Community Perceptions of Trust, Procedural Justice, and Project Support Near Two Nova Scotia Wind Farms

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Abstract

Unfair wind turbine siting practices threaten to delay a just energy transition. *Trust* between community residents and leaders of turbine siting processes has been underappreciated by researchers, developers, and policy makers. This study explored how trust affected resident perceptions of fairness (procedural justice) and project support during a local wind development process. Semi-structured interviews (n=19) were conducted with residents near two Nova Scotia wind farms and a four-part model of trust was applied as a deductive coding framework. Results identified five factors related to resident trust and eight factors related to distrust. Trust was related to perceptions of fairness and project support, distrust to unfairness and opposition. Results suggest trust is a valuable lens through which to understand wind turbine siting processes. Applying a clear trust framework should aid researchers and help policy makers design fair, consistent regulatory environments for turbine development that foster community trust and support.

List of Abbreviations and Symbols Used

COMFIT	Community Feed-in Tariff
CEDIF	Community Economic Development Investment Fund
CLC	Community Liaison Committee
EA	Environmental Assessment
FOIPOP	Freedom of Information and Protection of Privacy
FORR	Friends of River Road
GEA	Green Energy Act
GW	Gigawatt
HRM	Halifax Regional Municipality
MOCWE	Meaning of Community Wind Energy
NIMBY	Not in My Back Yard
MW	Megawatt
TWh	Terawatt-hours
UARB	Nova Scotia Utility and Review Board

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Chapter 1: Introduction

1.1 Motivation

Rapid transition to renewable, low-carbon energy sources is required to avert the worst consequences of climate change but appears unlikely to happen in response to market forces alone. The transition must be teleological, a product of intention. Therefore, in the transition to a sustainable energy system, which should be valued higher: timely development of renewable infrastructure, or justice?

Ideally, this is a false dichotomy, and we need not choose between sustainable energy and a fair society. The energy transition can be a positive-sum game with concurrent opportunities to empower citizens and increase justice, while pursuing societal goals of climate change mitigation, energy security, and local economic development. However, this vision has not been realized so far - at least not uniformly. Claims of injustice accompanying fierce community opposition to rapid rollout of renewable energy developments have illustrated that these societal values can stand in conflict.

The inputs to renewable energy technologies are sustainable (e.g., sun, wind, biomass), but the processes that govern their development must also be *socially* sustainable. Projects that erode social capital in the surrounding community place the overall sustainability of renewable energy in jeopardy.

Pending some revolution in energy technology, wind turbines are likely to compose a part of our landscape into the foreseeable future. With an average lifespan of 20 – 25 years, decisions regarding turbines will need to be negotiated with local communities repeatedly over a single human lifetime. From this perspective, turbine

developments are less isolated projects and more like decision points affecting the long-term management of wind resources. Decisions made today can influence the development trajectory of an area for decades to come. Like the stewardship of a watershed or forest resource, we need ways to make harvesting the wind a sustainable process that maintains or even builds social capital and works for the betterment of all.

"Community energy" is a style of development that has been proposed to foster small-scale renewable projects that reconcile climate goals with fairness but has had difficulty gaining momentum in North America. It requires increased citizen power and involvement, and thus more trusting relationships between residents, project leaders, and institutions. A breakdown in trust between stakeholders can create conflict and bring projects to a halt. Globally, we are in a low and declining trust environment and people are losing faith in the dominant systems and institutions that govern our world (Edelman Trust, 2017). Thankfully, the energy industry retains a modest amount of trust in the global environment, with people reporting the highest trust in renewable technologies (Edelman Trust, 2016). However, this trust should not be taken for granted. Until very recently, the value of trusting relationships within wind siting processes has been underappreciated by researchers, developers, and policy makers. This situation presents risk to both a timely energy transition and to the long-term sustainability of renewable energy systems.

Through interviews with community residents near two Nova Scotian wind farms, this study examined the factors that supported and eroded trust between residents and project leaders over the course of project development. Trust's effect on residents' perceptions of procedural fairness was also explored. The findings may be of interest to

researchers, energy developers and policy makers seeking to understand the connections between trust, fairness, and local project support.

1.2 Background

1.2.1 Turbine Development in Context

Wind energy is likely to play a significant role in any future sustainable energy mix. Wind turbines are technologically mature and one of the most economically efficient ways to produce electricity, even compared to fossil fuels (CanWEA, 2021). Wind energy generation capacity in Canada grew to 13,600 GW in 2020, with Nova Scotia representing 616 MW (4.5%) of the national total (BP, 2021). Canadian wind turbines generated 30.9 TWh of electricity in the same year, accounting for 5.6% of national power production (BP, 2021).

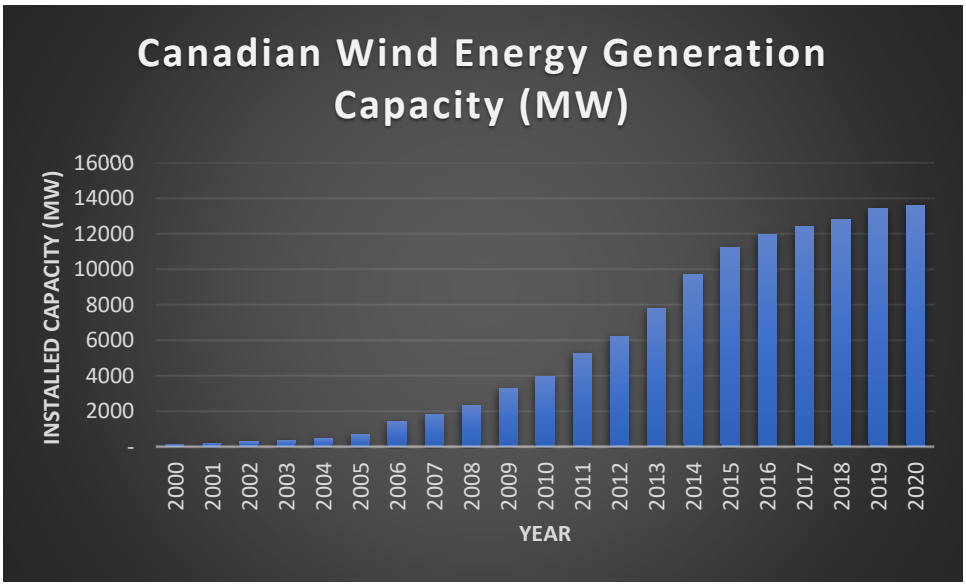
Whether the energy transition will include proliferation of smaller, community-level generation and distribution schemes, or will mirror the current socio-technical system (Geels & Schot, 2007) of centralized generation by pursuing wind and solar mega projects that favour large incumbents is very much an open question. To meet Canadian climate goals, current wind generation capacity is forecast to more than double by 2040, including both utility-scale and small, decentralized new developments (CanWEA, 2021). With Canadian wind energy capacity growing at an average annual rate of 15% between 2009-2019 (BP, 2021), this is not an unrealistic forecast (Figure 1). As such, wind siting processes involving local communities are poised to become even more common across Canada.

The Federal government's recent announcement to invest $25 million into expanding a Quebec wind turbine blade manufacturing facility further demonstrates

Canada's political commitment to growing the wind industry in Canada (Canada, July 14, 2021). However, it remains unclear whether that momentum would survive a future change in political leadership. In spring of 2021, the Federal Conservative party failed to adopt a resolution indicating that "climate change is real" and that the party is "willing to act" to address it (Tasker, Mar 21, 2021, para 1).

Figure 1

Canadian Wind Energy Generation Capacity (MW).



(BP, 2021)

In Nova Scotia political commitment is strong, with the province enshrining its greenhouse gas emissions reduction targets into law through the *Sustainable Development Goals Act 2019* (s.7), requiring net zero emissions by 2050. Increasing renewable electricity generation in the province will be part of any strategy that achieves this mandate. The province introduced its *Renewable Electricity Plan* in 2010, setting commitments to achieve 25% renewable electricity by 2015, and 40% by 2020 (Nova Scotia, 2010). More recently, the province committed to reaching 80% by 2030

(*Electricity Act*, 2004, s6B (1)). The 2010 *Renewable Electricity Plan* also introduced the Community Feed-in Tariff (COMFIT) program, a framework for supporting development of renewable energy projects by smaller-scale producers such as municipalities, universities, First Nations, cooperatives, and non-profit groups. Businesses operating through a Community Economic Development Investment Fund (CEDIF) which included a minimum of 25 investors from within the municipality where the project is sited, were also eligible (*Electricity Act*, 2004, s20 (2)).

COMFIT made smaller-scale developments more attractive for investors by offering a guaranteed (and generous) rate for electricity produced. One of the program's stated objectives was to "…ensure that projects are rooted in the community and investment returns remain there. *Regulations will establish the precise definition of community following consultation*" (Nova Scotia, 2010, p. 11, emphasis added). It is noteworthy that, at the time COMFIT was rolled out, a definition of "community" had not been established.

COMFIT was eventually ended in 2015, having added approximately 125 MW of renewable energy generation capacity to the grid (Nova Scotia, August 6, 2015). A recent announcement from the province introduced a new program intended to add 350 MW of generating capacity of renewable electricity between 2022 -2025 via a competitive bidding process (King, Barz, & Dick, Aug 24, 2021). Simultaneously, Nova Scotia's largest municipality, the Halifax Regional Municipality (HRM) has introduced its own plan to reach net-zero emissions by 2050, which includes adding 280 MW of wind power in the region (HRM, 2020, p. 37). Clearly, turbine development in rural Nova Scotia and across Canada is on the political agenda.

1.2.2 Community Support for Turbines and Trust

If development of turbines is to be truly sustainable, it must have broad public support and avoid instigating high levels of social conflict. While the idea of turbine development has received popular support in Canada dating back to at least the mid-90s (Krohn, & Damborg, 1999), support of actual project proposals is typically lower and can meet with local resistance. Attempts to understand this "social gap" between general support and local opposition has motivated much of the wind acceptance research to date (Bell, Gray, & Haggett, 2005).

A number of factors have been identified which influence people's attitudes and acceptance of wind turbines (Devine-Wright, 2005), including the *way* that such projects are planned and developed (Rand & Hoen, 2017). Centralized decision making for renewable energy projects can facilitate quicker project approvals in the near-term and contribute to an investment-friendly environment. However, such "technocratic" siting processes (Walker & Baxter, 2017a, p. 160) can also threaten social justice and democratic norms by overriding local concerns and instigating social conflict, threatening a sustainable energy future (Christidis & Law, 2012; McRobert, Tennent-Riddell, & Walker, 2016). Indeed, wind turbine developments that have favoured centralized siting processes controlled by governments and turbine developers have received fierce public opposition in the UK (Simcock, 2016), Australia (Gross, 2007), Canada (Christidis, Lewis, & Bigelow, 2017; Walker & Baxter, 2017a), and elsewhere.

To facilitate increased acceptance of local projects, 'community-based' wind development schemes have been proposed as an alternative (of which Nova Scotia's COMFIT program was a variant). While there is disagreement about precisely what this

term implies - both in theory and practice - most agree it includes smaller project sizes and siting processes with high levels of procedural justice (i.e., fairness in decision making) (Simcock, 2016) and distributive justice (i.e., fair distribution of the benefits that accrue from the project) (Walker & Devine-Wright, 2008). Community wind energy projects have been shown to garner increased local support in some cases (Baxter et al., 2020), but have still led to opposition and community conflict in others (e.g., Walker, Devine-Wright, Hunter, High, & Evans, 2010). What accounts for the differences?

Amongst the multitude of factors that influence individual attitudes toward wind turbines (for reviews, see Devine-Wright, 2005; Rand & Hoen, 2017), *trust* has been identified as playing a significant role. Higher levels of public trust toward wind turbines and developers are associated with higher support for projects, and vice versa (Huijts, Molin, & Steg, 2012). Broad trust in the Canadian energy industry is low, with only about half of Canadians having trust in the sector (Edelman Trust, 2017). There is also a sense amongst industry insiders that things are getting worse (Cleland, Bird, Fast, & Simard, 2016). Thus, some research in the wind acceptance literature has investigated the factors that generate the most trust and distrust with the public, and generate the greatest influence over attitudes (e.g., Dwyer & Bidwell, 2019; Fast & Mabee, 2015). Research in the adjacent field of natural resources management has also looked at trust in the context of participatory decision-making processes in scenarios where collaborative working groups are assembled to generate policy on public resources like a watershed, fishery, or forest (e.g., Davenport, Leahy, Anderson, & Jakes, 2007). In both fields, two significant areas that emerge are: 1) trust in information and 2) interpersonal trust with process leaders.

Trustworthy information, free of bias or persuasive rhetoric, is important to supporting fair wind siting processes (Gross, 2007; Walker & Baxter, 2017a). Information tends to be perceived as more trustworthy when it is shared within a relationship of interpersonal trust (e.g., Simcock, 2016), and less trustworthy when received from wind developers operating in the broader low-trust environment (Fast & Mabee, 2015). Thus, interpersonal trust is an important foundation for the sharing of information between stakeholders. Interpersonal trust between leaders and participants of public engagement processes also supports those processes being perceived as fair and producing outcomes that are accepted as legitimate (Davenport et al., 2007; Dwyer & Bidwell, 2019; Huijts, et al., 2012; Leahy & Anderson, 2008). Community energy projects include a potentially large number of stakeholders (e.g., residents, investors, developers, government, businesses, citizen groups) and trust between these groups is both a precondition for, and potential consequence of, project success (Berka & Creamer, 2018). Conversely, trust can also be damaged by an "unsuccessful" community wind process in which turbines may be built, but significant social conflict is also generated (Walker et al., 2010).

While trust has been acknowledged in the wind siting literature as a factor contributing to perceptions of procedural justice and overall project success (e.g., Dwyer & Bidwell, 2019; Fast & Mabee, 2015; Rand & Hoen, 2017; Walker, Devine-Wright, Hunter, High, & Evans, 2010;), it has often been vaguely defined and its importance underappreciated. Often, authors do not specify the type(s) of trust being analysed or in which relationship the trust exists. For example, residents may hold trust or distrust toward: the developers as people, the rules governing the process, or the safety of the

technology itself; these are all separate issues. The wind literature requires an improved model of trust which clarifies the concept and distinguishes between relevant subtypes of trust.

Trust is a concept most of us are intuitively familiar with; we know whether we trust another person. However, it can be a difficult concept to define with precision. Various attempts have been made, many of which can be read as "variations on the same theme" (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395). Trust can be defined as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviours of another" (Rousseau et al., 1998, p. 395). Trust means to rely on another person to carry out an action, while recognizing there is a chance of disappointment. Trust is always given provisionally along with an expectation of a positive outcome and for how the risk will be avoided (Earle & Cvetkovich, 1995, cited in Davenport et al., 2007).

Trust is required for society to function and relationships to work (Putnam, 1995). It makes our lives simpler by reducing the amount of analysis we have to apply to a given situation and lets us move ahead with decisions (Lewis & Weigert, 1985). Without trust, the level of analysis required within every social interaction would simply be paralyzing. Trust between people is often assumed to be present and can easily be taken for granted; trust typically becomes a salient topic only after it has been damaged or lost (Blackburn, 2008, p. 368).

The importance of trust in wind siting is highlighted by the amount of uncertainty faced by communities when confronted with a project proposal. The build-out of renewable energy infrastructure will require that turbines are expanded into new areas

where residents will be largely unfamiliar with the technology and its effects. Acceptance of new project proposals therefore implies a willingness to accept vulnerability and risk in the face of this uncertainty and includes an expectation that process leaders will act positively toward the community, succeeding at mitigating any perceived risks.

Although trust is often felt by individuals as a singular type of experience (Lewis & Weigert, 1985), sub-types of trust can be described by categorizing the type of information used by the trustor to decide whether to trust. When deciding whether to lend someone their car, for example, the trustor may rely on an assessment of the trustee's character. If the two have a shared history of positive social experiences and honest communication, this may be enough to make the trustor lend the car. The trustor may also conduct a more rational analysis and consider that the trustee has had many previous accidents and are therefore likely to damage the car and perhaps injure themselves. This may cause the trustor *not* to lend the car. A person may consider multiple sources of information, but this can be understood as weighing consideration of different trust forms.

Research in the field of natural resources management has developed a more sophisticated understanding of trust and its effects than the wind acceptance literature. Stern and colleagues (Stern & Baird, 2015; Stern & Coleman, 2015; Coleman & Stern, 2018a, 2018b) have developed a framework identifying four different forms of trust and describe how each affects particular dynamics within an overall participatory engagement process. The subtypes of trust are as follows (Stern & Coleman, 2015):

- **Dispositional** Trust - a person's general willingness to trust, based on lifetime experience and temperament.

- **Affinitive** Trust - based on a sense of social connectedness and shared values with the trustee.
- **Procedural** Trust - based on a set of formal rules that are relied on to carry out a specific function.
- **Rational** Trust - based on previous evidence that demonstrates the trustee is likely to successfully carry out the action.

As mentioned, community energy is supposed to include processes that are procedurally fair, and trust plays a role in this dynamic. Interpersonal trust between participants and process leaders is correlated with higher perceptions of procedural justice (Huijts et al., 2012). However, it is not clear how trust leads directly to perceptions of fairness or vice versa (Huijts et al., 2012). Are other types of trust, such as trust in information or trust in government, also related to procedural justice? Further work is required to understand how different types of trust influence perceptions of procedural justice.

1.3 Summary and Problem Statement

Societies are transitioning their energy systems from fossil fuel-dominated schemes to sustainable, low-carbon ones and wind energy developments will continue to play a significant role. The public have high support for wind in general, but local support for specific projects is lower. Development models that are technocratic and adopt the 'decide-announce-defend' development sequence (such as under Ontario's *Green Energy Act, 2009*) can increase the build-out rate of renewable technologies in the short term but can also increase social conflict that places the long-term viability of wind energy in jeopardy. Wind developments must recur every 20-25 years and thus turbine siting must also be a *socially* sustainable process. Community Energy has been proposed

to increase acceptance of wind energy and make for a sustainable transition while providing ancillary benefits like community profit-sharing, increased citizen participation and control, and boosting public interest in the energy system.

Trust between stakeholders is a part of successful community energy processes. It has also been identified as an important factor influencing attitudes toward local wind turbine developments. Trust is associated with higher perceived levels of procedural justice, but the connection remains unclear. Until very recently, trust has been studied in only vague terms by wind researchers and its importance has gone underappreciated by renewable energy policy makers and process leaders.

Continuing to pursue emissions and renewable energy targets without understanding how trust between stakeholders functions within turbine siting processes risks creating unnecessary social conflict, increasing resistance to renewable projects, and delaying the energy transition. Identifying the practices that foster trust may also reveal opportunities to increase procedural justice for local communities.

1.4 The Current Study

This thesis presents the findings of an exploratory study investigating resident attitudes toward their local wind turbine development. Semi-structured, in-depth interviews were conducted with 19 residents living near two recently developed Nova Scotia wind farms. The interviews explored a number of topics related to wind turbines and residents' experiences of the local siting process. Early analysis of the interview transcripts revealed trust as a significant factor that influenced the attitudes and opinions of residents.

The model of trust developed by Stern and Coleman (2015) was applied to investigate the following research questions:

1. Do the four forms of types of trust identified by Stern & Coleman (2015) explain the trust environment experienced by residents during a community wind siting process?
2. What are the factors that led residents towards the four types of trust (or distrust) during the wind siting process?
3. How are perceptions of procedural justice related to the different forms of trust?
4. Are certain form(s) of trust more significant in shaping resident attitudes toward procedural justice?

The four forms of trust were evident in the interview data and explain the diversity of statements made about trust. Factors that led residents to trust and distrust were identified via inductive analysis of the coded data. The factors that influence trust and distrust were related to the tenets of procedural justice and to overall project support. This makes trust a very useful conceptual lens to consider when designing renewable energy regulatory environments or developing projects. The recent request for new renewable generation project proposals in Nova Scotia will mean that communities and developers will again be engaged in siting processes soon. Learnings from this study may be useful to those in Nova Scotia and elsewhere wishing to pursue community energy projects that promote high levels of procedural justice, include positive relationships between developer and community, and result in increased interest and support for renewable energy. Researchers should find value in recognising the importance of trust in the wind siting literature and having a clear framework to study its effects.

Chapter 2: Literature Review

2.1 Overview and Scope

The literature described broadly as the 'social dynamics of wind development' is immense, spanning a period of at least 30 years in North America, and longer in Europe (Rand & Hoen, 2017). This review includes many of the important reference points and recent publications from this period, but the literature is too vast to be summarized fully. The development of ideas in this literature is difficult to trace, particularly around the role of trust. Although the last 16 years has seen much progress in wind acceptance research, the literature regarding the role of trust still resonates with Devine-Wright's (2005) assessment of the broader wind literature as "rather incoherent and devoid of a sense of cumulative progress" (p. 126).

The community wind literature helps to clarify why and how the *way* a wind project is developed is significant in shaping local attitudes. The concept of "community energy" will be surveyed and compared to standard siting practices. I then discuss the relationship between community energy and local acceptance of projects, including the role of procedural justice. Learnings from the natural resources management literature will be discussed, including the value of participatory siting practices. The relationship between trust and local acceptance of community wind projects is then reviewed, and the case is made for a more thorough examination of the concept of trust in its application to wind energy research.

2.2 Wind Acceptance

The literature identifies three different types of acceptance, all of which are required for effective deployment of renewable energy projects: socio-political

acceptance, market acceptance, and community acceptance (Friedl & Reichl, 2016; Wustenhagen, Wolsink, & Bürer, 2007). Socio-political acceptance refers to general acceptance of the technology type by the public, policy makers, and key stakeholders (Wustenhagen et al., 2007). Market acceptance refers to the acceptability of the energy source by consumers, developers, and investors, while community acceptance refers to the acceptability of specific project decisions and developments by local residents (Wustenhagen et al., 2007). Community acceptance of wind projects relies heavily upon satisfaction of procedural and distributive justice criteria, and on trust between the community and outside actors (Fast & Mabee, 2015; Wustenhagen et al., 2007).

In North America, general public acceptance of wind projects is high, at between 70% - 90% (Rand & Hoen, 2017). In Canada, public support for renewable energy sources is significantly higher than for fossil fuel sources (Comeau, Stedman, Beckley, & Parkins, 2015). Nationally, wind energy has received popular support since at least 1995 (Krohn, & Damborg, 1999) and remains supported by about 75% of the Canadian population, ranking only behind solar at 83% approval (Comeau et al., 2015).

Despite this, wind development has received significant opposition is some areas of Canada such as Ontario (Christidis, Lewis, & Bigelow, 2017; Hill, 2017), Quebec (Cleland et al., 2016), and in Nova Scotia (Berry, 2016, Aug 5; Walker & Baxter, 2017a). Appreciable amounts of public opposition resulting in the delay or cancellation of projects has also been noted in the UK (Bell, Gray, & Haggett, 2005; Simcock, 2016), Australia (Gross, 2007; Hindmarsh, 2017), and elsewhere.

The wind acceptance literature has been motivated to seek explanations for this "social gap"; that is, the observation that the success rate of proposed wind projects is

lower than expected given high general support amongst a population (Bell, Gray, & Haggett, 2005; Larson & Krannich, 2016; Walter, 2014). The social gap can also be thought of as the aggregate of many "individual gaps", which refers to a person supporting wind power in general but opposing a specific (often local) project (Bell et al., 2005). Wolsink (2007b) refers to this as a distinction between support for wind *power* (in general) as opposed to wind *farms* (in particular).

Three explanations have been proposed for this gap: democratic deficit, qualified support, and self interest (Bell et al., 2005; see also Liebe, Bartczak, & Meyerhoff, 2017; Wright, 2012). Democratic deficit implies that individuals who oppose wind developments are exerting disproportionate influence over decisions, and that the will of the (supportive) majority is not being reflected in siting decisions (Bell et al., 2005). Second, individuals' high level of general support may be paired with "qualified support" for local projects; they would support development, but only under certain conditions (Bell et al., 2005; see also Wright, 2012). Thirdly, self-interest implies a not-in-my-backyard, or "NIMBY" attitude. "NIMBYism" is a term applied to local opposition to wind farms and various types of developments such as highways, hospitals, or other energy infrastructure (Krohn & Damborg, 1999). It involves a presumption of free-ridership on the part of residents – i.e., the individual acknowledges the value of developing wind turbines to the public good, but resists incurring the individual costs associated with living near them by actively opposing local projects (Krohn & Damborg, 1999; Bell, Gray, & Haggett, 2005; Wolsink, 2007). The NIMBY hypothesis may explain the behaviour of a limited number of people (Bell et al., 2013), but has come up short of offering a satisfactory explanation for understanding the social acceptance of wind on

balance (Krohn & Damborg, 1999; Devine-Wright, 2005; Wolsink, 2007, 2010; Evans, Parks, & Theobald, 2011; Botetzagias, Malesios, Kolokotroni, & Moysiadis, 2015).

Citing Kempton et al. (2005), Wolsink (2006) offers 3 main reasons for wind researchers abandoning NIMBY hypothesis: 1) it is often used pejoratively and to dismiss local concerns as selfish, 2) it does not accurately describe the spatial distribution of residents opposed to local projects, and 3) the label does not provide additional depth of insight into the phenomenon of local opposition. It should also be noted that there may be legitimate reasons for opposing the siting of wind turbines in one's "back yard", such as the possibility they precipitate higher psychosocial stress in some nearby residents (Walker, Baxter, & Ouellette, 2015). Empirical counterevidence has observed that, in some cases, support for a local project was actually *highest* among those living closest to the turbines (Krohn & Damborg, 1999; Warren & McFadyen, 2010).

And yet, despite researchers largely agreeing about the concept's poor explanatory power and potentially counter-productive accusations of selfishness, it is still used by some in industry and government to frame negative attitudes and opposition toward wind projects (Goedkoop & Devine-Wright, 2016; Rand & Hoen, 2017). This could signal a misunderstanding between project leaders and communities, which leads to a distrust of each others' motives. Project leaders are less likely to accommodate community requests/concerns if they are convinced the requests/concerns are motivated by pure selfishness (Wolsink, 2006). To understand what drives local opposition and acceptance of wind turbines, more attention is warranted toward understanding the "qualified support" discussed by Bell et al. (2005) and determining what the "qualifiers" are.

Previous research investigating social acceptance of wind has identified a number of variables affecting the social gap and influencing local acceptance of wind turbines (Aitken, 2010; Devine-Wright, 2005; Christidis & Law, 2012; Rand & Hoen, 2017). Early research on the topic tended to focus significantly (although not exclusively) on the physical properties of turbines, taking a "deterministic view of human psychology" and of the social responses to developments (Devine-Wright, 2005, p. 126). For example, the "distance hypothesis" was explored, which suggested that support among residents for a local project was related to the distance between the residence and the turbines, with closer residents being more opposed. This theory found little empirical support, and even some counterevidence, mentioned above (Krohn & Damborg, 1999; Warren & McFadyen, 2010).

Devine-Wright's (2005) review identifies 17 factors, organized into 8 categories, including "Physical", "Contextual", "Personal", and "Social and Communicative", the latter category highlighting the role of trust in affecting local acceptance (p. 135). The author points out that these 17 factors, and Social and Communicative factors in particular, can coalesce to generate a diversity of resident attitudes within the same community (Devine-Wright, 2003, as cited in Devine-Wright 2005). Others have also emphasized that it is the *combinations* of factors that generate the wind attitudes seen within individuals and communities (Bell, Gray, Haggert, & Swaffield, 2013; Sovacool, 2009). Thus, it may be possible to gain qualified support from individuals and some groups by generating project proposals that satisfy the right combination of salient factors (Bell et al., 2013). Trust operates as a Social and Communicative factor (Devine-Wright,

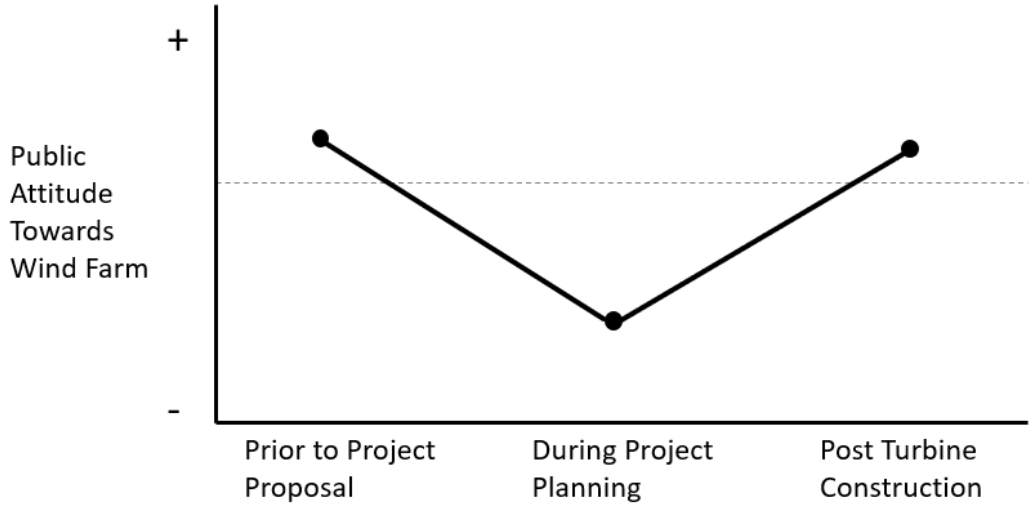
2005) and how it combines with other factors to influence perceptions of procedural justice and, ultimately, project acceptance, will be discussed below.

In addition to physical project features, the temporal aspect of a development can also be considered for its effects on wind acceptance. Wolsink (2007a) supported Gipe's original (1995) observation that individual attitudes toward a local wind project change over the course of the project lifecycle, with background support being relatively high before a project proposal, dipping after the proposal is announced and during planning stages, and ticking up again post-construction (See Figure 2). Subsequent case study research has confirmed this "U-shaped curve" in local attitudes, noting that the dynamics of the curve vary depending on which type of concern is most salient for an individual (e.g., noise, property value, or local environmental concerns) (Wilson & Dyke, 2016).

A US case study of an offshore wind farm constructed adjacent to a coastal island measured perceptions of procedural justice after construction. The authors determined that overall perceptions of procedural fairness among island residents increased after the turbines became operational (Firestone, Hirt, Bidwell, Gardner, & Dwyer, 2020). Interestingly, perceptions of procedural *un*fairness also increased amongst mainland residents (i.e., there was increased polarization of views) (Firestone et al., 2020). Whether the level of resident trust in: wind energy technology, wind developers, government, or regulatory processes rebounds after a development, similar to levels of overall project support (Wolsink, 2007a), or diverges, similar to perceptions of procedural justice (Firestone et al., 2020), is an important question that remains unanswered in the wind literature.

Figure 2

The "U-Shaped Curve", Indicating Changes in Public Attitudes to Wind Farms Over the Course of Project Development.



Note: Overall, attitudes were generally positive, but dipped after the project was announced and public planning discussions were conducted. Attitudes ticked up again after the turbines were constructed. The dotted line indicates the average (generally positive) attitude, and the deviations are plotted as changes in Z-scores. (Adapted from Wolsink, 2007b)

Apart from the influence that physical, social, and temporal aspects of wind farms exert on acceptance, there are psychological influences on individuals themselves. Huijts, Molin, and Steg (2012) reviewed the psychological literature and empirical studies on the acceptability of several different renewable technologies, identifying the likely psychological factors that influence attitudes toward renewable energy, including wind. The authors draw an important distinction between a person's *attitudes* versus their *acceptance* (i.e., how one *thinks and feels* about a technology versus how one intends to *act* regarding that technology, respectively).

Huijts et al. (2012) generated a conceptual model suggesting the causal order of these forces, mapping their influence on individual attitudes, and ultimately, acceptance

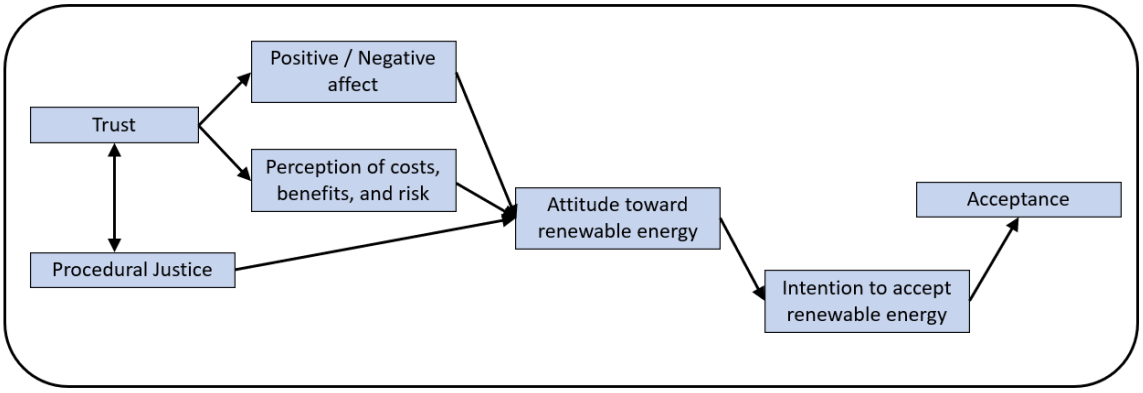
of renewable technologies (Figure 3). Despite the authors noting that a precise definition of trust and its subtypes does not exist, trust features prominently in this schema, located near the upstream end of the causal chain. Procedural justice and trust have an interdependent relationship; an increased sense of justice can foster increased trust, and high levels of trust can support perceptions of a more just process (Huijts et al., 2012).

Trust in regulators and developers can lead to a more optimistic assessment of costs, benefits, and risks, increasing an individual's willingness to accept a technology (Huijts et al., 2012). The authors are cautious to note that some evidence suggests trust directly influences affect, which then in turn influences perceived costs, benefits and risks, suggesting more detailed work in this area is needed (Huijts et al., 2012).

