WHY DO WIND ENERGY PROJECTS FAIL?

The enduring effects of process and distributional unfairness

Dr. Louise Comeau,
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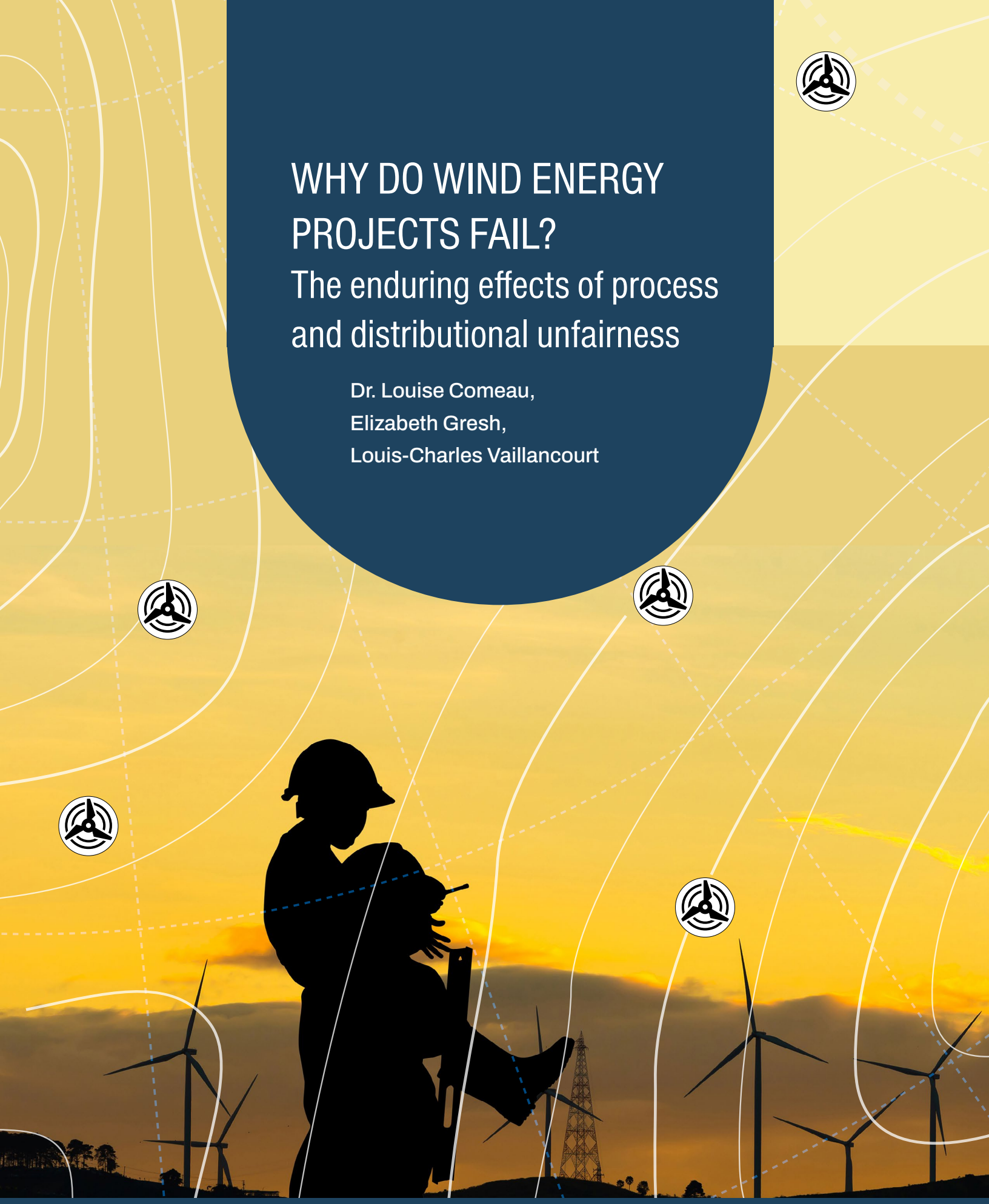

CONSERVATION COUNCIL OF NEW BRUNSWICK

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Conservation Council of New Brunswick

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Established in 1969, the Conservation Council of New Brunswick is the province's leading public advocate for environmental protection. A member of the United Nations' Global 500 Roll of Honour, we work to find practical solutions to help families and citizens, educators, governments and businesses protect the air we breathe, the water we drink, the precious marine ecosystems and the land, including the forests, that support us.

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01 Executive Summary

Why do wind energy projects fail? Does it matter if they do?

The Conservation Council of New Brunswick believes successful implementation of renewable energy projects does matter if we are to solve climate change.

Electricity demand is expected to increase significantly in Canada and globally in the coming decades as we shift off fossil fuels to solve climate change. Growth in electricity demand will come largely from increased electrification of transportation, home heating and industrial processes. This shift is already underway with the sale of electric vehicles, announcement of federal and provincial funding of off-oil home heating programs, and industrial use of electricity to make steel and hydrogen.

Given electrification is one of the most important climate change solutions pathways, it is no surprise that the Conservation Council is a proponent of affordable and reliable renewable energy. Our desire for success, however, cannot come at the expense of people and the communities they live in. We are an evidence-based organization. We take seriously the insights of researchers and scientists, particularly as it relates to the dangers of perceiving community concern as self-interest ('not in my backyard,' NIMBYism,) and from failure to adequately listen to and engage citizens, and understand their perceptions of fairness. Just as important as listening to scientists and the evidence, is listening to citizens.

In 2021, a family visit to northern New Brunswick resulted in a chance encounter with a resident of Anse-Bleue concerned about a proposed wind energy project in her community. As a social scientist, climate activist, and family member, Dr. Louise Comeau was moved to ask, "why do renewable energy projects fail?" This question has guided a year-long research project, including in-depth review of relevant academic literature, national focus groups and a survey, and this wind energy case study.

This case study shares what we have learned about why two wind energy projects proposed for northern New Brunswick failed, and offers recommendations to increase the chances for community acceptance of renewable energy projects in the future. **The primary conclusions are (1) projects have a better chance of success when there is early, sustained and consistent two-way communication with host communities by developers, and (2) government and utilities provide institutional support through best practice guidelines and evidence-based information about renewable energy.**

Recommendations

1. Consult early, be flexible

Host community residents should be consulted early about proposed renewable energy projects, and provided, where feasible, opportunities to indicate a preference in project siting. Our case study shows that waiting until power purchase agreements have been secured to consult host communities' leaves residents feeling powerless to influence projects. Conflict over proposed siting sets off a chain reaction of concern and declining trust. Developer focus on negotiating landowner leases without community engagement creates community tensions and perceptions of winners and losers. Early engagement can enhance the potential for community acceptance.

2. Utilities, local government, provinces should play a legitimizing and supportive role

Project selection criteria should include significant points for early consultation. Utilities and government also can play a facilitating role providing up-to-date best practice guidelines relating to siting, community benefits agreements, and community engagement to guide developers and inform host community residents of their options. Community concerns, combined with a lack of obvious institutional support for the N.B. Locally Owned Renewable Energy Program that are Small Scale (LORESS) Program and renewable energy generally, undermined community trust in the two case study communities (e.g., lack of open houses). A government office of renewable energy could provide general, but also locally and culturally relevant information, best practice guidelines to developers, municipalities, regional service commissions, and citizens, and province-wide geographical and ecological analysis to help developers prepare proposals.

3. Benchmarks should be set for community benefits

Residents in the two case study communities had difficulty evaluating whether community benefits offered by developers were standard practice, and found it difficult to sort through developer hype about potential project benefits and risks. In both communities, developers pitched the benefits of working with them and then downgraded benefits offered once projects were in motion. Government should publish, and regularly update, best practice community benefits guidelines and consider host community compensation options like utility bill rebates.

4. Address misinformation relating to renewable energy developments

Citizens should have access to quality, localized information on renewable energy. Where there is misinformation, the literature clearly indicates it is important to listen to citizens to understand their underlying concerns, which often relate more to distrust. The concerns raised, therefore, may not be resolved through information alone (e.g., on effects on property values or groundwater and surface water during construction), but it is important to ensure locally-based and neutral information is available. Where information is not conclusive, the precautionary principle should apply. A wide range of online sources share false information about the risks of renewable energy development. It is important to offer unbiased information to communities even if this information won't resolve all issues. A provincial renewable energy office could serve this function. Provincial organizations, community and environmental groups could also be funded to provide educational and information services.

As seen throughout this case study, misinformation played a role in undermining trust between developers and the public. Having a third party create and distribute information can reduce misconceptions and help developers and communities find alignment.

The next sections introduce details relating to the LORESS program, proposed projects and host communities, followed by some contextual background. We then summarize the academic literature informing the Conservation Council's research, and the method used to conduct interviews. Next, our research findings are summarized, followed by a discussion of the results, recommendations and conclusion.

02 Introduction

In 2016, the Government of New Brunswick committed to procure 80 megawatts (MW)[1] of power under the Locally Owned Renewable Energy Projects that are Small Scale (LORESS) Program. The announcement followed a 2015 provincial commitment to generate 40 per cent of the province's electricity supply from renewable energy by 2020. The province and NB Power issued two calls for expressions of interest in early 2016 and 2017. Developers prepared submissions in response to the first call of 40 MW for Aboriginal businesses (e.g., a band, corporation, not-for-profit, co-operative, proprietorship, or partnership), and the second 40 MW for local entities (e.g., community groups, co-operatives, municipalities, or a resident of the province in partnership with a local entity).

Four projects were awarded power purchase agreements with NB Power in 2017 and 2018. In April and September, 2018, two Aboriginal business proponents submitted environmental impact assessments. In July and September, 2019, two local entities projects submitted their EIAs. Of the four projects proposed, only two were built. The two indigenous business projects were developed, while the two wind projects proposed for the northern New Brunswick, Baie des Chaleurs region did not proceed.

