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WHY PEOPLE SUPPORT OR OPPOSE OFFSHORE WIND: DISTILLING THE KEY FACTORS THAT DRIVE SOCIAL ACCEPTANCE OF OCEAN RENEWABLE ENERGY

By Jessica Reilly-Moman, Climate Services & Assessment Fellow, AGCI

Many coastal states in the United States have set ambitious emissions reduction goals with high-stakes timelines. For example, New York law requires a 60 percent reduction in emissions in just eight years. Meanwhile, at the national level, the Biden administration has set a bold goal of achieving carbon neutrality by 2050.

To meet these aggressive timetables, U.S. coastal states are leaning heavily on the prospect of ocean renewable energy (ORE), particularly offshore wind. With a federal target of 30 gigawatts by 2030, states have their own plans to meet their targets, with 29 new GW planned in the Mid-Atlantic and New England by 2035. To put that in perspective, we currently have just 42 MW of installed wind capacity off U.S. coasts, in Rhode Island and Virginia—around one-tenth of a percent of the federal target that arrives in eight short years. With the longest planning and implementation horizons of any energy development, at eight to ten years, the pressure is on to make ORE a viable and scalable solution.

Yet as technological innovation has made ORE more feasible and economically viable, social backlash has blocked or impeded several high-profile projects, such as Cape Wind and Maine Aqua Ventus. Although it is easy to attribute these failures to Not-In-My-Back-Yard sentiments or NIMBYism, social science research recognizes the more nuanced causes. While research identifies broad local support for ORE, it also has illuminated valid concerns about disrupted livelihoods and lost cultural heritage; the important values and beliefs associated with place attachment and meaning; and the equity challenges of the planning process.

To achieve the necessary scale for ORE and meaningfully engage with communities potentially impacted by new projects, developers—and the states who seek to host them—need to

understand what drives social acceptance of ORE and ways to better identify and integrate community values and concerns. Social science offers insight into the who and why of renewable energy support and opposition, and what specific actions could support a more just transition to ORE.

ORE, and specifically offshore wind, presents a significant research opportunity at this critical juncture, yet only two pilot offshore wind projects exist in the U.S. Though Europe has examples, the U.S. development process, context, and cultures that influence values and beliefs are significantly different. We draw from literature on existing U.S. projects, both offshore and onshore, that could inform the transition to scale.

Making wind processes fair

Even though the federal Bureau of Ocean Energy Management governs offshore wind planning in the U.S., much of the current conflict around offshore wind occurs at the state planning level. This state-level strife can have various impacts, such as preventing a wind project from landing a cable in a municipality to tie into the electric grid and preventing a state from using the renewable energy to meet emissions reduction targets. Consequently, understanding the intersection of state-level planning and community perceptions regarding wind energy, whether onshore or offshore, is key to understanding social barriers to implementation.

In a 2022 paper in *Energy Research and Social Science*, researchers Salma Elmallah and Joseph Rand evaluated the planning process for two state-approved onshore wind farms to understand how state-led planning processes can account for procedural justice.

Procedural justice captures the idea of fair process. In a fair process, the perception of how someone is treated can often be more important than the outcomes of the process. The authors use four themes of procedural justice—participation, information, decision-making, and local context—to map fairness in wind planning. Participation refers to who is included, when they are engaged in the process, and how the process is structured. Information refers to timeliness and accessibility of information around a project, as well as the knowledge gaps that may exist if information is obscured or neglected by powerful actors. The themes of both participation and information overlap in their recognition of the need for a neutral intermediary between stakeholders to broker interactions and information. The authors characterize fair decision-making as dynamic and adaptive, where engagement continues beyond the planning phase to address emergent concerns. Finally, context represents the importance of place, local history, and the meanings and connections to all of the experiences embodied in a community enmeshed with its landscape.

The researchers used a mixed methods approach involving interviews, surveys, and document analysis to examine two cases, Bent Tree Wind in Minnesota and Blue Creek Wind in Ohio. They found that the public had highly limited access in the planning process, but landowners compensated by leases had earlier and more meaningful access to the developer. With respect to information, gaps were identified for not only the public, but also elected officials. Local officials were notably “caught off guard” by the amount of uncompensated work they were expected to do to negotiate land and road use, as well as community economic benefits. County

officials worked directly with the developer to obtain information, and no neutral intermediaries were involved.

State officials and developers believed they had included the public and local officials in decision-making by conducting mandated public consultation activities. Yet the public’s and local officials’ experiences were captured by the quote from an official that headlines the study: “after the leases are signed, it’s a done deal.” Local stakeholders did not feel included. These contrasting perceptions can be explained by procedural engagements that ultimately lacked teeth—the state regulators had the power to approve a project regardless of public input. Once the project was approved, no ongoing opportunities for public consultation exist in the lifecycle of a wind project.

