of us who want to build and finance projects, but the reviews do have an element of public

engagement, which is very, very important, including consideration of protecting prime farmland.

Cooperative leadership is also something that our agency focuses on. We work a lot with rural electric cooperatives, for example, and their business structure is unique. I encourage the students in the audience to study the cooperative business structure because it is consumer-owned.

The Rural Utilities Service (RUS) is the successor agency to the Rural Electrification Administration. We begin our origin story here in deference to the good people of Vanderbilt by starting in 1933 with the Tennessee Valley Authority Act. The RUS Administrator, Andy Berke, is the political appointee who runs our agency. He is from Tennessee and has experience with municipal electric systems as a former mayor of Chattanooga.

George Norris was the author of the Tennessee Valley Act, which was the inspiration for the Rural Electrification Act (REA), which he authored. President Franklin Delano Roosevelt created the REA by executive order in 1935. Norris was a Republican who supported the New Deal and was from the great state of Nebraska. In 1936, the U.S. Congress enacted the REA. President Harry S. Truman, in 1949, signed into a law the amendments that expanded the agency's jurisdiction to telecommunications. Also in this era, USDA started to finance water infrastructure in rural areas.

When the REA was rolling out electricity in 1935 to rural areas, 10% of American farmers had electricity, and there was a lot of fear about electricity. The REA used to have tent shows and go to communities to say that electricity is safe, it's not going to make your cows produce less milk, and it's not going to electrocute you.

The latest chapter in our story is the IRA, which is the greatest investment in rural electrification since the New Deal. It is an extraordinary piece of legislation. I encourage everyone to look at the New Deal for inspiration. If you want to talk about man-made climate change, look at the Dust Bowl—poor farming habits, overgrazing, lack

Editors' Note: Christopher McLean's Comment is based on an edited transcription of his remarks at the Environmental Law and Policy Annual Review conference. See 2023-2024 Environmental Law and Policy Annual Review Conference, available at <https://www.eli.org/events/2024-environmental-law-and-policy-annual-review-elpar-conference>.

1. 42 U.S.C. §§4321-4370h, ELR STAT. NEPA §§2-209; 16 U.S.C. §§1531-1544, ELR STAT. ESA §§2-18; 54 U.S.C. §300106.

of science, and lack of crop rotation—man-made climate change. And how did that get solved? It was with man-made science—from USDA and its Extension Service combining research, education, and outreach. Rural America in the 1930s was about as third-world as you could imagine. And for women, there was no movement in rural America more important than rural electrification, because it was an absolute liberation from the drudgery of having to haul water to cook with coal or wood.

We are so excited about the IRA. Congress gave Rural Development, which includes the RUS, \$1 billion for partially forgivable loans for clean energy investments. Partial forgiveness will be at the rates of 20% forgiveness, 40% forgiveness, and 60% forgiveness, depending on the communities served. If you are in an energy-dependent community or a disadvantaged community, you could get up to 40%; if you are a tribal community or one of the territories, you can get up to 60% loan forgiveness. Congress also gave the RUS \$9.7 billion for clean energy loans and grants. Grants can support up to 25% of an eligible clean energy project. As a result, that \$9.7 billion will leverage billions of dollars of more investment.

Our sister agency, the Rural Business and Cooperative Service (RBCS) has the Rural Energy for America Program (REAP), which Prof. Christiana Ochoa mentioned in her article. That program is for farm operators and rural businesses to invest in energy efficiency and renewable power to reduce their costs. Congress upped the funding for REAP to \$1.05 billion—it is a tremendous program. At the RUS, we are on the wholesale side financing electric infrastructure and renewable and energy efficiency. REAP is on the retail side, the consumer and rural business areas.

It is also really important that the IRA provides for direct pay tax credits for the first time for co-ops, municipalities, and nonprofits. This is another tremendous opportunity to address some of the issues that were raised in the article, because those tax benefits, instead of going to developers and Wall Street investors, can go to communities, to cooperatives, and really make this power extremely affordable for consumers. There are also consumer tax credits for a host of energy-efficiency measures. Other federal agencies like the U.S. Department of Energy and the U.S. Environmental Protection Agency have energy benefits as well.

Soon after the IRA passed, there was a lot of skepticism, particularly from the biggest carbon-producing cooperatives saying, “We’re not sure if this is for us. We’ve got to worry about reliability.” Those of you in Tennessee, you know we were fresh off of Winter Storm Elliott, during which, for the first time, the Tennessee Valley Authority had brownouts across its service territory. In the previous year, Winter Storm Uri in Texas caused deaths due to loss of electricity, and consumers are going to be paying for years for the cost of their power.