Table 1 summarizes the four projects. The projects are similar in size (e.g., 18 MW to 20 MW), all are wind projects, with similar wind regimes and common environmental concerns (e.g., effects on birds, bats, wetlands, groundwater and surface water). Each project had a power purchase agreement with NB Power.

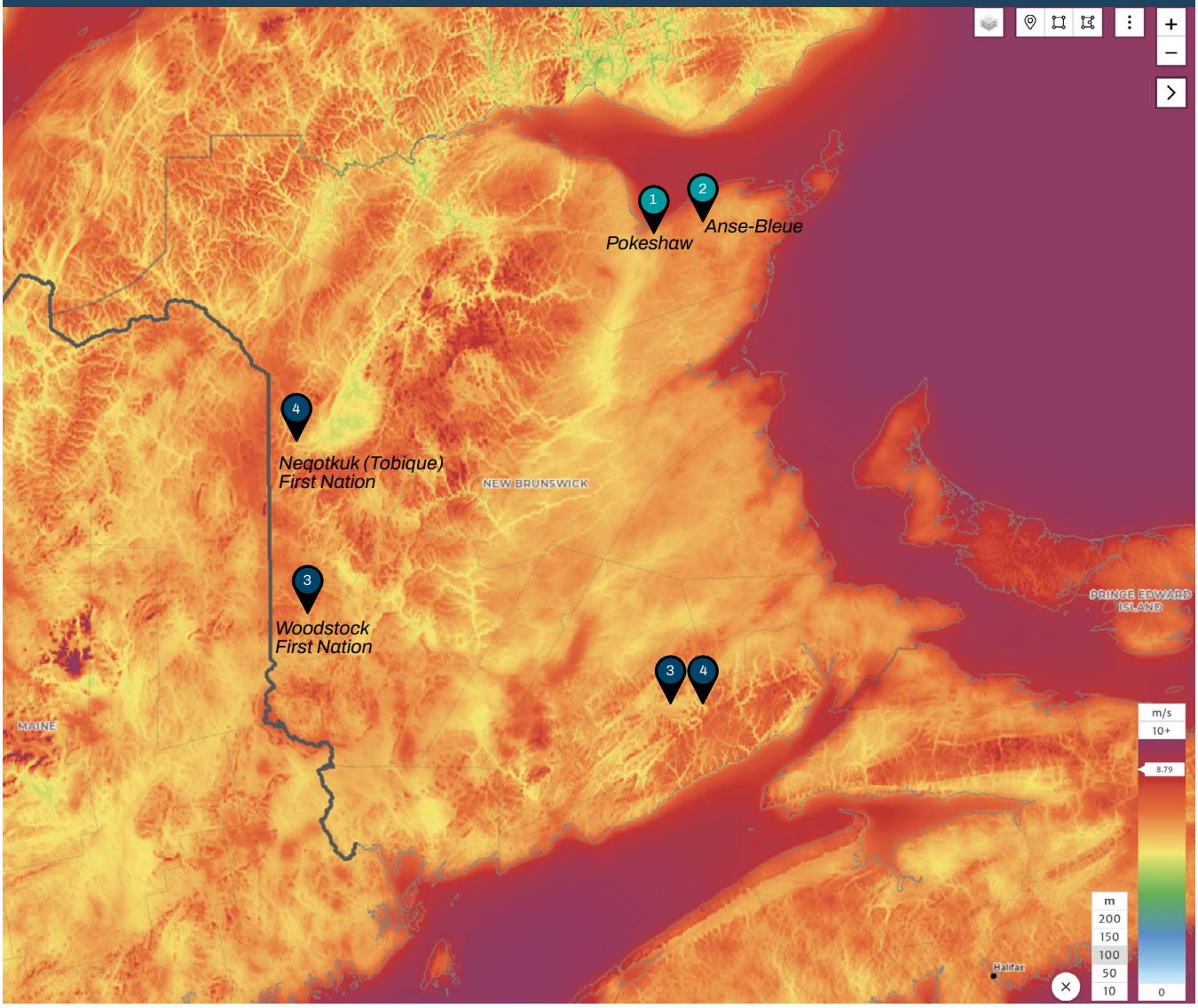
The Wisokolamson Energy Project is a partnership between Woodstock First Nation and Halifax-based SWEB Development (18 MW, enough to power 6,000 homes a year). It has been operational since 2019. The project is located 12 kilometres west of Riverside-Albert, New Brunswick on a small tract of Crown land just over three hours' drive from Woodstock First Nation's western location, close to the international border between Maine and N.B. The Wisokolamson energy project's name means "the wind blows very strongly."

The Wocawson Energy Project is a partnership between Neqotkuk (formerly Tobique First Nation) located 180 kilometres northwest of Fredericton, N.B., and Halifax-based Natural Forces (20 MW, enough to power 6,750 homes), but with potential for a 20 MW second phase. It has been operational since 2020. The Wocawson Energy Project is located 20 kilometres northeast of Sussex, N.B., nearly three hours away from the Neqotkuk community to take advantage of the wind regime in this location. It is named for a Wabanaki legend of a giant mountaintop spirit bird whose wings make the wind.

1 A MW represents one million watts of power.

Table 1. Approved LORESS wind development projects				
Project Name	Pokeshaw Black Rock Wind Power Project	Anse-Bleue Chaleur Ventus Wind Power Project	Negotkuk First Nation (Tobique) Wocawson Energy Project	Woodstock First Nation Wisokolamson Energy Project (WISK)
Partnership	Pokeshaw Black Rock Community Recreation Council Inc., (PBRRC) and Halifax-based Community Wind Farms Inc.	Chaleur Ventus Limited Partnership (Windforce Investment Inc. and the City of Bathurst. Entity: Association Mieux-Etre Bathurst Wellness Association Inc.) and Teksuk Management Inc. general partner, a wholly-owned subsidiary of Fredericton-based Naveco Power Inc.	Negotkuk (formerly Tobique First Nation) and Halifax-based Natural Forces	Woodstock First Nation and Halifax-based SWEB Development
Location	Private land approximately 2 km southeast of Pokeshaw, N.B.	Private land south of Route 303 in Anse-Bleue, Gloucester County, N.B.	Crown land south of New Ireland Road, in Albert County, N.B.	Crown land in Cardwell Local Service District approximately 20 km northeast of Sussex, N.B.
Project size	20 MW, five, 4-MW turbines, total height up to 200 metres (m), 2,500m roads upgraded, 2,400 new roads	20 MW, five, 4-MW Enercon turbines, total height up to 200m, rotor diameter 127m	20 MW for Phase 1, with possible additional 20 MW, 6 to 12 Enercon wind turbine generators, a new substation, and the installation of 5.25 kilometres (km) of new 69kV transmission line.	18 MW, five 3.6-MW turbines, total height up to 180m, substation

Figure 1: Wind speed map of New Brunswick, Canada at 100 metres above ground



Northern New Brunswick and the Baie des Chaleurs region, called by some the "Saudi Arabia of wind," was the location for the proposed **Pokeshaw (#1)** *and* **Anse-Bleue (#2)** *wind energy projects. The* **Woodstock (#3)** *and Neqotkuk First Nations (formerly Tobique First Nation, #4) are located in western New Brunswick, with the sites of the wind projects about three hours' drive away near Sussex, N.B.*

The Blackrock Wind Energy Project, was a partnership between the Pokeshaw Black Rock Community Recreation Council Inc., (PBRRC) and Halifax-based Community Wind Farms Inc., (20 MW) on a site two kilometres southeast of Pokeshaw. The Chaleur Ventus Wind Energy Project, located in Anse-Bleue, was a partnership between Chaleur Ventus Limited Partnership (Windforce Investment Inc. and the City of Bathurst through an entity called Association Mieux-Etre Bathurst Wellness Association Inc.) and Teksuk Management Inc. general partner, a wholly-owned subsidiary of Fredericton-based Naveco Power Inc., 20 MW. Both projects were proposed for northern N.B. and the Baie des Chaleurs region, called by some the "Saudi Arabia of wind" (Figures 1, 2, and 3 show location and site details of the projects).

Local entities are defined in the LORESS regulation as:

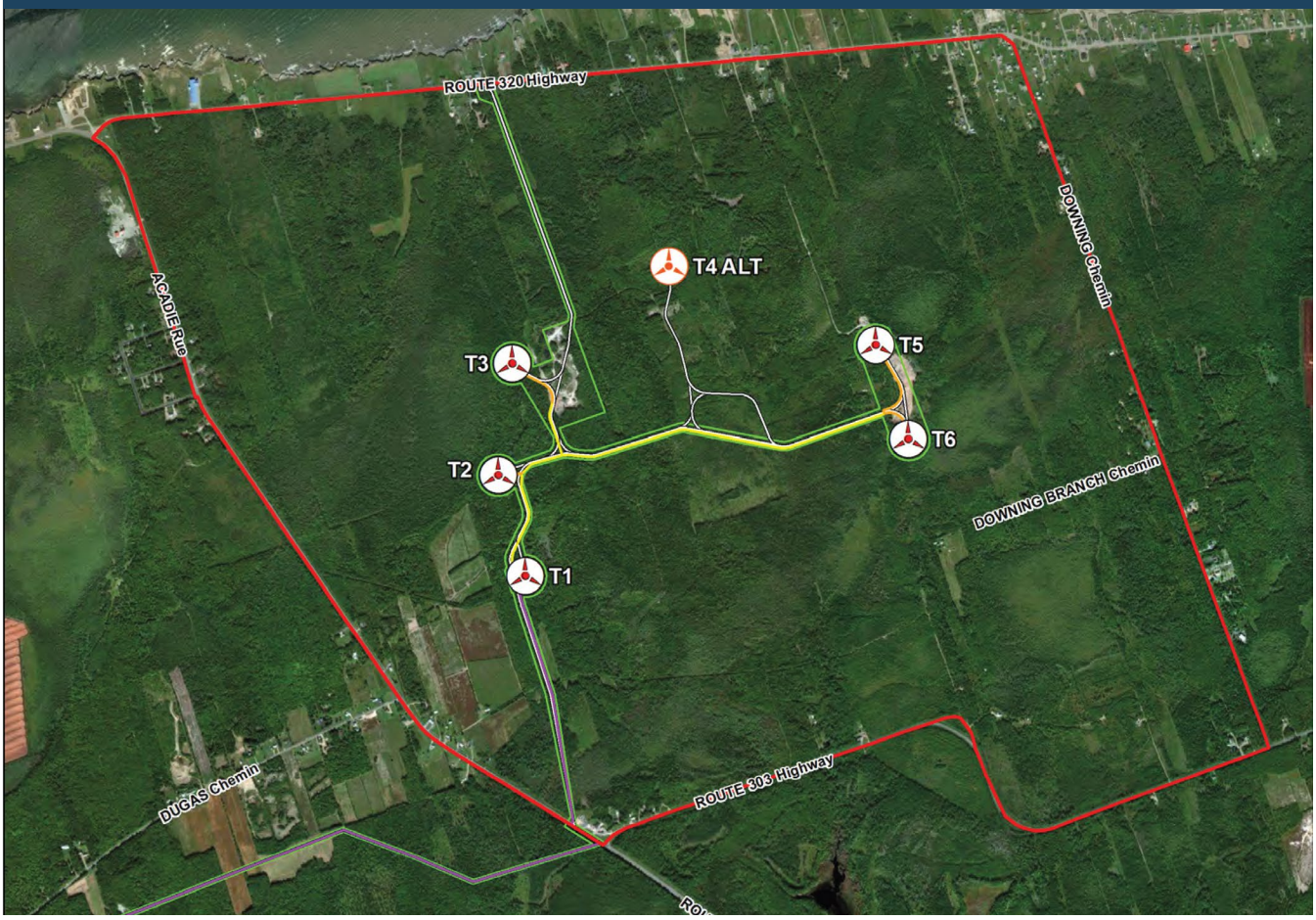
- a municipal distribution utility,
- a local government or local service district,
- a band as defined in the *Indian Act* (Canada) that is located in the province or a partnership or limited partnership between two or more bands that are located in the province,
- a not-for-profit company incorporated under the *Companies Act* and in which a majority of the voting shares is beneficially owned or controlled, directly or indirectly, by one or more residents of the province,
- a cooperative as defined in the *Cooperatives Act* and in which the majority of members who are entitled to vote are residents of the province,
- an educational institution that is designated by the Lieutenant-Governor in Council as a degree granting institution under the *Degree Granting Act* or is authorized by an Act of the Legislature to grant degrees,
- a regional service commission as defined in the *Regional Service Delivery Act*, or,
- a partnership or limited partnership between any of the entities listed in paragraphs (a) to (g) and a person who is a resident of the province, the majority interest in which is owned by the entity and in which the majority of benefits, under the partnership agreement, accrues to the entity (entité locale).

SUCCESS STORY: Community Leadership

According to research published in 2014, the Coopérative d'énergie renouvelable de Lamèque initiated consultation with residents of Lameque Island in 1999 about the potential for a wind energy project. The wind project was completed 12 years later in 2011 and included 33, 1.5-MW turbines connected to the NB Power transmission grid[2]. The 45-MW project is structured as a community renewable energy co-operative, and generates enough electricity to power 8,000 homes. Researchers note that the project was innovative due to the active role played by community promoters and the municipality as wind energy trustees and mediators among stakeholders leading to active support from the community. Similar to the Indigenous wind energy projects, partnership agreements between the Coopérative d'énergie renouvelable de Lamèque, the multinational Acciona and a power purchase agreement with NB Power that generates $115 million a year in revenue used to fund community infrastructure. Community members repeatedly mentioned the importance of links of trust with Lameque co-operative officers. Trust remains a key element to the success of the Lameque wind energy project. One of the landowners interviewed says, "If a company had arrived...and had approached landowners, I'm not sure we would have been receptive to that."

[2] Chouinard, O., Guillemot, J., Leclerc, A., & Rabeniaina, T. (2014). Old Coops and New Coops: The Case of the Coopérative d'énergie renouvelable de Lamèque. In L. Hammond Ketilson & M.-P. Robichaud Villettaz (under the direction of), *Cooperatives' Power to Innovate: Texts Selected from the International Call for Papers* (p. 239-256). Lévis : International Summit of Cooperatives.

Figure 2. Site layout for the Chaleur Ventus Wind Project in Anse-Bleue, N.B.



The Pokeshaw and Anse-Bleue projects were partnerships or limited partnerships. Both projects were proposed for locations with private landowners requiring lease agreements, a decision that would complicate community relations. Developers could, like the Indigenous projects proponents, have applied to locate their wind projects on Crown land, which would have simplified some project dynamics. Developers involved in all four projects had different levels of experience, with the Anse-Bleue proponent the least experienced, and who was an Anglophone approaching a Francophone community. Finally, both Pokeshaw and Anse-Bleue are also located in close proximity to a successful wind energy project, operated as a co-operative in Lameque. These project details, and proximity to a successful wind energy co-operative in Lameque, would influence citizen perceptions of what Locally Owned Renewable Energy Projects that are Small Scale should be.

Proximity to residential neighbourhood

New Brunswick wind turbine setback guidelines (p.2) indicate that the "Department of Transportation and Infrastructure (DTI) requires that wind turbines be set back 500m or a distance equal to three and a half times the wind turbine height (whichever is greatest) from the right-of-way of public highways under the administration and control of the Minister of Transportation and Infrastructure, including areas declared as Department of Transportation Development Areas; or a distance equal to one and a half times the wind turbine height from a public non-maintained road right-of-way."

The Chaleur Ventus-proposed turbine locations met, according to the developer, provincial setback requirements (Figure 2). Proximity to homes, however, was one of the first concerns raised by citizens.

Figure 3. Site layout of the proposed Pokeshaw Black Rock Wind Energy Project

The villages of Anse-Bleue and Pokeshaw are located in Gloucester County, New Bandon Parish. According to the Canadian 2021 census, New Bandon has a population of 1,200 people. New Bandon is part of Acadia but is only slightly more French speaking than English speaking (56 per cent French speaking vs. 42 per cent English speaking).

Anse-Bleue is a small coastal village in the Acadian Peninsula. The village has a population of just under 340 residents and relies on the fishing industry as its main source of income. The community is unilingual Francophone, with little English spoken. The community has a history of resistance against big energy projects. New Brunswick's first nuclear power plant could have been constructed in Anse-Bleue, but the population was strongly opposed to the idea and the power plant was built in Point-Lepreau in southern N.B.

Pokeshaw and Black Rock are two small communities in New Bandon Parish. There are fewer than 200 people living in both communities. These communities operate the Pokeshaw and Black Rock Recreation Council. The Recreation Council provided information to the community about the proposed wind energy project.

At the time of the wind energy project proposals, both Pokeshaw and Anse-Bleue were unincorporated local service districts (LSDs). Until recently, more than one-third of New Brunswick's population lived in locations with no incorporated municipality. Instead,

the provincial government provides services to these locations, with citizens having the right to establish an advisory committee that operates in partnership with the Minister of Local Government. The province undertook **major municipal reform** in 2021-2022. In 2023, Anse-Bleue and Pokeshaw will formally become part of an incorporated municipality. At the time of the proposed wind projects, the local government structure meant there was, as one developer noted, "no community to negotiate with."

In the summer of 2022, the Conservation Council conducted interviews with citizens and stakeholders in Pokeshaw and Anse-Bleue to better understand why their community projects failed, while the two Indigenous community wind projects under the LORESS program succeeded. The loss of the two projects resulted in NB Power delivering only half the promised 80 MW of renewable energy for the LORESS program and, as a result, generating a loss of projected revenue and 54 gigawatt hours (GWh) of power, according to the utility's 2022 rate increase application to the Energy Utilities Board.[3]

The background section sets the stage for why the Conservation Council prioritized understanding community concerns about renewable energy development.

[3] New Brunswick Energy and Utilities Board in the matter of the New Brunswick Power Corporation and Section 103(1) of the *Electricity Act*, SNB 2013 c.7, p, 47.

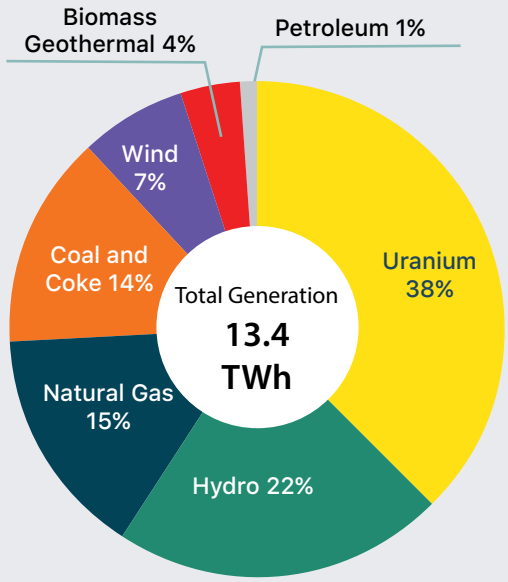
03 Background

Electricity demand is expected to increase significantly in Canada and globally in the coming decades as we shift off fossil fuels to solve climate change. Growth in electricity demand will come largely from increased electrification of transportation, home heating and industrial processes. This shift is already underway with the sale of electric vehicles, announcements of federal and provincial funding for off-oil home heating programs, and industrial use of electricity to make steel and hydrogen.

Replacing coal, oil and gasoline with electricity requires that electricity also be clean if Canada is to secure the maximum benefit to human health and climate protection. Federal regulations to ensure a clean electricity system will affect New Brunswick's electricity supply, which generated 30 per cent of its electricity in 2021 from coal, heavy oil, petroleum coke, and natural gas (Figure 4).