Finally, two key contextual considerations emerged: existing relationships with developers and energy generation, along with an individual’s cultural and economic connection to the landscape. Here, place attachment and identity emerge as critical to addressing community concerns. Figure 1 (below) summarizes these insights as suggestions for wind planning processes, organized by theme:

Summary of wind farm planning process suggestions, arranged by analytical theme.

| Aspect of a wind farm planning process | Process suggestions to enable procedural justice |
|--|---|
| Participation | <ul style="list-style-type: none"> • Permitting agency should implement earlier opportunities for public involvement • Developer should create space for more frequent and earlier meetings beyond minimum regulatory requirements • Meetings should employ different modes of facilitation (i.e. not always facilitated by developer or state) • General public should be engaged at the same time as compensated landowners |
| Information | <ul style="list-style-type: none"> • Developer and information should be accessible to public beyond mandated participation opportunities • Government at all levels should support knowledge-sharing among local governments, coordinate with existing knowledge-sharing organizations, and provide more legal resources for counties on their scope of work and navigating negotiations, particularly for counties that are under-resourced • Trusted, neutral intermediaries should provide information so that developers are not the primary information source |
| Decision-making | <ul style="list-style-type: none"> • Permitting agency should promote more participatory decision-making by moving beyond adjudicatory hearing model to decision-making models based on bi-directional communication • Wind planning processes should incorporate decision-making, participation, and information opportunities post-project approval encompassing construction, operation, and decommissioning • Project developers can go beyond the minimum regulatory requirements to design a “consult-consider-modify-proceed” process |
| Local context | <ul style="list-style-type: none"> • Provide additional information and legal resources about project permitting and negotiations for counties or townships without a history of power permitting • Create participation opportunities and resources that address resident concerns in relation to livelihood, landscape, and property/ownership types |

Figure 1. Summary of wind farm planning process suggestions, in which all four themes offer improvements to the current model. Source: Elmallah and Rand, 2022

Wind energy planning participation has been characterized by a “decide-announce-defend” model, in which communities are expected to either support or oppose a project (Wolsink 2000).

This narrative continues to drive some U.S. developments. Phadke (2013) proposes instead using a “consult-consider-modify-proceed” process to help create a thoughtful process dialogue that informs whether and how wind farms should be developed. Elmallah and Rand note that projects would have to go beyond state-mandated participation to embrace this framework, which would center local knowledge and concerns in decision-making.

A framework for addressing procedural justice provides specific and potentially actionable factors to address when trying to understand support for or opposition to an ORE project. As an ORE project moves from planning to construction to operation, will procedural justice continue to influence acceptance of the project? How those factors may change over a project’s lifetime is addressed by another recent paper.

“Left behind” or “better off”: how attitudes about offshore wind change—or don’t—over time

The Block Island Offshore Wind Project, 5 kilometers off the coast of Block Island and 21 kilometers from the Rhode Island coast, was the first U.S. offshore wind project, commencing operation in 2016. Despite its small size, it is the only project where we can learn about attitudes over time for an offshore wind project in the U.S., and how they may have changed throughout planning, construction, and operation processes. In a 2022 article in the *Journal of Environmental Policy & Planning*, Samantha Bingaman, Jeremy Firestone, and David Bidwell apply the concept of attitude strength to distinguish the difference between rigid and elastic attitudes about the wind project, and to understand how attitude strength influences perceptions of the project.

Attitude strength, broadly founded on psychological research, looks at the nexus of external attributes and individual qualities to see how a person’s attitude on a topic changes or endures over time—it’s a longitudinal measurement that captures perception change and the factors that influence it. External attributes include how well a technology “fits” with a landscape. Individual qualities could include knowledge of the issue and the certainty and intensity of a person’s views.

Using a mixed methods approach, the research team used a yearly survey from 2016 to 2018 of Block Island residents and a random sample of mainland residents, along with semi-structured interviews focused on survey participants who reflected Rhode Island demographics.

The quantitative analysis showed that attitudes about the offshore wind project became significantly more positive over time. Figure 2 demonstrates how opposition decreased on both Block Island and on the mainland.

| | BI (n = 105) | | Coastal RI (n = 292) | | Aggregate (n = 397) | |
|-----------|--------------|--------|----------------------|--------|---------------------|--------|
| | 2016 | 2018 | 2016 | 2018 | 2016 | 2018 |
| Oppose | 17.8% | 10.7%* | 7.0% | 5.4% | 7.1% | 5.5%* |
| Undecided | 13.0% | 6.7% | 30.4% | 25.9%* | 30.3% | 25.7%* |
| Support | 69.2% | 82.6%* | 62.5% | 68.7%* | 62.6% | 68.8%* |

*Indicates significant change (all of which are $p < 0.01$) from 2016.

Figure 2. Percentage of BLOWP opposers, undecideds, and supporters, categorized by location in the island or mainland, by year. Source: Bingaman et al., 2022.

But perhaps even more interesting are the factors that influenced whether a person’s views shifted or remained stable. For both stable supporters and stable opposers of the project—that is, persons whose attitudes toward the project did not change from planning through implementation—process fairness was a critical factor. Stable opposers had the lowest perception of fairness, while stable supporters had the highest. Based on the definition from Elmallah and Rand, “process fairness” could be a proxy for the idea of procedural justice previously discussed.