Whether affect is a mediating factor or not, Huijts et al.'s (2012) work supports the "causal model" of trust in which trust influences risk perception, which then influences acceptability of the risk (i.e., higher trust reduces perceived risk, and increases acceptability) (see also Greenberg, 2014). Despite its importance, the authors note the lack of consensus in the literature about the definition of trust and its sub-types. The importance of trust as a psychological reality in wind developments and its role in affecting attitudes is discussed further in Section 2.5 below.

Figure 3

A Model of Psychological Factors Affecting Technology Acceptance.



(Adapted from Huijts, Molin, & Steg, 2012)

2.3 Community Wind Energy

The literature has increasingly recognised the importance of not only physical characteristics, temporal dynamics, and psychological influences on individuals' wind attitudes, but also the effects of the development processes by which a project is pursued (Rand & Hoen, 2017; e.g., Ottinger, Hargrave, & Hopson, 2014; Simcock, 2016; Walker & Baxter, 2017a). Siting processes can be led primarily by developers and government, can be initiated and controlled mostly by local members of the community, and a variety of arrangements in between. This section presents a concept of "community energy", juxtaposed with a standard siting model, before demonstrating why and how the *way* a wind project is developed is significant in shaping local attitudes.

2.3.1 A Proposed Alternative to "Standard" Siting Practices

Top-down, or what have been called "technocratic" siting processes refer to practices where policy is set by government at the national or regional level, and most decision-making power is retained at these levels (Ottinger et al., 2014; Walker & Baxter, 2017a). Regional policy development processes may involve significant public input (e.g., Adams, Wheeler, & Woolston, 2011; Dyer & Bidwell, 2019), or not (e.g., McRobert, Tennent-Riddell, & Walker, 2016). Once policy is set, developers situated in a

technocratic policy regime deal directly with regional level of government when seeking project approval. Community engagement is generally kept to the minimum legal requirements, which may entail a few formal events such as town halls, public comment periods, or information-sharing campaigns.

Technocratic processes have been effective at encouraging more rapid deployment of renewable energy infrastructure on the landscape over the short term; however, these practices have often also resulted in local opposition to project proposals (Christidis & Law, 2012; Ottinger et al., 2014). This local opposition may have potentially fueled much of the wind acceptance research already covered, which has sought to understand, and ultimately overcome opposition (Aitken, 2010).

By contrast, a 'community' siting process can be thought of as being driven from the bottom up, or at least as a process with a more equal balance of power between developers and government on one hand, and local community actors on the other. Community energy development schemes come in many forms and community *wind* energy projects are but one sub-type of these; other types of community energy projects include energy efficiency initiatives, biogas cooperatives, or geothermal heat pumps (Walker et al., 2010). In 2021, a precise definition of community wind energy has not been agreed upon in the literature; neither is it clear what the term *ought* to mean (Baxter et al., 2020; Hicks & Ison, 2018; Walker et al., 2010).

2.3.2 What is "Community"?

Despite the ambiguity of community energy as a concept in the literature, it is necessary to establish an understanding to move forward with. Beginning with the concept of community, an initial distinction can be drawn between communities of

interest (sharing concerns and values), and of locality (people located physically close together) (Walker, 2008). Drawing on institutional theory, Wirth (2014) conceives of a community as a type of social institution, noting that there are many different types of "communities" examined in the sociological literature, such as communities of place, communities of practice, online communities, and others. In the context of community energy, and for the purposes of this study, we will consider a wind "community" as a community of place, meaning a local geography and the people who live there. However, a community of place also necessarily includes a social fabric that binds its inhabitants; according to Wirth (2014), this consists of three features: a set of formal rules, a cultural-cognitive framework ("how things are done around here"), and a set of norms and values ("what is right to do around here") (p. 238). These features combine to form, as the author refers to it, "a local environment which unite(s) local understandings, norms, and rules" (2014, p. 238).

Proprietors of energy developments who associate the word "community" with their projects have attributed different meanings to the term, which reflect different intentions (Walker et al., 2010). The objectives motivating community energy developers are not uniform and can vary across projects, including the profit motive, energy security, or emissions reductions (Seyfang et al., 2013). Applying the term 'community' to an energy project could refer simply to the project's being installed within a municipal building, or its' delivering of some type of community benefit (Walker & Devine-Wright, 2008). Projects initiated under a variety of governance structures, including cooperatives, community charities, development trusts, or ownership by community organizations, have all been characterised as community energy projects (Baxter et al., 2020; Walker,

2008). In Nova Scotia, community wind energy projects have been pursued under all of these development models (Nova Scotia, 2011).

Some have suggested that a broader definition of community energy may have advantages (Hicks & Ison, 2018). For example, embracing a broader definition can allow for a greater diversity of projects to proceed under policies that offers funding or tax incentives for "community" projects (Hicks & Ison, 2018). A policy environment allowing a greater diversity of community-related governance structures affords the flexibility for a variety of projects to emerge out of the different community contexts (as per Wirth, 2014) that exist within a given jurisdiction (Hicks & Ison, 2018).

A broad definition also contains weaknesses, such as potentially creating divisive effects when carrying out engagement activities, depending on who is included/excluded, and whether community members agree with where the geographical boundary was drawn (Aitken, Haggett, & Rudolph, 2016) or who should be included in the provision of community benefits (Bristow, Cowell, & Munday, 2012; Clausen & Rudolph, 2019). One significant weakness of an imprecise definition is that it opens the door for proponents to attach the community moniker to their project in bad faith. They may seek to freeride on the positive connotations and goodwill of community energy while adopting none of its principles in practice and undertaking an essentially technocratic process (Baxter et al., 2020, Hicks & Ison, 2018).

Lastly, it is important to recognise that a community does not describe a homogeneous group. "Communities of place" are diverse and have been understood, even by the people who live in them, to have positive and negative connotations, highlighting the term's ability to connote both notions of cooperation and goodwill, and

also critical notions of exclusion and 'othering' (Walker et al., 2010). Although "community" can generate warm feelings of social harmony and neighbourly bonds, implementing a definition of community can also provoke disagreement and resentment, and it is important to remember that the term can cut both ways during a wind siting process (Walker et al., 2010).

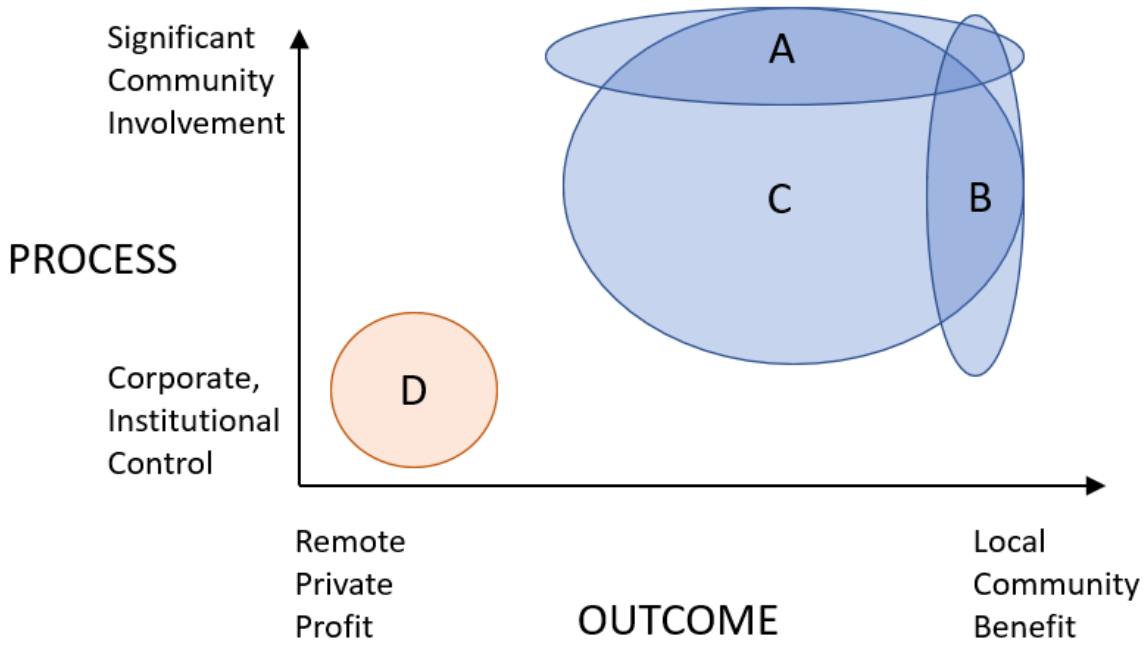
2.3.3 What is "Community Energy"?

To address the question of what community energy "should" mean, Gordon Walker and Patrick Devine-Wright's seminal 2008 paper describes the "ideal characteristics" of community energy projects along two key dimensions, *process* and *outcome* (Figure 4). The Process dimension describes who develops a project, and how. Process is concerned with who is included in deliberations and decision making, and the balance of power in those relationships. For the authors, a 'community' process suggests significant involvement and influence from the affected community of place, while a 'corporate' project would have a minimum of local community engagement and empowerment.

The outcome dimension considers who benefits from the project. The outcome of a community project would benefit the community in some way(s), while the economic benefits of a technocratic project (or what the authors call a "utility wind farm", p. 498) would accrue mainly to non-local actors (Figure 4). Project *size* has also emerged as a part of the overall conceptual framework of community energy – namely those that are 'meso' sized, somewhere between micro- and utility-scale installations (Walker & Devine-Wright, 2008).

Figure 4

Conceptualizing the "Community Energy" Space Along Dimensions of Process and Outcome.



(Adapted from Walker & Devine-Wright, 2008).

To describe the "spirit" of community energy, Capener (2014) sketches a conceptual space with three overlapping themes. First is *democratic control* over projects, where decision makers are accountable to the community and ideally come from the affected community. Secondly, *shared benefits* ensure that profits are distributed amongst the local community. Finally, the principle of *active participation* by communities means that existing community groups and individual residents are not just passive consumers of energy, but rather are active partners throughout the project lifecycle. They are consulted regularly and provide valuable (and valued) feedback that is incorporated into project decisions. Capener's first and third principles align well with

Walker and Devine-Wright's (2008) procedural dimension, and his second principle with their outcome dimension.

Hicks and Ison (2018) completed a review of community energy literature spanning 2008-2018. The authors acknowledge that the term has been used in a variety of ways, but bring forward a definition of community energy from Seyfang, Park & Smith (2013) that captures the general theme running through the literature:

> "Projects where communities (of place or interest) exhibit a high degree of ownership and control of the energy project, as well as benefiting collectively from the outcomes (either energy-saving or revenue-generation)." (Hicks & Ison, 2018, p. 978).

The influence of Walker & Devine-Wright (2008) is clear in the highlighting of ownership and control (process dimension) and benefitting collectively (outcome dimension). The authors go on to propose a more nuanced, five-spectrum model that further identifies key components of the process (local or distant actors, distribution of decision-making power, motivation for decision about scale of technology, level of engagement), and outcome (distribution of financial benefits) dimensions.

A key takeaway from Walker and Devine-Wright's (2008) paper is the interviews with policy makers and program managers revealing that individuals tended to emphasize either the outcome or process dimensions more than the other (spaces labeled A and B, respectively, in Figure 4), or were willing to be more flexible in the arrangements as long as a project was going ahead (space C). There is a diversity of preferences for how a community energy project should look, while still being distinguishable from a technocratic project (space D). Therefore, while the authors provide an extremely useful

model to conceptualize the community energy "space", the paper does not ultimately deliver a single, precise answer to what community energy "should" mean. Indeed, in a 10-year retrospective on their work, the authors emphasize that they never intended to answer the question, merely to describe such a conceptual space (Creamer, Aiken, van Veelen, Walker, & Devine-Wright, 2019). They described what an archetypal project might look like for use as a reference point, such that real projects could be evaluated against it (Creamer et al., 2019). Similarly, Capener's attempt to depict the "spirit" of community energy is a useful approach that retains the benefits of a flexible definition, as discussed above, but offers a clear enough concept that potential bad actors can be identified.

The idea of community energy should always remain sensitive to context; thus, there can be disagreement amongst individual stakeholders about where on Figure 4 a project should be plotted (Creamer et al., 2019). This speaks to the diversity of perspectives that can emerge about 1) what community energy means, and 2) even given a shared definition, about how the same project can be perceived differently (Seyfang et al., 2013; Simcock, 2016). From this point on, the term community wind energy will refer to projects having a high degree of local ownership and control and offering collective benefits to the local community.

2.3.4 Community Wind Energy and Acceptance

It has been observed that community wind farm proposals have shown higher levels of local support than projects pursued under technocratic siting processes (Baxter et al., 2020; Berka & Creamer, 2018; Barry & Chapman, 2009) and in some European jurisdictions are even correlated with higher rates of turbine deployment (Bauwens,

Gotchev, & Holstenkamp, 2016). Although, it should be noted that technocratic siting processes have resulted in faster rates of deployment in some areas of the US (Ottinger et al., 2014) and in Ontario (Christidis, Lewis, & Bigelow, 2017). Support seems to be highest for projects where there is a convergence of communities of place and of interest, and a focus by process leaders on addressing local concerns and impacts (Baxter et al., 2020). However, the ambiguity around the definition of community wind energy discussed above makes it more challenging to say for certain which project characteristics are driving local support.

This ambiguity also makes it challenging to discover under what specific circumstances, if any, community wind developments are delivering on the benefits that they claim to produce (e.g., higher energy security, local economic development, and increased support for renewables) (Baxter et al., 2020). Empirical evidence linking these benefits to community wind energy processes is scant (Berka & Creamer, 2018) making it hard to link increased project support to these benefits.

Despite some evidence linking community energy to higher local support, it is important to be clear that developing wind projects under a community model is not a clear path to uniform local support (Walker et al., 2010). As perhaps the strongest example of a community wind energy project in Nova Scotia, the Spiddle Hill wind farm, located approximately 15 km from Tatamagouche, was initiated by a local champion for renewable energy and had over 286 individual investors from the nearby community (Blackwell, 2013, July 1). Public information sessions were held with the community, with control over planning decisions being retained by the (local) developer / local champion (Vass, 2013). Yet, having the process initiated and controlled by local

representatives and generating significant economic returns for many residents was no guarantee of the project's uniform social acceptance; local residents near the proposed site voiced their opposition to the project's location, citing noise concerns (Blackwell, 2013, July 1).

The community energy space described by Walker and Devine-Wright (2008) offers a lens to investigate the extent to which principles of fairness and justice are upheld during the siting process and during the distribution of benefits. The concept of "procedural justice" is of particular interest for its influence on the level of trust (or distrust) experienced during wind siting processes.

2.4 Procedural Justice

Procedural justice refers to fairness in how a process itself was conducted, not necessarily the fairness of the outcome that was achieved (Goedkoop & Devine-Wright, 2016; Gross, 2007). Fairness has been under-appreciated by some in higher levels of government who control wind siting processes (Christidis et al., 2017; Ottinger et al., 2014; Walker & Baxter, 2017a). Concepts of procedural justice in the literature tend to consider several components of a siting process, with one definition emphasizing "…the ability of the people and communities whose environment and health stand to be affected by a siting decision… to participate *as equals* in the decision-making process" (emphasis added, Schlosberg, 2007, cited in Ottinger et al., 2014, p. 663). Further conceptualizations will be reviewed to arrive at a working model for use in this study.

In the wind energy literature, research on procedural justice tends to be concentrated on the participation of local residents in the planning process. Public participation and its relationship to fairness will be discussed below. The connection

between procedural justice and trust will also be examined. Finally, insights from the natural resources management literature will be applied to concepts of procedural justice, public participation, and trust.

2.4.1 Conceptualizing Procedural Justice

Several concepts of procedural justice have been proposed, with many similarities between them. I will briefly review a few of these below before proposing a concept of procedural justice (fairness) for use in this study.

Blader & Tyler (2003) present a model of procedural justice that captured the fairness concerns of process participants – i.e., the factors that participants assess to judge whether a process is fair. Firstly, participants had concerns about the formal methods and rules that governed the process. Examples included how formal group decisions were made, and the quality of treatment people received under the rules. Secondly, participants expressed concerns about the interpersonal relationships between participants and those administering the process. These included how the authorities within the group made informal decisions, and the quality of personal treatment participants received from the process leaders. This model highlights the difference between the formal components of a process that are enshrined in rules versus the informal parts that emerge from the personal interactions between participants and leaders.

More recently, Haidt and Lukianoff (2018) described procedural justice similarly, using two main criteria (p. 218-219). The first concerns biases and transparency in how the decisions are made. Under a just process, the authors suggest, participants should be able to trust decision makers to be impartial and free from conflicts of interest or biases toward certain outcomes. The process definition should also be transparent (i.e., it ought

to be clear to all parties how the process will work.) The second criteria concerns the treatment of participants during the process; they should always be treated with dignity and respect, and their views should be taken seriously by the process leaders (Haidt and Lukianoff, 2018, p. 218-219). The ability of citizens to make claims upon authorities about injustice in decision making or regarding unacceptable treatment is a fundamental tenet of procedural justice, and of a democracy more generally (Haidt & Lukianoff, 2018, p. 222).

Gross (2007) is one of the early authors applying principles of procedural justice from research in other disciplines to a wind siting context. She briefly defines the concept, recommending the following principles be considered in evaluations of procedural justice: "full participation in the process, the ability to express opinions freely and to be heard (voice), being treated with respect, being given adequate information, the impartiality of the decision maker" and that decisions can be changed in response to changing circumstances (Gross, 2007, p. 2007). She expresses many similarities to the models above, emphasizing importance of how decisions are made, and the treatment of participants during the process.

Ottinger et al. (2014) argue that a just process for siting wind turbines must meet four criteria. First, it must be accessible to all affected parties. Second, process leaders must recognize participant views as legitimate and show participants respect. Third, participants must also have some ability to affect outcome. And finally, the process should address pre-existing power inequalities that may exist within the local time and place that the siting is occurring.

Simcock (2016) discussed three main dimensions of procedural justice that should be considered within a wind siting context. First, all those that will be affected by decisions should be included in the process. Second, the degree of power that participants are able exercise over decision outcomes must be considered fair. Lastly, evaluations of procedural fairness must consider whether information is sufficient in volume and accuracy to facilitate effective participation and informed consent to the proposal.

In a study of Ontario and Nova Scotia wind siting processes, Walker and Baxter (2017a) propose a model of procedural justice that considers four types of criteria: information sharing, opportunities to participate, the ability to affect outcome, and dealing with the developer more generally. These components align with Haidt and Lukianoff's (2018) and Blader & Tyler's (2003) concepts; the first three criteria relate to rules governing a fair decision-making process, and the fourth, "dealing with the developer more generally" relates to the acceptable informal treatment of participants by the process leaders (Walker & Baxter, 2017a).

Addressing the fairness of decision making in a wind siting process, Dwyer and Bidwell (2019) emphasize a requirement for "meaningful engagement" to occur in order to satisfy community fairness concerns. For the authors, a "meaningful" public engagement process must satisfy three requirements: 1) the outcome of the process is open and not pre-determined, 2) participants are allowed to offer input toward decisions, and 3) that the input is influential in affecting outcomes, even if that means a veto on the proposal (Dwyer & Bidwell, 2019). This ensures that power is distributed to participants and is a core component of procedural justice.

The common thread within the definitions above is that a just process must include a set of rules that both governs the decision-making process fairly, and ensures people are treated acceptably by the process leaders. Taken together, the concepts of procedural justice described above suggest five main criteria that can be considered in the wind siting context (Table 1). These principles will constitute the understanding of procedural justice used in this study.

Table 1

Principles of Procedural Justice from the Literature.

Principle of Procedural Justice	**References**
Decision makers should be impartial and free from conflicts of interest and biases toward certain outcomes.	Dwyer & Bidwell, 2019; Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219.
Those affected by the proposal should have the **opportunity to participate.**	Dwyer & Bidwell, 2019; Gross, 2007; Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a
Participants should always be treated with dignity and respect and their views should be taken seriously by those conducting the process.	Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219; Walker & Baxter, 2017a.
Participants should be given free access to adequate amounts of reliable and **satisfactory information.**	Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219; Simcock, 2016; Walker & Baxter, 2017a.
Participants should have the **ability to affect the siting outcome**.	Dwyer & Bidwell, 2019; Gross, 2007; Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a

While these principles have been identified by multiple researchers as the important tenets of procedural justice, it is also important to acknowledge the local

contextual element to procedural justice. Cultural norms vary across different communities, and how a process should move ahead in a given community may be an expression of that community's normative dimension (Wirth, 2014), the local idea of "what is right to do around here" (p. 239). In addition to the broader local context shaping the sense of procedural justice, personal differences between stakeholders can also bring a diversity of individual expectations about what constitutes procedural justice (Simcock, 2016). Expectations are derived from the "normative conceptions different stakeholders …hold about what constitutes 'procedural justice' during the implementation of a community wind project – how they feel the process *ought* to be conducted" (Simcock, 2016, p. 470). W*ho* is evaluating fairness in participatory processes (i.e., participants or leaders) can become a source of contention (Reed, 2008). And even where expectations *are* shared, the same process can be experienced differently between individuals, resulting in divergent assessments of fairness (Simcock, 2016).

2.4.2 Public Participation

In its essence, public participation in planning processes is arguably an exercise in the redistribution of power from the powerful (government, large corporations), to the powerless (ordinary citizens) (Arnstein, 1969/2019; Ottinger et al., 2014). The various forms and levels of participation that are possible can be conceived of along a continuum, as can the levels of fairness achieved (Arnstein, 1969/2019). In her 1969 "Ladder of Citizen Participation", Arnstein provides a useful metaphor to describe the various levels of citizen participation in community decision making (Figure 5). The bottom rungs of the ladder describe types of "non-participation", moving through levels of "tokenism", up to the top rungs symbolizing increasing "degrees of citizen control". The top rungs

generally represent more fair processes; however, some of the lower rungs can still offer benefits to a process if implemented under certain conditions (Arnstein, 1969/2019).

The appropriateness of different levels of stakeholder engagement is at least somewhat context dependent, and simple information provision may be valuable to participants in some processes (Reed, 2008) if information flow is not one-way and the information is not too technical or jargon-filled (Arnstein, 1969/2019). Similarly, during "consultation" (a degree of tokenism), soliciting public opinions can form a part of meaningful engagement; however, unless it is paired with a mechanism for these opinions to be considered by those with power and affect decision outcomes, the process is ultimately still "a sham" (Arnstein, 1969/2019, p. 28).

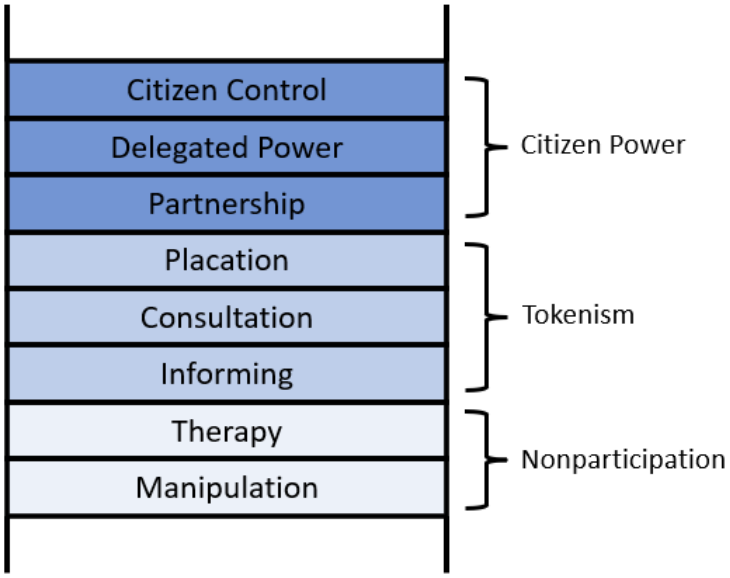
'Deliberative processes' – those that include space for meaningful engagement such as conversation and negotiation between participants and process leaders - are more effective at resolving power differentials that may exist at the outset of a process (Ottinger et al., 2014). This type of process allows for concerns to be voiced and understood using common, rather than technocratic, language (Ottinger et al., 2014) and supports effective participation.

Public participation in planning can deliver benefits such as increased inclusion of marginalized voices and increased stakeholder trust, which is a reason for the growing attention it receives in natural resource settings (Reed, 2008). The benefits of meaningful participation can be broadly categorized as "normative" (it is the right thing to do, upholds citizen rights and democratic norms, builds social capital), or "pragmatic" (increasing acceptance of technology, and achieving more robust, legitimate decisions from participation processes) (Reed, 2008). For example, during an energy policy

development process in Nova Scotia, Canada, deliberate steps were taken to engender participant trust (Adams, Wheeler, & Woolston, 2011). Examples included using an objective third party facilitator, soliciting confidential participant feedback throughout the process, and the promise of real stakeholder influence over the outcomes; these practices incorporated both normative and pragmatic elements (Reed, 2008), and were identified as key to the perceived legitimacy of the process and its outcome (Adams et al., 2011). Such an approach aligns with Dwyer and Bidwell's (2019) notion of meaningful engagement and with the upper rungs of Arnstein's (1969/2019) ladder which afford "degrees of citizen power" to participants.

Figure 5

The "Ladder of Citizen Participation"



Note: Citizen power increases as one moves up the rungs of the ladder from processes that are manipulative or include only simple information provision, towards full delegation of decision-making authority and citizen empowerment (Adapted from Arnstein, 1969/2019).

In describing the engagement space within the wind siting context, Aitken, Haggett, and Rudolph (2016) organize community engagement practices into to three

categories: 1) Awareness Raising, typically consisting of information provision, usually from the developer to residents, 2) Consultation, where resident views are gathered and (perhaps) considered in decision making, and 3) Empowerment, where power is given to community members to direct outcomes, and efforts are taken to provide benefits like increasing social or financial capital within the community. The model here is a Venn diagram, which changes the metaphor for engagement from a hierarchical ladder (Arnstein, 1969/2019) to a more egalitarian space where, in line with Reed (2008), each method has the potential to benefit an overall engagement strategy so long as it includes at least some degree of citizen power. Practices in each of these categories also have the potential to address the five principles of procedural fairness indicated above.

It should be noted the benefits of stakeholder engagement and efforts to achieve procedural fairness have not always been realized. Participatory processes have also been criticized for such problems as delaying decisive action, creating tension by upsetting existing power structures, and growing cynicism and frustration amongst stakeholders if fair outcomes are not achieved (Fast, 2017; Ottinger et al., 2014; Reed, 2008).

2.4.3 Procedural Injustice

While procedural injustice can be conceived of as a failure to meet the criteria identified above (Table 1), the concept can also be brought into relief through example.

Perceived injustices surrounded introduction of the 2009 *Green Energy and Green Economy Act* (GEA) which regulated the development of wind turbines in Ontario. Although intended to increase deployment of renewable energy infrastructure by introducing a "streamlined provincial approval process for renewable energy projects" (Ontario, 2019, para. 3), the policy has been roundly criticized for the way it restricted

municipalities' role in the siting process to that of observer by removing their ability to veto wind projects (Christidis & Law, 2012; McRobert, Tennent-Riddell, & Walker, 2016; Walker, 2017). In an effort to simplify and speed up the permitting process for turbines, municipal level planning authorities and residents were effectively excluded from meaningful participation in the siting process (Songsore & Buzzeli, 2014). The GEA left decision-making authority to the province and contained few restrictions on where turbines could be placed (Fast & Mabee, 2015). Developers were only required to consult with individual landowners if the turbines were to be situated on private land (Walker, 2017). Regional level control over siting processes may facilitate faster project development, but is less likely to meet the requirements of procedural justice (Ottinger et al., 2014)

In a study that included interviews with local politicians and residents of Ontario communities hosting wind developments, Christidis, Lewis, and Bigelow (2017) discovered that shared concerns over the decision-making process governing project siting were one of the main sources of opposition. The authors also found that inability to affect project outcomes left some feeling the process was "disingenuous" (p. 97) and triggered frustration within communities. The GEA is an example of a "top-down" policy which did little to foster trust between institutions, developers, and communities (Christidis & Law, 2012).

This removal of local planning approvals increased procedural injustices and social and legal conflicts around wind projects in Ontario communities (McRobert, Tennent-Riddell, & Walker, 2016) and had a significant deleterious effect on trust between host communities, and the government and developers (Fast & Mabee, 2015).

Indeed, these changes to the siting process resulted in delays in constructing some projects due an increase in organized resistance, protests, and legal action against wind energy developments (Songsore & Buzzeli, 2014). Such heavy-handed responses designed to increase deployment of controversial facilities and avoid potential NIMBY responses is known to have potential for increasing opposition (Bell et al., 2005), and indeed this appears to have been the case in Ontario (Christidis et al., 2017).

In contrast to the Ontario government's technocratic approach to wind development with the GEA, other jurisdictions have shown greater deference to local voices. For example, the St-Valentin wind farm in Quebec was canceled after the provincial government agreed that the project "fundamentally lacked the social acceptance necessary for sustainable development" (Cleland, Bird, Fast, Sajid, & Simard, 2016, p. 19). So, in at least one area of Canada, there exists higher local influence over planning outcomes - even if only to veto the proposal.

2.4.4 Procedural Justice & Trust

Procedural justice is related to trust between participants and process leaders. Higher levels of perceived fairness promote trust between the public and leaders of collaborative processes (Anderson, 2010; Davenport et al., 2007; Hamm, 2017, Leahy & Anderson, 2008; Ottinger et al., 2014). The reverse is also true; that is, higher interpersonal trust with process leaders can also increase participants' sense of procedural fairness (Earle & Siegrist, 2008; Huijts et al., 2012). The causality is proposed to run in either direction, depending on context. Procedural fairness can build trust and lead to cooperative behaviour in scenarios that are of relatively low importance to participants (Earle & Siegrist, 2008). When the value of 'fairness' in a given situation is outweighed

by the value of the potential outcomes that are highly significant for participants, the effects of procedural fairness on trust may be limited (Earle & Siegrist, 2008). That is, where a participant values a certain outcome more than they value a fair process, the fairness of the process may have limited ability to build trust with the process leaders; the participant's concern over the outcome may be overriding. In the context of wind energy attitudes and acceptance, it is not clear in which direction the causality is more significant, or what influence individual differences in values may have (Huijts et al., 2012). For those residents who highly value a specific outcome (e.g., the canceling of the turbines), even a fair process may do little to build trust with process leaders.

2.4.5 Procedural Justice and Acceptance of Wind Turbines

Procedural justice has been observed to have a significant effect on local acceptance of turbines (Cohen, Reichl, & Schmidthaler, 2014), perhaps having an even larger effect than visual, landscape, or local environmental concerns (Firestone et al., 2020; Friedl & Reichl, 2016). Procedural justice has also been suggested to have a greater significance on the local attitudes toward turbines than distributive justice measures (Goedkoop & Devine-Wright, 2016; Liebe, Bartczak, & Meyerhoff, 2017). There is a suggestion in the literature that the relationship is causal, not merely a correlation; participation and opportunity for real involvement in decision making leads to higher perceived levels of procedural justice (Friedl & Reichl, 2016) and a more acceptable outcome for participants (Walker, Baxter, and Ouellette, 2015), even when that outcome is not necessarily the one that was desired (Leahy & Anderson, 2008).

Counter to the approach taken by Ontario with the introduction of the GEA, research has revealed that improving procedural justice by *increasing* local control over

development can lead to increased acceptance (Christidis, Lewis, and Bigelow, 2017). Christidis and Law (2012) also suggest that a more collaborative siting process with meaningful engagement in Ontario may have produced beneficial effects such as reducing negative opinions and annoyance with turbines, and mitigating perceived health effects.

As an example of the relationship between procedural justice and acceptance, Walker & Baxter (2017a) found that residents living near wind turbines in Nova Scotia were upset at the lack of influence they had over decision outcomes, and that the level of residents' satisfaction with procedural justice issues was significant in determining local support for the project. Similarly, in a study of a wind siting process in the US, residents who perceived the highest level of procedural justice were more than 200 times more likely to support the local project than residents who perceived the lowest levels of procedural justice (Firestone et al., 2020).

As noted with the Ontario GEA above, procedural injustice is also correlated with local opposition to projects. Aitken (2009) observed that in a Scottish case, negative experiences with the planning process were powerful enough to create objectors out of residents who initially did not oppose a wind farm development. Perceptions of an unfair wind siting process in Australia have led community members to viewing the development of the project as illegitimate (Gross, 2007). These examples speak to the capacity of procedural justice to influence a community's perception of the development and ultimately, their acceptance.

Returning to Walker and Baxter's (2017a) comparison of the wind siting practices of Ontario and Nova Scotia, measures of procedural justice were found to be higher in

Nova Scotia for each of the four components of procedural justice identified by the study. Nova Scotia is argued to have been more successful than Ontario in constructing a policy environment that fosters procedural justice, relatively speaking (Walker & Baxter, 2017a). However, some of the particulars about the Nova Scotia survey responses remain troubling. The authors report that less than one third of Nova Scotia respondents felt the information supplied by the developer was trustworthy. Less than half felt they had an adequate opportunity to participate in the planning process. Less than half thought the developer was always truthful in their dealings with the community, and only about 1 in 10 felt like their participation in the process resulted in a change to the project outcome. Indeed, the ability to affect project outcomes was identified as a key aspect of procedural justice that was lacking in both provinces (Walker & Baxter, 2017a). Despite the *relatively* higher levels of procedural justice and local acceptance in Nova Scotia, it appears that reported measures of overall procedural justice were low in both provinces.

2.4.6 Procedural Justice, Participatory Processes, and Trust in Natural Resources Management

Trust has been identified as an integral component of effective participatory processes, decision making, and public cooperation in the field of Natural Resource Management, especially where local communities are involved (Davenport, Leahy, Anderson, & Jakes, 2007; Hamm, 2017; Leahy & Anderson, 2008; Stern, 2008). Trust between participants and process leaders has been identified as a key contributor to successful management outcomes, including cooperation from the public (Hamm, 2017), or at least the absence of opposition (Stern, 2015). However, building trust between government and communities affected by management decisions has been challenging,

especially where governing agencies are pursuing broader mandates that extend beyond a given local community (Davenport et al., 2007).