This concern about electric reliability is a big deal for utilities and not only for rural utilities that have limited resources. For many years, the United States plateaued in terms of energy consumption as energy efficiency went into place. Now, we are coming out of the pandemic and demand for energy use is going up for things like benefi-

cial electrification, electrification of the transportation segment, and data centers (which use huge amounts of energy and can be located in rural communities).

As we went through the summer promoting these programs’ forgivable loans and grant support, you could feel the earth move. It just changed through the summer. When we first got this program, we were thinking, “Maybe we don’t have to worry about scoring because we’re not going to get enough applications to be able to use this money.” We got 300 letters of interest for the Powering Affordable Clean Energy (PACE) program, a billion-dollar program that is a lot of money, but we kind of stopped counting at around 12 times the amount of interest. The tragedy of this is actually that we are not going to be able to fund really good projects that are in the queue. The New Empowering Rural America (New ERA) program provides \$9.7 billion statutorily focused exclusively on rural electric cooperatives. RUS received about 160 letters of interest. So for that \$9.7 billion, the interest was at least four times as great as the money that we had to offer.

Secretary Vilsack just announced the first five PACE Awards and we are now moving to process the New ERA applications.

The important thing about REAP (\$1.6 billion in grants and loans since the start of the Joseph Biden-Kamala Harris Administration) is that there is \$800 million available until 2025. The RBCS is going to roll out \$200 million per year from 2025 to 2027. The REAP application cycle is a quarterly cycle, and if you apply for the program and you don’t get it, you can try again. There is a set-aside for \$144 million for underutilized technology, which currently means anything but solar. There’s a wind opportunity, there’s a hydro opportunity, and there’s a biomass opportunity.

Our standing REA activity is also robust. RUS can finance everything that a rural utility would need, whether it’s infrastructure or project financing. We have a small high-energy cost grant program that typically goes to places like Alaska. We can make operating loans. We can make smart grid loans. We even provide financing to others who finance rural electric utilities. And we have an energy-efficiency program. RUS will lend money at 0% interest to a utility to relend it to their consumers for energy efficiency. The consumer pays back the utility through on-bill financing, and the utility pays us back. That can include on-grid, off-grid renewable energy.

To provide a scale of our level of investment, last fiscal year, we invested \$6.88 billion in rural electric infrastructure. I came back to the USDA in 2015, so for me, it’s a personal best. This is loan-only investment, usually at or near U.S. Treasury rates of interest. The electric grid is the most complicated machine known to humankind. Think about how panicked you get when your cell phone runs out of power. But the grid always has to be in balance, the grid has to deliver power when it is needed, and the grid is changing from single directional (from the power plant to the transmission line to the distribution line, to your home) to multi-directional (where power is moving in all directions, and data is essential to move that power). There

is a huge need, especially in rural America, to invest in infrastructure. We're trying to meet that need.

We are very proud of the co-op business model. Co-ops are an important part of rural America. Co-ops, again, are consumer-owned organizations, so when a co-op invests in wind, solar, biomass, whatever, the co-op members, who are the members of that community, also benefit from it. The margins go to consumers (they are generally non-taxable business organizations). We will also work with investor-owned utilities, municipal utilities, developers, tribal utilities, and energy-efficiency entities.

The overwhelming response to our two IRA programs shows that there is a lot of rural imagination, excitement, and anticipation around a clean energy future. The reason rural America has a hard time making this transition is, frankly, economic. When you have a coal plant, a 50-year asset that is already paid off, the reaction is, "What do you mean they have to close it down? And how am I going to afford it?" Before the IRA direct pay tax credits, a big investor-owned utility could deduct it from their taxes,

but co-ops couldn't do that, and municipalities couldn't do it. These tax benefits in the IRA are going to be a major improvement. If we get the incentives right, we get the excitement, we get the anticipation, and we get the new visions of economic development.

The sad thing for me, as thrilled as I am with this overwhelming response and the work that it presents our agency with, is that there are going to be a lot of projects that are really good but we are going to run out. I could use another \$9.7 billion. I could use years of billions of dollars to keep on going through that list before we would run out of good clean energy projects.

Rural America already spends more of their disposable income on power than anyone else. When you are dealing with these issues you have to think about that. The value proposition has to be affordable clean energy. The infrastructure is aging and there is growing demand. Compared to the nudge, this is the magnet. Without these kinds of incentives to transition, it would be extremely, extremely difficult.