Coal-powered plants like the Belledune Generating Station need to cut their emissions intensity to 420 tonnes/GWh[4] by 2030 or stop operating (a reduction of half or more from current levels), and all fossil fuel generation must be nearly zero emitting by 2035 under a federal clean electricity regulation to be finalized by 2023-2024. As a result of these regulations, much of Canada's fossil fuels used in the electricity sector needs to be replaced. The number of renewable energy projects, located in or near communities, and within view of people is expected to grow to meet energy needs, including here in New Brunswick.

Figure 4. New Brunswick Electricity Production (2021)



N.B. energy profile 2021.

Continued growth of renewable electricity supply like wind, however, remains contingent upon the ability of developers and utilities to locate projects on land with cost-effective wind resource potential and grid and transmission capacity, as well as community support. Against this backdrop of climate action, the need for rapid greenhouse gas emissions, and expected growth in demand for renewable energy, the LORESS program and the projects it supported offer an important case study through which to better understand the foundations of community acceptance.

[4] A GWh is one-billion-watt hours and is a measure of power, while a gigawatt (GW) is a measure of electricity capacity.

Community members in Pokeshaw and Anse-Bleue expressed support and concern as details of the Black Rock Wind Power and Chaleur Ventus wind projects emerged. Over time, community opinion became more negative than positive, particularly in Anse-Bleue, as people began to see flaws in the set up and execution of the projects, and the LORESS program itself. These concerns included project siting, community benefits and ownership, and decommissioning liabilities. Simply put, the projects felt to many like bad deals. Rather than a mutually-beneficial opportunity, over the course of 2018 to 2022, a growing number of community members perceived the investments as unfair. Many did not trust that the benefits would outweigh the costs, and so they ultimately fought to shut the projects down.

New Brunswick's northern communities are not alone in their concerns about the way renewable energy projects are developed. **Decades** of national and international research has shown that while people generally favour renewable energy (wind, sun, water), they can oppose **specific developments**. In many cases, this opposition causes delays or project cancellations. While the media and project proponents oversimplify the matter as a NIMBY or a self-interested *not in my backyard* mentality (a concept widely discounted by academics), a strong body of research corroborates the sentiments of northern New Brunswickers, pointing to a lack of "trust" and "fairness" as key deterrents in community and community acceptance of new technologies[5]. We cover these issues in detail in the literature review.

[5] Wolsink, M. (2012). Undesired reinforcement of harmful 'self-evident truths' concerning the implementation of wind power. *Energy Policy*, 48, 83–87.

04 Literature review

The literature review begins with definitions and then summarizes long-standing insights from social scientists investigating acceptance of renewable energy projects since the 1980s. We conclude this review with a summary of developer guidance on Indigenous and public engagement best practice from the Canadian Renewable Energy Association.

Researchers proposed a social acceptance of renewable energy framework in 2007.[6] The framework, summarized in Figure 5 has three components: socio-political, market and community acceptance. Socio-political acceptance relates to acceptance of technologies and policies, by the public and key stakeholders and policymakers. The launch of the LORESS program, as well as positive public opinion are examples of socio-political acceptance. Market acceptance relates to acceptance by consumers, investors and markets. Community acceptance relates to citizen perceptions of process fairness (procedural justice), community benefits (distributional justice), and trust. This case study focuses on community acceptance.

Figure 5. The triangle of social acceptance of renewable energy innovation

In 2017, researchers summarized 30 years of North American wind energy acceptance research. The meta-analysis concluded with insights critical to this case study.

[6] Wüstenhagen, R., Wolsink, M., Bürer, M. J. (2007). *Social acceptance of renewable energy innovation: An introduction to the concept*. Energy Policy, Volume 35, Issue 5, 2683-2691.

We summarize the conclusions in detail:[7]

- Overall, support is high, and attitudes are largely positive.
  - The North American literature consistently finds favourable views of wind energy; 70 to 90 per cent of North Americans approve of wind energy generally, and support has been high for specific existing and proposed wind facilities as well.
- Researchers should cautiously avoid a positivist research lens.
  - Viewing opposition merely as something to be overcome reduces the quality of research and prevents meaningful understanding and implementation of best practices. The motivation of wind energy acceptance research should not be exclusively to ensure approval of wind energy developments.
- NIMBY is invalid.
  - The NIMBY explanation has been widely discredited as simplistic, pejorative, politically inappropriate, and unhelpful as a framework to explain public attitudes toward wind facilities both before and after they are built. Nonetheless, use of the term persists among the wind industry, policymakers, even researchers.
- Incorporating research into practice has lagged.
  - Research over the past 30 years has produced many important insights, but these lessons have been slow to transition into practice among developers and policymakers.
- Perceptions of turbine performance and reliability matter.
  - Early studies revealed widespread concerns about turbine performance and reliability. More recently, studies have found a preference for turbines in motion compared to static turbines.
- Demographics do not explain much.
  - Throughout the literature, demographic variables such as gender, income, and education level do little to explain variation in wind energy attitudes; some studies have shown contradictory evidence related to these variables.
- Socioeconomic impacts are very important.
  - Local stakeholders are concerned with various socioeconomic impacts, and some researchers have found socioeconomic concerns to be paramount among local residents. In general, those living near wind facilities want benefits that stay in the local community, and they feel a sense of injustice about bearing the burden of costs when consumption of and profits related to the power are enjoyed elsewhere.
- Sound and visual impacts are strongly tied to annoyance and opposition.
  - Annoyance and opposition related to actual or expected sound and visual impacts are well documented throughout the literature. In some cases, annoyance and other impacts are ignored, downplayed, or assumed to be absent or inconsequential by developers and policymakers, which may exacerbate conflict and distrust among community members.
- Environmental concerns matter, though perhaps less than other factors.
  - Environmental concerns correlate with wind energy acceptance, but the strength of that correlation may be lower than that of other factors like socioeconomic impacts. Also, the direction of the correlation remains unclear.

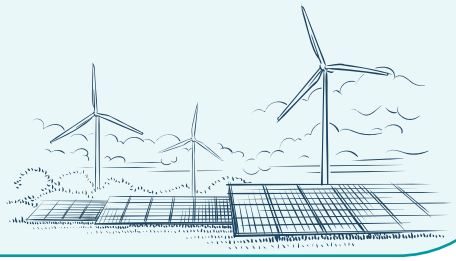
[7] Rand, S., Hoen, B. (2017). Thirty years of North American wind energy acceptance research: What have we learned? Energy Research & Social Science, Volume 29, 135-148. Page 19-20 in preprint. https://www.sciencedirect.com/science/article/abs/pii/S2214629617301275?via%3Dihub

- Process fairness, participation, and trust can influence acceptance.
  - A planning process that is perceived as "fair" can lead to greater toleration of the outcome, even if it does not fully satisfy all stakeholders. More participatory processes may increase trust and support, and ongoing post-construction community stewardship should be maintained.
- Distance from turbines affects other variables, but alone its influence is unclear.
  - The "proximity hypothesis" has yielded confounding findings in the literature. What is known is that an individual's distance from existing turbines affects a number of other correlates, including visual, sound, and socioeconomic impacts.
- Other variables also affect acceptance, and the understanding of these is evolving. Researchers have proposed a wide range of other variables potentially correlated to wind energy acceptance, many of which deserve further study. Over time the addition of more possible correlates adds to the depth of understanding in this field.

NIMBYism remains a perceived reason for failure among project proponents and environmental groups. Scholars, however, have concluded, "the combination of general positive attitudes and oppositional behaviour based on selfish motives relating to the 'backyard' idea are rare. The announcement of a project suddenly creates a vested interest and, therefore, it starts a process of thinking. This reconsidering has nothing to do with the distance."[8] Instead, social acceptance of wind energy development hinges heavily on trust and fairness.[9]

The **Conservation Council of New Brunswick is a proponent of renewable energy.** Our research is motivated by concerns that the pace and scale of renewable energy development needed to address climate change could be slowed by lack of community acceptance. Our desire for success, however, cannot come at the expense of people and the communities they live in. The Conservation Council is an evidence-based organization.

We take seriously the insights of researchers and scientists, particularly as it relates to the dangers of perceiving community concern as self-interest (NIMBYism) and from failure to adequately listen to and engage citizens, and understand their perceptions of fairness.



[8] Wolsink, M. (2007). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives.' *Renewable & Sustainable Energy Reviews*, 11(6), 1188–1207.

[9] Bessette, D., & Crawford, J. (2022). All's fair in love and war: the conduct of wind acceptance research (war) in the United States and Canada. *Energy Research & Social Science*, 88. https://doi.org/10.1016/j.erss.2022.102514

Perhaps similar to NIMBYism is the assumption that wind acceptance follows a U-shaped curve where local residents generally hold positive views about renewable energy development.[10] Then, as communities become more focused on a particular project in their community, social acceptance drops and continues to be low during the construction and installation phases.

Finally, once the projects are up and running, the expectation is that social acceptance tends to rebound.

Research suggests the U-shaped curve of social acceptance is tied closely to the inflated expectations derived from promises that technological energy solutions are a win-win with little costs.[11] While focusing on the benefits of a new technology is often a strategy to attract investments and political support, researchers have found that using this type of project hype when engaging directly with community members can be detrimental to trust when the hype confronts reality and projects change or fail to deliver on all the promised benefits. Hype can also lead to scepticism (i.e., *this is too good to be true*) and risk aversion (i.e., *this is too good, it must be risky*), which are difficult beliefs to change once projects are approved or underway. [12]

As one researcher says:

> *"As doubt increases, so too do the requirements to reinforce most positive futures. Until suddenly, the effort to maintain expectations becomes too high, leading to an abrupt collapse and a new round of scapegoating and victim blaming… Hype is far from being a morally-neutral activity. The cost of failure arising from overheating expectations and inflexible objectives have to be borne by someone, ultimately damaging reputations and trust."*[13]

[10] Wolsink, M. (2007). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives.' *Renewable & Sustainable Energy Reviews*, 11(6), 1188–1207.