In the natural resource management context, the focus is typically on the administration or stewardship of shared public resources like parks (Stern, 2015), habitat conservation areas (Davenport et al., 2007), waterways (Leahy & Anderson, 2008), or wildlife (Gray, Shwom, & Jordan, 2012; Hamm, 2017). In this literature, the trust studied is typically between residents and the governmental agency responsible for regulatory oversight of the resource, not with a private developer as in a wind siting context. In the studies cited above, trust was studied in the context of collaborative working groups that brought together various stakeholders to negotiate and make management and policy decisions.

In a study of relationships between a community and the government agency charged with managing its watershed, procedural justice was identified as one of the main factors driving trust, with the authors noting the relationship was more significant for those who were more actively involved in the process (Leahy & Anderson, 2008; see also Gray et al., 2012). However, interestingly, participants' expectations for procedural justice and effective participation did not necessarily correlate with the definitions described in the literature. For example, participants did not necessarily expect lengthy involvement or a collaborative process; they simply expected the agency to perform competently, communicate honestly, and not to be swayed by special interests (Leahy & Anderson, 2008). Participants did not always agree with the decision outcome but accepted it anyways because of a perception of a fair and trustworthy process, which included process leaders meeting their expectations (Leahy & Anderson, 2008).

The literature in this field has revealed several major factors contributing to trust between process participants and leaders/decision makers, including: trust in the government, dispositional trust, perceived competence of the agency, procedural fairness, and a sense of shared values (Leahy & Anderson, 2008; Hamm et al., 2016). These factors were identified as separate constructs but correlated with a person's decision to trust the natural resource management institution leading the process (Hamm et al., 2016).

Several *barriers* to trust have also been identified within the natural resources management literature. Limited engagement by community members, limited community power, historical resentments toward the process leaders, and unclear communication by process leaders were identified as barriers to both trust and a sense of procedural justice during a collaborative process on the future of a tallgrass prairie in the US (Davenport et al., 2007). In particular, the limited amount of engagement with community members, and the limited power afforded to those who did participate seemed to be mutually reenforcing in damaging trust (Davenport et al., 2007).

2.5 Trust and Community Wind Energy Acceptance

In much of the wind acceptance literature, trust is identified as an important factor that influences public attitudes and acceptance (Bell et al., 2005; Corscadden, Wile, & Yiridoe, 2012; Devine-Wright, 2005; Dwyer & Bidwell, 2019; Fast & Mabee, 2014; Huijts et al, 2012; Walker et al., 2010; Wile & Yiridoe, 2012), at least partly through its influence on participants' sense of procedural justice (Walker & Baxter, 2017a). Collaborative, procedurally just siting practices can lead to higher trust between

stakeholders which may foster support for current, and future, projects (Ottinger et al, 2014).

Trust is acknowledged as a precondition for successful community energy projects, and also a potential outcome of their (successful) implementation (Berka and Creamer, 2018). Some successful community wind energy projects may not have been possible without the high degree of trust shared between community members (Walker et al., 2010). Conversely, distrust in wind process leaders has been linked to local opposition to projects (Walker et al., 2010). Distrust between participants and process leaders, apart from creating any specific barriers within a planning process, can present an obstacle to the type of general constructive spirit that typifies a successful planning process (Friedl & Reichl, 2016).

This section will discuss the relevance of trust in the energy industry broadly, and review in more detail how trust influences attitudes and acceptance of wind turbines. I will highlight the ways that trust has been understood by wind energy researchers and demonstrate that despite its importance, the concept has not been defined clearly or applied uniformly within the wind energy literature.

2.5.1 Trust in the Energy Industry

The energy industry has a problem with trust. Public trust in energy companies and regulators is generally low (Mumford & Gray, 2010; Cleland et al., 2016). Edelman Trust (2017) notes approximately only half of Canadians have trust in the sector, despite some slight increase in recent years. In addition to these modest large-scale survey results, there is a perception by a wide range of actors involved in or affected by the industry, that the problem remains significant and is getting worse (Cleland et al., 2016).

Trust in Federal and Provincial Canadian agencies responsible for overseeing the environment (including their role in oversight of energy developments) is low, as is the satisfaction with the way they consider the views of local communities (CROP, 2013). In Canada, information from energy "insiders" (i.e., regulators, utilities, and energy industry associations) is trusted by the public less than information from other sources such as friends, academics, or environmental groups (Comeau et al., 2015). Trust has been measured as slightly higher in the Atlantic provinces compared to other regions of Canada; however, 62% of Atlantic respondents also agreed that "no project should go ahead if the local residents of the affected area are opposed" (CROP, 2013, p. 20).

Higher levels of public trust in energy industries tends to be correlated with support for particular energy types and state energy policy (Greenberg, 2014). That is, public trust in an energy technology, such as nuclear power, tends to correlate with state policy supporting expansion of nuclear power (Greenberg, 2014) However, it is still not clear how public trust and support at the policy level are related; whether policy is directed by public opinion (or vice versa), or the two are mutually-reenforcing is a remaining question in the literature (Greenberg, 2014).

In the wind energy context, there is some recognition among developers that stakeholder concerns have in part been created by previous wind developments that were "inappropriate" by being "intrusive, noisy", and "ugly", or developed in environmentally sensitive areas, and that a mistrust of wind developers should almost be taken for granted (Ebert, & Power, 1999, p. 1). In the UK, community expectations about a proposed development process may have been negatively influenced by prior examples of unfair practice by the wind industry (Aitken, M., Haggett, C., & Rudolph, D., 2016). One might

expect to find a similar low-trust environment in Ontario after wind farms were implemented with the technocratic siting process described above, and also expect low trust in Nova Scotia, given the still-low perceptions of procedural justice there (Walker & Baxter, 2017a).

2.5.2 Trust in Information

Trust in sources of information is key to fair, successful siting processes (Gross, 2007; Walker & Baxter, 2017a). Information on energy in Canada is scarcer than in other jurisdictions (Cleland et al., 2016). As the authors note, this is a problem that can't be solved by increasing volume alone; the information must also be trustworthy. Bell et al. (2005) argue that local concerns should be addressed by providing information that is unbiased, accurate, and does not attempt to change anyone's priorities, or in a word – trustworthy (see also Walker et al., 2015). In a low-trust environment, information – especially that which is seen as manipulative or biased - will be evaluated sceptically unless it is delivered in a context of interpersonal trust between provider and receiver (Bell et al., 2005).

Interpersonal trust plays a role in ensuring that information is accepted openly by recipients (Aitken et al., 2016). In one case study, information from developers delivered in person to local residents was viewed as a primary source of reliable information and seen as more reliable than printed material mailed out by the process leaders (Simcock, 2016). Conversely, in the low trust environment of several Ontario communities facing turbine proposals, information received from friends and neighbours was trusted more than information from the process leaders (Fast & Mabee, 2015). This phenomenon has been seen in a variety of energy developments in Canada, where information provided by

the process leader or government is seen by residents as less trustworthy than information from social media or peers (Cleland et al., 2016).

Overall support of a local project is also linked to trust of information. Walker, Baxter, and Oulette (2015) found that Ontario residents who supported the local project were more trusting of information from their local government, the developer, and other groups supportive of turbines. Residents opposed to the project were less trusting of these groups, and more trusting of information from turbine opposition groups (Walker et al., 2015). Understanding how this interpersonal trust between process leaders and residents is developed or lost during a wind siting process is therefore an important research question.

2.5.3 Trust in Process Leaders (Interpersonal Trust)

Trust between residents and process leaders has been identified as important to all aspects of public participation in a siting process (Wustenhagen et al., 2007) and should be considered "part of the package of conditions that can help projects work" (Walker et al., 2010, p. 2655). Trust should not be taken for granted and can be affected by such factors as the design of the siting process, project benefits, and existing or emerging social tensions within the community (Fast & Mabee, 2015).

Public engagement, as a set of rules, processes, and formal procedures alone, can fail to satisfy the concerns of participants, thus failing to generate trusting relationships with them (Dwyer & Bidwell, 2019). As the authors put it: "There is abundant research that formal public engagement processes tend to fall short of meeting public expectations, creating a lack of trust" (p. 174). Interpersonal trust between residents and process leaders has been observed, in at least one wind siting example, to be more important in

generating local acceptance of turbines than trust in the more formal rules that govern the process (Firestone et al., 2020).

In their review, Huijts et al. (2012) determined that when not much is known about a risky technology, interpersonal trust in those responsible for the technology can influence a person's perceptions of risks, costs, and benefits, causing them to view the risk-reward ratio more favourably and lead towards overall acceptance. Indeed, Walker et al. (2010) found that a high degree of interpersonal trust between local residents and the project proponents was correlated with support for a community wind project. Building of interpersonal trust with process leaders has even been observed to overcome initial local project opposition in some residents (Simcock, 2016). Interpersonal trust has also been correlated with statements indicating a sense of procedural justice, such as residents having had influence over project decisions and a sense that the project was built because of community support and contributions (Walker et al., 2010).

In a 2008 study into the causes of opposition behaviour to national parks (e.g., illegal harvesting, harassing park guards, legal action, or active protest), Stern found that local residents' distrust that park managers would be "fair and honest with local populations" (Stern 2008, p. 873) was a significant predictor of opposition behaviour from residents (>80% accurate). The most common reasons cited by residents for trusting park managers was a personal relationship and good communication. The most common reasons for distrusting were a sense of social distance and insufficient communication. In a similar finding from the facility siting literature, personal distrust of facility managers has contributed to negative attitudes toward the siting of some environmentally noxious facilities (Baxter, Eyles, & Elliot, 1999).

The literature suggests that interpersonal trust is a significant factor in shaping local views, facilitating cooperation from the public, and understanding behavioural outcomes including local acceptance of technologies and project proposals. However, interpersonal trust between participants and process leaders is not a direct path to project acceptance, as individuals' behavioural decisions often require balancing of competing and conflicting trust relationships (Stern & Coleman, 2015). A participant may come to trust a process leader personally, but still be confronted with the challenges of representing the needs of an organization they represent, negotiating within the bounds of a process they find unacceptable, or being forced to protest an outcome they simply cannot abide (Stern & Coleman, 2015). Establishing personal trust with process leaders is not a guarantee of any particular outcome; other factors still affect a person's ultimate behavioural decisions (Stern & Coleman, 2015).

2.5.4 Developing Trust During a Wind Siting Process

Trust between parties seems to be implied in the way that many proponents of community wind energy envision it working within communities (e.g., Walker et al., 2010). Indeed, community energy has the *potential* to increase trust by creating a sense of shared purpose and values between members of the community (Capener, 2014). However, as Bell et al (2005) suggest, if a participatory process is to be pursued, developers and policy makers will need to understand how trust can be fostered *by* that process.

Trust is not guaranteed within a community energy development framework, no matter who it is initiated by. This partly due to the "community" approach referring to a variety of planning processes (Walker et al., 2010), and the low trust environment that

wind developments are embedded in (Cleland et al., 2016; Comeau et al., 2015; Ebert & Power, 1999). When wind projects are not being advanced by local champions, the task of building trust with local communities is left to the process leaders – typically developers and/or government (Fast & Mabee, 2015). These parties have not prioritized this aspect of the siting process to the degree that the literature suggests is warranted (Fast & Mabee, 2015).

Devine-Wright (2005) notes that the various social identities that exist within communities such as being a member of said community, or member of a sub-group within it, can influence who we trust and how we form opinions. Members of the same community are perceived as more trustworthy than those outside the group and may have greater influence in swaying opinions (Anderson, 2010). This is known as "depersonalized trust" (Evans & Kreuger, 2009), and presents a barrier for developers, seen as outsiders, to generating interpersonal trust with communities.

Trust can also be *eroded* by the implementation of a community development process if procedural justice is not upheld. Walker et al., (2010) describe a case study of the Moel Moelegan wind farm in which a small group of local farmers initiated a 3-turbine wind farm in an area of the UK. The development went through without significant dispute, but when a subsequent expansion of 12 additional turbines was proposed it resulted in significant distrust between the farmers/developers and community members. An opposition group complained that consultation had been inadequate and that benefits were accruing mainly to the owners; any benefits to the community were being greatly overstated. As a result, trust between the process leaders

(who were local farmers) and community residents deteriorated almost completely (Walker et al., 2010).

It is worth noting that the farmers were under the impression that they *did* have the trust and support of the majority, and the protest was the product of a vocal minority. They were, in effect, appealing to Bell et al.'s (2015) "democratic deficit" explanation for local opposition. However, Walker et al.'s (2010) survey results indicated that 46% of respondents did *not* have a sense of trust in the project organizers. This is another example of Simcock's (2016) observation that the same process can be experienced differently by individuals in a community, resulting in different perceptions of trust and fairness. We have already seen how community energy does not guarantee acceptance; this case study demonstrates how wind proposals calling themselves "community" projects can also cultivate distrust.

In a review of the literature on the acceptability of wind energy, Aitken (2010) concluded that "trust may, indeed, be a key concern within the planning and development of wind power. However, in order for this trust to be meaningful it cannot be conceived as a means to a particular end." (p. 1840). Public engagement can be considered "instrumental" when it is carried out for the purpose of contributing legitimacy (real or imagined) to a decision (Fiorino, 1990). Aitken (2010) cautions against attempting to build trust via manipulative means for purely instrumental reasons. Taking a "managerial" approach toward community consultation in order to overcome opposition to wind developments has been advocated for in the past (Ebert, 1999), but more recent research has observed that this tack can actually erode trust in the relationships between community and developer or government. If a relationship is presumed to be initiated for

an instrumental or transactional purpose, it is harder for trust to develop (Aitken et al., 2016). Yet, if process is conducted authentically, fairly, and not merely as an "empty ritual" (Arnstein, 1969), it may still have instrumental value in fostering acceptance of renewable energy technologies (Huijts et al., 2012).

2.5.5 Trust Across Time

Trust is not static; it is a formed through time and can be revaluated on the basis of new information (e.g., the classic "prisoner's dilemma") (Evans & Kreuger, 2009; Firestone et al., 2020; Stern & Baird, 2015). In a low-trust environment, it can be expected that participants will initially be skeptical of developers and governments, and their intentions. Early planning stages are key for developing trust and avoiding residents moving from low trust to deeper distrust. An important case study by Dwyer & Bidwell (2019) demonstrates how this initial skepticism can be overcome, and overall project support/success achieved.

Dwyer & Bidwell (2019) argue that interpersonal trust with process leaders is most important and constitutes the "first link" in the chain of trust required for wind farm acceptance (Figure 6). The siting process was divided into its formal aspects (what is legally required) and informal (what was initiated by the process leaders voluntarily). The authors found that informal interactions with process leaders fostered more trust than did formal measures such as attendance at town hall meetings. In their model, interpersonal trust between residents and process leaders is developed iteratively by leaders continuing to meet the expectations of participants about how the process should go forward. These resident expectations were satisfied most effectively through informal means like information delivered via door-knocking campaigns by trusted community liaisons

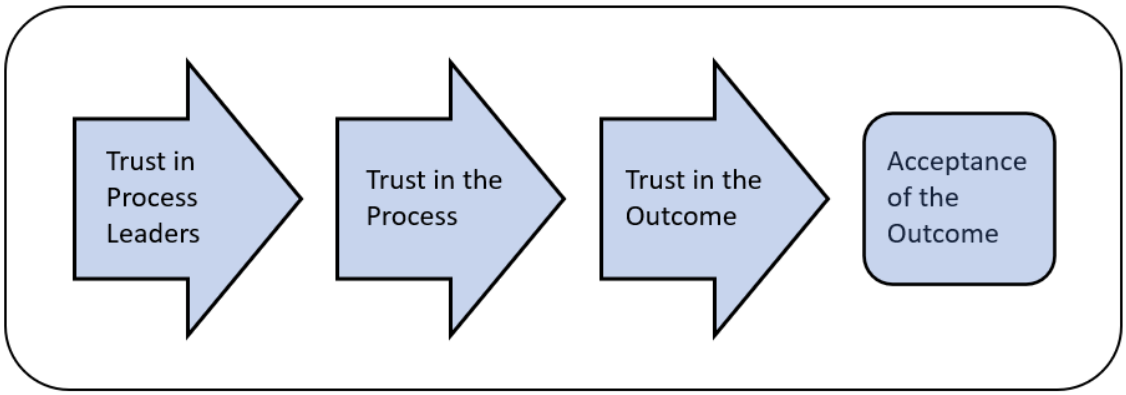
(Dwyer & Bidwell, 2019). The interpersonal trust developed then acted as a kind of bridge to trust in the more formal aspects of the process (Dwyer & Bidwell, 2019).

> "Success (or failure) in meeting participants' expectations for a meaningful engagement process was tied explicitly to the creation of trusting relationships among the developers, process managers (i.e., governmental and academic entities responsible for some engagement activities), and participants. Participant trust in the process leaders, the process, and the outcome were essential to generate acceptance for the outcome." (Dwyer & Bidwell 2019, p. 167)

This suggests that smaller, more personal interactions may be more effective at fostering interpersonal trust and an overall sense of procedural fairness (Dwyer & Bidwell, 2019). Recall that in the absence of knowledge or experience about wind turbines, people may need to rely more on the process leaders to base their trust (Huijts et al., 2012; Siegrist & Cvetkovich, 2000). In other natural resource management planning contexts, positive interactions with process leaders in both formal and informal settings have been observed to foster positive associations with residents that extend to the leaders' organization (Davenport et al., 2007). This supports the proposal by Dwyer and Bidwell (2019) for interpersonal trust as the start of the chain which may, over time, extend to the project more generally.

Figure 6

The 'Chain of Trust' Supporting Acceptance of Wind Turbine Developments.



Note: The chain of trust proposed by Dwyer and Bidwell (2019) suggests that local acceptance of a wind project begins with developing interpersonal trust between residents and process leaders, leading to building trust in a fair process, then trust in the fairness of the outcome, and finally acceptance of the outcome (Adapted from Dwyer & Bidwell, 2019).

However, interpersonal trust in process leaders is not necessarily required in advance of trust in the process itself; this dynamic of trust can also work the other way around (Coleman & Stern, 2018). When participants in a natural resource management working group trusted that the rules and procedures governing their interactions with other stakeholders were fair, it allowed participants to start working together and created a space for interpersonal trust to develop between parties who were initially sceptical of one another (Coleman & Stern, 2018). In the absence of knowledge or experience about a situation (including not knowing other participants or the process leaders), people may also rely more on their general willingness to trust (i.e., disposition) when making decisions (Evans & Kreuger, 2009). Thus, the literature suggests that in the absence of knowledge about a particular topic, people may begin cooperating by relying on interpersonal trust, trust in a system of rules, or their general level of dispositional trust (Coleman & Stern, 2018; Dwyer & Bidwell 2019; Evans & Kreuger, 2009; Huijts et al., 2012; Siegrist & Cvetkovich, 2000).

Dwyer and Bidwell's (2019) study focused on an offshore windfarm in the US. The turbine siting process was undertaken in parallel with a regional marine use zoning process which determined where turbines would be allowed. This is an unusual context, considering most turbine proposals are onshore and not paired explicitly with regional land use planning exercises. Interviews in their study were also conducted before turbines were operational, and therefore prior to the entire siting process being completed. A similar study conducted after completion of an onshore community wind development would be useful to determine if their "chain of trust" is a model that can be observed in different policy environments.

2.5.6 Concepts of Trust in the Wind Acceptance Literature

Much of the social science literature on local acceptability of wind energy provides a limited definition of trust or its sub-types. As we have seen, resident trust in information and interpersonal trust between residents and process leaders has received most of the attention.

The concept of trust in this literature seems to ofttimes be taken for granted and not articulated in a nuanced way. For example, Fast and Mabee (2015) identify trust-building policies as one of two critical factors affecting local responses to wind farms, but offer only a basic understanding of trust as "a social asset built by having had expectations fulfilled" (p. 29). However, if a person expects betrayal and has that expectation fulfilled, we would hardly imagine that experience to foster trust in the future. The authors do not specify the type(s) of trust being discussed throughout the paper or in what context the trust exists (e.g., between resident and developer, resident and the technology itself, etc.). As another example, Corscadden et al. (2012) report that

"trusting the company" is very important for Nova Scotia residents' acceptance of wind energy, but do not define trust, or specify what residents would be trusting the company to *do* (e.g., to work safely, protect the environment, treat residents respectfully, provide quality information, etc.)

There are some exceptions where trust types *are* described by the authors. Walker et al. (2010), distinguish "social trust" (i.e., trust in institutions) as opposed to the interpersonal trust in individuals which facilitates cooperation between these institutions and outside parties. Goedkoop & Devine-Wright (2016) identify some of the bases for (dis)trust between developers and community members, noting that developers tend to be sceptical of the community's competence and ability to participate meaningfully, while community representatives tend to be suspect of developers' motives and values.

However, trust types have also been misrepresented or conflated. In a study investigating the motivations for people joining community energy initiatives, Bauwens (2016) considers the role of interpersonal trust. Yet, the research tool indicates that he has measured people's *general* trust of others (p. 286), or what has elsewhere been called "dispositional" trust (Stern & Coleman, 2015) or a "general willingness to trust" (Evans & Kreuger, 2009), rather than interpersonal trust with other (real) persons involved in the community energy groups. This lack of consistent definitions within the literature makes interpreting research results related to trust difficult.

A notable exception to this trend is the recent work of Dwyer & Bidwell (2019) who, as mentioned, spend time discussing the concept of trust and identifying the *types* of trust most important to residents in a wind energy context. The authors distinguish types of resident trust by describing *where* the trust was placed (not necessarily *what* the trust

was based *on*): in the process leaders, in the process itself, and finally in the legitimacy of the outcome. This lens is unique within this body of work, and signals that this type of analysis of trust has been missing. Generally, the literature lacks robust analyses of the different types of trust relevant in a wind siting process and their bases. For the purposes of the current study, the focus will be on the dynamics between trust, procedural fairness, and resident attitudes. However, before arriving at the nuanced view of trust that the wind acceptance literature appears to require, further understanding of trust as a social phenomenon is required.

2.6 Trust

2.6.1 Introduction

The literature has established trust as an important factor in shaping local attitudes and acceptance of wind turbines (Dwyer & Bidwell, 2019; Firestone et al., 2020; Friedl & Reichl, 2016; Huijts et al., 2012; Walker et al., 2010; Wustenhagen et al., 2007). To better understand *how* trust elicits these effects, I will deepen our understanding of trust as a psychosocial phenomenon, briefly review how trust has been seen to function in other public engagement and participatory governance schemes, and introduce an appropriate model of trust that will guide this study.

The literature on trust includes knowledge from a range of disciplines, including behavioural economics (game theory), psychology, political science, organizational studies, and others (Evans & Krueger, 2009). Trust is important to all human social interactions (Lewis & Weigert, 1985) and has also been observed in chimpanzees, potentially having roots even further back in evolutionary history (Engelmann & Herrmann, 2016). Trust can exist at the individual level as a psychological state and also

at higher levels of organization such as the trust between business organizations or citizens and their institutions (Lewis & Weigert, 1985). To generate deeper understanding of the phenomenon of trust, researchers have proposed various models of trust which describe various subcomponents or subtypes, and the dynamics between them.

2.6.2 Definitions and Concepts

The Oxford Dictionary of Philosophy defines Trust as: "the attitude of expecting good performance from another party, whether in terms of loyalty, goodwill, truth, or promises. The importance of trust as a kind of invisible glue that binds society together is most visible when it is lost. Trust involves an element of risk…" (Blackburn, 2008, p. 368). This definition includes three elements key to understanding trust in a wind context.

Firstly, trust must involve an element of risk. If there is a guarantee of a positive outcome, trust is not required; we can just act on a certainty with no potential downside (Evans & Kreuger, 2009; Parkins, 2010). Trust implies that there is some chance of an undesirable outcome, and one decides to accept a certain level of vulnerability vis a vis that risk. Second, this decision must include an expectation (reasonable or not) that the risk will be avoided. If a trustor does not carry a positive expectation, they would be acting against their interests and effectively self-sabotaging (Evans & Kreuger, 2009). Trust is always given along with a certain set of expectations about how things will proceed (Earle & Cvetkovich, 1995, cited in Davenport et al., 2007). Finally, emphasizing the "invisibility" of trust when it is working well and its visibility when lost, Blackburn's (2008) definition also highlights the potential for trust to be taken for granted when working well. Trust is required for a society to function; the alternative is a

pervasive suspicion and fear of others that can prevent effective collaborative action (Lewis & Weigert, 1985).

In most of the literature reviewed on trust, authors are quick to point out that no precise definition of trust exists (Bellaby, 2010c; Evans & Kreuger, 2009; Greenberg, 2014; Huijts et al., 2012; Rousseau, Sitkin, Burt, & Camerer, 1998). However, most authors propose a kind of general definition, most of which have significant similarities:

- "… a psychological state in which an entity (a trustor) accepts some level of vulnerability (i.e., risk) based on a positive expectation of another entity (a trustee)" (Coleman & Stern, 2018a, p. 293)
- "… believing that a person(s) or organizations(s) can be relied upon to accomplish objectives because they are competent and possess values and intentions that are consistent with all or part of the public" (Greenberg, 2014, p. 153)
- "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviours of another" (Rousseau et al., 1998, p. 395).

Rousseau et al. (1998) observe that most definitions of trust appear to be "variations on the same theme" (p. 395). I will adopt an understanding of trust that mainly follows Blackburn's (2008) and Rousseau et al.'s widely-cited (1998) definition offered above, which includes the following key characteristics of trust:

- It is a psychological state within individuals, who are acting in a relational context.
- There is an acknowledgement of risk.
- There is a willingness to accept vulnerability in the face of that risk.
- There is an expectation that the other party will act positively toward the trusting person and succeed at mitigating the risk.

Greenberg's (2014) mentioning the competence of the other party is also key, since the trustor must assume the other party's ability to successfully complete their task and mitigate the risks. If we do not expect that the other party can complete the action we are trusting them to do, we revert to "self destructive" behaviour (Evans & Kreuger, 2009, p. 1004).

2.6.3 Structure of a Typical Trust Relationship

The literature acknowledges trust as existing within a relationship of some kind (Evans & Kreuger, 2009; Rousseau et al., 1998). A description of a typical trust relationship is offered by Stern and Coleman (2015) (Figure 7). The authors' model of trust has been proposed for use in natural resource settings and will be the primary model used to guide this study (see Section 3.7.2 - Analytical Framework).

For Stern and Coleman (2015), a trust relationship involves *entity a* (the trustor) trusting *entity b* (the trustee) to carry out *action c.* The trustor acknowledges a degree of risk and accepts some vulnerability to the trustee with the expectation that the trustee will successfully carry out an action. The trustor is always an individual, but the trustee could be a person, institution, a process, information, or an object (Stern & Coleman, 2015). For example, a person (*entity a*) could trust a technology (*entity b)* to perform its function safely (*action c*).

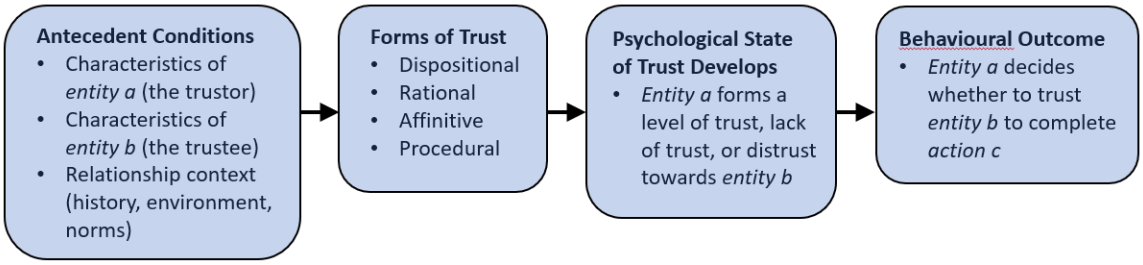
The decision to trust is made based on the trustor's assessment of several *antecedent conditions*, including the relevant character traits of the trustor and the trustee (e.g., the risk tolerance of the trustor, and the perceived honesty or competence of the trustee), and the environment or context in which both are immersed (Stern & Coleman, 2015). The trust can take one of four forms, which the authors distinguish based on the

type of information used by the trustor when deciding whether to trust. *Dispositional* trust (a person's general willingness to trust), *Affinitive* trust (based on a sense of social connectedness and shared values with the trustee), *Procedural* trust (based on a set of formal rules that a trustor relies on to ensure a function is carried out), and *Rational* trust (based on previous evidence that the trustee is likely to successfully carry out the action) (Stern & Coleman, 2015).

Trust does not exist in a binary, but is experienced along a spectrum, ranging on one end from complete trust to complete distrust on the other. As mentioned, *trust* implies a willingness to accept vulnerability based on an expectation of a positive outcome. *Distrust* implies an unwillingness to accept any risk or vulnerability to the trustee, based on an expectation of a *negative* outcome (e.g., a belief that the trustee will betray the trustor at the first opportunity.) In the middle of the spectrum are a range of skeptical attitudes that indicate a *lack of trust*. A lack of trust implies more of a "wait and see" attitude (Stern & Coleman, 2015). Here, the trustor is not yet prepared to make themselves vulnerable to the trustee but may change their assessment based on receipt of new information (Stern & Baird, 2015).

Figure 7

Framework Modelling a Typical Trust Relationship



Note: Based on a number of antecedents, **entity a** (trustor) decides whether to trust **entity b** (trustee) to carry out **action c**. The trust may take one of four forms listed. The psychological state of trust will exist somewhere along a spectrum, ranging from complete trust, through a skepticism or lack of trust, to

complete distrust. After the influence of any intervening factors, **entity a** makes a decision whether to trust **(response d**) (Adapted from Stern & Coleman, 2015).

2.6.4 Modeling Trust

When a decision is finally taken to trust something or someone, one typically experiences the decision as a single, unified experience (Lewis & Weigert, 1985). Unprompted, people do not tend to experience different *forms* of trust. Yet, in attempting to provide insight into the different sources of trust and their consequences, researchers have proposed models which distinguish different subtypes or bases of trust (Table 2).

Table 2

Examples of various authors' models of trust.

Authors	Field	Trust Sub-Types or Bases
Lewis & Weigert (1985)	Sociology	Emotional, Cognitive, Behavioural
Evans & Kreuger (2009)	Behavioural Economics and Social Psychology	Personality Differences, Social Identity, Expectations
Anderson (2010)	Community Psychology	Political Trust, Interpersonal Trust
Baxter, Eyles, & Elliot (1999)	Social Science, Facility Siting	Technical Trust, Fiduciary Trust
Walker et al., (2010)	Social Acceptance of Wind Energy	Interpersonal Trust, Social Trust

When people trust, what is it they are trusting *in*? Authors have described different forms trust in terms of the bases we rely on, or the various forces that influence our decision to trust. According to Bellaby (2010a) bases we rely on vary between

contexts but can, for example, include the shared values of the trustee (values), or the perceived ability to successfully do what they promise to do (competence).

Evans and Kreuger (2009) account for differences in people's trust choices by appealing to individual differences in personality, the presence of a shared social identity, and expectations of others behaviour. Notably, the authors identify that people display a broad diversity in their general willingness to trust. Having a shared social identity, such as being members of the same community, also signals that the trustee is likely to have shared values and increases whatever willingness to trust the trustor started out with; the trustee being a member of an 'outside' group decreases it (Evans & Kreuger, 2009). Perceiving the trustee to be competent increases willingness to trust; expectation of incompetence or betrayal decreases it (Evans & Kreuger, 2009).

Anderson (2010) recognises a difference between *Political* trust, and *Interpersonal* trust. Again, these distinctions are made according to the bases on which the decision to trust is made. Political trust is based on a more rational approach to predicting performance of a government or other agency to carry out its institutional function (Anderson, 2010). Interpersonal trust is based in personal relationships and emotion; it requires making oneself vulnerable and taking a "leap of faith" that the trustee will show benevolence (Anderson, 2010). Importantly here, in a theme present throughout the literature, the author recognises that the various dimensions of trust can be considered conceptually distinct, yet in the real world, often overlap and influence one another.

As a final example, Baxter, Eyles, and Elliot (1999) make a distinction between two forms of trust that existed between local residents and leaders of a facility siting

process. *Technical* trust is based on a rational assessment of whether the trustee is competent enough to carry out the proposed activity, and *Fiduciary* trust is believing that a trustee will place the public interest above their personal or organizational interests (Baxter et al., 1999). Fiduciary trust can be further divided, having at least two bases: an emotional connection based on the character and shared values of the trustee, and a rational assessment of the restrictions of the trustee's job description (Baxter et al., 1999). Other trust literature also makes the distinction between the rational and emotional bases of trust (Greenberg, 2014). However, this is an example of one trust 'type' (fiduciary trust) having multiple 'bases' (emotional and rational) and highlights the importance of researchers clearly stipulating their theories of trust.

We have adopted a definition of trust that focuses on the psychological state of the individual and their willingness to accept vulnerability, yet in Lewis and Weigert's widely-cited 1985 paper, *Trust as a Social Reality,* the authors argue from a sociological perspective and present a concept of trust as fundamentally embedded in social relations. Since trust exists in a relationship of some kind (even in relationship to an object), it always implies a social reality (Lewis & Weigert, 1985). Yet, they observe the social phenomenon of trust as deriving from three elements which pertain to the individual: cognitive (rational) and/or emotional bases, and a behavioural output.

> "Trusting behavior may be motivated primarily by strong positive affect for the object of trust (emotional trust) or by "good rational reasons" why the object of trust merits trust (cognitive trust), or, more usually, some combination of both" (Lewis & Weigert, 1985, p. 972).