The qualitative interviews were able to tease out more details. Stable supporters ranked aesthetics and procedural fairness favorably, and they recognized both the global and local benefits of the project. On the other hand, stable opposers were more focused on impacts to wildlife and commercial fishing along with the lack of information about those impacts. Critically, opposition stemmed from early in the process, when both the state and the developer were cited as enabling unfair processes that lacked transparency. Further, the poor appearance and fit of the turbines with the landscape were cited as negative.

Block Island residents whose views shifted from negative to positive cited the balance of tangible and intangible outcomes. Local benefits, such as improved internet access, mixed with the global climate benefits for many Block Island residents who changed their minds. For those who shifted from positive to negative perceptions, they recognized both the global and local benefits of wind, but they developed strong distrust for developers and state government after feeling “left behind” throughout the process.

Ultimately, six variables were significant in determining attitude change or stability: attitude strength, aesthetics, perceptions of process, general wind energy attitudes, anthropogenic climate change concern, and demographics. Based on their findings, the researchers make three specific recommendations. First, aesthetics are important, but attitudes go beyond that to include a sense of place. Photos are not enough to convey future changes to the seascape; visits to the shore would likely be more helpful to communicate transparently about the changes that industrial wind energy will bring. Second, sharing information “early and often” is especially critical for offshore wind development, as this sets the foundation for the life of the project. Finally, feelings of broken trust and being left behind by process leaders led some initially supportive residents who could see the project’s benefits to develop negative attitudes toward the project.

Moving quickly while being fair

With ambitious state and national emissions targets that rely on offshore wind, and extended planning and construction timelines for these projects, states and developers cannot afford to exclude communities from the planning process. Developers could benefit from new approaches to public engagement. When taken together, these articles point to critical factors that may bring processes closer to the procedural justice needed to garner acceptance.

First, developers can recognize that procedural justice plays an outsized role in project support. When people feel excluded from a planning process that will alter the place where they have built families and livelihoods, they can turn against a development that would offer some benefits to their community. At the core, meeting the four themes of procedural justice comes down to process leadership building and maintaining trust with communities.

Examples of trust building in ORE include the Cobscook Bay Tidal Energy Project in Maine, in which developer ORPC worked extensively with the communities of Eastport and Lubec. “Agencies give permits, communities give permission,” was a guiding practice for the developers. They built a relationship with the fishing community founded on requesting “advice,” including seeking and following advice on the location of the tidal turbine. The relationship they built involved more than information exchange—the relationship committed to community agency. Other successful strategies from that project included hiring local talent; engaging community leadership before moving through the permitting process; scoping existing community relationships at the beginning of the project; and being as specific as possible when providing requested information (Johnson & Jansujwicz 2015). Community members commended ORPC for a specific kind of listening—the developer listened to and acted on local knowledge and advice. This was not a project operating in isolation—the community and developers built a relationship that has endured for a decade.

Next, community benefits matter to the people most affected by a wind project, but those benefits should go beyond providing financial support. Community benefits are often “packages,” with agreements and payments to meet specific community needs, such as a power purchase agreement or internet access. But communities also benefit when they are genuinely engaged in the siting process—and, as the ORPC example demonstrates, developers benefit as well. When communities are inclusively engaged early through a neutral (or local) agent, place attachment and meaning is integrated into the process. How a community perceives and acts on its power can depend, in part, on the agency given to local stakeholders in planning. Specific methods for engagement have included “landscape fora,” where a representative sample of local citizens and local leadership are convened to discuss landscape values and define preservation and development priorities (Phadke 2013). Ultimately, iterative engagement with collaborative siting gives communities the benefit that many communities currently seek: decision-making power over their seascape.

Finally, although U.S. offshore wind projects are in the early stages, both communities and developers need to create specific opportunities for adaptive management throughout the lifecycle of a project. Not much is known about the impacts of offshore wind on ecologies and economies; however, specific local stakeholders already know a lot about their social and ecological systems. Different groups possess different levels of agency—fishers have economic power and extensive ecological knowledge, while municipal leadership can galvanize

communities for or against projects. Identifying, learning from, and acting on the advice of these communities and other stakeholder groups early can mitigate conflict down the road.

Relationships of trust take time and energy to build, and state and federal leadership may not feel that they have this time. But if developers and climate advocates seek project longevity that can withstand the vagaries of political cycles, relationships of trust are the foundation, and offshore wind supporters have this opportunity to build support for nascent projects by learning lessons from recent history.

Featured research

Samantha Bingaman, Jeremy Firestone, and David Bidwell, “Winds of Change: Examining Attitude Shifts Regarding an Offshore Wind Project,” *Journal of Environmental Policy & Planning* 24, no. 3 (2022): 1–19, <https://doi.org/10.1080/1523908x.2022.2078290>.

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Maarten Wolsink, “Wind power and the NIMBY-myth: Institutional capacity and the limited significance of public support” *Renewable Energy* 21, no. 1 (2000): 49–64.
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