[11] Klick, H., & Smith, E. R. A. N. (2010). Public understanding of and support for wind power in the United States. *Renewable Energy*, 35(7), 1585–1591. https://doi.org/10.1016/j.renene.2009.11.028

[12] Kriechbaum, M., Posch, A., & Hauswiesner, A. (2021). Hype cycles during socio-technical transitions: the dynamics of collective expectations about renewable energy in Germany. *Research Policy*, 50(9). https://doi.org/10.1016/j.respol.2021.104262

[13] Brown, N. (2003). Hope Against Hype – Accountability in Biopasts, Presents and Futures. *Science Studies*, 16 (2), 3-21, p.6.

A 2019 study[14] surveying Michigan residents before and after project construction challenges the U-curve assumption. The researchers found that process fairness, especially having an influence on siting planning, and to a lesser extent, whether the community has a direct financial stake in the wind project (distributional justice) affected social acceptance even after project completion. The effects of perceiving an unfair process or getting a bad deal has long-lasting effects, according to these researchers.

"Residents who perceived a fair planning process tended to perceive greater benefits of wind turbines, job creation, and revenues for landowners specifically, while residents who perceived an unfair process perceived significantly greater negative impacts, including visual and noise problems, reduction of nearby property values, and human health problems. These results suggest that while energy business models that extend direct financial compensation to more landowners impact the attitudes of residents in the short-term, resident attitudes about procedural justice may have implications that extend well beyond the project planning stage, impacting long-term support for adding new and repowering old turbines."

Fair process (procedural justice)

When community members are engaged in siting decisions, social acceptance tends to remain more favourable over the development cycle.[15] In focus groups conducted by the Conservation Council, participants identified a preference for choosing among multiple siting options, an offer rarely made.[16] In most cases, the traditional top-down approach of "decide-announce-defend"[17] tends to leave community members once excited about renewable energy in a position of reluctantly accepting the location or fighting the development. The alternative is to move away from check-box engagement to a more collaborative, listening, co-design approach where two-way communication, learning and program design occurs.[18]

[14] Mills, S. B., Bessette, D., & Smith, H. (2019). Exploring landowners' post-construction changes in perceptions of wind energy in Michigan. *Land Use Policy*, 82, 754–762. https://doi.org/10.1016/j.landusepol.2019.01.010, p. 754

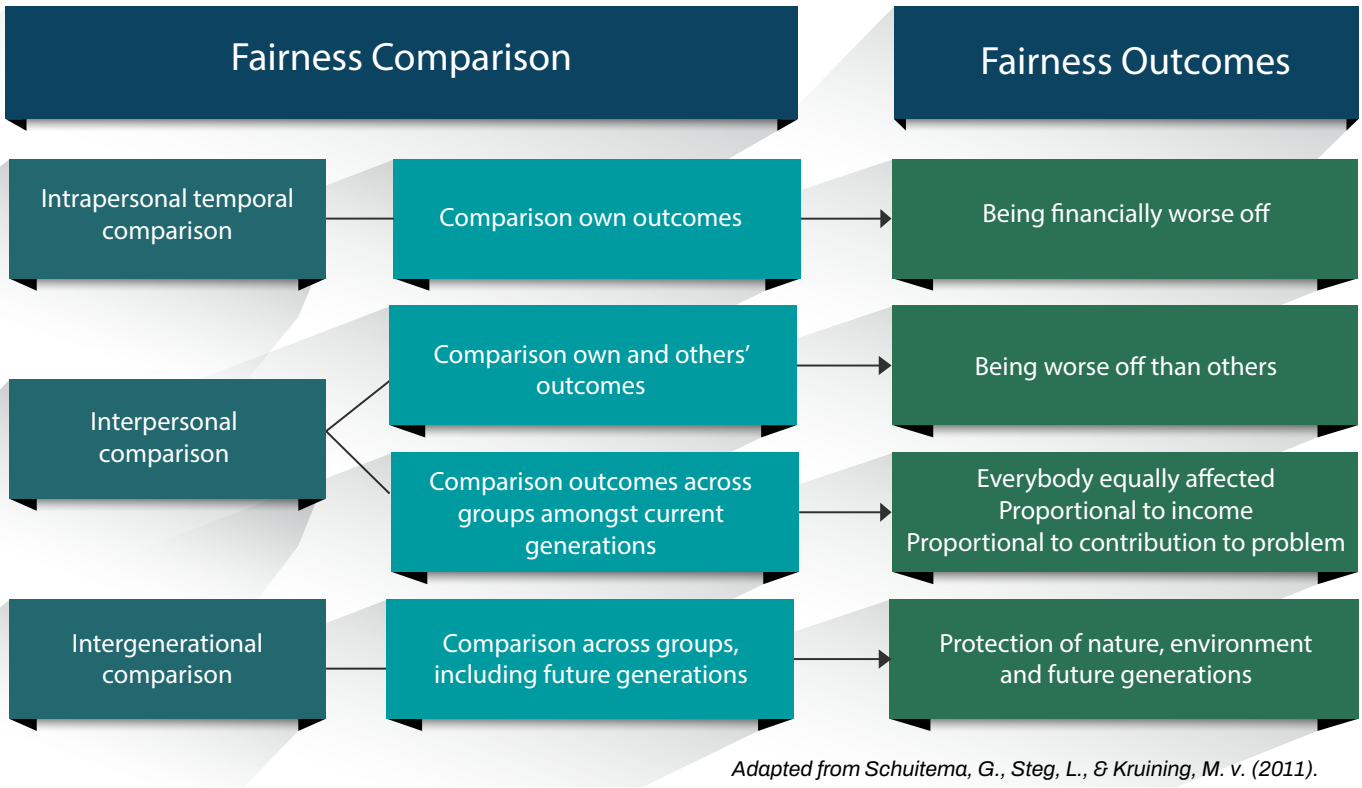
[15] Walker, C., & Baxter, J. (2017). Procedural justice in Canadian wind energy development: a comparison of community-based and technocratic siting processes. *Energy Research & Social Science*, 29, 160–169. **https://doi.org/10.1016/j.erss.2017.05.016**

[16] Wolsink, M. (2007). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives.' *Renewable & Sustainable Energy Reviews*, 11(6), 1188–1207.

[17] Boudet, H.S. (2019). Public perceptions of and responses to new energy technologies. Nat Energy 4, 446–455 (2019). **https://doi.org/10.1038/s41560-019-0399-x**

[18] Mhairi Aitken, Claire Haggett & David Rudolph (2016) Practices and rationales of community engagement with wind farms: awareness raising, consultation, empowerment, Planning Theory & Practice, 17:4, 557-576, DOI: 10.1080/14649357.2016.1218919; Sarah C. Klain, S.C., Satterfield, T., MacDonald, S., Battista, N., Chan, K (2017). Will communities "open-up" to offshore wind? Lessons learned from New England islands in the United States, *Energy Research & Social Science*, Volume 34, Pages 13-26.

Figure 6. Classification of Fairness comparisons and outcomes



Adapted from Schuitema, G., Steg, L., & Kruining, M. v. (2011).

Sharing benefits and burdens (distributional justice)

Distributional justice is important to fairness evaluations. Researchers assessing how people in the Netherlands evaluate transportation policies[19] identify three types of fairness comparisons helpful in evaluating citizen responses to renewable energy projects (Figure 6).

The first category of fairness comparison is intrapersonal temporal comparison. This self-referencing assessment suggests egotistic concerns about being financially worse off. The second category of comparison is interpersonal and is self and other referencing, comparing own and others' outcomes across groups and current generations. This comparison category reflects altruistic or enlightened self-interest concerns. The third comparison category, intergenerational comparison, compares across groups, including future generations, and reflects biocentric and environmental justice concerns. This category reflects a fairness evaluation through the lens of protecting nature, the environment and future generations.

Socio-political acceptance of policies, like a clean electricity regulation or carbon pricing, and the community renewable energy and transmission projects encouraged by these policies, depend on people's perceptions of how policies and projects could affect them, particularly, our research shows, in comparison to others.

[19] Schuitema, G., Steg, L., & Kruining, M. v. (2011). When are transport policies fair and acceptable? *Soc Just Res*, 24, 66-84.

Community benefits

Community benefits can include:

- Increased community tax revenue which can be used to lower property taxes;
- Electricity power bill rebates;
- Community investment through equity and co-operative partnership, revenue sharing, construction disruption payments, community enhancement funds, in-kind contributions, sponsorships, scholarships;
- Landowner opportunities through lease payments, neighbourhood benefit payments;
- Employment and training opportunities, local procurement; and,
- Tourism opportunities.

Research has shown that the "right" type and degree of economic benefit leads to more support for wind energy,[20] but there are risks.Community and landowner payments can be viewed as bribes,[21] can create perceptions of winners and losers,[22] and create intra-community conflict.[23] Having some form of compensation for nearby residents that are not hosting turbines on their land may lessen conflict and notions of winners and losers. A 2014 study[24] suggests non-individual compensation like nature conservation and other community projects may increase community acceptance.

Uncertainty related to perceived safety and financial risks also influence community support.[25] One financial risk raised by communities is negative effects on property values. According to the 2017 summary of 30 years of North American wind acceptance research,[26] researchers have not found evidence of consistent, measurable, or significant reductions in home values near operating wind facilities.

[20] Walker, C., & Baxter, J. (2017). "It's easy to throw rocks at a corporation": wind energy development and distributive justice in Canada. Journal of *Environmental Policy & Planning*, 19(6), 754–768. https://doi.org/10.1080/1523908X.2016.1267614

[21] Walker, C., & Baxter, J. (2017). "It's easy to throw rocks at a corporation": wind energy development and distributive justice in Canada. Journal of *Environmental Policy & Planning*, 19(6), 754–768. https://doi.org/10.1080/1523908X.2016.1267614

[22] Firestone, J., Kempton, W., Lilley, M. B., & Samoteskul, K. (2012b). Public acceptance of offshore wind power: does perceived fairness of process matter? *Journal of environmental planning and management*, 55(10), 1387-1402.