Bellaby (2010a) concurs, noting that trust is usually experienced more as the result of a cognitive, rational exercise, or as a deep feeling or intuition. Rational trust is quicker to develop, but also easier to break than trust which has an emotional base (Bellaby, 2010b).

Also bringing a sociological perspective, Putnam (1995) discusses the breakdown of 'social capital' in American society. He laments the loss of broader "social trust", which is the "willingness to rely on those who have responsibility for making decisions" (Parkins & McFarlane, 2015, p. 137), and is a required feature of productive societies and necessary for coordinating collective action. Putnam (1995) observes that changes to a community such as removal of small-town post offices can have deleterious effects on a community's social trust, which would be considered part of the *trust environment* (as per Stern & Coleman, 2015) in the area.

2.6.5 Why and How People Trust

Trusting helps to make an individual's life more manageable. Trusting means adopting the expectation that the trustee will act positively toward us and accomplish the stated goal; other potential scenarios do not need to be calculated and can be discarded. In this way, trust reduces complexity and allows one to move forward more efficiently with life (Lewis & Weigert, 1985). Trust reduces an individual's cognitive load; making and accepting conclusions is easier when one trusts the information and/or person they are dealing with (Mumford & Gray, 2010). Distrust can also serve the same function, reducing the number of possible future scenarios that need to be contemplated and leading us more efficiently toward action (Lewis & Weigert, 1985).

Stern and Coleman (2015) identify three elements of "trustworthiness" that trustors use to evaluate trustees: ability (competence to be able to do the thing they're being trusted to do), integrity (have behaved consistently in the past according to an acceptable set of values and principles), and benevolence (trustor believes that the trustee has their best interests at heart and wishes well upon them). The first two are more rationally based and the third is more emotionally based. An additional element of trustworthiness may be charisma. Other abilities being equal, leaders that are charismatic generate more trust in their followers (Stern & Coleman, 2015). In a review of the literature on trust in natural resource management, Hamm et al. (2016) identify the same three factors of trustworthiness noted above as being relevant to developing trust between landowners and a natural resource management institution. The authors note the following additional bases for trust: procedural justice, a perception of shared values, and confidence (i.e., an evaluation based on prior experiences about how things will go with the specific trustor).

The decision to trust is typically based primarily on an assessment of the other party; however, trust can also be given to someone not considered trustworthy, based on an expectation of some greater benefit to the trustor (Hamm, 2017). This type of decision to trust can be considered more of an intentional and calculated “leap of faith” taken in spite the overall evaluation of untrustworthiness; that is, one might decide to trust someone they normally consider untrustworthy because of a hope of a large payoff (Hamm, 2017). Therefore, increasing the perceived benefits offered to participants in a collaborative process may motivate participants to trust process leaders (Hamm, 2017).

Trust is also more than a simple analysis of costs and benefits. People are not entirely rational actors who make decisions based on economic calculus; *homo economicus* is a mythical being. Decisions to trust are also based on social factors, such as a shared sense of identity, values, culture, and personal connection (Evans & Kreuger, 2009; Stern, 2008). A sense of community is often based on shared interests and values, which can foster both a social connection with others, and a rational expectation that members' interests are aligned (Anderson, 2010). Communities are typically egalitarian in their structure, and trust is easier to generate and sustain in such "horizontal networks" compared to steeper social hierarchies (Mumford & Gray, 2010). This has been a problem for institutions in generating and sustaining trust with communities, and when implementing development processes that are top-down and technocratic (Mumford & Gray, 2010). It suggests that relationships between people will foster trust more easily than relationships between individuals and institutions (Mumford & Gray, 2010), and supports the suggestion of Dwyer and Bidwell (2019) for interpersonal trust as the start the chain of trust that leads toward project acceptance.

2.6.6 The Virtue of Distrust

While the benefits of trust to social life (Evans & Kreuger, 2009; Lewis & Weigert, 1985; Putnam, 1995), participatory processes in natural resource management (Davenport et al., 2007; Hamm, 2017; Leahy & Anderson, 2008), and wind siting (Bell et al., 2005; Devine-Wright, 2005; Fast & Mabee, 2014; Huijts et al, 2012; Walker et al., 2010) are clear, it should be recognised that 'over-trust' (Lehtonen & de Carlo, 2019), or a total faith in leadership can lead to apathy and disengagement from participatory processes that would benefit from more critical input (Parkins, 2010; Stern & Baird,

2015). High levels of interpersonal trust in particular can have deleterious effects on the function of longer-term working groups by limiting the scope and liveliness of debate and creating an unwillingness to be critical of others (Parkins, 2010). For this reason, distrust should not only be seen as an obstacle to be overcome. Rather, a certain level of dissent and mistrust within natural resources working groups may be an indication of their vigour in carrying out their mandate, and their upholding of democratic norms (Parkins, 2010).

In participatory processes, some distrust and some lack of trust may benefit the function of the group by, for example, fostering important debate, prompting participants to seek more information, or encouraging people to participate who otherwise would not (Stern & Baird, 2015). Participants may become involved in a process because they feel compelled to ensure oversight of process leaders' activities (Davenport et al., 2007).

Participants with high levels of dispositional trust but who remain sceptical may provide benefits to participatory processes by scrutinizing the group's activity more carefully and contributing to lively debates (Parkins, 2010). For example, Canadians who report at least some degree of scepticism about government biases and industry's influence over policy are more likely to engage with energy related issues (Parkins et al., 2017). Mistrust of large, incumbent energy industries can also be a motivator for the formation of grassroots community energy initiatives (Lehtonen & DeCarlo, 2019). However, too much distrust can lead to unproductive conflict and participant withdrawal (Stern & Baird, 2015), or an overall cynicism that precludes cooperation with process leaders (Parkins & McFarlane, 2015).

2.7 Gaps in the Literature and the Need for the Current Study

An appreciable amount of research has investigated the influence of various factors on local attitudes toward wind energy developments, including differences associated with so-called "community-based" approaches. Trust has been identified as a significant factor in the wind turbine literature, as it relates to notions of procedural fairness, meaningful participation, and supporting positive relationships with process leaders and institutions. It is also clear from the diversity of responses to wind proposals that no direct method has been identified for ensuring high and uniform levels of trust or local acceptance. In light of the research reviewed here, a number of knowledge gaps remain.

First, while most research into the effects of trust on local wind attitudes has tended to focus on interpersonal trust (Dwyer & Bidwell, 2019; Firestone et al., 2020; Walker et al., 2010; Wustenhagen et al., 2007) or trust in information (Bell et al., 2005; Walker et al., 2015), trust in these studies has been rather ill-defined, and is rarely the main phenomenon or variable investigated by wind researchers (e.g., Walker et al., 2015). Further work could continue to investigate the role of trust in wind siting processes as its primary subject, using a clearly articulated and well-defined model of trust.

Second, although interpersonal and informational trust have been associated with support for wind turbines, the specific factors that lead to these types of trust and, more notably, distrust, are not clear. Rousseau et al. noted in 1998 that trust must be understood in context and further research was needed into which types of trust emerge in which contexts. Research over the last decade or so has developed our understanding of

the different trust types that are functional in bringing together and sustaining collaborative working groups in a natural resource management context (Coleman & Stern, 2018; Leahy & Anderson, 2008; Stern & Baird, 2015). Additional work has revealed some of the factors that lead to public or participant trust and distrust in this space (Davenport et al., 2007; Hamm et al., 2016; Leahy & Anderson, 2008). Stern and Coleman (2015) noted that not much is known about how different types of trust interact, or how one type might affect another. Later investigating their own question, the authors (2018), found that participants' *interpersonal* trust is important in the initial formation of working groups, and *procedural* trust in the formal rules governing the group can be enough to sustain participation of new members and allow space for other trust forms to grow. Most of the insights in the natural resource management literature pertain to public or participant trust toward authorities such as the state or management organizations.

There has been comparatively little research identifying the types of trust within in a participatory natural resource *development* context such as a community wind setting, and the factors that influence them. Until recently, the need for this kind of nuanced research had gone unheeded. Fast and Mabee (2015) investigated the "trust-building" effects of various wind-related policies but were less detailed about which types of trust were affected, and how. A small body of case-study data has suggested that the informal actions of process leaders, more than the formal rules and procedures governing the process itself, are significant in generating trust with participants (Dwyer & Bidwell, 2019; Firestone et al., 2020; Walker et al., 2010; Wustenhagen et al., 2007). More research is needed to identify the relevant trust types within a wind siting context, understand the factors that influence trust between communities and process leaders, and

reveal how the dynamics (sequencing) of the trust types affect those relationships. Further research could investigate which factors influence which trust types. Do factors influencing trust affect only one type of trust, or affect multiple types concurrently? Is the basis of interpersonal trust between participants and process leaders mostly emotionally-based, on a sense of social connectedness and shared values? Or more rationally-based, on the assessment that, for example, process leaders are competent in their jobs?

Dwyer & Bidwell's recent (2019) suggestion of a "chain of trust" supporting wind development is drawn from an offshore, non-community wind development case study in the US that had high overall support. The study proposed interpersonal trust as primary in developing the kinds of trusting relationships that lead to project acceptance. Additional case study research of onshore, community wind processes in another jurisdiction would provide a useful comparison. In a community wind setting, what type(s) of trust starts the chain? And to pose the inverse of the question Dwyer & Bidwell (2019) have started to answer, what might any "chains of *dis*trust" look like?

Third, the value of trust as a lens to understand how residents experience procedural justice has been under-appreciated. Trust and fairness in wind siting processes have been correlated with acceptance of local projects, and higher levels of procedural justice are associated with higher levels of interpersonal trust between participants and process leaders (Anderson, 2010; Davenport et al., 2007; Hamm, 2017, Leahy & Anderson, 2008; Ottinger et al., 2014) and vice versa (Earle & Siegrist, 2008; Huijts et al., 2012). More research is required to determine which forms of trust and distrust are related to perceptions of fairness and *how* they actually lead to more positive (or negative) attitudes (Huijts et al., 2012; Rand & Hoen, 2017).

The attitudinal and behavioural responses stemming from trust and distrust are complex, varied, and difficult to predict (Huijts et al., 2012). There is also a high degree of difference in the type and degree of trust/distrust experienced by individuals (Evans & Kreuger, 2009) which relates to the high level of heterogeneity observed within groups involved with community energy initiatives (Bauwens, 2016; Goedkoop & Devine-Wright, 2016; Simcock, 2016). How do trust levels and behaviours change as participants gain knowledge, accumulate experience, and evolve their relationships?

The present study will address these gaps in the literature by pursuing the following research questions:

1. Do the four forms of types of trust identified by Stern & Coleman (2015) adequately explain the trust environment experienced by residents during a community wind siting process?
2. What are the factors that lead residents towards the four types of trust or distrust during a wind siting process?
3. How are perceptions of procedural justice related to the different forms of trust?
4. Are certain type(s) of trust more significant in shaping resident perceptions of procedural justice and overall project support?

Chapter 3: Methods

3.1 Introduction

This study investigated the attitudes of residents in two rural Nova Scotia communities towards nearby community wind developments. I conducted semi-structured, in-depth interviews with residents living between 1-10 km from the turbines and used NVivo 12 software to support an inductive thematic analysis of the interview transcripts. An analytical framework was then adapted from the natural resources management literature and used to develop a deductive coding framework that investigated the phenomenon of trust in further detail and guided the qualitative data analysis.

This chapter will briefly describe the methodological approach guiding the overall study and the practical decisions made regarding methods. The initial study design was amended mid-stream based on learnings from the community selection process, ongoing literature review, and preliminary interview results. Although these learnings could be considered research results, or 'findings' of a certain type, the dynamic nature of the study design will be described in the methods chapter only (i.e., not in the results section), as findings may appear in any section of a qualitative research paper (Sandelowski & Barroso, 2002).

3.2 Study Design

The current research is part of a series of Social Sciences and Humanities Research Council (SSHRC)-funded studies collectively referred to as the "Meaning of Community Wind Energy (MOCWE) Canada-Ireland Comparative Case Studies (2016-2021)" (COAREP, 2014). It comprises part of MOCWE study #5: *Residents' view of living with and without community-based wind energy in Ireland and Canada –*

Interviews. This qualitative study was intended to be exploratory and help explain the variety of meanings (i.e., perceptions and attitudes) attributed to community wind turbine development by local residents. The interviews were designed to cover a breadth of topics, detailed in section 3.6.2.

Results from this study will be incorporated into the design of subsequent investigations conducted by MOCWE researchers, who will use survey methods to quantitatively assess residents' attitudes toward their local wind energy development in a larger sample of communities spanning the jurisdictions of Nova Scotia, Ontario, and Ireland.

This study was originally conceived to qualitatively compare resident attitudes between two host communities using interview methods – one with turbines built under a process led by developer and government, and one with a community-based project. However, as the literature around community wind energy was reviewed and the siting processes followed in the two study communities were further researched, it became clear that a case-comparison would not be an appropriate model for the study. The distinction between a project developed under "standard" siting practices and a "community" wind energy project can be unclear from a theoretical standpoint (Baxter et al., 2020) and difficult to discern in practice. As such, this concept would not be a suitable criterion to 'cut' the data. Obtaining a representative sample of participants from each community was another practical challenge to the case-comparison design.

A lack of in-depth case studies focused on residents living in close proximity to turbines has been previously identified as a gap in the literature (Rand & Hoen, 2017; Dwyer & Bidwell, 2019). The study was designed to explore such potentially sensitive

topics such as the resident-developer relationship, personal preferences about the project, and social conflict caused by the development. Interviews provide depth of understanding and nuanced meaning that can't be generated by the closed-ended nature of questions that are typical of surveys. The rapport between the interviewer and interviewee can allow for deeper participant sharing and facilitate richer explanation of the subject at hand (Rubin & Rubin, 2012, p. 2-7). To understand the experiences of people living through wind turbine developments, I needed to hear it in their words.

3.3 Guiding Philosophy

Below, I acknowledge the influence and limitations of positivism and logical positivism on this and other work. I explain the epistemology guiding this study before describing how this shaped the methodology and the more specific methods that were used to generate the study's data and results.

Positivism is the guiding epistemology most associated with the scientific method and quantitative research. It proposes that knowledge is built upon empirical observations, subject to logical evaluation (Blackburn, 2008, p. 283). This hypothetico-deductive model of inquiry can work well to investigate the "purer" sciences such as physics, chemistry, or medicine and is best applied when researchers are familiar with key questions in the field and have strong reasons to know how the answers should be framed (Rubin & Rubin, 2012, p. 10).

Logical positivism is associated with the ideas of a group of thinkers known collectively as the Vienna Circle who were influential in the early 20th century (Blackburn, 2008, p. 214-215). This group built on the founding ideas of positivism, putting forward logical positivism as a method of inquiry suited to uncovering the

universal patterns and natural laws underlying social phenomena, with intent to gain predictive power and even a controlling influence over them (Whitworth, 2014).

However, the appropriateness of applying the methods implied by positivism to social research has been debated ever since positivism's inception (Frere, 2019). That said, it is still a guiding epistemology adopted by some contemporary researchers, including some employing qualitative methods (Gartrell & Gartrell, 2002). Positivism has been critiqued for over a century from the perspective of various disciplines for its links to colonialism, eugenics, and the technocratic organization of democratic societies that results from the (over-)application of science to politics (Frere, 2019). The trend toward technocratic decision making and infrastructure siting processes within the energy system could be considered an example of the latter.

The current study did not adhere rigidly to the epistemology of any established tradition. The guiding philosophy of the study was influenced by the post-positivist tradition, with insights from the approaches of phenomenology and narrative analysis. The term 'post-positivist' recognizes the limitations of positivism as a mode of inquiry for investigating the object of this study – human experiences of the wind siting process - and implies the adoption of additional perspectives. Positivism guides thinking toward recognition that a set of objective events happened during the wind development processes (e.g., a meeting was held on a particular date, or an environmental assessment was prepared by a particular consultant); however, recognizing the unique experiences and interpretations of these events by residents requires additional epistemological tools.

The study utilizes elements of a multi-site case study, as it involves detailed description of a bounded phenomenon (i.e., development of local wind farms) using

multiple data sources, relates these to the literature, and proposes some recommendations for future cases (Creswell, 1998; p. 36-37; 61-64). Narrative analysis, as an investigative method, is also reflected in the current study as detailed accounts of participants going through the siting process were co-constructed by the researcher and participants through in-depth interviews. The accounts illustrated how participants framed their experiences and derived meaning from them (Rudestam & Newton, 2007, p. 44-45). This study also recognises that there can not be one objective answer to the research questions (with respect to the level of trust between residents and developers, for example), and that through my role as interviewer, I have influenced the generation of data (Rubin & Rubin, 2012, p. 15-23).

In addition to adopting a post-positivist lens, the study can also be described as oriented from a 'naturalist-constructivist' perspective, which proposes that reality is not simply given; people are active participants in constructing their worlds by constantly naming, categorizing, and interpreting their incoming experiences symbolically, using language (Rubin & Rubin, 2012, p. 15). This leads toward a methodology that is interested in the phenomenology, or "lived experiences", of the participants and the meanings assigned to them (Rudestam & Newton, 2007, p. 40). The ontological reality of the participants' experiences was taken to be self-evident. With certain notable exceptions, I did not attempt to verify these lived experiences against an objective record of facts to reconstruct an objective account of events in these communities. A study which tested the accuracy of participants' perceptions and memories against some kind of factual record could be interesting, but was outside the current scope.

3.4 Literature Review

The purpose of the Literature Review was to evaluate the current state of knowledge based on a search of academic and grey literature in the following research areas:

- Social acceptance of wind energy
- Community wind energy
- Trust during participatory processes

This research is centred within the social acceptance of wind energy literature. To frame this study, research from several literatures was studied: Wind Energy Acceptance, Community Wind Energy, Natural Resources Management, and Trust. Each of these literatures are reasonably well established and larger than could be reviewed in a comprehensive way within the scope of this study. The review focused on several important themes within these literatures, focusing on the following areas:

1. Factors affecting local attitudes toward wind energy projects, including the importance of trust.
2. What "community wind energy" means and what, if anything, makes it distinct from "standard" wind energy developments.
3. The concept of procedural justice in wind siting, and its connection to trust and local attitudes.
4. How trust has been understood by wind researchers and how it has been seen to influence attitudes toward wind project proposals.
5. Trust as a psycho-social phenomenon, and how various forms of trust function in the context of wind siting processes and collaborative working groups.

Geographically, publications were primarily drawn from North America (US and Canada), Europe, and Australia. This was intentional as these societies are more similar to the study context (Nova Scotia) than are China and Russia, for example. Papers were

selected from search results generated using Google Scholar, Dalhousie University's 'Novanet' search function, individual online journal databases, Scopus, and from reviewing relevant publications referenced in the articles (i.e., "snowballing"). Most of the review focused on papers published in 2005 or later, including several seminal and highly cited papers in the wind literature published between 2005-2010. Some of the general, contextual literature on trust dates back further into the 1980s and 1990s.

3.5 Sampling

The following section includes description of the community selection process, and a profile of each study community. It describes the rationale for participant selection and the methods used to solicit participation.

3.5.1 Community Selection

The initial study design called for a case-comparison between a strong community development and a weak community development. In defining what a 'strong' versus 'weak' community development was, three main factors were considered (Table 3):

1. the level of community participation in decision-making,
2. the level of community benefits received, and
3. whether the development claimed to be 'community-based'

To maximize comparability across cases, I attempted to control for several additional development factors across communities. A list of wind developments in Nova Scotia was obtained from the province's Department of Energy and Mines (M. Adams, personal communication, April 12, 2017). This allowed me to screen candidate communities based on: the number of turbines, total generating capacity of the wind farm, location of the

development, and length of time in operation. Most developments also had a website that provided some basic project information and stated whether the project was branding itself as "community-based". Members of the MOCWE research team previously completed studies involving several Nova Scotia wind communities (Walker & Baxter, 2017a, b); these communities were avoided.

An additional consideration was the number of homes located within the immediate area around the turbines. Not all host communities had a sufficient number of homes in the area to support the research goals. For example, the Spiddle Hill wind farm near Tatamagouche was a promising candidate for a 'strong-community' model but was ruled out after only six homes were found to be within a 2 km radius of the turbines. Selection was also constrained by logistical considerations of travel costs, and time spent in transit.

Table 3

Community Selection Criteria.

	Community A (Ellershouse)	**Community B (Terence Bay)**
Community Selection Criteria	Strong community wind energy development	Weak community wind energy development
Community-based Energy Factors		
Community participation in decision-making	High	Low
Level of community benefits	High	Low
Claims to be "community-based"	Yes	No
Additional Development Factors		
Stage of development	Operating	Operating
Size (number of turbines, size of turbines)	Similar to community B	Similar to community A
Community structure	Similar to community B	Similar to community A

	Community A (Ellershouse)	**Community B (Terence Bay)**
Community Selection Criteria	Strong community wind energy development	Weak community wind energy development
(commuter town, retirement area, farming area, etc.)		
Demographics	Similar to community B	Similar to community A
Rural or Urban	Similar to community B	Similar to community A
Regulatory Environment (developed under similar conditions)	Similar to community B	Similar to community A
Logistical		
Distance from University	< 4-hour drive	< 4-hour drive
Population	Large enough to generate sufficient responses for study (adequate 'n')	Large enough to generate sufficient responses for study (adequate 'n')

To aid in community selection, I reviewed publicly available information about each wind development such as news articles, environmental assessments, and web pages hosted by developers and opposition groups. The amount of information available for each site varied, and it became apparent that it would be difficult to assess the two major criteria being applied in making the 'strong' versus 'weak' determination: 'high community participation' and 'high community benefits'. It is not clear what criteria should determine whether the level of community participation in decision making was high or low; the answer would likely vary depending on who was asked. Further, much of the relevant information was not publicly available. It was at this point I realized determining whether participation in decision making and community benefit levels were high or low, could only be completed by talking to those involved. Thus, a catch-22 situation emerged, such that collecting the information required to screen candidate

communities could only be completed by actually conducting the case studies. Community selection was thus made based on the best available information at the time, which was insufficient to fully classify the associated wind projects as 'strong' or 'weak'.

3.5.2 Community Profiles

Case descriptions were assembled from publicly available information (e.g., project websites, environmental assessments) and using comments and documents (e.g., emails, notes, meeting minutes, and project documentation) provided by study participants. In this sense, the case descriptions include data from the study. Understanding the community background and the narrative of development as told by the people who lived through it is important context for understanding how and why trust was an important feature throughout.

The communities (Figure 8) were of similar size and population characteristics, while Ellershouse hosted a relatively larger number of turbines (Table 4).

Table 4

Physical and Population Characteristics of the Study Communities

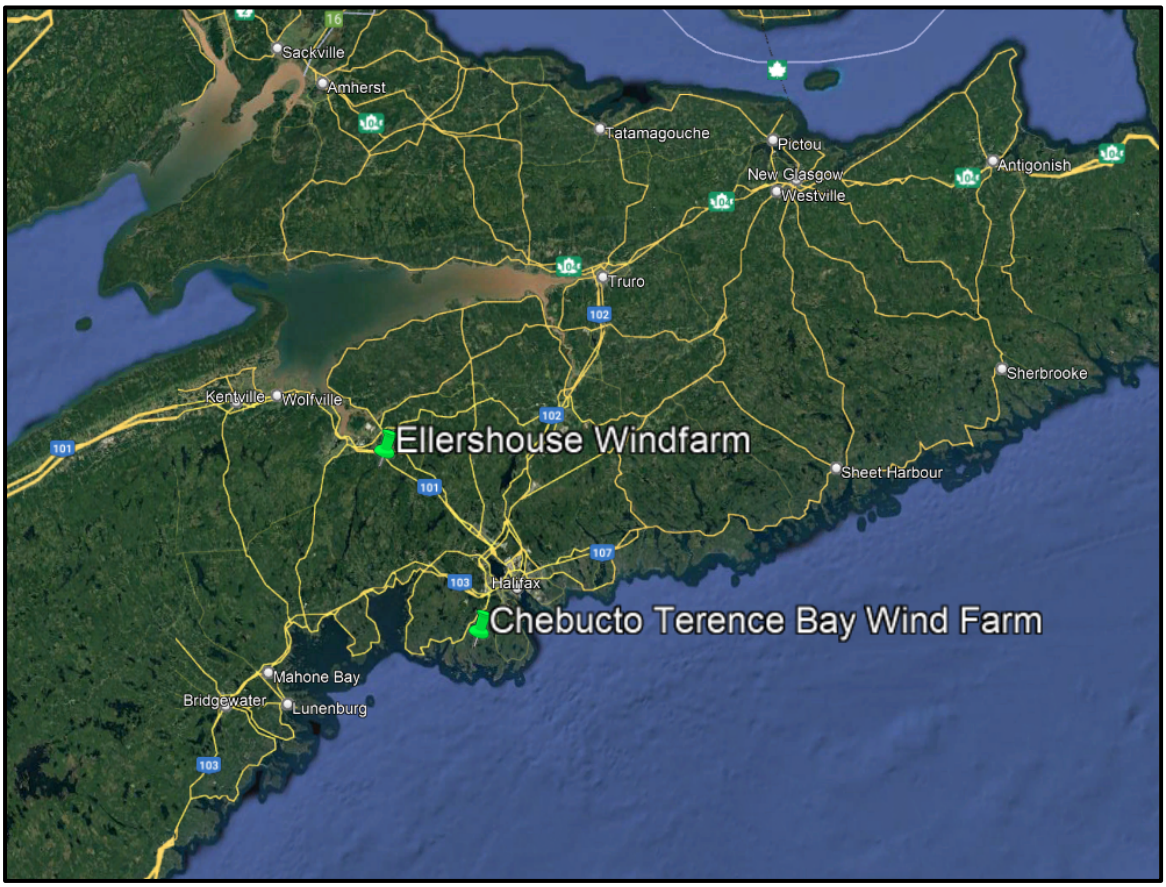
Project Name	**Nearest Community**	**Population of Nearest Community**[2]	**Private Dwellings Occupied by Usual Residents**[2]	**Number of Turbines**	**Total Capacity**	**Date Commissioned**
Ellershouse Wind Farm	Ellershouse	1,461	633	10	23.5 MW	Dec, 2015[1,3]
Chebucto Terence Bay Wind Farm	Terence Bay	1,548	634	3	7.2 MW	Jul, 2017

Notes:
[1] Town of Antigonish, 2019.
[2] Statistics Canada, 2019.

[3] Ellershouse Wind Farm was initiated with four 2.35 MW turbines in December 2015 and has been approved for an expansion to a total of 14 turbines and 32.8 MW of generating capacity. Data presented here reflects site conditions when interviews were conducted between February - July 2018.

Figure 8

Regional Map Showing Location of the Study Communities



(Google Earth Pro, 2021a)

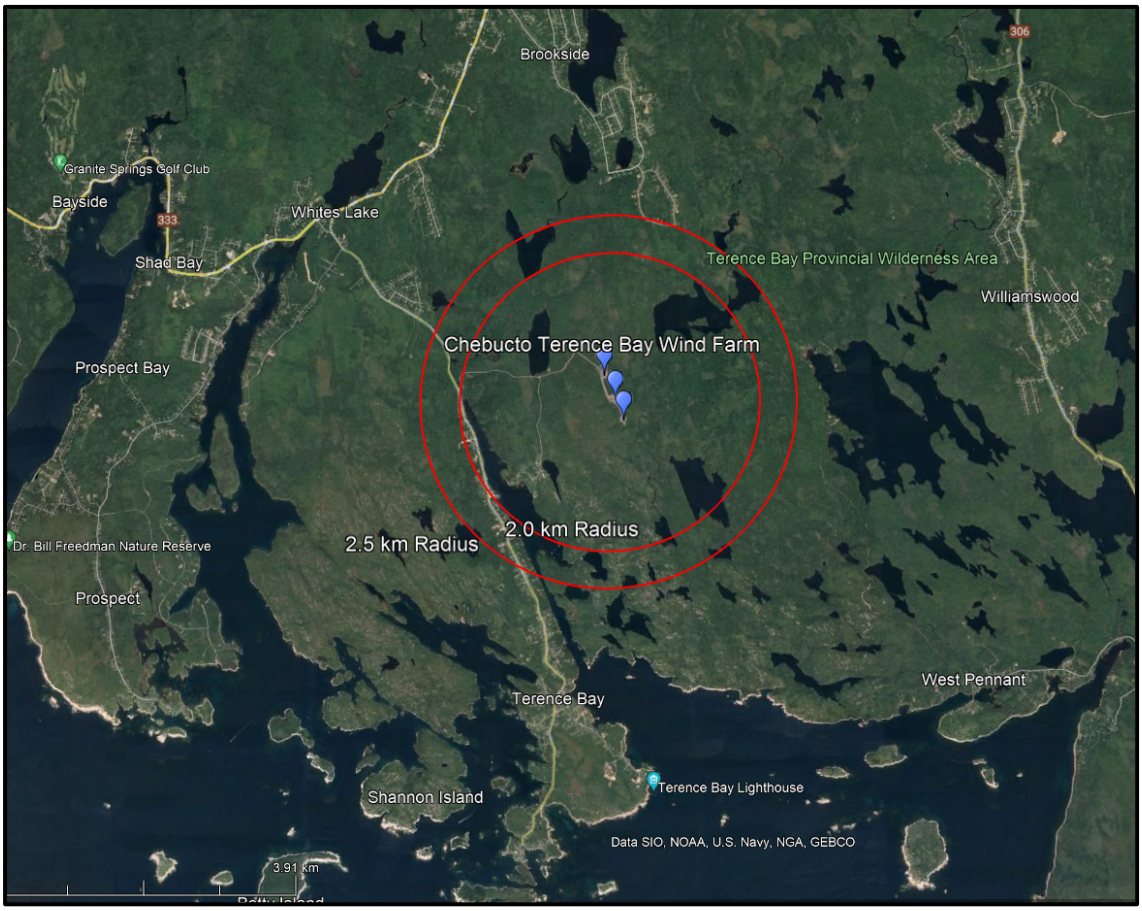
3.5.2.1 Terence Bay.

Terence Bay was selected as the 'weak' community energy case (Figure 9). The Chebucto Terence Bay Wind Farm was approved under the COMFIT program and consists of three wind turbines with a total generating capacity of 7.2 MW (CBCL Ltd., 2014). The project is owned by a community economic development corporation (CEDC), consisting of the developer, the project owner, and municipal residents who are

members of a Community Economic Development Investment Fund (CEDIF). As of fall 2014, when provincial environmental approvals were being sought, the CEDIF had 37 individual investors from Nova Scotia (Alberstat, J., 2014, Oct 22) comprising a total of 36% ownership of the CEDIF (CBCL Ltd., 2014).

Figure 9

Terence Bay Wind Farm and Surrounding Area.



(Google Earth Pro, 2021b)

A Community Liaison Committee (CLC) was organized, with a mandate to facilitate the two-way exchange of information between process leaders and community representatives. These community members were responsible for disseminating

information to the community and representing community interests and concerns at meetings. The chair of the CLC was a developer representative and was elected by committee members (personal communication, Interview 8, March 6, 2018).

Local opposition to the proposal resulted in the formation of a group called the Friends of River Road (FORR), with residents of River Road being located closest to the project site. Conflict between the group and developer was reported in local media as FORR sought to stop the project, with a developer representative describing opposed residents as "NIMBYs" during a radio interview (personal communication, T. Norman, November 2017). A local newspaper also described FORR as a group of "activists" (Alberstat, J., April 9, 2013). Resident concerns made regional media in August 2016 when an existing turbine in another part of the province, owned by the same developer, collapsed. A resident is quoted in a CBC article, saying that this gave Terence Bay residents "great concern" over the proposed development (Berry, S., Aug 25, 2016). The article also reports that the project had "been in the works since 2011" (residents report first having been notified of the project in July 2012).

The group expended a large amount of effort to engage with and obtain information from the developer, government representatives, other wind opposition groups, and online sources. FORR also requested information through Nova Scotia's *Freedom of Information and Protection of Privacy Act* (FOIPOP) request system. An information request made under the FOIPOP Act in Nova Scotia "provides access to most records under the control of the provincial government, while protecting the privacy of individuals who do not want their personal information made public" (Nova Scotia

Environment, 2017). Redacted project documents such as the project's COMFIT application form and letters of community support were obtained in this way.

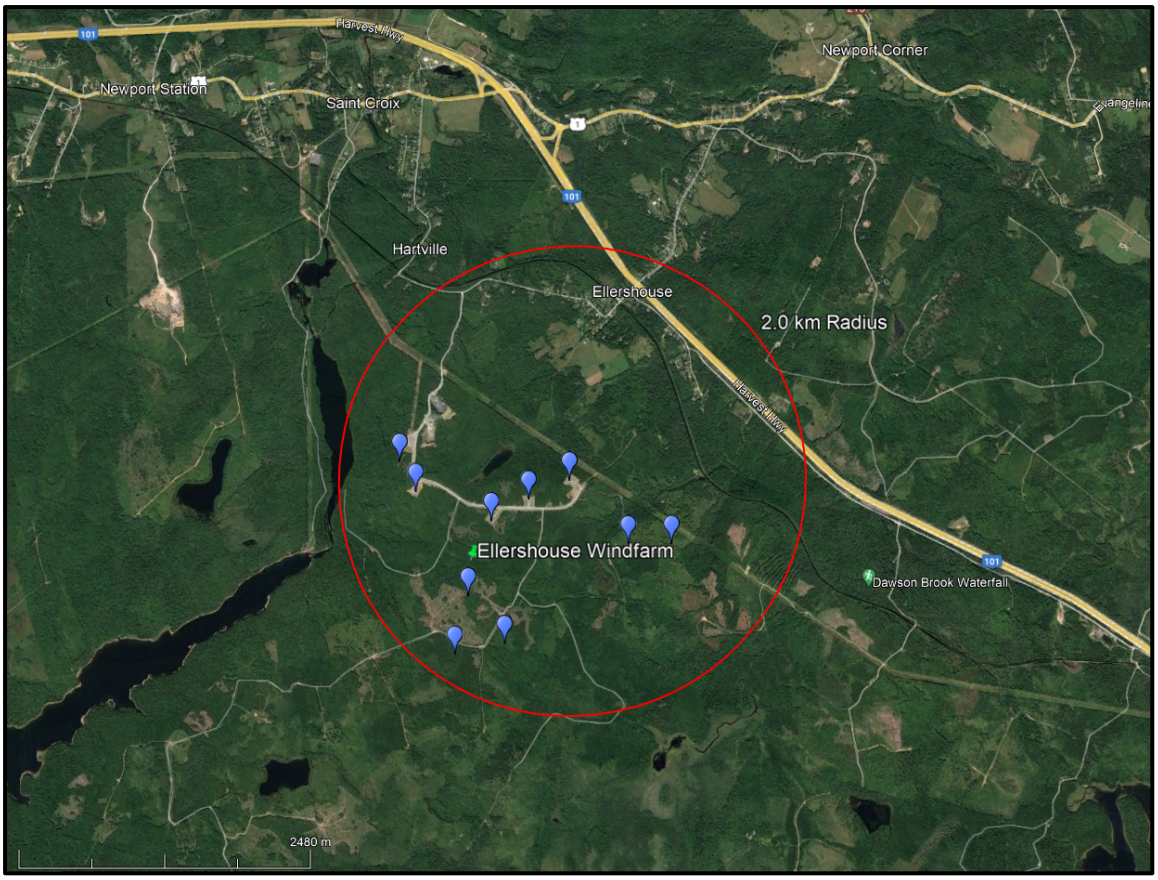
Conflict between the developer and community also resulted in some damage to property. A meteorological tower on the site was reportedly shot at by a member of the community. The tower was later stolen while it sat disassembled on a pallet over a weekend (Chebucto Terence Bay Wind Field Ltd., 2015, p. 4). During construction of the turbines, someone was also reported to have run over a car using a piece of equipment left at the site (Interview 3).

3.5.2.1 Ellershouse.

Ellershouse was selected as the "strong" community energy case (Figure 10). The hamlet of Ellershouse is divided by the boundary of two dissemination areas within the 2016 Canadian Census (Statistics Canada, 2019). The populations of both areas were combined in Table 4.

Figure 10

Ellershouse Wind Farm and Surrounding Area



(Google Earth, 2021c)

The Ellershouse Wind Farm was not pursued under the COMFIT program, but rather under the province's standard request for proposal process, in support of Nova Scotia's renewable energy targets (Strum Consulting, 2013). At the time of the study, it consisted of 10 turbines with a generating capacity of 23.5 MW and had been approved for an expansion to a total of 14 turbines and 32.8 MW of generating capacity. The project was developed by an energy company and is owned jointly by three Nova Scotia municipal governments (Strum Consulting, 2013). Public ownership (shares) was not offered to Ellershouse residents.

The project partnered with Bullfrog power to provide a solar array to the Ellershouse community centre. The project also provides an annual sponsorship of

$10,000 to the Ellershouse Wind Farm Society which is distributed to a number of community initiatives (AREA, 2021).

A CLC was organized, with a mandate to act as an advisory body to the project development team and as a forum for two-way exchange of information between the process leaders (i.e., the project owners and developer) and the community representatives. The CLC was administered by the chair of the committee, who was a developer's representative, appointed by the process leaders. Decisions were made by vote, with the Development team retaining control over most committee functions, including veto rights relating to business or financial decisions (Minas Energy, 2017).

No formal opposition group was formed in response to the project proposal and no reports of conflict were noted in local media. Although, some individual residents did voice strong objections to the development at CLC meetings and during municipal hearings.

3.5.3 Participant Selection

This study employed a purposive sampling strategy, soliciting a particular group of community residents for participation. The initial criteria for eligibility were that participants had to be full or part-time residents living within 2 km of a wind turbine and be over the age of 18. A 2 km radius around the turbines was selected to maintain consistency with previous research completed by the MOCWE group (Walker & Baxter, 2017a, 2017b), and to strengthen case-comparisons between jurisdictions in the upcoming Study 6 of the MOCWE research program (COAREP, 2014). The 2 km radius has also been advocated for by concerned citizen groups as a safe setback distance (National Wind Watch, 2019). Some medical practitioners have noted that while 2 km

may be a suitable average, larger setbacks may be required for landscapes with more dynamic topography (Pierpont, 2009, p. 20, 27). A guidance document produced by the Government of Nova Scotia defines "local residents" as those living within a band of 2-3 km beyond the edge of the turbine setback distance (Nova Scotia, 2014). The Terms of Reference for the Terence Bay CLC also indicate that the committee should be composed of individuals within a 2-3 km radius from the project, as they are most likely to be affected (personal communication, Interview 8, March 6, 2018).

Individuals living closest to turbines have been underrepresented in the wind literature (Rand & Hoen, 2017) and this study seeks to address that gap by emphasizing participation of residents living within 2-3 km of the turbines. The age criterion was employed to ensure that informed consent could be obtained, and because I wanted to be as inclusive as possible of the population living within the geographic community while avoiding the additional ethical requirements of working with children.

3.5.4 Participant Recruitment

Using Google Earth Pro, I plotted a 2 km radius around the turbine locations and identified the approximate number and location of residences falling inside the study area. On February 6 and 22, 2018, letters of invitation (Appendix A) were hand-delivered to the doors of eligible residences (Table 5). This was accomplished by driving to homes along each street in the study area until all homes had been solicited. If a resident answered the door, I explained the study briefly and invited participation verbally. Another MOCWE researcher previously solicited participants for interview-based research using similar methods, and obtained participation rates of 7.6% (Walker, 2012) and between 7.8 – 8.9% (Walker, 2014). Therefore, based on the number of homes

within the study area, there was no need to use any method to sub-sample the homes solicited; too much interest in the study was unlikely to be a problem.

Indeed, low initial interest from residents required that additional households beyond the 2 km radius be solicited to obtain data saturation. Terence Bay was selected as the community to extend the radius of the study area to 2.5 km. Delivering letters to all 198 homes within 2.5 km of the turbines would likely yield a suitable sample size. An additional 43 homes between a 2.0 and 2.5 km radius were solicited, mostly located to the southeast along Terence Bay Road, from where the turbines were largely still visible (i.e., within the "viewshed"), and homes were still considered a part the same community. By contrast, in Ellershouse an extended study area would reach beyond the viewshed of the turbines, and beyond what is considered the hamlet of Ellershouse, proper. In addition, the response from residents of Ellershouse had been tepid at best, with many people I spoke to at the door of their homes, the post office, or at community meetings, telling me that the turbines were simply not an issue the community was interested in. I inferred that additional solicitation effort outside of the core community was even less likely to yield additional data.

On February 28, 2018, I attended a meeting of the Community Liaison Committee at the Ellershouse community centre. It was a meeting of approximately 15 attendees, including representatives from the developer, the project owner, local residents, and myself. I was permitted a moment in the agenda to introduce myself and the study, and request participation from members. I also socialized with residents during the coffee break and asked several attendees whether they might like to be interviewed. Two interviews were generated through this method.

On February 22, 2018, I placed a letter of invitation (Appendix A) on the community notices board in the lobby of the Ellershouse Post office. This was done with the permission of the postal worker on duty, and remained up on the board until at least July 13, 2018, when I conducted my last interview in the area. One participant mentioned that she called me after seeing the notice up on the board.

On June 28, 2018, I solicited residents in both communities by mailing a one-page flyer (Appendix B) using Canada Post's Neighbourhood mail service (Canada Post, 2019). This service offers home or mailbox delivery of advertising material to homes and businesses. Individual "postal routes" are the smallest unit of delivery that can be selected. Therefore, in order to solicit the study area, I was required to send flyers to the entire "postal route", which covered a larger area. In Terence Bay 989 flyers were distributed, and in Ellershouse 719 flyers were distributed in this fashion. Thus, the recruitment area for the second round of mail-out solicitations was extended to 10 km from the turbines, which is still consistent with some wind literature investigating local wind attitudes (e.g., Liebe, Bartczak, & Meyerhoff, 2017).

The flyers were sent just before the July long weekend and were likely packaged by Canada Post with many other advertisements and 'junk mail'. With many people on summer vacation or having other plans for that weekend in particular, it's likely that many flyers went unnoticed. In retrospect, sending the flyers out the following week would likely have been more effective.

Adequate participation was a challenge in this study. While going door to door in Terence Bay, after friendly initial greetings, three doors were quickly shut once I indicated that I was interested in talking about the turbines. Several early participants

suggested that they were not surprised by a low response rate. I was told that people in Terence Bay carried hurt feelings about the turbines and, they suspected, did not want to open old wounds by talking about it. Ultimately, a total of 19 interviews were conducted which achieved data saturation (Rubin & Rubin, 2012, p. 63).

Table 5

Selection and Solicitation of Study Participants

Community	**Residences Within 2.0 km of a Turbine Solicited with Hand-delivered Letter**	**Additional Residences Between 2.0-2.5 km of a Turbine Solicited with Hand-delivered Letter**	**CLC Meetings Attended**	**Number of Residences Solicited with Mailed 1-page Flyer**	**Total Responses Received from All Methods**	**Number of Interviews Conducted**
Ellershouse	72	n/a	1	719	8	8
Terence Bay	83	43	0	898	13	11
Total	**155**	**43**	**1**	**1,617**	**21**	**19**

3.6 Interviewing Approach and Instrumentation

3.6.1 Philosophical

At its core, the subject of this study is human experience. This is the raw material from which the data and all subsequent theories and explanations were generated. The in-depth interview is a process by which the researcher explores the more complex, nuanced, and subtle aspects of human experiences, including personal views that may be sensitive and not easily shared (Rubin & Rubin, 2012, p. 2-7). The interview process requires the interviewer to be an active participant in the creation of information. The assumption guiding this study is that there is little 'objective' data that is collected during the interviews, perhaps apart from mention of dates or specific facts and events. During

an interview, data is not merely transferred directly from the interviewee to the interviewer; it is an inter-subjective co-creation (Packer, 2011, p. 8-9).

The interview technique I employed was guided by Rubin and Rubin's (2012) text which teaches what the authors call a "responsive interviewing model" (p. 10). Here, the term "responsive" refers more to the interviewer than the participant, emphasizing the researcher's ability to adapt in real time to the unique context of each interview. This allows interviewers to develop new and novel lines of inquiry, and/or explore a given topic in greater detail, based on the information encountered in the field. My interview style was also influenced by Rosenberg's (2011) *Nonviolent Communication*, which emphasizes active listening and feedback to ensure a person feels heard and understood before moving on, and especially before asking any challenging questions or pressing on a topic.

3.6.2 Design of the Interview Guide

The interview guide was collaboratively designed by the researchers involved in MOCWE Study #5. The design of the interview guide mostly complete prior to my joining the research team; therefore, my ability to influence the final interview guide was limited. I did offer contributions to the phrasing and ordering of questions. Consistency between interviews in Nova Scotia, Ontario, and Ireland was necessary to permit later case-comparison between jurisdictions. The guide was organized by theme and proceeded from some preliminary information-sharing about the purpose of the study, signing consent forms, obtaining permission to record and some introductory questions, before moving toward residents' views on particular aspects of the wind energy development.

The interviews were intended to elicit residents' views on such topics as: support for turbines, community-based energy, turbine benefits, fairness, trust in information, and some broader social issues such as energy security and climate change. A semi-structured approach was selected to ensure that residents had a chance to discuss each topic while providing the flexibility to dive deeper into the topics that were most important to them. The approach also allowed for latitude with respect to follow-up questions and pursuing novel lines of inquiry; the structure of the guide was not overly constraining. The interview guide is provided in Appendix C.

3.6.3 Practical Applications

Interviews were arranged by phone, email, or in person while dropping an invitation off at a resident's home. Interviews were scheduled at a time and location convenient for the participant, and were conducted in coffee shops, at the central public library in Halifax, and at participants' homes, generally between the hours of 10 am and 9 pm.

I approached interviews with a humble respect for the participant and attempted to create a welcoming, comfortable social space for them to express and explore their attitudes toward the local wind development. I always arrived on time when conducting an interview at a participant's home, and 10-15 minutes early when meeting someone at a public location. With only a couple of exceptions, I always wore the same clothes: a Dalhousie University sweater, blue jeans, and brown shoes. I found that participants generally sympathised with my having to complete a large 'school project' and quickly established rapport; many participants told me of their own children who completed

similar theses during university. For a few participants, I suspect this was as much a motivation for participating as was their interest in the local wind energy project. Often, a participant began the interview by speaking about an aspect of the turbines which I had not asked about. Sensing its importance, I would typically pursue that topic until it appeared exhausted, even if the questions on that topic were located near the end of the interview guide. All questions within the guide were always covered, but were often rearranged *ad-hoc* to best match the flow of conversation.

The 19 interviews ranged from 52-193 minutes in length, with an average of 90 minutes and a total volume of recorded material for transcription of 1795 minutes (29.9 hours).

3.7 Data Analysis

3.7.1 *Transcription*

Audio files were transcribed verbatim using Express Scribe Transcription Software, a free digital transcription audio player (NCH Software, 2019). Approximately two-thirds of the transcriptions were completed by me, and the others were completed by individuals contracted by me for said purpose. To ensure consistency across transcripts, I met personally with each transcriptionist to discuss the transcription method. Transcriptionists were instructed to separate speakers and transcribe all conversation, even when seemingly unrelated to the topic at hand. Transcriptionists were also instructed to create notes in parentheses where speakers laughed or used obvious sarcasm, in an attempt to retain some of the nuance of conversation and support later interpretation of the text. All transcripts prepared by others were later reviewed and edited for consistency by me while listening to the original audio. Transcribers were

provided with an encrypted audio file that did not include personal information about the participant. They signed confidentiality agreements that included provisions to keep all research materials secure and delete all files after the encrypted transcripts were sent to the researcher (Appendix D).

3.7.2 Data Coding and Analytical Framework

Preliminary data analysis employed a coding process, which is a practice of data compression. Interview transcripts were coded using NVivo 12 Qualitative Data Analysis Software. Themes representing various categories of resident attitudes toward the turbines and siting process were identified by use of key words or phrases expressing similar meaning and coded using the software. Over 100 concepts related to social, environmental, aesthetic, and economic concerns were identified in this manner.

A potential problem with this type of compression is that it can tempt the researcher to move from viewing the interviewees as subjects, to viewing them as objects (Packer, 2011). Shared personal experiences may come to be seen as concrete instantiations of abstract principles, and it is these abstractions that are the stock-in-trade of academic journals (Packer, 2011). This process necessitates the loss of most of the data and its context; however, compression is required to permit comprehension of such a large amount of information and move from raw data toward answers to the research questions (Rubin & Rubin, 2012, p. 190). The transcript of an interview is already only a shadow of the interview itself, with important content such as vocal intonation, body language, a wink, smile, or sarcasm reduced to parentheticals (Rubin & Rubin, 2012, p. 191). The personal experience of the interview is retained only by the researcher's and participants' (imperfect) memories. I attempted to remain attentive to this while coding

and keep participants in mind during all stages of analysis and writing. I would sometimes re-listen to the audio recording while coding to refresh my memory of the emotion and tone used, to aid interpretation.

The most significant emerging theme was identified as the level of trust (or lack thereof) between residents and the process leaders throughout the siting process, and its influence in shaping resident attitudes. This was an unexpected finding based upon the literature reviewed up to that point. Trust had been read as an important but relatively minor theme in the literature which was rarely the main feature of a journal article. Additionally, it was not clear how to connect the inductively-created open coding categories related to trust. It was apparent that trust and distrust were important to residents and shaped their attitudes toward the local project; however, it was not clear what the most important *sources* of these feelings were, or what overall theory could help explain the findings.

To provide additional insight into the effects of trust on the development process, the literature was consulted again. Additional literature identifying trust as an important factor in shaping attitudes toward renewable energy developments was identified. Other factors affecting local acceptance of wind energy projects were also reviewed in greater detail. It was discovered these 'other factors' can be usefully framed as trust issues, offering a conceptual lens that highlights the importance of trust and offering insight into *why* and *how* 'other factors' are important to people (Fast & Mabee, 2015). For example, health concerns can be seen as a lack of trust that the technology is safe. Similarly, environmental concerns such as bird mortality can be framed as distrust that environmental effects will be mitigated to an acceptable level (Fast & Mabee, 2015).

These concerns require a level of trust in order to be satisfied. This frame helped to identify additional resident comments in the data that could be interpreted through a trust lens. During the coding and analysis, caution was observed not to elevate trust to the level of an ideology and see everything through this lens; however, I maintain that trust is a significant and often unacknowledged factor embedded in other concerns.

Transcripts were coded a second time employing a deductive coding framework adapted from the natural resources management literature identifying four different *forms* of trust (Stern & Coleman, 2015). I proposed that Stern and Baird's (2015) notion of "trust ecology" and Coleman and Stern's (2018) discussion of the different *functions* that forms of trust play in collaborative settings may help explain how trust was affecting resident attitudes to local wind projects. I therefore applied the analytical framework, initially used to characterise the trust "ecosystem" within natural resource management contexts, to a case of natural resource *development* (i.e., community wind farms).

During the deductive coding exercise, resident statements related to trust were coded four ways (Table 6).

Table 6

Deductive Coding Categories and the Corresponding Coding Options.

Deductive Coding Category	**Coding Options**
Trust Type	Dispositional, Rational, Procedural, Affinitive
Degree of Trust	Trust, Mistrust, Distrust
Stage of Development	Early, Planning, Post-Construction
Relationship with Resident	Developer, Government, Landowner, Wind Energy

After completing the deductive coding, a qualitative analysis was performed to identify the factors contributing to different forms of trust and distrust, and how the different forms of trust influenced residents' experiences of the siting process. During analysis, it became apparent that effectively distinguishing trust, mistrust, and distrust was not possible within the current dataset. Since most interview questions were not directly about resident trust levels, comments about trust were often delivered in a way that made the degree of trust difficult to infer with any precision. While I recognise the potential value in distinguishing mistrust (and lack of trust) from outright distrust (Parkins, 2010; Stern & Baird, 2015; Stern & Coleman, 2015), particularly in an energy context (Lehtonen & de Carlo, 2019; Parkins et al., 2017), for the purpose of this study, these categories had to be collapsed during the analysis.

Given interviews were conducted after turbine construction, an argument can be made that the time for the 'wait and see' attitudes that characterise a state of mistrust had passed; interviewees had assessed all the information they were going to receive, and enough time had passed for them to make up their minds. I would speculate that interviews conducted during the planning stages of the siting process may have yielded more statements signaling mistrust or a lack of trust. To assess the degree of skepticism or distrust the participant was expressing, statements were evaluated in the context of the participants' other trust-related comments and overall attitudes expressed toward the project and siting process.

Some trust-related comments referred to a specific phase of the project, but most did not. Most were made in the general context of discussing general wind attitudes and the overall siting process. Even when trust related to a particular event was mentioned, it

was not always indicated *when* the event occurred. Some discussion about the timing of fostering and breaking trust will be presented in the following chapter and is based on the relatively limited number of comments that included a clear indication of timing.

In my review of the literature, it was not clear whether trust at the social level is best understood as an aggregation of many individual trust relationships, or whether it takes on epiphenomenal qualities at larger scales in the same way a human being is more than a collection of cooperating (and competing) cells. For the purposes of this study, I have considered trust mostly at the individual level. When discussing trust at the community or social level, I am referring to the aggregated psychological states of individuals embedded in their respective relational settings, not any type of 'collective consciousness', per se.

Described below is the analytical framework of the four types of trust, developed over a series of articles by Stern and Coleman (2015), Coleman and Stern (2018a; 2018b) and Stern and Baird (2015), that guided the analysis of the study. Their framework was generated based on a comprehensive literature review of trust in the natural resources management literature (Stern & Coleman, 2015) and originally designed to provide insight within that setting.

The potential applicability of each form of trust within a community wind siting process is proposed. In the articles mentioned, Stern and colleagues follow Rousseau et al. (1998) in arguing that trust is best understood by looking at its sources; the types of trust are distinguished mainly by the differences between the assessments a trustor may use to generate a positive or negative expectation about the trustee (Stern & Baird, 2015). This is referred to as the *forms approach* to trust (Hamm, 2017). The authors' four-part

model includes *dispositional*, *rational*, *procedural*, and *affinitive* forms of trust. Unless indicated otherwise, the information below is synthesized and adapted from Stern and Coleman (2015), Coleman and Stern (2018a; 2018b) and Stern and Baird (2015).

3.7.2.1 Dispositional Trust.

Dispositional trust refers to a general willingness to trust others. This can be thought of as the extent to which the trustor is willing to give a trustee the benefit of the doubt. We can think of this general tendency of the trustor as a latent quality which is actualized when they are confronted with a trust decision. A general willingness to trust that exists in relation to a certain context is still considered *dispositional* trust. Thus, it is possible for an individual to have multiple "dispositions" that differ depending on context. For example, a person could have high *dispositional* trust toward other people in general, but have a general distrust when dealing with the government. As one can imagine, there is a variability in the levels of *dispositional* trust across populations, and even some evidence that a person's level of *dispositional* trust may have a genetic component (Evans & Kreuger, 2009). General tendencies of how a large population will react based on levels *dispositional* trust cannot be accurately predicted; individual differences are simply too significant (Evans & Kreuger, 2009).

Dispositional trust in a community wind context aids understanding of the context for the relationship between residents and process leaders. Stern and Coleman (2018) note that the disposition of actors in collaborative settings can be influenced by the tone established early in a process. Is trust between parties being taken for granted? Or do all parties acknowledge it must it be earned? *Dispositional* trust is especially important early in collaborative processes when participants have little experience with the situation

(Evans & Kreuger, 2009), and have not had enough time to establish personal relationships (*affinitive* trust) with one another or accumulate the information necessary to make rational judgments (*rational* trust). In novel contexts, new information can quickly cause other forms of trust to become more important than *dispositional* trust (Hamm et al., 2016). A lower baseline of *dispositional* trust among individuals in a group makes it more difficult for other forms of trust to be established.

3.7.2.2 Rational Trust.

Rational trust is the form that *homo economicus* would use to maximize their self interest. To make a decision based on *rational* trust, the trustor performs a probability assessment of whether the potential cost of making themselves vulnerable to the trustee is worth the potential benefit. Here, the trustor requires prior knowledge or experience on which to base their assessment. Based on the past behaviour of the trustee, the trustor estimates whether a net benefit is expected. During the trustor's assessment, the ability and integrity of the trustee are of key importance. Is the trustee competent enough to complete the action, and are they likely to? *Rational* trust is generated predominantly by cognitive processes, not by emotion. Generally speaking, more information allows for a more thorough analysis. However, there can never be perfect information, so risk is always inherent.

In community wind settings, it may be difficult to base decisions on *rational* trust at the beginning of a process. As participants gain experience and have a chance to evaluate the actions of the other parties, their level of *rational* trust may develop or diminish. An exception is when information about a developer's ability and integrity is available to participants at the beginning of a process based on the developer's previous

work. In this case, a trustor may have enough information to begin an assessment of *rational* trust. As the process advances, repeated demonstrations of the process leaders' competence and reliability would help establish *rational* trust. If participant expectations are not met or if the trustee shows themselves to be unreliable, deceitful, or incompetent, it may lead toward *rational* distrust.

3.7.2.3 Affinitive Trust.

Affinitive trust is based on the level of emotional and social connection between the trustor and trustee. This connection is based on an assessment of social interactions between the trustor and trustee. A useful distinction between *affinitive* trust and *rational* trust is that *affinitive* trust is based on an assessment of the qualities of the trustee and one's feelings toward them, whereas *rational* trust is based on the probability of the trustee completing the action they are being trusted to do. The types of assessments used to formulate *affinitive* trust can include: perceptions of shared values (e.g. honesty, generosity), feelings of social connectedness, a sense of shared identity, and shared positive experiences.

Affinitive trust can be a powerful motivator in collaborative settings. Developing *affinitive* trust can improve group dynamics and help participants move toward shared values, priorities, and goals. Conversely, Stern (2008) found that *affinitive* distrust in park managers was the largest cause of local residents' opposition behaviour toward national parks (e.g., illegal harvesting, harassing park guards, legal action, or active protest). As mentioned, Dwyer & Bidwell (2019) propose interpersonal (i.e., *affinitive*) trust between residents and process leaders in a wind development setting to be a critical first link in the

"chain of trust" that supports subsequent trust in formal procedures, and eventual acceptance of project outcomes.

3.7.2.4 Procedural Trust.

Procedural trust refers to trust in the "positive control systems" (Stern & Coleman, 2015, p. 125) that prescribe and constrain the behaviour of actors involved in a process. These could take the form of team charters, contracts, legislation, or other formal rules. *Procedural* trust is placed in the rules and control systems themselves, as opposed to the individuals who act (or do not act) according to the rules. Acting on *procedural* trust involves an individual assessing a process and willingly subjecting themselves to it. They choose to accept vulnerability to that process and adopt a certain set of expectations about how it will go (Davenport et al., 2006; Evans & Kreuger, 2009).

Procedural trust can be fostered by designing processes that protect the interests of all participants and incorporate many of the practices that support procedural justice (Dwyer & Bidwell, 2019; Gross, 2007; Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a). *Procedural* trust can reduce the need for other forms of trust by creating a kind of backstop where, despite the trustor having a sceptical or even cynical disposition, or potential misgivings about the intentions, competence, or character of the other actors involved, the behaviour of other people is predictable on account of the rules in place. *Procedural* trust can create a set of initial conditions that allow people to start working together and create the space necessary for other forms of trust to potentially develop. *Procedural* distrust occurs when control systems are seen to be unfair, manipulative, or dishonest, and people are unwilling to subject themselves to the process.

In the community wind context, a high degree of *procedural* trust may create a collegial space where interpersonal relationships can develop. It may also mean that high levels of other forms of trust between residents and developer may not be required. Stern and Colemans' (2015) concept of *procedural* trust includes that the control systems are freely agreed to by all parties. This may not always be the case in wind siting practices, where processes can be designed and implemented without resident input or approval. Resident attitudes toward a local project can be driven by trust in the local siting process, which can be separate from attitudes toward regional policy and support for turbines more generally (i.e., an expression of Bell et al.'s (2005) "social gap") (Fast & Mabee, 2015).

3.7.2.5 Trust Ecology.

Stern & Baird (2015) put forward a concept of "trust ecology", which proposes that organizations fostering multiple trust *forms*, as well as high *levels* of trust, will be more resilient to disruptions. When one form of trust is damaged, other forms of trust may act as a buffer to maintain enough trust to preserve the function of the organization (Stern & Baird, 2015). For example, high levels of *affinitive* trust with a process leader and *procedural* trust in the governance system could buffer against an event where *rational* trust is damaged through a demonstration of incompetence. Without the *affinitive* or *procedural* trust in place in this example, the continued function of the organization could fall into jeopardy.

In a CWE context, strong interpersonal trust between residents and process leaders, with its *rational* and *affinitive* bases, could buffer the overall success of the planning process against a rise of *procedural* distrust if a portion of the process were to

be perceived as unfair. Alternatively, high *rational* trust and high *procedural* trust could protect against *affinitive* distrust toward a particular individual within the group; the process could move forward despite a lack of social connection with the individual, since the individual is seen as competent, and their behaviour will be constrained by an effective set of rules.

Chapter 4: Results

> "The most important part was that… for me and most of the residents, it's the feeling that due process was not served, that we were just railroaded, and it was just coming, hell or high water." – Interview 12, TB

4.1 Sample Characteristics and Overview

During the interviews, participants made comments suggesting common bases (factors) leading to different types of trust and distrust. Participant attributes were reviewed and are presented in Table 7. For a small-*n* study, there was a reasonably even distribution between the relevant attributes.

Table 7

Participant Attributes

Participant Attributes	Terence Bay (n=12)	Ellershouse (n=7)	Total (n=19)
Location			
Terence Bay	12	--	**12**
Ellershouse	--	7	**7**
CLC			
Member of CLC	7	3	**10**
Non-Member of CLC	5	4	**9**
Gender			
Male	5	4	**9**
Female	7	3	**10**
Project Stance			
Support	3	6	**9**
Opposed	8	1	**9**
Neutral	1	0	**1**
Trust			
Trusting	5	4	**9**
Distrusting	7	1	**8**
Neutral	0	2	**2**

The purpose of this chapter is to describe the various factors that contributed to interviewees' trust and distrust during the siting process. The chapter is organized according to the factors (themes) observed after data coding and analysis. The factors each relate to one or more of the four types of trust (or distrust).

Interviewees' sense of *procedural* distrust formed gradually as the process revealed itself and tended to overlap significantly with *rational* distrust. For this reason, factors contributing to *procedural* and *rational* distrust are discussed together in this chapter. These types of distrust were grounded in a combination of six factors: Tokenism, Barriers to Participation, Dissatisfaction with the Community Liaison Committee (CLC), a perception of Pro-Development Bias in Regulatory Processes, Information Being Misleading or Withheld, and Having Expectations Unmet.

Interviewees' sense of *affinitive* distrust was grounded in a combination of four factors: Barriers to Participation, Information Being Misleading or Withheld, Having Expectations Unmet, and a perception of Contrary Values with process leaders.
The factors that led to *rational*, *procedural*, and *affinitive* distrust also led some interviewees to express a broader sense of *dispositional* distrust of government and development in general.

Interviewees' *procedural* and *rational* trust was grounded in four factors: Meaningful Engagement, Satisfactory Information, Positive Reputation of Developer, and Having Expectations Met.

Affinitive trust was grounded in a sense of Shared Values (specifically, consideration and care) shown by the developer toward residents.

Table 8

Factors Leading to Forms of Trust and Degrees of Trust

Factor Name	Form of Trust Arrived At	Degree of Trust
Tokenism	Procedural, Rational	Distrust
Barriers to Participation	Procedural, Rational, Affinitive	Distrust
Dissatisfaction with the CLC	Procedural, Rational	Distrust
Pro-Development Bias in Regulatory Processes	Procedural, Rational	Distrust
Information Misleading or Withheld	Procedural, Rational, Affinitive	Distrust
Expectations Not Met	Procedural, Rational, Affinitive	Distrust
Contrary Values	Affinitive	Distrust
Fool Me Once	Dispositional	Distrust
Meaningful Engagement	Procedural, Rational	Trust
Satisfactory Information	Procedural, Rational	Trust
Positive Reputation of Developer	Rational	Trust
Expectations Were Met	Procedural, Rational	Trust
Shared Values	Affinitive	Trust

4.2 Factors Leading to Procedural and Rational Distrust

Some interviewees expressed *procedural* or *rational* distrust, which was rooted in a number of different factors (Table 8). Factors were not completely discrete categories and overlap in several cases. This result is unsurprising given the lack of specific questions about trust and that many trust-related comments were made in the context of

discussing the wind siting process as a whole. Factors contributing to *procedural* and *rational* distrust were organized along six main themes: Tokenism, Barriers to Participation, Dissatisfaction with the Community Liaison Committee, Pro-Development Bias in Regulatory Processes, Information Misleading or Withheld, and Expectations Not Met.

Throughout all stages of the process, these six factors contributed to both *rational* distrust and *procedural* distrust. Multiple factors leading toward these two types of distrust were also frequently reported by the same individual. When asked if their views about the project had changed at all over the course of the siting process, all interviewees reported that their views had remained consistent throughout. If trust was damaged during the planning stages of the project, no interviewees reported trust later being repaired.

4.2.1 *Tokenism or "A Done Deal"*

Several interviewees stated that at the initial public meetings they were told they would have the ability to influence project decisions; they felt they were being invited to provide input on project direction that would be taken seriously. Shortly thereafter, for these residents the perception quickly changed to the feeling that the project was effectively a "done deal". They came to believe that the developer had, in reality, invited them to present polished information, "sell them a story" and "manage their fears & concerns", but that project decisions had already been made.

> "I: So, by the time they came to the community, the process was fairly well advanced? You said they had been planning ten years or more?

P: …Oh yeah, it was completely done. But they led us to believe at that initial meeting that we would have control over what was going to come into our community." – Interview 1, EH.

Interviewees who became distrustful of the process tended to describe the consultations as a practice in "show and tell", as opposed to a truly collaborative setting. They perceived the developer approaching the consultations as merely instrumental, conducted to satisfy a regulatory obligation or as an attempt to bolster local acceptance. These interviewees perceived that their input was not having any influence over the process and would therefore not influence project outcomes:

"And at that meeting, we were allowed to ask questions... But basically, it felt like we were just being told, again, what was "going to be done"… It felt a lot like things were already in place. Yeah. And they were like, after the fact, just kind of, you know, dotting their I's and crossing their T's, to kind of do the parts that were required to get - to do this within that COMFIT structure… It's not like anything was going to change." - Interview 4, TB

One resident reported that the first notification received about the project was an in-person visit to their home where the project representative presented the proposal as though it was already approved and going ahead:

"The owner of the property, [owner name], actually came to my door before [the turbines] went up and said "Hello, sir", introduced himself, and said "Just wanted to let you know there's going to be some windmills going up

over here". So right off the bat, that's what the position was." – Interview 8, TB

For a few interviewees, the ultimate futility of their efforts was at the forefront when asked to reflect on the process as a whole. They tended to convey with the sense of clarity and acceptance that often comes after gaining some distance from an event, that there was just no way they were ever going to affect the project.

"I think the biggest thing for me when I look back - I learned a lot. Like, I learned basically, the government works for itself. I learned that you can't fight the government. I've learned that it's usually a done deal before it even starts, and that with these wind turbine people… You're wasting your time. It's going to happen. You're just prolonging the inevitable. They're going to do what they want. We had it all correct. We did everything. We had everything in by the deadlines, we went to the Utility and Review Board, we did everything properly. And still, if they want it done, they're going to do it." – Interview 7, TB

Some suggested that the process had been designed this way and was actually working as intended – helping developers push projects through and helping the government score political points by meeting its aggressive renewables targets. These interviewees felt the consultation process had been designed to give residents the illusion of input, while ensuring that they would never actually be near enough to the levers of power to jeopardize the goals of government and industry:

"P: Again, it's all written in a way - they knew public would be very upset about these - you know - these installations coming into the community, so it's (laughs) – so, do you alert them to begin with and the process goes nowhere - if you have too strict regulations?