[23] Baxter, J., Morzaria, R., & Hirsch, R. (2013). A Case-Control Study of Support/Opposition to Wind Turbines: The Roles of Health Risk Perception, Economic Benefits, and Community Conflict. *Energy Policy*, 61, 931-943.

[24] Groth, T. M., & Vogt, C. (2014). Residents' perceptions of wind turbines: An analysis of two townships in Michigan. *Energy Policy*, 65, 251-260. doi: 10.1016/j.enpol.2013.10.055

[25] Huijts, N. M. A., Molin, E. J. E., & Steg, L. (2012). Psychological factors influencing sustainable energy technology acceptance: a review-based comprehensive framework. *Renewable and Sustainable Energy Reviews*, 16(1), 525–531. https://doi.org/10.1016/j.rser.2011.08.018

[26] Rand, S., Hoen, B. (2017). Thirty years of North American wind energy acceptance research: What have we learned? *Energy Research & Social Science*, Volume 29, 135-148.

Trust

A 2020 U.S. study[27] found that trust in state government was the primary driver of perceptions of process fairness, which in turn was the primary driver of project support. General trust in people and institutions is a perception of integrity and trustworthiness. Researchers have found that general trust, combined with healthy scepticism, is important to public engagement. Citizens who feel they can trust the process, and who feel confident in their ability to get information, are more likely to participate in democratic processes.[28] People who doubt the integrity of people and processes, and who lack the ability to evaluate information, become distrustful, undermining community acceptance, generally, and specifically in the case of wind power.

SUCCESS STORY: Burchill Wind Farm community benefits

Saint John Energy (SJE) has been a pillar in the Saint John community for more than 100 years. As part of its customer relations work, SJE surveyed its customers to assess support for the municipal utility pursuing renewable energy development. When the numbers came back high, the utility asked their customers again. When the answer was still yes, they began to look at ways to make a project happen. Natural Forces also contributed to the success of the project through consultation, including three information sessions prior to construction for Saint John city council, community and interest groups (e.g., outdoor recreation and conservation groups). The 42-MW Burchill wind energy project is located in Lorneville, 15km from Saint John, New Brunswick, adjacent to NB Power's Coleson Cove generating station. The project will generate 15 per cent of Saint John's power and will begin operation in late 2022. Saint John Energy is creating renewable energy credits for sale only to companies and residents of Saint John, a community benefit valued by the community. Since creating a purchasing power agreement with Natural Forces and Neqotkuk Maliseet Nation (also one of the successful LORESS Indigenous projects), SJE has championed the project through its social media, its website, including a facts and questions (FAQ) section and information about timelines of the project. SJE is actively supporting the Burchill project, championing what it means to their organization and customers to have more renewable energy on their grid.

[27] Firestone, J. Hirt, C., Bidwell, D., Gardner, M., Dwyer, J (2020). Faring well in offshore wind power siting? Trust, engagement and process fairness in the United States, *Energy Research & Social Science*, Volume 62.

[28] Poortinga, W., & Pidgeon, N. F. (2003). Exploring the dimensionality of trust in risk regulation. *Risk Analysis*, 23(5), 961-922.

Canadian Renewable Energy Association

In 2017, the Canadian Renewable Energy Association (CanREA) published a best practice guide for Indigenous and other public engagement to facilitate sustainable development of wind energy in Canada. The 71-page guide outlines the steps developers should follow to engage Indigenous and other communities in respectful ways. Notably, CanREA recognizes that every community has unique characteristics that developers should consider when seeking out projects. It acknowledges that residents of every community:

- Have a right to ask questions;
- Have a right to be sceptical;
- Have a right to be concerned; and
- Have a right to oppose plans.

This guide, however, does not cite any of the literature on community acceptance, nor does it provide guidance on best practice in community benefits agreements. This may be because the sector is dominated by lease arrangements with landowners. The guide does showcase the importance of community engagement to the success of renewable energy development.

Federal and provincial governments in Canada, while providing guidance on leasing arrangements with private landowners, do not yet have regulatory requirements for community benefits agreements, as is the case in New York. New York State has enacted the Accelerated Renewable Energy Growth and Community Benefit Act, landmark legislation aimed at improving the siting and construction of large-scale renewable energy projects in an environmentally-responsible and cost-effective manner. The act creates an Office of Renewable Energy Siting (the Siting Office), within the Department of State, which will establish a central forum to ensure siting decisions are predictable, responsible, and timely, while providing opportunities for local engagement. The order establishes a Host Community Benefit Program providing an annual bill credit for residential electric utility customers in host communities.

05 Method

Academic literature informed this research starting with the Conservation Council's initial 2022 national focus groups and survey leading to **our first report** showing that procedural and distributional fairness were important to community acceptance of renewable energy and transmission projects. Our initial results, combined with the ongoing literature review, defined the scope of our semi-structured community interviews. In other words, interviews focused on identifying community perceptions of process and distributional fairness, as well as surfacing other issues.

Interview protocols were used by Conservation Council researchers to collect data and facilitate interview coding. Interview coding for each interview was completed by two staff or student researchers. French interview transcripts were translated into English to facilitate coding. Interview protocols were adapted to match the category of person being interviewed (e.g., citizen, developer, community leader or elected politician).

Two student researchers conducted one-hour English and French interviews (on average) in Pokeshaw and Anse-Bleue in June 2022. Community interviews were conducted primarily in person, with some interviews by telephone and video. Interviews were recorded unless an interviewee declined. In these cases, researchers took extensive notes. Interviewees were made aware the interviews were voluntary and that they could refuse to answer particular questions, and that they had the right to end the interview at any time.

Additional interviews with developers and utility stakeholders were conducted by Conservation Council staff from April to May 2022. Our attempts to interview Indigenous representatives were not successful; more due to busy schedules than any concern. We did, however, interview a developer involved in one of the Indigenous projects. We reviewed the environmental impact assessments for all four projects, other public documents, and media stories. Table 2 summarizes demographics for the 19 people interviewed. A draft of this case study was shared with key informants and stakeholders, including NB Power to ensure facts were accurately reported.

Table 2. Summary of interview demographics	
Demographics	# of interviews
Anse-Bleue	9
Males	4
Females	5
Citizens	8
Community Leaders	1
Pokeshaw	6
Males	4
Females	2
Citizens	5
Community Leaders	1
Males (total)	8
Females (total)	7
Citizens (total)	13
Community Leaders (total)	2
Developers (total)	4
French (total)	9
English (total)	6
Interviewees (total)	19

Nine interviews were conducted in French; six in English. Thirteen citizens, five from Pokeshaw, eight from Anse-Bleue (seven women; eight men), four developers, and two community leaders were interviewed.

06 Findings

Trust, fairness and community benefits are central themes in community interviews, consistent with academic research and the Conservation Council's 2022 research. Key findings in this section are categorized as the power of distrust, missteps in community engagement, failure to consider literacy and language, lack of community entity to negotiate with, inflexibility and lack of involvement from NB Power, and unfair distribution of costs and benefits.

Most community members reported that they had a positive attitude toward renewable energy development and were open to the idea of a wind farm in their area. A female informant from Pokeshaw affirms, "It took so long to convince the world that we were not against wind turbines" while a male from Anse-Bleue notes, "Personally, I'm not against (a wind turbine). Because still, we need help with the electricity. And it would help provide electricity."

As might be expected based on U-curve research, generalized support for renewable energy shifted when community members began to engage more directly with the project, and community acceptance declined. A female informant from Anse-Bleue reports "people were finding all sorts of reasons to say no to green power." Over time, the feeling of distrust between community members, the developer and the landowners who would benefit the most from development increased. Despite efforts by the developers to shift the perspective of the community through a range of engagement activities, community members remained uncomfortable with the projects.

07 The power of distrust

Decide-Announce-Defend

The NB Power LORESS solicitation was a competitive process. While developers were not required to wait until they had power purchase agreements with NB Power to engage landowners, developers in our two case study communities did wait. This failure to engage citizens early, particularly in Anse-Bleue, would haunt the project to the end.

The potential for wind energy projects in these communities had been discussed at a general level for a number of years, but until the launch of the environmental impact assessment consultation process, most citizens in these communities had only a vague notion of a potential project. Citizens in Anse-Bleue and Pokeshaw who were not landowners were not consulted prior to power purchase agreements being awarded. For many residents, they first heard about the proposed wind energy project at a meeting hosted by the developer in Bathurst (a municipality that, while a partner on the project, is located 40 minutes from Anse-Bleue) in October 2019. Early community consultation was not a requirement of the program, and therefore was not pursued by either developer.

As explained by a developer:

> *"There was no guideline about social acceptance, there was no guideline about going in and having time to meet with communities. So, unless you're a very big company, as a developer, you don't have the time, energy resources, or the manpower to be able to say "there is a theoretical project a few years from now, let's go in and do things early…"*

As a married couple reports:

> *"The first time I heard about it was when they held a meeting to announce that they might have wind turbines built. The program was already advanced, they were ready. And I had never heard of any studies or anything."*

In many cases, landowners near the development area signed lease agreements prior to learning new information from opposition groups or when proposed community benefits offerings began to break down.

The developers followed a "*decide-announce-defend*" approach where early consultation could have taken place, but did not. All direct community engagement activities were done after power purchase agreements were awarded.

Missteps in community engagement

Informant reports varied significantly on how they were consulted and how they felt about the consultation process. Some residents, particularly in Pokeshaw, were satisfied with the information shared and community engagement.

Two males from Pokeshaw report:

"Meetings, meetings through emails, discussion with the principals of the company. Anytime we wanted information, they provided it. They were very generous and they even paid for lawyers to represent the rec counsel to study the contracts and the proposal. Okay. They were very supportive…There were brochures, posters on the wall, and officials there to answer questions."