I: So, they were anticipating public resistance?

P: Yeah, I've actually read information, like, when I was reading, kind of, "back documents" before the COMFIT Program came about - they were actually written by Nova Scotia Power - they had actually foreseen that there would be a lot of public outcry. So, I'm assuming that the legislature was written accordingly, right? To give us some say in the process, but not *too* much (laughs), right? It was written so the program would succeed, obviously, and so the turbines would be built. It's not going to be written to make it fail." – Interview 12, TB

This feeling of tokenism seemed to grow for this group of interviewees as they described their individual experiences through the process. Some invested considerable effort trying to influence the process from within the formal rules of the system, which in Terence Bay, went on for years and was ultimately unsuccessful. One resident summed up his frustration this way at having invested significant time and effort in campaigning hard to affect change, and having it been for nought:

"But at the end of it, what does it come to? Huh… "A. Done. Deal." … Fuck." – Interview 8, TB

4.2.2 Barriers to Participation

Another factor leading to *rational* and *procedural* distrust featured the obstacles some interviewees faced (knowingly or unknowingly) to effective participation. Some interviewees suggested that many in the community had no awareness of the wind siting process that was unfolding around them. Of those residents who were aware that a proposed development was underway, many simply did not know *how* to participate.

> "And the way they went about it, I think a lot of people were unaware of the approval process and how they can go about – um, saying they didn't want it or whatever. They just weren't aware of the whole process. So, when it came down to the very endgame and we had – I went to the meeting and people were in tears about it, the wind turbines. They didn't want it. Nobody wanted it. I would have said 100% if not 99% of the people who lived in Terence Bay did not want the wind turbines." – Interview 19, TB

It is also revealing here that the resident refers to the first public meeting as the "end game", and that a great deal of emotion had built up in some residents between the time of first notification about the project, and the time they had a chance to voice their concerns. Several other interviewees also reported strong emotions of anger, frustration, and sadness in themselves and others over not feeling heard and being unable to influence what was happening in their community. It is possible the lack of an effective forum to communicate concerns earlier in the process contributed to this emotional buildup.

Some of those who did actively seek a way to engage with the process found it difficult to navigate. Wind development processes were initially foreign to all residents interviewed and it was not clear to them how they could participate. This all had to be

learned in real time, and that left some feeling they were at a significant disadvantage to the developer from the start. For example, interviewees in Terence Bay did not learn they had the right to appeal the Utility and Review Board's (UARB) decision to approve the project until after the 60-day statue of limitations had expired. A couple of interviewees also mentioned the imbalance of power that was a constant during the process, with the developer being well funded and having lawyers to represent them, while residents scrambled to self-organize, become informed, and represent themselves on a shoestring budget. The quote below demonstrates the level of effort applied by some residents to become informed and participate. Residents in Terence Bay started organizing their own meetings, separate from those put on by the developer, in order to share information and orient themselves within the process (i.e., the reference to "community meetings" below):

> "P: …the other issue was by the time it was approved, and we found out about it, it was too late to appeal the decision… our 60 days were up. And at that point, we didn't even know the process or how you would appeal, or anything about the program. It took years - it took a long time to become knowledgeable - read all the *Acts* and information about the COMFIT Program. …So, by the time we became kind of knowledgeable, and holding these community meetings - because the residents became very upset when they got this notice at their door - you know - we come and find out that as for the legislation that was governing the COMFIT Program, we didn't even - we couldn't even appeal because we didn't even know about in time to appeal." – Interview 12, TB

With respect to adequate and timely notification, some interviewees living outside the 2.5 km radius (but within 10 km) reported not being notified of the project, not sent

any information, and not being invited to any meetings at all. These were interviewees who live relatively close to the turbines and who take an active interest in renewable energy and environmental issues. Yet, these residents were not aware of the project, in one case, until he actually saw them being constructed. Another heard nothing until he read a story about it in the newspaper. Out of four such interviewees, two reported that they would have liked to have been better informed about the process. None of the four felt knowledgeable enough to judge whether the developer conducted sufficient consultation or not. It is notable that people outside the 2.5 km zone were able to influence the process by submitting letters of "community support" for regulatory approval purposes but were not generally notified of the project or included in the subsequent community engagement process.

For these residents, and those within 2.5 km, a lack of basic information about scheduled meetings was another barrier to participation. Meeting notices were apparently posted in public places like the community centre, general store, and community mailboxes; however, not everyone in the community visits these spaces with regularity. With their tone and inflection, some interviewees implied that perhaps this was even done intentionally by the developer to ensure lower turnout at the meetings.

> "Yeah, and how it's shared. Like a notice on our mailbox - that's pretty lame, you know? It may blow off mailboxes. And with these community mailboxes, like, I don't go to my mailbox even once a week. I don't go to my mailbox every day. So, it's not an effective form of communication."
> – Interview 4, TB

> "And one of the times the meeting was going to be on a Tuesday, and it followed a long weekend and they put the bulletins on the mailboxes on Friday. So, three days where people don't receive mail." – Interview 3, TB

Some mentioned that many members of both communities were generally active in social clubs, and when meetings about the turbines conflicted with, for example, bridge club or bowling night, residents by and large attended their usual social functions. Thus, even when the information did reach residents, there were often conflicting priorities.

Taken together, these missed opportunities for engagement caused some interviewees to have early suspicions about how their participation was being sought within the context of this process (*procedural* and *rational* distrust), and about how much the developer really valued engaging with residents (*affinitive* distrust). Although I did not ask the question explicitly, through these comments I interpreted the distrust as mostly directed toward the process itself – that there was a set of (inadequate) rules being followed and that was where the distrust was directed. There was also some distrust of the process leaders mentioned, but this appeared to be secondary. *Affinitive* distrust is discussed further in section 4.3.

When asked what advice they would give to other communities facing a similar process, one resident spoke to the early and sustained efforts required to become informed of the process and its milestones. We also see here how the difficulty encountered by residents seeking to participate connects to the feelings of tokenism and futility described above:

> "Well, what I would say is, which we tried to do, but not with success, was to try to get whatever info you can. Kind of like, in real time, as much as possible. While things are happening, to be aware of different deadlines and other things. So that when there are the parts of the process that we can be involved in - or they can – that they don't miss out because of a missed deadline, for example. Just to kind of stay, stay on it, which I know, again, people did quite a lot. But some of it was too late. I almost feel like I don't have a lot of advice, because of how it went. It was like, even the people who fought more vehemently in - within the framework, like it was kind of futile." – Interview 4, TB

4.2.3 Dissatisfaction with the Community Liaison Committees

Community liaison committee (CLC) meetings were held in both communities as a part of the public engagement process. The purpose of the CLC in relation to the COMFIT program was to "provide an opportunity for community members to provide input into the construction of the project" (Nova Scotia, 2014), and for local members of the committee to act as liaisons between the developer and the rest of the community. The interests of local businesses and community groups were also represented in the CLC membership. Members were tasked to bring forward community questions and concerns to the developer and disseminate answers and information back to the community. The CLCs were coordinated and chaired by the project proponents.

Many of the residents interviewed (10 of 19; Table 7) were members of the CLCs and these tended to be residents that were more engaged with the process overall. CLC members made approximately three times as many comments related to *procedural*

trust/distrust as non-members, and ofttimes noted problems with the rules and procedures governing these committees. For example, the Terms of Reference for the CLC in Terence Bay indicated that the purpose of the committee was to facilitate "healthy, two-way communication" and information exchange, but make no mention of members providing input into decisions related to the construction of the project, as is the purpose described by the provincial government (Interview 8, personal communication, March 6, 2018).

> "It was lies and adversarial from the start. Even when we were put on the committee, asked to be on the committee, we were like a toothless tiger." – Interview 8, TB

One member of a CLC felt that because of his disagreements with the developer, he was actively being censored and pressured to leave the group. He reported having to be assertive just to remain a member of the CLC; there did not appear to be any specific criteria or procedures governing decisions related to CLC membership. Other interviewees expressed how the CLCs did not meet even the more modest objective of providing open and timely access to relevant information, but rather the information shared was filtered in a way that aided the developer (information as a factor leading to distrust is discussed further in section 4.2.5 below).

> "But, at those community group meetings - and this was prior to this development being finalized - and the group kind of was kiboshed in the end, because we found out during these meetings, we weren't even told about extensions [the developer] had asked for. They kept telling us the project was

on track and it was going to get done by this time, because they thought we'd appeal, right? Or take some legal action." – Interview 12, TB

Several interviewees raised concerns that the developer did not run meetings according to acceptable protocols; in one person's view, some meetings proceeded without a quorum, agendas were not adhered to, and the developer recorded inaccurate (i.e., biased) meeting minutes. Although the committee would later conduct a vote whether to accept the minutes, this resident never trusted the minutes to be an accurate account of the meetings.

Another resident expressed concern about the administration of community benefit payments in Ellershouse. These decisions were initially within the purview of the CLC. However, after some initial debate among members about how to split the funds fairly, this mandate was apparently transferred to a newly founded committee, the "Sponsorship Society", which was made up entirely of some CLC members who were initially in agreement about the fund allocation.

"…because [some CLC members] were giving so much flack to them because of this $5,000 and the way they were distributing it, they decided to take that component out of our mandate and give it to another committee that they set up in the community and that committee is basically filled with the people [who were in agreement about the distribution]." – Interview 1, EH

The conduct of the participants reportedly presented another barrier to the effectiveness of the CLC. Several interviewees mentioned high levels of conflict and frustration that undermined trust in the process. One interviewee emphasized the

ineffectiveness of the CLC, attributing much of it to conflicts between certain residents and the developer:

> "…because of the two members of [another group] were always butting heads with the windmill people, like, the two guys that were running the windmills. And nothing much got discussed. Like, it was just hard to get anything done or talk about anything or get anything passed. It was just a bad board." – Interview 19, TB

In Ellershouse, the CLC meetings continued for some time after the turbines were commissioned in 2015. I attended one such meeting on February 28, 2018. The atmosphere was generally cordial, but a couple of members voiced their dissent over their perceived unfairness of the committee, the engagement process, and the overall project outcome. The agenda items included: a general project update, a short retrospective presentation of development milestones, and an announcement that - going forward – the administration of the CLC would be transferred from the project developer to the project owner. In Terence Bay, once the turbines were commissioned the CLC was, according to one member, "unceremoniously" disbanded, and the developers have reportedly stopped returning e-mails and phone calls from residents.

4.2.4 Pro-Development Bias in Regulatory Processes

Several interviewees became significantly invested in the process and did considerable research to understand the permitting and approvals process. Further frustration and distrust in the process was generated from these residents' perception of shifting regulatory goalposts, typically seen to favour the objectives of the developers and government. In particular, the re-zoning of wilderness land to allow for site access, the

extension of key deadlines, and the malleable definition of "community" in the regulation contributed to feelings that the process lacked integrity and would be adjusted as necessary to arrive at a pre-determined outcome.

Early in the process, the easement providing access to the Terence Bay project site was observed by some community members to be under active construction. They were unaware of the reason for the activity and became concerned that the road work was being completed without the appropriate permits in place. A group of local residents contacted the Nova Scotia Ministry of Transportation to inquire, and indeed were told that no road improvement permits had been issued for the area (Interview 7, personal communication, Feb 6, 2018).

A public hearing was scheduled for January 7, 2013, at a local high school to discuss the proposed rezoning of the easement from a Conservation Zone to a Resource Zone, which was required for the project to gain approval (Interview 7, personal communication, Feb 6, 2018). Reportedly, at the hearing residents complained that according to their understanding of HRM land use bylaws, property owners within 2 km of the site should have received notice about the proposed re-zoning of the easement 60 days *before* the application was submitted (HRM, 2012). According to the community council meeting record, several other residents voiced their concerns over impacts to wildlife and the wetlands in the area, and expressed general disapproval of the proposed development HRM, (2012). Others offered support for the re-zoning and the wind project generally. The motion to grant the re-zoning of the easement from conservation to resource development lands was passed at the same meeting (HRM, 2012). For some, this apparent lack of adherence to the rules generated an early distrust and signaled that the

developer had a disregard for existing processes, and no intention to inform residents openly about the planned development or play by the rules. It also suggested to some residents that the developer would be supported by the government anyway.

> "P: …and the biggest part that saved this, was they had to go across government property to build the road. You know, for access to their personal property, eh?
>
> I: Yeah.
>
> P: And I went up there, like years before, and the [property owners], who were building it, they were up there and they had their excavators up there, and they were digging in all this land. Making a road. And I talked to the guys, you know, the owner and stuff. Because I knew him, we grew up together. And I said, "What are you doing?" And he says, "Oh, digging some gravel." Never said anything about what might be, or anything." – Interview 17, TB

Beyond voicing opposition to the road rezoning, the Friends of River Road (FORR) mounted two legal challenges to the actual wind project proposal. The first was advanced in July 2013 and appealed the Minister's approval of the project's COMFIT application, arguing that the project did not, in fact, have the support of the community (UARB, 2013). As mentioned above, the challenge was dismissed because it was filed after the 60-day appeal period had closed (UARB, 2013). It is noteworthy here, that the Minister granted the COMFIT application approval on March 22, 2012, but the first notice of project sent to residences within 2 km of the site was on approximately April 18, 2012 (UARB, 2013). This left approximately 30 days for residents to appeal the decision. This

was viewed as an unrealistic timeline by residents who were, at that time, completely unfamiliar with the UARB appeals process or even wind developments in general. This evidence generated further distrust that the rules governing this process would adequately protect their interests. Some interviewees suggested that for many in the community, the project notices were not received until *after* the entire 60-day period had elapsed. In one case, a resident reported being informed for the first time on precisely May 24, 2012 (HRM, 2012).

> "…some people received that notice from what - and we were trying to determine the date, and most had gotten it… after that 60-day period when the COMFIT application had been approved and we maybe actually could have appealed." – Interview 12, TB

The second legal challenge was against an extension of the required in-service date of the project. In late 2015, the Minister had granted the developer an extension of the required in-service date for the project, and FORR made an appeal of the Minister's decision to the UARB. At nearly the same time, in late 2015, an amendment was made to Nova Scotia's *Electricity Act* stating that approval of COMFIT projects would be revoked if the project was not commissioned within 3 years of its COMFIT application approval (*Electricity Act 2015* (NS) s 4A). The question now before the UARB was whether the 3 years should begin counting from the date of the original COMFIT application approval in 2012, or from the date of the Minister's extension, granted in November 2015. The UARB ruled that the minister's extension constituted a new application and new approval for the

project, and the 3-year clock would start from the date the extension was granted (Mahaney, 2016; UARB, 2016). This effectively added an additional 3 years to the required in-service date and revived a project that was in jeopardy.

Some interviewees, especially those directly involved with these appeals, reported that this gave them the impression that the rules were changed to favour the interests of industry and government (the Nova Scotia Department of Energy was a Respondent in the appeals to the UARB). These cases added to their growing sense of *rational* and *procedural* distrust, unfairness, and powerlessness.

> "… they can change legislation and change the wording of any legal documents whenever they want to, to fit their needs. …they're going to do it anyways, so stop fighting. Because it's a lot of time and energy." – Interview 7, TB

Another aspect of the regulatory framework that generated distrust for some residents was the way that the concept of "community support" was applied to the siting process. The precise meaning of the term was unclear to some interviewees. Some noted that the definition of "community" was being interpreted differently by the developer and government than it was by the residents. This was viewed as another sign that the process was being orchestrated without the input of local people. The affidavits mentioned in the quote below are 'letters of community support' that were required to be submitted by the developer as part of their application under the COMFIT program (e.g., Appendix E). "Community support" was a condition of project approval under COMFIT (Nova Scotia, 2014).

"…and their affidavits came from "community members" that included investors. They didn't come from Terrence Bay or Lower Prospect. They came from Timberlea and South End of Halifax. They were people that don't live here, but they still qualify under "community". What community are we talking about? So, the 'community of investors' was heavily in favor and the government said "Got it. Good. We're good to go."" – Interview 3, TB

"P: But one of the parts of the COMFIT application, one of the requirements was that the developer had to have "community support". So, to show the community support, all they had to do was submit three to four letters. And, this letter was basically, "I support the installation of the wind turbine." So, again, it was supposed to be community support, and these letters, when we got the FOIPOP application, one was written by the developer himself. Doesn't live anywhere near the area. Another was written from somebody in Hammonds Plains, and another in Halifax or Dartmouth. Like, not…

I: Like within HRM, but not local.

P: Right, so then, we started to argue the definition of community. And, on the government website itself, it listed the communities of Nova Scotia to be such and such, and Terence Bay was one of them, not all of HRM." – Interview 12, TB

The quotes above note the differences between a community of place versus a

community of interest (such as investors) and suggest that these people were not really part of the community since they do not "live anywhere near the area." The resident also notes an inconsistency between the Department of Energy defining "community" as the municipality for the purposes of discerning whether "community support" for a project had been established (Nova Scotia, 2014), and a list of Nova Scotian communities on another government website. In March 2014, partway through the COMFIT program – and in the middle of the development processes for the two projects in this study – a guidance document on the topic of community support was released by NS Department of Energy. The document recognised that clearer definitions of the terms "community" and "support" were needed (Nova Scotia, 2014). The document indicates that for the purposes of the COMFIT program, "community" means the municipality where the project is located, and that support of the municipal government can be considered "community support" (Nova Scotia, 2014).

In an interview with a local newspaper, a project representative discussed the issue of community support for the Terence Bay turbines and took issue with the way the members of FORR (whom the article describes as "activists") were using the meaning of community, commenting that "They're defining community as a very small community, really River Road." (Alberstat, 2014, Oct 22, para. 19). The developer and government arguing that the 'community' meant the broader regional municipality was viewed by these interviewees as playing with semantics in order to streamline the development process in favour of the proponents.

None of the residents interviewed (whether supporting or opposing of the developments) were familiar with the concept of 'community energy' or were clear on

how the moniker was supposed to make their local project different from others in the province. The basic principles of community energy, as noted within the literature (Walker & Devine-Wright, 2008) were explained during the interviews, and alternative development models discussed. After this exchange, one interviewee expressed resentment toward the way that the terminology was used to move forward with what they viewed as an undemocratic process:

> "…What's especially disturbing to me is that, again - I haven't researched specifically all the COMFIT guidelines - but that's particularly disturbing to me, that they kind of, I'll say, "got in" through that door. And yet, what part of it actually did involve, and is *going to*, the community? Other than it being on the adjacent land?" – Interview 4, TB

4.2.5 Information Misleading or Withheld

For some interviewees, failing to be supplied with adequate, trustworthy information in a timely manner steered them toward procedural and rational distrust. Below, I describe the effects of residents not receiving satisfactory amounts of trustworthy information.

4.2.5.1 Developer Perceived as Not Supplying Adequate, Timely Information.

Several interviewees mentioned that, beginning with their initial notice of the project, they would have liked to receive more information than the developer seemed willing to give, and to have it delivered earlier in the process. For these residents, the process was characterized by a significant investment of time and effort, only to receive information last minute and to continually be surprised at how much further along the project was than they had believed. Some also felt information was purposefully withheld

and that the developer was only strategically releasing information to the community when it furthered their interests. An interviewee noted that the Ellershouse wind farm had been in the planning stages for about 10 years, and that no one in the community had heard about it until the project was well advanced and had significant momentum. They suspected that the move was intentional:

> "All of this was done behind closed doors. We didn't know a thing, and if we had of, there would have been an outcry from the community. And they knew that, that's why they didn't have [earlier consultation]." – Interview 1, EH.

The perceived lack of transparency was not limited to before the public project announcement, but continued throughout the process. One member of a CLC indicated that residents' questions at the committee meetings were not always answered truthfully, and that not all available information was disclosed.

> "So, there were certain things when we were holding those community liaison meetings that we'd be able to get some information from the developer. But again, we lost all trust in the process when we found out - you know - they weren't forthcoming with all the information that they should have been giving us." – Interview 12, TB

Interviewee 12 expressly mentioned that in these instances, distrust was directed primarily toward the process, and less toward the developer representatives personally (i.e., not *affinitive* distrust). Part of this distrust may have stemmed from a philosophical disagreement between the developer and some of the residents over what ought to be considered private versus public information. Some questioned the right to privacy of a

developer pursuing a "community" project under the auspices of a government program that includes generous feed-in-tariff rates, versus a project pursued within a free-market electricity system:

> "…they were arguing - you know - it was a business; they didn't have to provide us with information. But it was a public program, it was a government funded program, and everything with government is transparent; you can FOIPOP[1] it. So, stuff we did get was heavily redacted, but… we garnered a lot from the information we got from the government..." – Interview 12, TB

With respect to the timeliness of information, some expressed that they were always one (or several) steps behind and forced to play a game of "catch-up". This was salient for some interviewees in Terence Bay when discussing the subject of community benefit payments. One of the consequences of not receiving timely and complete information was they were not aware of the possibility of striking a benefit sharing arrangement with the developer until after the turbines were already operational.

After hearing about community benefit arrangements associated with other Nova Scotian wind projects developed under COMFIT, some felt frustrated that the developer did not come forward with this information or propose an arrangement of some kind. They saw it as deceptive and felt the information was strategically withheld. Some observed that delay in discovering the possibility of benefits had diminished the

1 FOIPOP – An information request made under the *Freedom of Information and Protection of Privacy Act* in Nova Scotia "provides access to most records under the control of the provincial government, while protecting the privacy of individuals who do not want their personal information made public" (Nova Scotia Environment, 2017)

community's bargaining position, compared with potentially having been informed earlier. At the time of the interviews, no community benefit arrangement had been struck in Terence Bay.

Even interviewees who did trust the process and approved of the development (in both communities) were not greatly aware of the possibility of community benefit arrangements and expressed their regret that the communities did not benefit more from hosting the turbines.

> "And we found out about [the possibility of benefits] afterwards... And now it's just trying to – with this project, with us, it's always been catch up right from the get-go. It was always catch up. We never found out about it until, really, it was too late when we found out about it. Because it was all approved, and the councillors had already said "Yes", in their own minds. And all we did is we went through the motions. They humoured us." – Interview 17, TB

4.2.5.2 Trustworthiness of Information Provided.

When information was provided to residents, its integrity was ofttimes questioned; some were outright critical and distrustful of what they were presented with. The ideal of open and transparent two-way communication was not realized for these interviewees. In many cases, the developer was perceived to be conducting "sales", or "giving lip service" to resident concerns and exhibiting a bias in the way information was presented:

"And that's what a lot of it is, it's just salesmanship. And they told us all the good stuff and never mentioned none of the ambiguous stuff, or the 'maybe' stuff… They're all used car salesman. They're going to tell you everything nice. Everything - and nothing bad. Unless you ask them, and they have to tell you. Or they'll hedgehog. You ask them something and they'll walk around it and tell you all the stuff and sort of change the subject, and not be direct." – Interview 17, TB

"I: How trustworthy did you find the info that was being shared?

P: It was marketing. It wasn't anything other than that. It was just, they were presenting to us exactly the information they wanted us to have. And they were not interested in hearing anything else. The only time there was input, they took what we said and just sort of put a polish on it, and said, "We've heard what you said, and there will be no problem in this regard." They didn't ever change a thing. So, it was just marketing." – Interview 3, TB

Being suspicious of the information provided had a corrosive effect on *rational* and *procedural* trust. In one case, a resident related a story about having the proposed location of the turbines described to him by a project representative while delivering a notice to his home. He was reportedly told he would not be able to see them from his home, but now has a clear view of the turbines. This was described earlier in the interview as an outright lie, and its effect on trust is clear:

"I: I meant to ask earlier, but the information that you were getting from the developer, from the landowner, obviously it started off with this misdirect or a lie.

P: Yes.

I: What effect did that have on the trust that –

P: Gone." – Interview 8, TB

In another case, an interviewee reported that developer told him that site access would not be restricted after the turbines were constructed. Shortly after, however, a gate and security cameras were installed, and access was restricted. This, and other instances of perceived deception left the resident feeling betrayed, distrustful, and triggered an opposition to the turbines.

"Really, I was against them because I – of the under-handed way that they did it, I just wanted to fight back, you know? They were coming against me, tricking me, you know, lying to me and all that stuff. So, it was just my natural "fight back" reflex." – Interview 17, TB

Interviewees also expressed concerns to the developer about the possibility of more turbines being added in the area. Some emphasized that their concerns were not alleviated by what they perceived as political answers to their questions. The developer and project owners in both communities would apparently not promise outright that no additional turbines would be built. Rather, they offered carefully-worded responses to the effect that 'the current program was ending, and no plans for further turbines were being made *at this time'* (Interview 3, TB; emphasis added). There were also concerns in both

communities about the end of the project's life. Some interviewees noted that no clear plan or commitment to deconstruct the turbines and reclaim the site had been made. The lack of direct, clear communication on both issues left some with a lingering distrust of the intentions for the development process.

Some interviewees perceived a conflict of interest in the creation of some information which caused them to question its trustworthiness. For example, interviewees reported that many community residents felt the environmental assessment (EA) for the Terence Bay project did not reflect the local experience of the natural environment. There were concerns about the developer being allowed to select their preferred consultant to conduct the assessment, and the commercial nature of that relationship. It was suspected by some that the results of the EA would likely be tailored to suit the needs of the developer. FORR went so far as to hire an independent reviewer to provide feedback on the EA which was submitted to the UARB with their first appeal.

> "And like, even when we had environmental - I know, they did environmental assessment - but we also know how those work (laughs). They can be swayed depending on what the company needs." – Interview 3, TB

Similarly, another interviewee expressed distrust of a noise study that was completed in Ellershouse. They believed that the study lacked integrity, and the study methods were selected to ensure that the desired result would be achieved. The study results indicated that the turbine noise would be inaudible within the community, but this has apparently not turned out to be true; several interviewees reported that they can sometimes hear the "whoosh" of the turbines from within the community.

"P: Basically, what they did is they put a noise box up by the community hall. It's all staged, eh? And they said this is the noise of your community and the wind turbines will be less than that… Yeah, so they were creative.

I: Ah. Is it fair to say then that you don't think that's an accurate representation of the noise level of the -

P: Definitely not. No, no. I don't think. We can hear them." – Interview 1, EH

Several interviewees mentioned a perceived conflict of interest and/or bias with the noise and environmental studies associated with the permitting process. By accepting the results of the EA and noise study, the government was seen to be supporting business over the interests of citizens, partly motivated by having its own stake in the projects – to be seen as successful by the broader public for meeting its renewable energy targets.

4.2.6 Expectations Not Met

When expectations about elements of a project planning process are not met, it opens a pathway for distrust to develop. Trust was eroded very early in the process as interviewees reported that based on their communications with the developer, they did not feel their expectation for a process that included meaningful engagement would be met. However, I am not claiming that residents had a fully-formed expectation of the kind of participatory process that they would have liked.

Rather, expectations early on may have existed at the level of intuition, or the general values held by participants. These interviewees tended to start from a position that the developer was proposing a significant change to the character of a long-

established community where many families have lived for generations. The project would affect people's sense of community, the feel of the local environment, and the enjoyment of their homes. As such, developers were seen to have an obligation to involve residents in something that would affect the community so deeply, and to view their concerns as legitimate.

> "I: I'm interested in where you said that the developer ought to have that sense of duty to consult widely. Where do you think that comes from? Why would they have that duty?
>
> P: Uhm, because it's something new in the area. Some of these people, myself even, has lived in the area for 20 years or almost 20 years now. Some people have lived there generations. So, I think there is a duty when you're changing – maybe not changing – but when you're introducing something new that you're not just building a small shed or something. These are significant pieces of structure. So, the fact that it is new, it's something that's being introduced in a community where people have lived there for many, many years, generations in some cases, then I think they really have to go that extra mile and to explain and to engage people. And listen to any concerns."
> – Interview 16, EH

Those expecting to be involved in the process and influence its outcome made comments indicating a growing sense of *rational* and *procedural* distrust after coming to feel their expectations would not be met. How expectations were developed was unclear from the interview data. Some indicated that the expectation was created by the process leaders at early community meetings where leaders stated that the community would have

significant influence over the proposed development. Others seemed to generate their own expectations based on normative values, as revealed in the quote above. Some felt government should have played a stronger role to ensure that the process was regulated in such a way that ensured community voices were heard:

> "Government could have played a much different role in that part. In terms of making sure there was a proper consultation and involvement - not just consultation - we didn't want to just be consulted - we would want to be involved, and having some say as to - we would have liked to work *with* the developer, worked *with* the government" - Interview 12, TB

Regardless of their origins, when expectations were not met, trust was damaged and conflict arose. Those who expected a degree of partnership and collaboration with the developer, owners, and government were disappointed when it was not realized.

The second major set of expectations was for honest, timely, and transparent communications with the developer and government. Several interviewees shared that they would have actually preferred the developer or government been forthright in declaring their intentions, and in saying that residents would be informed as required but would *not* have a say in how the project proceeds. While more difficult to hear initially, it would have allowed certain residents to align expectations with what was about to unfold and move more quickly toward coping with the reality of their situation. Such a candid declaration may have helped some residents avoid much of the (ultimately fruitless) effort that went toward opposing the project.

> "They should have straight up told us "This is what's going to happen. All of the work and energy and tears and everything else you put into it will not

make a difference. So don't bother, because this is already a done deal."" – Interview 7, TB.

"If they had just said "Oh, we want to put something up here, the wind turbines and all that stuff" I probably would have said "Ok, yeah" – Interview 17 – TB

A possible explanation for the dysfunction of the CLCs – at least in part - may have been this difference in expectations between the resident members and those administering the committees (i.e., the developers and project owners). Those who expected fuller degrees of informed, meaningful participation were disappointed by their experiences with the committees.

"I: They offered to set up the community liaison committee. I think that was part of the agreement, that there be one in place. I think, again, membership on that committee had a full spectrum of expectations. You know, some were there and were quite confrontational most of the time. Really questioning every, you know, "We want to see the reports from this, and we want to see the reports from that" and not trusting that there was good oversight of environmental impacts and that kind of thing." – Interview 9, TB

A third set of unmet expectations was that of shared values between the various parties, or at least the expectation that residents' values would be respected and honoured. Shared values are the foundation of *affinitive* trust, which is described next.

4.3 Factors Leading to Affinitive Distrust

Trust-related comments were mainly concerned with the *rational* and *procedural* dimensions of trust. Comments pointing to *affinitive* distrust were relatively rare; only about half of participants made any comment at all pertaining to *affinitive* trust (whether trustful or distrustful). The total number of comments related to *affinitive* trust was only about 15-20% of the number pertaining to *procedural* trust. Thus, the signal in the data is weaker with respect to the factors that lead to *affinitive* trust.

That said, it was evident that *affinitive* distrust of developers, government representatives, and in Terence Bay, the landowner, contributed toward some interviewees' overall views of the project. There was a perceived a lack of alignment between the values expressed by the interviewees and those of the project proponents. This lack of social and emotional connection contributed to the residents' distrust of process leaders to act in the community's best interests; this is *affinitive* trust. This has reportedly led to resentment and "bitterness" between residents and the developer in Terence Bay and similarly, a sense of cynicism about the project for some in Ellershouse. Specifically, these residents perceived that the proponents were dishonest in their dealings with the community, prioritised business interests over relationships, and did not sympathise or show care for resident concerns.

Proponents were perceived to have acted in an "underhanded way", lacking honesty and transparency. As noted previously, some interviewees felt that the information presented was strategically delivered, misrepresented, and/or had spin on it. They noted that developers were not always forthcoming with information when withholding it was to the benefit of the project. For example, one interviewee explained

how at a town hall meeting the developer did not correct another residents' erroneous belief that having a turbine located in the community would mean power would stay on during a grid outage. Developers were said to dodge questions where they could, unless residents were persistent and asked very directly.

Even when questions were addressed, the answers were not always reassuring. Various interviewees reported similar-sounding anecdotes in which they asked a developer representative whether they would appreciate wind turbines being constructed near their home:

> "…at one point, one of the developer's representatives had one of the people - one of the neighbours asked them, "Would you like to have a wind turbine go up in your area - or near your home?" (laughs) - and he just came up and goes, "No, no I wouldn't." – Interview 12 - TB

They suggested the developers had been pursuing the development in bad faith and with a lack of integrity, violating the golden rule "do as you would be done by". The landowner in Terence Bay was criticized by some residents for valuing a business opportunity and the profit motive above amicable relationships and broader social harmony within the community. Several interviewees indicated that Terence Bay is a close-knit community with strong social ties, and that the wind farm development process has been highly disruptive to several individual and family relationships. This was perceived to be of little concern to the development team who reportedly made scarce attempt to mitigate these social costs. Several interviewees expressed hurt over these actions and noted these feelings of distrust persisted for many, even after the turbines had been commissioned.

> "It's just that it creates bad feelings against people that you know in the community who didn't let you know [about the project] – because, like the [landowners] have lived here all of their lives. And we have too, so they had – they didn't even give us an inkling that this was going to happen… and I think they actually lied to one person about what was happening here. So, this is what the person said, anyway. So, you don't feel good about that. How can you trust someone who is like that? – Interview 18, TB

Thematic analysis revealed a sense of distrust on the part of some interviewees when they mentioned how they found the development team to be dismissive of community concerns. The developers were reportedly "not in tune" with the community and did not see the same things as important, i.e., they did not share the same values and priorities. One interviewee expressed concern over potential long-term health effects that may emerge after living near turbines for 15 or 20 years and felt ignored when the developer responded by suggesting that because they were both already seniors, in 20 years they would "be dead anyways and not to worry about it". As mentioned above, an interviewee grew distrustful of a developer representative after initially being told he would continue to have access to the site post-construction, only to later find that the access was gated, and the representative would not return his calls.

Six interviewees from Terence Bay (including one project supporter) expressed suspicions that proposed benefits were not yet flowing back to the community because the developer was upset that the community had "kicked up a fuss". They believed the

developer was angry with some community members over the delays caused to the project and was withholding benefits as retribution.

Assembling around shared values is key to generating *affinitive* trust. Developers in Terence Bay appear to have failed to convey values of honesty, transparency, prioritizing relationships, and sympathy for the concerns of others. Importantly, some who opposed the project still indicated that they maintained respect for the developer and landowner as businesspeople, even though they indicated distrust at other points in the interview and did not agree with the project decisions made. This ability to identify misalignment with some values and yet retain respect for other values speaks to the complex and multidimensional nature of trust.

4.4 Factors Leading to Dispositional Distrust.

Several interviewees made comments indicating that their experiences with the development of their local project had caused longer-term generalized effects on their trust with government, industry, wind energy, and public engagement processes more generally. Several offered expressions of cynicism, anger, and bitterness toward the local project, but also indicated that this attitude was likely to persist. Some interviewees had become sceptical about government-led processes and came to see them as ineffective at power sharing and allowing citizens to affect decision outcomes – the type of participatory process that Arnstein (1969/2019) would call a "sham" (p. 27). This is illustrated below in the response to the question "what should others learn from what happened here?"

> "Well, one thing I learned is mistrust, unfortunately. And this is unrelated, but when we see other issues come up, like, say, fracking and other, other

processes, we're seeing the same steps happening where they go through the motions and get the approval. So, it's been - we've learned a lot that way. How things work and happen. Not always for the best, for the environment, or whatever else… Yeah, so we've learned to be cynical about certain processes laid out by the government. Yes, so cynical, not trusting." – Interview 4, TB

The quote above refers to other developments that the interviewee perceived to have followed similar processes, but also describes a generalized attitude they have learned from their experiences – to be cynical. Others also made clear that the local project had longer term effects on their trust of information received and those providing it, and their views toward development in general:

"…what others should take away from this experience is that they should be cynical. They shouldn't trust anything that they're told. And that's awful. I hate to say that." – Interview 3, TB

"I think the biggest thing for me when I look back, I learned a lot. Like, I learned basically, the government works for itself, I learned that you can't fight the government. I've learned that it's usually a done deal before it even starts, and that these wind turbine people, I wish I could speak - well I could speak to them - that you're wasting your time. It's going to happen. You're just prolonging the inevitable. They're going to do what they want." – Interview 7, TB

Interestingly, overall interviewee disposition toward wind energy in principle seems to still be mostly positive (with a couple of exceptions). This indicates that the dispositional distrust generated is directed toward government and industry-led processes in general and less toward the idea of renewable energy (or wind turbines in particular). Those that expressed *dispositional* distrust appeared to separate their views of the technology itself from the way it is implemented. The exchange below shows the power of the development process to shape how residents experience the local project, suggesting that community reception to the proposal could have been different under a different process. It also suggests that another similar proposal in the future would be met by the local attitudes (i.e., "bitterness") created by those who had come before:

> "So, again, it's not like we ever said we were against wind energy or renewable energy, we just - you know - it was the whole way it was brought about. And you're right, a better process like that would have gone a long way in involving the community, and maybe getting the community on board and seeing it as something good… instead of this bitterness. Now everyone just looks at it and thinks about that went on, and it's like - so there's nothing good that has come out of it for anybody in terms of the way we look at it, you know?" - Interview 12, TB

4.5 Factors Leading to Rational Trust and Procedural Trust

Not all interviewees were distrustful. Some expressed significant levels of trust with respect to the fairness of rules and systems in place (*procedural*), and confidence in their perceptions that a fair outcome was being achieved for the community (*rational*). A

few even expressed trust directly for the developers, project owners, and government representatives as individuals (*affinitive* – see Section 4.6).

Interviewees that were trusting tended to also approve of the local project. They did not speak about their sources of trust as much as distrustful interviewees. The total number of comments indicating resident trust was approximately one-third the number indicating distrust. Trustors also tended to discuss the reasons leading to their trust in broader terms, citing fewer specific examples. For that reason, sources of trust appear here less nuanced than sources of distrust. In creating and presenting these results, it was important to draw from the impressions generated by the entire context of the interviews conducted with "trusting" interviewees, in addition to specific phrases within the interview text.

As has been noted previously, the factors that contribute to trust are not always discrete and overlapped in some cases. In this instance, factors leading to *rational* and *procedural* trust were organized along four main themes: Meaningful Engagement, Satisfactory Information, Positive Reputation of the Developer, and Expectations Were Met.

4.5.1 Meaningful Engagement

In contrast to the sense of tokenism discussed above, some interviewees felt their concerns were taken seriously and that the community *did* have the chance to affect the outcome of the project. They were satisfied that the developer had sought the input of the community and considered it. A few interviewees acknowledged that the development-related decisions such as turbine size, number, or location were not influenced by

community members. However, they indicated that to the extent the project was not influenced by residents, it was because there was just not a great level of interest displayed. The community *could* have pushed for changes but generally speaking, did not. A perception shared by a couple of trusting interviewees was that people who were complaining about the turbines after they had been erected should have spoken up earlier in the process. It was implied in these comments that if they did speak up, their concerns would have been taken seriously at that time. When asked what he thought about the possibility of developing wind according to a "community process" including high levels of public participation and control, one resident, who was also a CLC member, responded this way:

> "I: Well, that's what was done through community representatives. We were all representatives of the community. And they were very open, they were all open meetings that you could come and ask your questions. And I have yet to see anybody come and ask a question… [the interest] just wasn't there." – Interview 5, TB

These interviewees perceived that the rules and regulations in place were adequate to protect the interests of the community (*procedural* trust). They also tended to suggest that the process was open to influence, meaning that representation of the community's interests was likely as long as those interests were expressed at the appropriate time (*rational* trust).

4.5.2 Satisfactory Information

Those who were generally trusting of the process and who perceived a fair outcome having been achieved tended to indicate that they were satisfied with the

information they received. Information received in the mail and from meetings was generally reliable, factually accurate, and free of obvious bias. Some indicated that the provision of information had been satisfactory not only for themselves, but for other residents as well, including residents who asked for more information than was initially provided. This is reflected in the quote below. Part of this ties back to expectation; interviewees that did not expect to engage with the process to the level of "micro-managing" tended to express higher trust in the information provided (See section 4.5.4 below).

> "Well, they were keeping us abreast of when they started to build and all the deadlines and timelines and all the reporting that was going on – we could ask to see that, and we'd get it. As I say, some people wanted to really see micro-managing stuff that (gesturing toward self) 'pfff… not interested in it. It really doesn't mean anything to me at all. But some people asked, and I think got to see whatever they wanted to see." – Interview 9, TB

Several interviewees spanning both communities indicated that the developer was quite responsive to requests for information posed by residents. Questions were answered, documents were provided, and for these interviewees, there was a satisfactory flow of information. There was no reported perception of withholding of documents, biased reporting, or late responses. The quantity, quality, and timeliness of information was satisfactory.

> "We used to have bi-weekly meetings. Okay? At Brookside junior high, and they come in and laid it out in front of us. I never found them to lie or tell anything not the truth. And everything was always - and if they didn't,

couldn't answer, it was answered by the next meeting." – Interview 5, TB

"P: No, I got good information about how it was going to take place and so on. I was very satisfied with all the information I got; it was great.

I: Yep. You found it fairly reliable, trustworthy?

P: Yep, very much so." – Interview 15, EH

These experiences were the bases for *rational* trust in information and with the developer. This contributed to a broader sense of the development proceeding "above board" and with transparency. Developers providing an adequate volume of trustworthy information within reasonable timeframes was also seen as an indication that an orderly process was underway; the rules and regulations governing the process were having their intended effects. It reassured these residents that the project would proceed smoothly, and things were under control.

4.5.3 Positive Reputation of Developer

A few interviewees appealed directly to the reputation of the developer as a well-known energy company with a positive reputation to indicate they trusted the company to act as a good corporate citizen and treat residents fairly. The developer had constructed projects fairly in the past and would therefore be likely to do it again (*rational* trust). This tracked closely with a trust that the company would operate legally and abide by all required rules and regulations.

> "If [Developer Name] is recognised internationally, surely we can put our trust into them. Basically, we were relying on them to act on our – in good faith on our behalf." – Interview 10, EH

Trust in the reputation of the developer does not in itself imply *procedural* trust, merely the perceived likelihood that they will abide by the process that is required of them.

4.5.4 Expectations Were Met

The effect of expectation seems to have been a powerful driver of whether a person developed *procedural* and *rational* trust. Interviewees who expected only to become better informed and had that expectation fulfilled at initial meetings developed *rational* trust which also signalled that the overall process was proceeding 'above board'.

These interviewees tended to start from a position that the developer was proposing a development on private land and had the right to do so. It was their land and capital that was being staked during the development, so it followed that they had a right be the primary decision maker. A private landowner conducting his own business had no specific obligation to ensure that other residents retained their idiosyncratic sense of community or were able to enjoy their home in just the same way as before. These interviewees had a more accepting attitude toward change and recognized the turbines as one development among many that had gradually shifted the character of the communities over time. They presumed no right to freeze their community in time to maintain their own comfort.

Asked whether the developer sought input from the community on what I called the "physical aspects of the project" (i.e., number of turbines, height, location, etc.), some

indicated that, no, the developer informed them what these dimensions would be. However, they did not seem to expect that their advice on these matters *should* be sought. When I suggested that it sounded like those decisions were locked in from the start of the consultations, one interviewee responded somewhat incredulously "A lot of thought went into it, yes! Sure!" The quote below is from a supporter who makes much the same observations about the project being a "done deal" as did the interviewees for whom it led to great distrust:

> "…when developers come in and listen, it's a symbolic listening; it's not actually going to change anything. That's my general impression of a lot of these meetings. So, people leave feeling hurt but that's not changing anything (laughs). I think there was just a - a kind of question-answer period, like, okay, "How tall are they?" and "Where are they going to be located?" - Rather than having a discussion about changing the height or position of anything." – Interview 11, EH

However, this same person was hardly bothered by that fact and was overall satisfied with the way things were conducted. They perceived a fair process:

> "Well, fair… I've got to say yes, it was fair because our little community was not in a position to invest in it, right? So, this is a business, right? You know, we're just minding our own little business, and they used some of the land there and gave money to the community - to the hall, and things like that. I can see if we had a lot of people who were able to invest in it, that they should have the opportunity to do that and benefit, but I - yeah - I don't really see it

being unfair because they had the money and we didn't, and they shared some money, so - what can you do? (laughs)." – Interview 11, EH

In this case, the provision of community benefits in Ellershouse seemed to enter the equation. A few of the trusting interviewees indicated that part of the reason they perceived the project to have proceeded fairly was because of the community benefits offered. This study has not evaluated the role of community benefits on community acceptance of turbines. Here, I only want to highlight that these residents did not *expect* to be compensated in the first place, acknowledging that the process did not require the developer to offer community benefits. In this sense, their expectations were not only met, but exceeded by the perceived generosity of the developer and this did much to generate goodwill with these residents. For some, it was direct evidence that the community's interests were being considered and advanced (proactively) by the developers (*rational* trust).

"I: So, do you have the sense that that's fair? Or would you like to see that improved?

P: Fair. I think it's extra fair, actually.

I: Extra fair? Yeah?

P: Well, because again, they didn't have to ever offer it. That was never said when they were doing it." – Interview 10, EH

4.6 Factors Leading to Affinitive Trust

A few interviewees expressed a level of *affinitive* trust with members of the development team. These "trustors", mostly from Ellershouse, typically offered a comment or short anecdote indicating their approval of the developer's actions or character. Some made general comments implying they approved of the developer's values by mentioning they were "good people" with whom they got along well, and overall "good guy(s) to talk to." These statements indicating general approval of the developer representatives' character made it difficult to establish what values in particular were salient to the interviewee. However, some specific examples were cited.

One interviewee mentioned that the developer made a personal visit to another household in the community after hearing that the residents had some significant health concerns related to the turbines. Another mentioned that the developer was willing to change their communication style from email to phone calls when they told the developer that many elderly people in the community were not regular email users. The interviewees took these examples as a sign the developer was being considerate. After construction was complete, the developer also ensured residents that they would have a dedicated contact person to whom they could bring concerns forward as the project moved through its remaining life cycle. A couple of interviewees found this comforting, and a sign that they were being shown consideration and care.

Perceptions of shared values were lower overall in Terence Bay, with only a couple of comments indicating any *affinitive* trust at all. One interviewee maintained trust in the character of the landowner in Terence Bay and thought they would eventually do the right thing by ensuring that a community benefit arrangement is eventually struck.

Another noted that despite their disapproval over his actions taken during the development, they respected his position as a businessperson and showed an appreciation for the values of a person in his position, following market incentives:

> "But, for the most part - you know - do I think he's a horrible guy? No, I don't. I actually think he's kind of an upstanding businessman - you know? I understand why it was - the government offered the program. As a businessman, if you had the opportunity, and it wasn't – or seemed [not] to be (laughs) - you know, affecting anybody, then they're going to go ahead and take that opportunity, right? So, I don't hold that against him." – Interview 12, TB

Chapter 5: Discussion

5.1 Introduction

The results support the notion that resident trust is strongly related to local support of projects, and distrust to opposition. The four forms of trust proposed by Stern and Coleman (2015) were clearly observable within the data and were affected during the wind siting process. Factors affecting the different types of trust influenced overall resident attitudes, with *procedural* and *rational* trust playing primary roles, and *affinitive* trust secondary. Many of the factors that influenced trust or distrust are familiar elements of a wind siting process (Fast & Mabee, 2015) and were connected to perceptions of procedural justice (Table 10).

In the previous chapter, the first two research questions were partially addressed:

1. Do the four forms of types of trust identified by Stern & Coleman (2015) adequately explain the trust environment experienced by residents during a community wind siting process?
2. What are the factors that lead residents towards the four types of trust or distrust during a wind siting process?

Below, I continue discussion of these questions and address the other two:

3. How are perceptions of procedural justice related to the different forms of trust?
4. Are certain type(s) of trust more significant in shaping resident perceptions of procedural justice and overall project support?

5.2 Factors Leading to Trust & Distrust:

The results indicate that trust is implicit in the principles of procedural justice identified by the wind acceptance literature. A synthesis of the literature revealed five main principles of procedural justice, and their relationship to trust is described in Table 9 below. All five principles of procedural justice require that residents place some form of trust in the process leaders, information, and/or the rules governing the process.

Table 9

Principles of Procedural Justice in the Literature, and how Trust is Implicated in Upholding the Principles.

Principle of Procedural Justice	How Trust is Implicated	Type of Trust Implicated	Reference
Decision makers should be impartial, and free from conflicts of interest and biases toward certain outcomes.	Requires participants trust process leaders to be impartial in their decision making.	Rational, Affinitive	Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219.
Participants should have the **opportunity to participate.**	Requires participants trust that the rules governing the process ensure their right to be heard.	Procedural, Rational	Dwyer & Bidwell, 2019; Gross, 2007; Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a
Participants should always be treated with dignity and respect and their views should be taken seriously by Process leaders.	Requires participants trust process leaders to uphold values of dignity and respect towards the community and to consider their views seriously.	Procedural, Rational, Affinitive	Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219; Walker & Baxter, 2017a
Participants should be given free access to adequate amounts of reliable and **satisfactory information.**	Requires participants trust the information they receive is accurate and free of bias.	Procedural, Rational	Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219; Simcock, 2016; Walker & Baxter,

Principle of Procedural Justice	How Trust is Implicated	Type of Trust Implicated	Reference
			2017a
Participants should have the **ability to affect the siting outcome**.	Requires participants trust the rules governing the process to ensure their interests will be represented in the decision outcomes.	Procedural, Rational	Dwyer & Bidwell, 2019; Gross, 2007; Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a

Factors contributing to resident trust or distrust were also related to one or more principles of procedural justice (Table 10). For example, the factor "Tokenism" led residents toward a sense of *procedural* and *rational* distrust. Tokenism is also a direct expression of the **(in)ability to affect the siting outcome**, a principle of procedural justice (Table 9). So, tokenism both violated a principle of procedural justice, and led to *procedural* and *rational* distrust. As a second example, "Information Misleading or Withheld" is a violation of the procedural justice principle **satisfactory information**, which led residents to report *procedural*, *rational*, and *affinitive* distrust, and a sense of procedural unfairness.

Table 10

Factors Related to Different Forms of Trust and Distrust, and to Principles of Procedural Justice.

Factor Name	Related Principle of Procedural Justice[1]	Related Trust Type	Degree of Trust
Tokenism	Ability to affect outcome	Procedural, Rational	Distrust
Barriers to Participation	Opportunities to Participate	Procedural, Rational, Affinitive	Distrust

Factor Name	Related Principle of Procedural Justice[1]	Related Trust Type	Degree of Trust
Dissatisfaction with the CLC	Decision makers should be impartial; Ability to affect outcome; Participants treated with dignity and respect; Satisfactory information	Procedural, Rational	Distrust
Pro-Development Bias in Regulatory Processes	Decision makers should be impartial; Ability to affect outcome; Satisfactory information	Procedural, Rational	Distrust
Information Misleading or Withheld	Satisfactory information	Procedural, Rational, Affinitive	Distrust
Expectations Not Met	Ability to affect outcome; Opportunities to participate; Satisfactory information	Procedural, Rational, Affinitive	Distrust
Contrary Values	Participants treated with dignity and respect	Affinitive	Distrust
Fool Me Once	Ability to affect outcome; Satisfactory information; Opportunities to participate; Participants treated with dignity and respect	Dispositional	Distrust
Meaningful Engagement	Ability to affect outcome	Procedural, Rational	Trust
Satisfactory Information	Satisfactory information	Procedural, Rational	Trust
Positive Reputation of Developer	Participants treated with dignity and respect	Rational	Trust
Expectations Were Met	Opportunities to participate, Satisfactory information	Procedural, Rational	Trust
Shared Values	Participants treated with dignity and respect	Affinitive	Trust

[1] Principles of Procedural Justice adapted from: Dwyer & Bidwell, 2019; Gross, 2007; Haidt and Lukianoff, 2019, p. 218-219; Ottinger et al., 2014; Simcock, 2016; and Walker & Baxter, 2017a.

5.3 Factors Leading to Procedural and Rational Distrust, and Procedural Injustice

Many of the factors identified in the study contributed simultaneously to *procedural* and *rational* distrust. Largely, this was due to residents not having been provided a clear understanding of the process prior to its initiation. These factors are discussed below, including the timing of information provision (Section 5.3.4.2).

5.3.1 Tokenism

Perhaps the most direct path to *procedural* and *rational* distrust amongst interviewees was via a perception of tokenism. The ability to affect the outcome of a siting process is a critical element of procedural justice and has been previously identified as the most significant siting concern for Nova Scotia residents living near turbines (Walker & Baxter, 2017a). The current study supports this observation.

The communities in the present study were not afforded what Fast and Mabee (2015) called "meaningful engagement" (p. 28). The significant effort on the part of some residents to effect change, combined with accumulated observations that their input was having little to no effect, created increasing feelings of powerlessness, anger, and *rational* distrust. In tandem, these experiences had the effect of generating distrust in the process itself; the "positive control systems" in place (Coleman & Stern, 2018, p. 23) were not effective in protecting resident interests. Dissatisfaction with the overall development process was emphasized by participants more than dissatisfaction with specific outcomes such as turbine footprints or a finding within the environmental assessment, for example. Interviewees tended to emphasize the general sense that they were not being heard, more than objections to specific rules or individual details they would have liked changed.

Some residents suggested that the issue of tokenism may have its roots in the policy development stage. These interviewees figured that government would not set policy that it intended to see fail, and therefore regulators would tend to side with developers in order to see projects built and renewable energy targets achieved. A renewables program with a siting process that could be vetoed by residents could jeopardize government's goals. In this sense, tokenism and unfairness were seen as embedded within the government's broader renewables strategy and were related to the perception of a pro-development bias inherent in the siting process.

5.3.2 Changes to Trust Over Time

Over time, fair processes can help build interpersonal trust between participants and process leaders (Coleman & Stern, 2018), and vice versa; that is, sometimes interpersonal trust comes first, and leads to perceived fairness of a process (Dwyer & Bidwell, 2017; Earle & Siegrist, 2008; Huijts et al., 2012). Whichever comes first provides a favourable context for the other to develop. In the cases studied, lack of an early process definition precluded much *procedural* trust being established, and little to no interpersonal trust between residents and process leaders was established prior to process initiation. An exception to this was the existing relationship between the landowner and some residents of Terence Bay. Generally, though, residents had to assess trust and procedural fairness based on their first few interactions with the process.

We can consider this in light of Dwyer & Bidwell's (2019) "Chain of Trust" (Figure 6) which proposes that establishing interpersonal trust with process leaders is the important first link of the chain (see also Firestone et al., 2020). In the current study, residents' first interactions with the process were diverse and did not necessarily involve

personally meeting process leaders. Some residents in Terence Bay first received notice about the driveway being constructed into the site, while others initially heard about the project from a neighbour. Residents from both communities may have met the developers if they attended the open house meetings, events which simultaneously engaged attendees in the formal consultation process and with a large volume of information. The first link in Dwyer & Bidwell's (2019) chain was missing, especially in Terence Bay, and may have contributed to the opposition faced there.

In both communities, interviews were conducted after construction of the turbines was complete. When asked if their views on the project had changed at all over the course of the project, all participants maintained that their attitudes were consistent throughout the siting process, construction, and operation. Interviewees also expressed generally consistent degrees of trust over time. That is, when *procedural*, *rational,* or *affinitive* distrust were generated during the planning stages of the project, a deeper distrust may have taken root; however, no interviewees reported trust being later repaired.

These claims to consistency contrast with Wolsink's (2007b) U-shaped curve indicating a typical change in attitudes over the course of the development (Figure 2) (see also Wilson & Dyke, 2016). It also contrasts with Gross (2007), who found that participants changed their attitudes toward the legitimacy of the project outcome mid-process, depending on whether the siting process was perceived as fair or not. However, despite participants declaring consistency when asked directly, in other parts of the interviews some residents suggested a change in their attitudes and those of their neighbours, post-construction:

> "They look out their window and that's kind of what they see now, and I know they're not too happy. They obviously don't want to look out their windows and see these turbines turning. But, at the same time, I've talked to some residents, and you know, it's funny what you can become used to. It's almost like the Stockholm syndrome (laughs) You know? Like when you become – you start to like your captor (laughs). But – not that they like them, by any means…" – Interview 12, EH

Other opposed interviewees also intimated a general softening of their opposition now that the turbines were operating. These changes would align with Wolsink (2007b), but the uptick in post-construction attitudes observed here appear to be merely indicative of people's ability to adapt to stressful situations in general, not necessarily anything to do with viewing the legitimacy (or illegitimacy) of the local wind project any differently.

Wolsink's curve (2007b) also represents changes in *attitudes*, not necessarily changes in trust or perceptions of fairness. However, changes in perceptions of fairness *have* been observed in a wind context before. In surveys conducted before and after an offshore windfarm development, researchers observed an increase in the total number people seeing the process as "very fair" (Firestone et al., 2020). Curiously, the authors also saw an increase in evaluations of the process as "very <u>un</u>fair". So, while Firestone et al. (2020) saw increased polarization of views after construction, this study saw evidence that some interviewees had started adjusting to life with turbines, while others remained consistent in their support (or opposition). Conducting multiple interviews or

surveys with participants over the course of a siting process may better capture the dynamics of trust and procedural fairness.

5.3.3 Pro-Development Bias in Regulatory Process

Some interviewees observed a bias in the regulations that governed the siting process, leading to procedural and rational distrust. They experienced directly how the regulations did not support their ability to affect the siting outcome. Procedural justice requires that decision makers be impartial (Gross, 2007; Haidt & Lukianoff, 2019, p. 218-219). However, several authors writing in the wind siting literature do not emphasize this aspect of procedural justice (e.g., Ottinger et al., 2014; Simcock, 2016; Walker & Baxter, 2017a). It is unclear whether these authors take this requirement for granted, or perhaps find it unrealistic. Whatever the reason, this aspect of procedural justice appears to have been under-appreciated in both the literature and by decision makers in the current cases. The government being perceived as exhibiting a pro-development bias in its planning documents and regulations did little to assure residents that a fair process was underway.

5.3.3.1 The Meaning of "Community".

One of the purported benefits of community energy is to win the "hearts and minds" of local people, fostering positive attitudes toward development of renewable energy (Walker & Devine-Wright, 2008, p. 499) and increasing acceptance (Baxter et al., 2020; Berka & Creamer, 2018; Wirth, 2014). However, these effects are limited when developer-led projects merely adopt the 'community' moniker. The definition of 'community' continues to be a point of contention between some residents, process leaders, and government in the Nova Scotia communities studied.

Some participants saw the term being coopted by the developers to imply local support for the project, when really, they were talking about the "community of investors" who supported the project financially. Many investors were located within the broader municipality, which some interviewees did not consider as part of the community. Some suspected the definition of "community support" in the regulation was changed partway through the siting process (without public input) to soften the criteria and make it easier for the developer to demonstrate "community support" - a required element for project approval under COMFIT. This was seen to benefit developers by allowing them to construct the turbines after less meaningful engagement with residents.

Coordination between outside parties that appears as collusion is known to foster distrust (Johnson, 1999, cited in Mumford & Gray, 2010) and some participants suspected secret negotiations between the developer and government in the re-defining of community support, the extension of regulatory deadlines, and an overall sense that "…there was a backroom handshake" driving the approvals process. Such perceptions of rules and processes having a pro-development bias can directly lead residents toward *procedural* distrust. *Rational* distrust forms when residents observe that the entities they are vulnerable to (i.e., the government and developer) have set an agenda that is unlikely to value or protect their interests. As Walker & Devine-Wright observed, "labelling a project as community and then local people feeling they are getting nothing out of it will itself simply increase the scope for resentment and objection" (2005, p. 499). We can add that it also increases the scope for *procedural* and *rational* distrust.

Researchers and policy makers should continue to be critical of how the term 'community energy' is used and ask what 'community' means in the local context. We

should also consider *who* is defining 'community' in the various contexts it is used (e.g., project naming, assessing local support, financing and regulatory structures). A broader definition of 'community energy' does have advantages, such as policies that support a greater diversity of project types and organizational arrangements (Hicks & Ison, 2018). However, it is clear that when this definition is not arrived at in consultation with all stakeholders, it can have negative effects on community trust, perceptions of fairness, and project attitudes. What are the appropriate roles for government, business, and residents in defining 'the community' and determining its role in wind policies and siting processes? Various definitions of 'community' have implications for who is included in the process, how they are engaged, and the development of *procedural* and *rational* trust.

5.3.4 Information and Distrust

Results showed that there was diversity in how satisfied people were with the information they received. Provision of satisfactory information is a component of procedural justice (Gross, 2007; Simcock, 2016; Walker & Baxter, 2017a) and necessary to support meaningful engagement (Dwyer & Bidwell, 2019) by providing a context for people to participate within. Trustworthy communication has been noted as a challenge for the energy industry in general (Greenberg, 2014).

Trusting residents tended to be satisfied with the information they received, while distrustful residents tended to be dissatisfied. In alignment with the results here, Gross (2007) also found that project supporters were generally satisfied with information they received, while most opponents were dissatisfied. Distrustful interviewees in this study consistently expressed that the provision of information was inadequate in its volume, timing, availability, completeness, and objectivity. Where participants perceived the

developer withholding information, they tended to interpret it (mostly) as a symptom of an unfair *process*, and less as an indictment of the developer's personal character. *Rational* distrust grew when interviewees recognised their interests of being informed, empowered participants were not being supported by having information delivered in a forthcoming manner.

5.3.4.1 Integrity of Information.

Residents perceiving information from process leaders to be biased and attempting to sway the community in favour of the project has been documented elsewhere, which led residents in a study by Firestone et al., (2020) to feel the process was manipulative and unfair. By contrast, providing accurate, editorial-free information that does not try to change people's values has been suggested as a means to *build* trust with communities (Bell et al., 2005; Dwyer & Bidwell, 2019). In the current study, information came across to some as the developer conducting "sales", which created social distance (*affinitive* distrust), *rational* distrust, and a sense of procedural unfairness.

Some interviewees were critical of the environmental assessment and noise studies, being distrustful that objectivity of the results was possible given the commercial relationship between the proponents and their chosen consultants. This created *rational* (reports not reflecting or defending residents' experiences) and *procedural* (rules don't prevent bias in reporting) distrust. Gross (2007) documented the same phenomenon in an Australian case study where a perception of bias in the results of the Environmental Assessment led to a loss of trust between residents and process leaders. Smart, Stojanovic, & Warren, (2014) noted in a Scottish case that study participants (including the wind developers) acknowledged that the independence of those preparing EAs was

important. The commercial nature of developer-consultant relationships can create a perception that consultants are working for the best interests of their clients (i.e., the developers) rather than the environment or broader public good (Smart et al., 2014). The current study supports the idea that these concerns lead to local perceptions of distrust and unfairness within the planning process. Conversely, allowing participants to have a say in selecting consultants for the Environmental Assessment or other impact analyses, such as noise studies, may help *increase* trust and the overall sense of procedural justice (Friedl & Reichl, 2016).

5.3.4.2 Timing of Information Provision.

Residents did not receive a clear and early "process definition" (Gross, 2007, p. 2731) which would have informed them how things were to move ahead, their opportunities to participate, and allowed them to judge its acceptability. In fact, many were not aware of the project until the siting process was well underway. This led many to feel frustrated they were always forced to play "catch up" and orient themselves within the process through their own research.

For example, the rules governing some project milestones were only learned about after those milestones had already passed (e.g., permits had been issued, road construction was underway, and comment periods had been closed). These experiences caused *rational* distrust and led residents to infer that the rules governing decision making were inadequate (*procedural* distrust). This late timing of information provision has recently been identified in the literature as a factor contributing to local distrust of process leaders (Firestone et al., 2020). Goedkoop and Devine-Wright (2016) also found

that procedural justice and trust are damaged by late notification to communities, after project planning is well advanced and key decisions have been made.

The COMFIT guidance document from the Nova Scotia Department of Energy (2014) recommends developers do not engage with the public until results of the Environmental Assessment have been received in order to avoid the perception of incompetence or dishonesty with the public. The document states that early engagement can cause distrust, since during early planning stages developers "don't have all the answers" and therefore "communities think we are lying to them" (Nova Scotia, 2014, p. 4). This is a dilemma noted within the industry and may partly explain why an early process definition was not provided to residents. Despite the benefits of early consultation, expressing uncertainty about risk or planning details can create an impression that a proponent is: withholding information from the public, incompetent, unprepared, or practising deception (Firestone et al., 2020; Greenberg, 2014). In conversations about technical information, there can also be a challenge conveying the correct message to non-specialist audiences (Greenberg, 2014; Nova Scotia, 2014).

However, early communication can also have tremendous benefit. Communication from trusted process leaders prior to formal engagement activities was a key contributor to local support in Dwyer and Bidwell's (2019) case study, with the authors claiming significant causation for project acceptance: "If stakeholders had simply been presented the siting location… at a single meeting, this would have caused intense protests" (p. 174). The dilemma may also stem from the disconnect noted by Simcock (2016), where process leaders tend to underestimate the public's appetite for volume,

complexity, and detail of information. Interviews with process leaders could further investigate the reasons for when and how information is delivered to communities. Some interviewees suspected that attempts by the process leaders to solicit participation, such as posting notices on the community mailbox a few days in advance of a meeting, were half-hearted at best, and perhaps disingenuous. This mirrors findings from other siting processes where community outreach was seen as inadequate and possibly undemocratic, leading to feelings of distrust and injustice (Simcock, 2016).

Many interviewees in Terence Bay regretted not knowing about the ability to negotiate community benefits until it was effectively too late. The developer was not forthcoming about this potential, nor were benefits a requirement under the COMFIT program. Residents in both communities felt it was important the community benefit from the project in some way. Where benefits were seen to be lacking, this was usually framed as a symptom of an unjust *process*. After all, it is hard to imagine a process where well-informed residents having significant control over the project outcome are not able to negotiate any benefit for their community. However, the mere presence of benefits is not necessarily a guarantee of a fair process. Even in the UK where benefit arrangements are standard practice (Markatoni & Aitken, 2016), engagement processes representing the lower tiers of Arnstein's (1969/2019) ladder are still dominant, with developers generally providing a one-way flow of information and not relinquishing any significant control over decision making to the community (Aitken, Haggett, & Rudolph, 2016).[2]

Most non-trusting residents expressed a desire to be consulted earlier, before the project was a "done deal", when they would have had the opportunity to participate more

2 For further entry into the effects of distributive justice on local attitudes to wind, see Cass, Walker, & Devine-Wright (2010), and Walker & Baxter (2017b.)

significantly. This aligns with the preference of Nova Scotians for high levels of early public engagement on wind farms expressed in surveys completed by Corscadden et al. (2012). Participants in Ontario wind siting processes have also expressed a desire for earlier engagement that better acknowledges democratic norms and allows better collaboration with process leaders (Jami & Walsh, 2017).

Results indicate that lack of a process definition and the timing of initial information provision was a contributing factor toward *rational* and *procedural* distrust and a sense of procedural unfairness. A clear process definition may have allowed people to develop *procedural* trust prior to the start of decision making and provided a context in which *rational* and *affinitive* trust could develop (Coleman & Stern, 2018). Distrust, perceptions of injustice, and project opposition were exacerbated by poor information provision.

However, confirmation bias may also be a factor in residents' evaluation of information; residents may be less satisfied with information about something for which they already oppose, and vice versa (Cleland et al., 2016). Given that many residents received similar information, yet some *were* satisfied with what they received, this alternative explanation may be warranted. However, one cannot rule out that the asymmetries in information received by individual participants may have been particularly salient. The confirmation bias explanation is most plausible for those who supported or opposed the project strongly from the first notice, since their project attitudes were more likely to be firmly in place prior to receiving significant project details.