"[The community] knew what was going to happen. They knew what the companies were proposing, the money that they were supposed to give to them…They had lots of information. They had engineers, or technicians and specialists come in on different occasions and explain the community centre, explaining the whole thing to the community. I think there's not very much more they could explain."

Anse-Bleue was another case entirely. Citizens in this community were not satisfied with consultations, with several informants also noting that they did not trust the person appointed as community liaison.

Informants from Anse-Bleue report:

"We were lucky that we got pamphlets in the mail that notified us that there was [a meeting] in Bathurst. We didn't know, nobody, even I didn't know…"

"That's not enough information. It has to be done in more than just two hours of assembly. One assembly evening, that's all we had… We didn't have any paper or really any information on anything. Nothing was really said…The procedures were poorly done. Misinformed from the start. Until we learned that everything was ready. But we weren't informed."

Importantly, information alone is not adequate to satisfy community needs. Information about a project also must be consistent over time. When information is not consistent, trust is undermined, as one Anse-Bleue resident noted:

"Many didn't trust the information provided since it changed constantly: the prices, the size of the windmills, the megawatts planned, and specifically where the windmills would be located. The places were treated like a secret. Also, the reports and evaluations were not disclosed."

Failure to consider literacy and language

A particular misstep raised in Anse-Bleue interviews by both the developer and community members was that all information and studies were provided to a primarily Francophone community in English.

"[The developer] was unilingual Anglophone, while Anse-Bleue was almost unilingual Francophone…How do you want us to form an opinion if we are not able to read the impact study? I have to tell you my concerns, but I am not able to read it?"

Some community members also struggled with literacy in French and required assistance understanding documentation. To address these concerns in Anse-Bleue, the developer took several steps, including:

- Paying a third-party Francophone lawyer to review documents and explain to landowners considering lease agreements what they were signing on to.
- Going door-to-door for one-on-one discussions with homeowners within a kilometre buffer area to address concerns.

Unfortunately, because the developer had paid for the lawyer, this person was not trusted (there were also community trust issues with the community liaison). Government funding to support communities in evaluating project proposals could help avoid this problem in future.

Lack of community entity to consult, siting concerns

As noted, unincorporated communities make it difficult for developers to partner with communities.

In Pokeshaw the local partner was a recreation centre and in Anse-Bleue it was the city of Bathurst. A developer reports:

"Because it's an unincorporated region of the province, we went through the regional service commission. They said, this is not our area of expertise, or even our area of management. So, there is no assembly or association. You're literally going door-to-door and talking to people [or] speaking to the five people who represent the local service district, the [recreation council], who could then possibly round up other members…It's very hard."

Lacking an Anse-Bleue community entity to assist with community engagement, the developer held a meeting in Bathurst (the project partner) about the wind farm development, which is about a 40-minute drive from Anse-Bleue.

Siting was a significant concern in Anse-Bleue, where residents felt the proposed project would be located too close to homes. The combination of feeling betrayed and feeling uninformed precipitated the steady decline of resident trust, as one female informant from the village noted:

"I personally am not against wind turbines, and all that. We're there, so it's- we're there today [that is the technology of our times]. But you know, we were really in shock. We returned [from the first community meeting in Bathurst), then we were really, like, enraged. We were like 30 there. It kind of made sense for a business. It didn't make sense in Anse-Bleue, near houses…"

Inflexibility and lack of involvement

Several community members and developers questioned the government and NB Power's lack of involvement in promoting the LORESS program to citizens in potential host communities. Citizens felt that the lack of public commitment to renewable energy generally through community **open houses**, for example, undermined their faith in the proposed projects. Citizens also had questions about why NB Power was not more flexible regarding siting of turbines or timelines to accommodate delays in environmental assessment approvals and supply chain issues due to the COVID-19 pandemic. This hands-off approach is in contrast to normal practice when NB Power is promoting utility-owned and operated projects, including hosting open houses to inform communities about upcoming refurbishments (e.g., relating to the Mactaquac dam) or new projects (e.g., relating to small modular nuclear reactors or permitting renewal at the Point Lepreau Nuclear Generating Station). The communications vacuum included a near two-year wait for communities to hear from the utility on whether the Anse-Bleue project would proceed. Only in **June 2022**, when Conservation Council researchers were conducting community interviews, did NB Power announce the Chaleur Ventus project would not proceed. The communication vacuum did not help build community confidence.

A male informant from Pokeshaw notes:

"We couldn't find anything from NB Power. [The utility] just said 'it's between you and the community,' but maybe NB Power could have done more to prepare the groundwork for this project…Looking back on it, I think NB Power could have come and met with us and explained a little bit…but NB Power was absent and it's very difficult. And these things in this small community become so personal."

This concern was reinforced by a second male informant from Pokeshaw:

"I can't understand NB Power's action or the government's inaction…Not very cooperative. Not very helpful…The whole project failed because of the lack of cooperation from NB Power on that…Everybody is frustrated and very unhappy with NB Power."

The Anse-Bleue wind project developer notes:

"There's a social acceptability problem [in Anse-Bleue] and we have the ability to build up that site, but there's a lot of push-back against it. So why not let us move these areas…[NB Power] brought up different issues of, 'no, you have to be at the site that you went ahead and bid on. We can't let you move even down the road. And we're not going to let you move into a different county…that is a rule, we're not going to let you move."

Several informants report that they blame NB Power for not allowing an extension to the project and suggest that if they were not in northern New Brunswick that they would have received it. A male from Pokeshaw expressed his deep disappointment with NB Power's inflexibility regarding timelines:

"I'm very disappointed, very disappointed with NB Power, I'll tell you that. To not give an extension of nine months to complete a contract where there was going to be a $40-million investment. And where a company in good faith had already invested about $3 or $4-million. It's not very responsible…"

Unfair distribution of costs and benefits

Shifts in developer community benefits offers created tension in the communities. In Pokeshaw, the Recreation Council was told it would receive $200,000 per year; that amount was later reduced to $75,000 per year. Similarly, in Anse-Bleue, the developer had a range of community benefits included in their bid to win the project. The benefits included a tourist booth, all-terrain vehicle and bike trail development, and ongoing trail maintenance. Once the project was accepted by NB Power, those benefits were discussed as only moving forward "if there were some funds left over." These changes to the benefits arrangements showcase how developers or landowners can "hype" the benefits in order to draw in support. As showcased by informants' perspectives, this can ultimately lead to distrust. Table 3 summarizes community benefits offers and arrangements for all four LORESS projects.

Table 3. Summary of community benefits

Project Name	Pokeshaw Black Rock Wind Power Project	Anse-Bleue Chaleur Ventus Wind Power Project	Neqotkuk First Nation (Tobique) Wocawson Energy Project	Woodstock First Nation Wisokolamson Energy Project
Purchase agreement	Power purchase agreement with NB Power	Power purchase agreement with NB Power	30-year power purchase agreement with NB Power	25-year purchase agreement with NB Power
Funding	Payment to the recreational council: $75,000 per year (from original offer of $200,000)	Payment to recreational council on an annual basis	Community fund	Community fund
Land leasing	Land leasing agreements for private citizens	Land leasing agreements for private citizens	51 per cent equity partner	Not public
Community Donations	A $10,000 donation made to the community recreation council in 2007	Tourist booth, ATV and bike trail development, and ongoing trail maintenance if funds allowed	$800,000 to $1.2 million/ year earnings re-invested in the community infrastructure, including housing and roads	Not public

Informants felt that health effects concerns, including from noise, shadow flicker, and to the environment, including groundwater and surface water effects, and risks associated with post-project disposal, were inadequately addressed by developers. A female from Anse-Bleue asks:

"What also happens is that studies on the impact of wind turbines are really understated. And they don't consider the human impact at all. The impact on animals is greatly minimized, all impacts are minimized. They just want to have money. It's not hard to understand. And that's quite frustrating."

A male from Anse-Bleue expressed concern about groundwater contamination:

"When I said the question of releasing concrete to contaminate groundwater, [a landowner who would benefit from the project] laughed at me in front of the whole assembly at Anse-Bleue… everyone was passing the ball in the province. The New Brunswick government, the Minister of Energy, the Minister of Natural Resources and the company. Everyone was passing the ball as to who would respond, who would take charge…We must have answers, yes or no. Not a two-and-a-half-year process waiting for a report to come out, you know? Right now, we're in this."

The Chaleur Ventus EIA notes on page 28 that:

"No protected well fields are found within the Project area. The closest protected wellfield is found in the town of Caraquet approximately 7 km southeast of the Project area and is protected under the Wellfield Protection Area Designation Order. However, it is outside of the Project footprint and will not be affected by Project construction. A query of the Online Well Log System identified two potable water wells and four non-potable water wells within 1 km of the Project (Environment and Local Government, 2019). One potable water well is located about 150 m south of WEC T4 ALT and the other 750 m southwest of WEC T1. Geotechnical studies and a private well survey will be completed before construction if required. A monitoring and contingency plan will be completed if any potable water wells are affected by the Project. Guidelines for developers on how to manage groundwater and surface water effects could assist communities in evaluating proposals."

The issue of effects on groundwater and surface water during construction remained a key concern of Anse-Bleue residents throughout the project consideration period. Additional environmental concerns included risk of bird kills, contamination of water, light effects on squirrels, bats and wildlife, and economic issues, such as the loss of property value (Table 4).

Table 4: Community concerns in Pokeshaw and Anse-Bleue		
Environmental	**Health**	**Economic**
Birds being killed	Noise	Changing amount received by Recreation Council
Contamination of groundwater	Shadow flicker	Cost of cleaning up wind turbines should anything go wrong
Light impacting squirrels, bats and wildlife	Maintenance, once project is underway	Loss of value of their homes
Lynx population (not explored in EIA)	Groundwater [concerns over concrete being poor in construction phase]	No significant job creation
Marine Fauna (not explored in EIA)	Too close to homes (did not want them that close)	
Earthworms impacted due to vibration (questioned re: a study in Ontario)	Ultrasound, low-frequency sound	

While some of the risks, such as noise and shadows, are common concerns across a range of community-based wind development projects, others, such as groundwater issues and oil spills, were unique to Anse-Bleue.

A developer notes:

"I think it [misinformation] did come from looking at other websites for why not to go with wind farms. And that's where it came from that fear, uncertainty and doubt. And some of that fear mongering that was happening. The water issue, it's, I'm still perplexed where it came from. Okay, I'm not sure at all how that even came up on the agenda, but it did and it went out and leaflets to all the homeowners in the surrounding community."

A male informant from Anse-Bleue was concerned about inconsistent scientific perspectives:

"When you look at the scientific consensus of Switzerland or Russia versus the scientific consensus of Canada, like in Ontario, or France, you say 'but why don't people come to the same thing? Why does one say that there are violations and the other one says that there is no noise pollution? It's hard to see clearly in all this and to trust it…A lot of missing information. The way the project was approached, it's sure that it had big gaps. There were big gaps in the information that was said, in the answers that were missing…Everyone was passing the ball in the province. The New Brunswick government, the Minister of Energy, the Minister of Natural Resources and the company. Everyone was passing the ball as to who would respond, who would take charge."

Another area of concern for residents was decommissioning. Despite four pages dedicated to processes for decommissioning, residents of Pokeshaw wanted a more formalised plan to clean up wind turbines at end of project life.

Misinformation can derail renewable energy projects. But other underlying concerns can also be at play. Perceived unfairness in the distribution of benefits was an issue in Anse-Bleue. One landowner owns a large percentage of the land allocated to the wind development.

This meant that much of the financial benefits from leasing land for the project were going to one community member. The distributional benefits were therefore far less than in an area with multiple landowners. Rumours began to circulate within Anse-Bleue that this landowner should not be trusted. The result was that the Anse-Bleue developer felt community supporters could no longer say they wanted the project:

"Trust is huge. And the biggest thing is, there are a lot of people who are for but can't openly say it as well. Now due to fear of what other community members will say, especially when a group comes together and says that, no, they don't want something."

A male from Anse-Bleue expressed this same concern from a community perspective:

"[A community member] has been [saying] "It's going to be incredible for your grandchildren," "oh renewable energies," "you will see, you will be able to do gardening and all that," "it's good for the economy," "you will have money," "the people of Anse-Bleue agree, they all want it." A community member signed because he believed that everyone wanted and he did not want to alienate the population. But once they had signed, they were in trouble."

Informant interviews suggest that while community benefits negotiations did play a role in the cancellations of the projects, they were a secondary factor. In the case of Anse-Bleue, the breakdown of trust would make it difficult for any development to occur. It is still uncertain if any form of community benefit would move Anse-Bleue toward development. Once citizens began to organize against the proposed wind project, concerns about negative effects grew. Information started circulating through leaflets to homeowners about the possible risks of development to the community. By 2022, when the Conservation Council's researchers were conducting community interviews, NB Power formally announced the Anse-Bleue project was dead.

08 Discussion

The chance of success for the Pokeshaw and Anse-Bleue wind energy projects was diminished through developer missteps and inexperience (especially in Anse-Bleue), and, to a lesser but important degree, institutional failures. The key failure was to engage communities early in the process. Institutional and program barriers, however, also contributed to the negative outcome. Lack of government and utility involvement supporting renewable energy projects generally, and providing guidelines on community engagement and community benefits specifically, undermined community acceptance.

Government agencies responsible for renewable energy development can help landowners and communities assess their options through up-to-date publication of community benefits handbooks, checklists and guides for landowners. New Brunswick guidance on wind energy provisions to municipalities, rural communities and unincorporated areas was issued in 2008. Environmental impact assessment guidelines on requirements for wind turbines were issued in 2019 but are developer facing. Citizen-relevant information and guidelines is essential.

Citizen oversight of how community funds are disbursed is consistent with the collaborative approach academics find is important to project success. A model may be the New York State Energy and Research Development office, which has created a siting office to facilitate community engagement. In addition, the province could consider establishing a Community Benefits Program for Host Communities as New York State has done. The program provides residential electric utility customers within a Host Community an annual bill credit paid from renewable energy contracts that include a payment over 10 years of $500/MW nameplate capacity applicable solar projects, and $1,000/MW nameplate capacity for applicable wind projects.

Developer missteps, include:

- Failure to consult residents early in the process. Poor consultation processes and failure to communicate in French in Anse-Bleue in particular;
- Oversold community benefits in the hype phase, which shifted as project dynamics changed;
- Landowners advantage not balanced with community benefits;
- Failure to identify a trusted messenger to serve in the community liaison role; and
- Location choices having weak local entity structures to engage, resulting in a non-local partner for the Anse-Bleue project (but nearby City of Bathurst).

Institutional and utility missteps include:

- Lack of public utility and government support for the LORESS program and renewable energy in general, including providing best practice guidelines on community benefits and lease arrangements to assist citizens in decision-making, as well as evidence-based information on environmental effects of wind turbines; and,
- Apparent inflexibility on timelines and siting by the utility.

Interviews were highly emotional; interviewees remain agitated almost two years after active project engagement ended. Many informants cried during interviews. The Anse-Bleue wind developer is taking the City of Bathurst to court for withdrawing its support for the project. The Conservation Council concludes that more inclusive models are needed to increase the potential for community acceptance of renewable energy projects. Early engagement, and community benefits and equity partnership agreements used as part of indigenous projects by developers should guide best practice for all community-oriented wind energy projects.

09 Recommendations

The Conservation Council of New Brunswick advocates for more investment in renewable energy in the province, but not at the expense of fair process, two-way listening, and community benefits. Our research demonstrates enduring effects from the failure to engage early and often. Community benefits offerings may do little to recover from poor consultation processes that undermine trust. Once lost, trust is difficult to rebuild. We make several recommendations aimed at developers and institutions to enhance success in future investment in renewable energy projects.

In summary, our primary conclusions are (1) projects have a better chance of success when there is early, sustained and consistent two-way communication with host communities by developers, and (2) government and utilities provide institutional support through best practice guidelines and evidence-based information about renewable energy.

Recommendations

1. Consult early, be flexible

Host community residents should be consulted early about proposed renewable energy projects, and provided, where feasible, opportunities to indicate a preference in project siting. Our case study shows that waiting until power purchase agreements have been secured to consult host communities' leaves residents feeling powerless to influence projects. Conflict over proposed siting set off a chain reaction of concern and declining trust. Developer focus on negotiating landowner leases without community engagement created community tensions and perceptions of winners and losers. Early engagement can enhance the potential for community acceptance.

2. Utilities, local government, provinces should play a legitimizing and supportive role

Project selection criteria should include significant points for early consultation. Utilities and government also can play a facilitating role providing up-to-date best practice guidelines relating to siting, community benefits agreements, and community engagement to guide developers and inform host community residents of their options. Community concerns, combined with a lack of obvious institutional support for the LORESS program and renewable energy generally, undermined community trust (e.g., lack of open houses). A government office of renewable energy could provide general, but also locally and culturally relevant information, best practice guidelines to developers, municipalities, regional service commissions, and citizens, and province-wide geographical and ecological analysis to help developers prepare proposals.

3. Benchmarks should be set for community benefits

Community residents had difficulty evaluating whether community benefits offered by developers were standard practice, and found it difficult to sort through developer hype about potential project benefits and risks. In both case study communities, developers pitched the benefits of working with them and then downgraded the benefits once projects were in motion. Government should publish, and regularly update, best practice community benefits guidelines and consider host community compensation options like utility bill rebates.

4. Address misinformation relating to renewable energy developments

Citizens should have access to quality, localized information on renewable energy. Where there is misinformation, the literature clearly indicates it is important to listen to citizens to understand their underlying concerns, which often relate more to distrust. The concerns raised, therefore, may not be resolved through information alone (e.g., on effects on property values or groundwater and surface water during construction or other misinformation), but it is important to ensure locally-based and neutral information is available. Where information is not conclusive, the precautionary principle should apply. With a wide range of sources sharing false information about the risks to renewable energy development, it is important to offer unbiased information to communities even if this information won't resolve all issues. A provincial renewable energy office could serve this function. Provincial organizations, community and environmental groups could also be funded to provide educational and information services. As seen throughout this study, misinformation played a role in undermining trust between developers and the public. Having a third party create and distribute information can reduce misconceptions and help developers and communities find alignment.

10 Limitations

The role identity, community history and values play in community-based opposition to renewable energy projects is an area for future research. While Anse-Bleue and Pokeshaw are rural areas with high winds, these communities are also scenic and rely on income tied to seasonal tourism. Both communities have ageing populations (most interviewees were more than 50 years old), and Anse-Bleue has a history of opposing N.B.'s first nuclear power project. These factors also play a role in how the communities identify and value development.

In contrast, Saint John has a history of industrial work, whereby there are smokestacks in plain view around the community. The jump from smokestacks to wind turbines through the Burchill Wind Energy Project may have been easier to conceptualise for citizens who already have large-scale industry locally. The costs and benefits analysis for Saint John may be very different than for an area with a different development history. Shifting, for example, from a hydroelectric dam near a community to wind turbines may be easier than from a different development history.

11 Conclusion

The Conservation Council of New Brunswick advocates for the expansion of renewable energy projects across the province. We do, however, recognize there are challenges and barriers to developments. We believe projects succeed when communities and citizens are engaged early and fairly through supportive, respectful and honest processes. Better community consultation and management is needed. Communities need choices, flexibility on siting, and access to benefits they find acceptable and fair. Government and NB Power have a critical legitimizing role to play and need to be full partners in project development and deployment. Developers have too much at stake to lead this effort alone. As we found, project promotion can lead to project hype and mistrust. Fairness and trust are the currents through which community acceptance flows.

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