5.3.5 Dissatisfaction with the CLC

The CLC was a required part of the formal siting process for Terence Bay under COMFIT, while in Ellershouse it was undertaken voluntarily by the proponent. Participants communicated feelings of procedural injustice related to the bias of the committee leadership, dissatisfaction with the opportunity to participate, and being treated with respect. In their role as process leaders, developers retained control over most CLC functions, including: convening and chairing meetings, developing the committee charter, keeping meeting minutes, and deciding which information would be shared. Developers retaining control over these features aligns poorly with the tenets of procedural justice and led some residents toward *rational* and *procedural* distrust. Participants cited direct evidence that nothing of value was being accomplished at meetings (*rational*) and observed that the dysfunction of the CLCs pointed to a failing of the rules and requirements guiding the process (*procedural)*.

Lack of clarity in the mandate of a CLC can also cause issues. In Terence Bay, for example, dispute over the appropriateness of the Terms of Reference was reported to fuel conflict; control structures such as a third-party facilitator, or mutually-agreed-to rules that constrain discussion topics and enforce time limits to debates may have helped avoid such issues. This lack of formal structure likely contributed to some interviewees' perception of an ineffective, "bad board". Authenticity in deliberative processes includes participants having input into the group's terms of reference and defining the scope of the group's activities (Fast, 2017). This may have helped CLC members foster a sense of ownership and shared responsibility for the successful function of the committee.

Dwyer and Bidwell (2019) reported a case study in which a local resident was hired by the developer to act as a community liaison and disseminate information to other community members. Most participants in their study reported that the liaison had a significant trust-building effect, as the information delivered by a familiar person was seen as more trustworthy than that coming directly from the developers (Dwyer & Bidwell, 2019). This is perhaps because, as noted, information delivered in the context of a trusting interpersonal relationship is seen as more reliable (Bell et al., 2005; Evans & Kreuger, 2009). In the UK, community liaisons have been identified as an engagement best practice (Aitken et al., 2014).

In the current cases, CLC members were not paid but carried out a similar function of distributing information within the communities. Some CLC members felt this arrangement was beneficial and aided the community in staying apprised of the project's milestones. However, some CLC members were conflicted over their duty to share information they deemed untrustworthy with neighbours, to work on behalf of a process they felt was unfair, and essentially help facilitate a project they opposed. Contributing to similar sentiments among CLC members in Ontario, some developers in that province have required CLC members to sign a code of conduct identifying them as "ambassadors for the project", as opposed to being on the CLC for the purpose of providing critical feedback and defending the community's interests (Fast, 2017, p. 390). As observed by Parkins (2010):

> "Perhaps one of the quickest ways to destroy public confidence, to destroy the legitimacy of a public advisory process, is to suggest that company officials have ''educated'' committee members and, in turn, these

members are now being used as a communications tool for industry." (p. 834)

Thus, having a community liaison committee as part of a siting process is not a guarantee of anything and much depends on the level of *procedural* and *rational* trust in the committee's ability to protect community interests, and the level of interpersonal trust between process leaders and participants. In Ontario, where CLCs are now a regulatory requirement for project approvals, committees must be established by the developer within three months *after* receiving approval to construct the project (Fast, 2017); i.e., the major project decisions have already been made and the committees are intended as venues for information provision only, not as collaborative or deliberative spaces. Fast (2017) notes that the committees have been used as a tool to advertise to the larger public that community involvement has been sought, while in actuality, the scope of concerns addressed is limited and influence over decisions is negligible. Participants in the current study expressed similar concerns. CLCs conducted in this fashion are not effective at reducing community-developer conflict, upholding democratic norms (Fast, 2017), or supporting the tenets of procedural justice identified by this study (Table 1).

5.4 Interpersonal Trust and Distrust

Despite its importance in conducting effective siting processes, process leaders in this study were not always effective at generating interpersonal trust with participants (see also Bell et al., 2005; Walker et al., 2010). Interpersonal trust can be based on assessments of competence and reliability (*rational* trust) or emotional connection and shared values (*affinitive* trust) (Anderson, 2010; Lewis & Weigert, 1985). It is not clear

from the wind literature whether *rational* or *affinitive* trust is most beneficial to fostering interpersonal trust. Both bases of interpersonal trust will be discussed below.

Affinitive trust was expressed by some interviewees and was related to project support. Shared values such as caring, listening, and consideration of others were cited as reasons why the process leaders were generally "good guys". This finding of "core values" driving *affinitive* trust aligns with Coleman and Stern (2018, p. 36) who studied factors supporting *affinitive* trust in a natural resources management setting. Cleland et al. (2016) also found alignment of core values to be more powerful than specific shared interests in generating trusting relationships between the public and decision makers. In the current study, the shared interests related to specific project decisions (e.g., good location for the turbines, agree with construction mitigations, etc.) were mentioned less often as reasons for *affinitive* trust, although these interests were likely also held in common. Conflicts in core values reflected by perceived dishonesty, callousness, and prioritising "money over relationships" also led more directly to *affinitive* distrust.

Goedkoop and Devine-Wright (2016) noted that developers tended to move from a neo-liberal ideology and an aversion to regulation or requirements, while community representatives tended to come from communitarian principles that see strong, socially harmonious communities as inherently valuable. In the current study, residents whose views resonated with neoliberal or individualistic philosophies tended to indicate higher *affinitive* trust, be more satisfied with the information they received, and support the project. It may be that these residents resonated with those shared values and thus had higher *affinitive* trust. Interviews with process leaders would be required to confirm their guiding philosophies.

Affinitive trust is important for initial collaboration and formation of natural resources working groups, as well as their continued success (Coleman & Stern, 2018). The current study differs in that the creation of the 'working groups' (i.e., CLCs and public meetings) were not initiated voluntarily by all members on the basis of shared values or common goals. Rather, community members engaged in these groups in response to a local project proposal. Some interviewees involved in the CLCs and public engagement events ended up developing *affinitive* trust toward the process leaders, which may support potential future collaboration. Others developed *affinitive* distrust through their participation in these groups and moved to interrupt what they viewed as an unfair process. This hindered the process and would be likely to diminish prospects for their supporting future developments in the area as well. Thus, a longer-term view of the relationship between wind farms and host communities should consider the importance of *affinitive* trust in ensuring the long-term viability of working groups.

Rational bases for interpersonal trust may also be important. Some trusting participants felt the community was able to influence the decision outcome, and such instances of process leaders being responsive to community concerns has been shown to lead to higher interpersonal trust (Anderson, 2010). One participant established trust after researching the development company and basing her trust on the company's positive reputation for project successes. This *rational* trust in the developer's competence seems to have been a shortcut to trust in the process leaders themselves. Likely, it is some combination of *rational* and *affinitive* bases that foster overall interpersonal trust between participants and process leaders.

Meanwhile, to the extent that there was a divergence of individualist versus community values between process leaders and some Terence Bay residents, respectively, this may be irreconcilable. Communication is a challenge in energy development processes and conversations about values can be especially difficult (Greenberg, 2014). While divergent values can cause actions to be perceived differently by each party, communication that is perceived by each side as honest and demonstrating care can help parties build or maintain some level of *affinitive* trust (Greenberg, 2014). Where core values are in conflict, fostering *rational* and *procedural* trust become all the more important in providing a supportive basis for the function of a working group (Coleman & Stern, 2018).

Positive informal interactions between process leaders and participants express the values of being treated with dignity and respect and can lead to increased interpersonal trust (Dwyer & Bidwell, 2019; Walker and Baxter, 2017a). Supporting this, a US study comparing state-led and county-led wind siting processes, the county-led processes achieved higher levels of procedural justice, with the authors ascribing the higher justice measures partly to more opportunity for informal interactions between participants and process leaders (Ottinger et al., 2014). Centralized decision making in wind siting practices likely includes less opportunity for interaction with regional decision makers, and negatively affects trust between residents and process leaders (Fast & Mabee, 2015).

However, it should be noted that the distinction between "formal" and "informal" parts of the process is typically defined as what is legally required (formal) versus what the process leaders undertake voluntarily (informal) (Blader & Tyler, 2003; Dwyer &

Bidwell, 2019). One could argue that this distinction would be somewhat arbitrary from the perspective of residents who, for example, received a representative at their door and attended a town hall meeting. They would likely see it all as one continuous engagement effort. Further, the distinction may be confounded if an engagement practice such as door-to-door delivery of information is required in one jurisdiction (formal) and conducted voluntarily in another (informal). Would the effect of the door knocking campaign be different depending on whether or not it was mandated? It's possible that this difference could affect the developer's approach to the task. This concept should be clarified in the literature.

Interpersonal trust is known to be important for increasing the trustworthiness of information shared within that relationship context (Bell et al., 2005). Evans and Kreuger (2009) observe that people tend to trust others who share a social identity more than perceived outsiders, as being an 'insider' is a heuristic for holding shared values. This suggests that *affinitive* trust is functional here, and residents may trust information from peers more than from developers (also see Walker et al., 2015). The effect of interpersonal trust on information is magnified where people initially have limited knowledge of a topic or situation; they will rely more heavily on information from trusted individuals (Huijts et al., 2012). Thus, offering information as an 'outsider' may present an initial barrier for process leaders to overcome when attempting to build interpersonal trust and have information seen as trustworthy.

Where interpersonal trust is absent, *dispositional* trust may play the largest role for individuals evaluating new situations or information (Evans & Kreuger, 2009). This describes the position of wind process leaders at the beginning of a process; people likely

have little specialized knowledge about the topic and do not have interpersonal relationships with the developer. "[I]nformation will always be suspect in a climate of mistrust" (Bell et al., 2005, p. 470). This highlights the importance of building early rapport and personal relationships with residents and providing clear, trustworthy information from the start.

In the current study, late engagement meant that developers had little chance to interact informally with residents and generate interpersonal trust prior to formal engagement activities such as town hall meetings. Once FORR was established, information generated and shared within that "ingroup" was seen by its members as trustworthy, whereas information from the developer was more suspect. In the absence of much contextual knowledge and interpersonal relationships with process leaders, perhaps residents with low *dispositional* trust were also initially more critical of information received. This tendency toward distrust of information from an outgroup was likely strengthened by the additional *procedural* and *rational* distrust that developed.

5.5 Experience and Dispositional Distrust

Some interviewees who expressed *rational*, *procedural*, and/or *affinitive* distrust toward aspects of the wind siting process also reported these experiences had effects on *dispositional* distrust toward the government and development processes more generally. *Dispositional* distrust appears to be affected by experiences of *procedural* and *rational* distrust more so than by *affinitive* distrust. However, as mentioned, comments related to *affinitive* trust/distrust were fewer overall and, as such, its effects on *dispositional* trust in this study are less clear.

The energy industry operates in a low trust environment (Cleland et al., 2016; Edelman Trust, 2017; Greenberg, 2014), and this may be especially true for wind turbine developers (Aitken et al., 2016; Ebert & Power, 1999). Resident experiences from bad actors advancing "inappropriate" project proposals can create latent resistance within communities which can be triggered by a new proposal (Ebert & Powell, 1999). In a UK study, it was found that in many communities the wind industry's reputation for unfair practice preceded local proposals, which may have affected the community's expectations about the process (Aitken et al., 2016). Cleland, Bird & Fast (2016) recognise that "legacy experiences with past projects" have influenced the context within which new projects proposals are received in Canada (p. 3). This suggests that prior experiences of *rational* distrust, including experiences reported by others, can damage communities' *dispositional* trust toward wind developers. Thus, it is also possible that the *dispositional* trust of other Nova Scotia residents has been, or could be affected by hearing about negative experiences, such as those reported in this study.

In the absence of knowledge about wind energy or interpersonal trust, individuals may rely on *dispositional* trust to formulate early judgments (Huijts et al., 2012; Evans & Kreuger, 2009) and underwrite their involvement in a collaborative process (Leahy & Anderson, 2008). Broad (*dispositional*) trust in the government was the biggest predictor of perceptions of procedural justice, and in turn, project support in one US case study (Firestone et al., 2020). And although it should be noted that trust has been measured as slightly higher in the Atlantic provinces compared to other regions of Canada, 62% of Atlantic respondents in the survey also agreed that no project should go ahead if the local residents of the affected area are opposed (CROP, 2013, p. 20). Thus, a high level of

dispositional trust is not a license to build out projects in the absence of procedural justice and local approval.

Trust requires accepting a certain level of risk of negative outcomes if the trustee does not deliver on the expected action. However, the trustee may *also* realize negative consequences if they fail to deliver on their expected action and damage the trust of those who had relied upon them. They would find themselves living in a world with less "glue that binds society together" (Blackburn, 2008, p. 368). In this sense, although the consequences of broken trust are more acute for the vulnerable party, there is potential downside for *both* parties, and potentially the broader society as well. This effect may further contribute to the low trust environment that developers are confronted with and present an initial obstacle to effective public participation. Inappropriate wind developments have the potential to sow *dispositional* distrust beyond the community they are constructed in. When implementing renewable energy technologies, developers, government, and researchers must remain aware of the consequences that stem from practices fostering long-lasting distrust among the public.

5.6 Expectations and Trust

Trust involves accepting some level of vulnerability to a trustee that is accompanied by a set of expectations (Davenport et al., 2006; Evans & Kreuger, 2009; Stern & Coleman, 2015). When these expectations are met, they can improve trust (Dwyer & Bidwell, 2019), and when violated, can damage trust (Stern & Coleman, 2015). "Repeated cycles of exchange, risk taking, and successful fulfillment of expectations strengthen the willingness of trusting parties to rely upon each other" (Rousseau et al., 1998, p. 399). This claim held true in the current study, with

interviewees who had their expectations for a fair process met expressing more *procedural*, *rational,* and *affinitive* trust. Those whose expectations were not met expressed more *procedural*, *rational,* and *affinitive* distrust.

The results also suggest that the behaviour of process leaders can violate the latent expectations of residents, even where no prior trust relationship has been established. These latent expectations were sometimes brought into relief through their not having been met. Such instances can still trigger distrust and start a wind siting process off in an adversarial fashion (Gross, 2007).

In the current study, expectations regarding the appropriate degree of community and individual participation seems to have been a powerful driver of *procedural* trust/distrust. Some interviewees expected a process aligned with a degree of citizen power Arnstein (1969/2019) called "partnership" or what Walker and Devine-Wright (2008) described as a "community energy" process with high level of procedural justice that includes significant power sharing between residents and developers. During the interviews, these residents expressed perceptions of the actual process that correspond to the lower rungs of Arnstein's (1969/2019) 'Ladder' (Figure 5).

Conversely, interviewees who had expectations aligned with what Arnstein (1969/2019) called "nonparticipation" and "degrees of tokenism" (p. 26), or with the 'standard model' of wind development, generally had their expectations met and were satisfied with the result. Interviewees that expected only to become better informed and had that expectation fulfilled developed *rational* trust at initial meetings as their expectation of basic information provision was met, and *procedural* trust as they gained a sense that the rules ensured their interests were satisfied. Participants in public

engagement processes also tend to have higher interpersonal trust with process leaders if their expectations for procedural justice are met (Leahy & Anderson, 2008). This, combined with no expectation of exercising citizen power, helped some residents sustain trust throughout the process.

Thus, perhaps the degree of *procedural* trust and fairness experienced by residents has more to do with the degree of participation they were *expecting* and whether that expectation was met, than it does with process leaders adhering to any set of objective 'engagement best practices'. This frames procedural justice as a set of context-specific criteria that meet the needs and expectations of local participants. For example, in contrast to those upset by 'tokenism', an interviewee from Ellershouse acknowledged that developers conducted only a "symbolic listening" but still thought the process was fair and was in favour of the project. Firestone et al. (2020) observed many similar reports from community members in a US study who suggested 'backroom deals' had occurred between developers and government, leading to perceptions of tokenism and overall corruption with the siting process. However, many of these same individuals had come to expect this from their governments, were not necessarily upset by it, and still supported the project.

A partial explanation for the higher levels of distrust reported in this study compared to Firestone et al. (2020) may lie in the contrast between higher expectations for procedural justice reported by some in this study and the apparently lowered expectations for a fair process encountered by those authors. Atlantic provinces are highly interested and engaged on energy issues relative to other areas of the country (Comeau et al., 2015). They are more likely than other Canadians to attend a meeting,

sign a petition, discuss energy issues with family and friends, and value a "cautious, fair process" for development proposals (Comeau et al., 2015, p. 94). Therefore, if we understand *expectations* to mean "the thoughts and beliefs those involved have, related to how the process leaders should operate and how the process and outcome should look" (Dwyer & Bidwell, 2019, p. 168), this may signal that individuals in Atlantic Canada will expect meaningful participation and have high demands for involvement, information, and control. This suggests that higher overall expectations for procedural justice and citizen power in Nova Scotia may continue to trigger higher levels of *rational* and *procedural* distrust and opposition when these go unmet.

Findings by Walker and Baxter (2017a) support this interpretation. In a comparison between Ontario and Nova Scotia residents, Nova Scotia residents perceived higher levels of procedural justice – which may have satisfied their expectations - and were more accepting of project outcomes. However, as the authors note, the 'ability to affect the siting outcome' was the most significant feature of procedural justice, which residents in both provinces rated as low overall. This, in combination with the desire for higher levels of procedural justice in Nova Scotia, make the significant distrust and opposition voiced by some participants in this study unsurprising.

Despite a higher overall level of expectation for procedural justice in Atlantic Canada (Comeau et al., 2015), expectations for procedural justice can differ significantly between individuals, as can perceptions of the same process (Goedkoop & Devine-Wright, 2016; Simcock, 2016). The type of people who get involved in community energy initiatives are also not a homogeneous group (Bauwens, 2016) and local contexts play a significant role in determining what is considered fair (Wirth, 2014). Evans and

Kreuger (2009) also note a large diversity in people's general propensity to trust. Thus, there is a large natural variability in the factors that contribute to a person's expectations for a fair process and willingness to trust. A high level of variance should be expected within local populations and also helps explain the diversity of opinion encountered in the current small-*n* study.

Similar to the findings of Walker et al. (2010), trust in this study was important to participation and project support for one *part* of a community (supporters in EH), while distrust was functional in organizing and fueling opposition in *part* of the other community (FORR in Terence Bay). The level of heterogeneity in community members' expectations for process and overall willingness to trust makes generalizations about these issues difficult. The relationship between expectations for procedural justice on one hand, and resulting trust and project support on the other, is nuanced and likely best understood at the individual level.

Where do resident expectations about procedural fairness come from (media, previous experiences, personal values, developer promises, government policy, etc.)? The origin of expectations was unclear from the interview data. Some indicated that expectations were influenced by process leaders during initial community meetings. Others seemed to generate their own expectations based on personal values such as democratic norms or notions of duty and care. Further work could explore the sources of expectations for procedural fairness within communities and broader jurisdictions. Knowing the source(s) of expectation can help all parties to manage, negotiate, or even co-create expectations. Ignoring the source of expectations removes the opportunity to

intentionally formulate or negotiate them, leaving only a decision about whether to meet others' expectations, or to try to change them.

5.7 Dispositional Distrust and Citizen Participation

One of the consequences of *dispositional* distrust is that it perpetuates an apathetic and cynical attitude toward government-controlled processes and toward regulatory power in general:

> "And that's why…there's a blowback on this, is because people say, "The government does what they want and we have no say, so why vote?" And then they think, well "Why aren't people out voting?" And that's why people aren't – because [governments are] all the same, they feel. You know?" – Interview 1, EH

Unfair wind siting processes were seen by this and other residents as rationale justifying a broader lack of political engagement. Both supporting and opposed residents indicated that there was a much larger turnout at the initial meetings in both communities, but when it became apparent to most that the project was a "done deal" there was a high drop-out rate.

> "We all said "NO" and they still did it anyways, so what's the point?… All of the work and energy and tears and everything else you put into it will not make a difference. So don't bother because this is already a done deal. And all the legislation, and all the COMFIT requirements and everything else – we can just change this whenever we want, so don't put all that energy and emotion into this. Because either way, it's going through. You're just

> prolonging the inevitable. … So, to say "what would you like to see?" There's no point in saying it, because [the government] will not do that. The government does not work for its people." – Interview 7, TB

The siting experience was emotionally draining and exhausting for some interviewees, and after their suggestions for an improved process were not taken seriously, the lesson learned was 'next time, don't bother.' The lack of meaningful engagement and erosion of *dispositional* trust may reduce the likelihood of participation with future local developments, including potential community energy projects (Fast, 2017). It may cause "qualified supporters" to be apathetic and not participate in the process (Bell et al., 2005).

According to several interviewees, both supporters and objectors, the disposition of a significant portion of residents in the communities studied can be summed up as 'you can't fight city hall, so why bother yourself over it?' The culture of rural Nova Scotia was also suggested to include a general distrust of government and big industry. People typically support their neighbours at an individual level, but generally do not organize to participate in local development issues. Larger and more complex community-based initiatives such as wind turbines would be unlikely to gain traction within such a culture.

Community members' lack of participation in natural resource management decisions has been noted in past research, where factors such as socioeconomic status and perceptions of powerlessness were argued to have been barriers to effective participation (Davenport et al., 2007). If people perceive that a process is unfair or their participation is not having any effect on decision outcomes, it can result in *procedural* distrust, participant dropout, or even protest and obstruction (Coleman & Stern, 2018; Stern &

Coleman, 2015). Participants only tend to value an opportunity to participate if they feel like authorities will consider their input seriously (Fast, 2017; Firestone et al., 2020). And even then, engaging broadly is a challenge; apathetic attitudes and a lack of engagement in wind development were seen by Simcock (2016) when a community had an opportunity for direct democracy by voting 'yes/no' on a proposed community wind farm, and only 10% of residents showed up to cast a vote.

Wind siting practices that damage *dispositional* trust can be seen as contributing to a 'tragedy of the social commons' for renewable energy developments. That is, it may be possible to get a wind project developed in a given community, but when it proceeds in a way which damages trust, the project erodes whatever social capital existed in the community, making it more difficult for those who would come behind them to generate community trust, engagement, and gain social license for future projects. This aligns with the acknowledgement that improper wind siting practices have damaged trust with communities in the UK (Aitken et al., 2016), Australia (Ebert & Powell, 1999), and in Ontario (Christidis & Law, 2012; Fast, 2017; Walker & Baxter, 2017a) and may be contributing to the low overall trust in the Canadian energy industry reported in the literature (CROP, 2013; Cleland et al., 2016).

An important exception to this general suggestion about the dismal prospects for community wind in Nova Scotia is the case of the Fiddle Hill wind farm near Tatamagouche, NS, which is a good example of a community energy project initiated by a local champion and a grassroots group of engaged community members (Blackwell, 2013, July 1; Vass, 2013). This suggests that the rural culture in Nova Scotia is not homogenous. And perhaps more collaborative processes, such as the Fiddle Hill project,

may encourage more residents - and more supporters - to participate (Bell et al., 2005).

5.8 Model of Distrust

I have discussed the relationships between expectations for a fair siting process, factors leading to different types of distrust, and their implications for future siting processes. I propose that experiences of distrust begin with one's expectations for a fair process. These expectations may be conscious prior to process initiation or be precipitated after initial engagement. Having these expectations violated then led towards *procedural, rational,* and *affinitive* distrust. Combined, these experiences of distrust had lasting impacts on some interviewees, affecting longer-term levels of *dispositional* trust, at least where government and developer-led proposals are concerned.

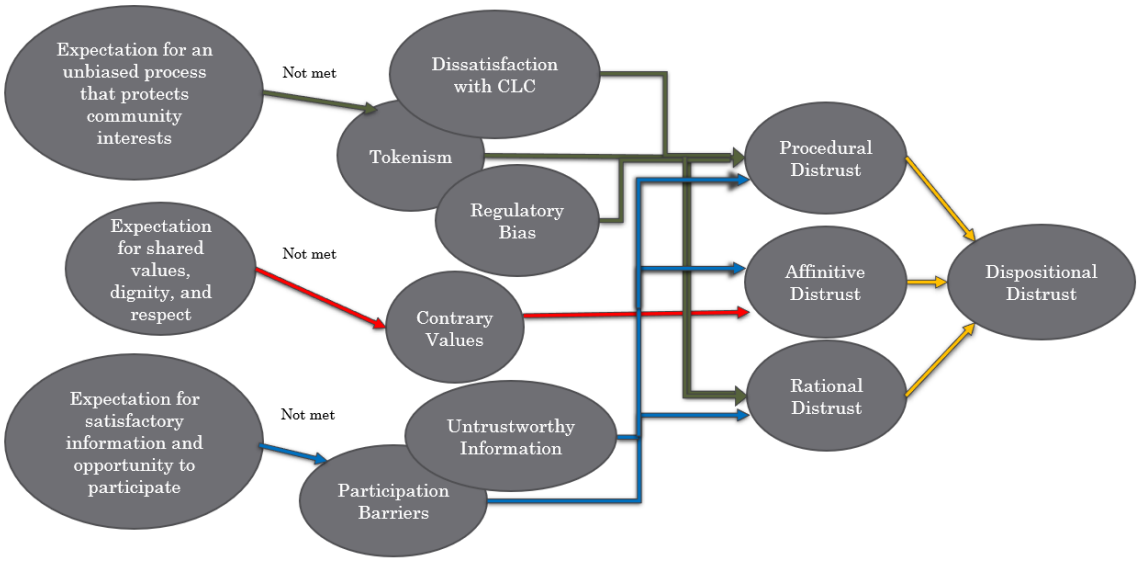
The model is suggestive of a route from certain expectations for procedural justice, through types of salient experiences (factors), to arrival at certain distrust-related consequences. However, it does not imply direct causation, or suggest a "deterministic view of human psychology" (Devine-Wright, 2005, p. 126). Multiple factors, taken together, may strengthen the likelihood of arriving at a certain form of distrust. One category of experience (factor) may also lead to effects on multiple types of distrust (e.g., experiences related to 'Untrustworthy Information' can be bases for *procedural, rational,* and *affinitive* distrust).

It is important to recognise the high degree of variability of individual experiences and the unique ways they are interpreted. Not all participants carried all expectations, experienced all factors, or expressed all types of distrust. The model represents an aggregation and interpretation of all data in suggesting paths toward distrust. Where expectations *were* met, this may lead to the various forms of trust; however, a model of

trust was not developed due to the paucity of data.

Figure 11

Proposed Pathways from Expectations Not Met to Dispositional Distrust



Note: The model begins with an expectation for procedural justice being violated, experienced as one of the six factors of distrust identified by this study. Residents arrived at *procedural*, *affinitive*, and *rational* trust via different, and sometimes multiple, pathways. Often, these forms of distrust led residents toward *dispositional* distrust of government and development processes in general.

5.9 Recommendations for Decision Makers

In the Introduction, I argued for a vision of community wind siting processes that views turbine developments as decisions made in the broader context of long-term management of wind resources. The siting process is, to a significant extent, a social process as well as a technical one. More attention may be warranted to the former aspect; as Firestone and colleagues (2020) argue, "it would be prudent for enlightened developers and policymakers to treat siting as a public question that also requires technical input." (p. 10).

Under the current siting models in Nova Scotia, a developer or wind farm owner is not required to be invested in a long-term relationship with local residents. Developers'

vulnerability to residents is low, whereas residents' vulnerability to developers and government is high. In a policy environment that does not afford a degree of citizen power able to veto or even influence a wind farm's construction, the developer's risk is minimal. This arrangement lacks interdependence, one of the social requisites for trust to form, and does nothing to prevent a relationship and behaviour motivated by a cost/benefit analysis (Rousseau et al., 1998). Organizing a siting process around the set of conditions that will be grudgingly tolerated by most local residents sets a low bar for justice.

The results suggest that government and developers should be cautious of this approach and instead proactively move toward collaborative models that include higher levels of citizen power before the public becomes firmly entrenched in an "anti-wind" position. Inappropriate siting practices increase public resistance and create blowback, which stifles development and will eventually force industry and government's hand anyway.

> "Power concedes nothing without a demand. It never did and it never will. Find out just what any people will quietly submit to, and you have found out the exact measure of injustice and wrong which will be imposed upon them, and these will continue till they are resisted with either words or blows, or with both." – Frederick Douglass (Douglass, 1857, cited in BlackPast, 2007)

Some participants in this study strongly voiced their disapproval of current siting practices, giving concrete examples of how frustration in the community boiled over into property damage and theft. However, they also expressed their support for renewable energy in principle, a desire to collaborate on project decisions, and need to be taken

seriously. Given the potential for further development in Nova Scotia and in Canada of small-scale "community-based" wind projects, the following insights may be of value to developers and policy makers in those jurisdictions.

5.9.1 Trust is Complex and Fragile

Firstly, it is important to recognise that given the complexities and different dimensions of trust as a social reality, simple and reliable strategies for generating and sustaining a uniformly high-trust planning environment are unlikely to be found (Stern & Baird, 2015). Trust is an "asymmetric asset", meaning it takes consistent positive experiences over a long time to foster trust, but only a short time to break it (Cleland et al., 2016, p. 16). Thus, care should be taken to start building trust with communities as early as possible, avoid factors that contribute to distrust, and get a project started on the right foot.

5.9.2 Engage Early, Provide Process Definition

Guidance for Nova Scotia's COMFIT program (Nova Scotia, 2014) advised against early engagement with host communities since the developer does not yet have "all the answers" and may generate distrust (p. 4). The evidence from the literature and this study seems to warrant a re-examination of this advice as it applies to wind turbine siting in Nova Scotia.

Residents opposed to the projects in this study consistently expressed their desire for earlier engagement, a finding which echoes other wind research in Nova Scotia (Corscadden et al., 2012). Early engagement has the potential to avoid residents' feelings of secrecy around planning (Gross, 2007) that can lead to distrust. As suggested by other researchers (Cleland et al., 2016; Firestone et al., 2020; Gross, 2007), providing an early,

clear, and transparent process definition can build *procedural* trust and uphold tenets of procedural justice. Including community voices and concerns within the process definition may be even more effective. Hiring a third party to engage affected parties and draft the process definition / terms of reference can further increase *procedural* trust (Coleman & Stern, 2018).

5.9.3 Beginning the Process with Trust

When building early trust, an emphasis on interpersonal trust between residents and process leaders, built on informal exchanges, has been suggested as a critical starting point (Dwyer & Bidwell, 2019). An emphasis on *procedural* trust, supported by a clear process definition, has also been observed to shore up initial collaboration within working groups (Coleman & Stern, 2018). Certain individuals may also rely more heavily on their level of *dispositional* trust when forming initial judgments about novel situations (Evans & Kreuger, 2009). Thus, there may not be only one type of "chain" that connects early developer behaviours to acceptance of project outcomes, but rather a variety of potential pathways supported by different forms of trust. In any case, efforts should be made to improve all forms of trust during engagement practices. Early distrust appears to be difficult to repair. Policies and processes aiming toward high levels of procedural justice and local acceptance would be wise to deploy initial resources ensuring the foundations of trust that underpin community wind energy are in place.

5.9.4 Adopt a Local Understanding of Procedural Justice

The principles of procedural justice presented in this study should be viewed as an informed starting point. Expectations for fairness and even perceptions of the same process are not universal and can vary significantly within communities (Goedkoop &

Devine-Wright, 2016; Simcock, 2016; Walker et al., 2010). Therefore, a local understanding of fairness ought to be developed based on local ideas of fairness and through collaboration on a set of shared expectations for the process. Meeting these expectations will help foster trusting relationships. A local understanding of all that the term "community" implies, especially in the context of "community support" for the project, should be sought and adopted. Co-developing the definition of "community" with residents may be a method to avoid this potential stumbling block.

When engaging with a community and attempting to build trust, consider the following:

- What is the current state of the relationships between community members, the developer, and government?
- What is the background trust environment that forms the context for the project proposal?
- Are there any legacy experiences (e.g., with wind turbines, government processes, other developments) affecting the background trust environment?
- What expectations do community members have for the siting process?
- What are the potential costs and benefits of the proposal to individual residents? To the community as a whole?

It's a truism that "you can't please everyone", but sometimes the subtext of that phrase is "so we won't bother trying in the first place." Attempting to meet the (reasonable) expectations of the people whose lives will be affected upholds democratic norms and can foster trust.

Expectations for procedural justice can be cued by presenting people with hypothetical situations (Liebe, Bartczak, and Meyerhoff, 2017). A similar method could be used in Nova Scotia and Canada to determine local expectations and preferences

during the pre-planning phase (see Corscadden et al., 2012). While mapping and evaluating wind resources, developers could also be mapping local social contexts.

5.9.5 Invest in Relationships

Trust is more easily given to members considered to be members of the same group (Anderson, 2010; Evans & Kreuger, 2009). It seems prudent then, that process leaders should seek to generate personal relationships and a sense of shared identity with participants. Fostering a "sense of community" around the project, apart from any intrinsic value it may offer residents (Vass, 2013), may help generate higher trust within its membership because of the shared positive feelings towards each other and a presumption of shared values (Evans & Kreuger, 2009).

5.9.6 Giving Trust and Power in Order to Receive It

In order to overcome a low trust environment, trust may have to first be given to the community by accepting that resident opinions are legitimate, and therefore the outcomes arrived at through a truly citizen-empowered participatory process will be, too (Aitken, 2010). This also speaks to the importance of decision makers being unbiased and being willing to accept the outcomes of democratic processes.

Communities in Nova Scotia are concerned with their lack of ability to influence project outcomes, including the ability to decline proposals (Walker & Baxter, 2017a). Process participants with no ability to affect decisions can develop *procedural* distrust (Coleman & Stern, 2018) if it violates their expectations for fairness. Defining the scope of communities' rights to affect project outcomes and formalizing them in legislation and/or the 'terms of reference' for individual projects will offer clarity and likely improve perceptions of procedural justice and increase *procedural* trust.

5.9.7 Collaborative Models

A collaborative and deliberative approach to engagement processes is likely to increase participant trust. This will require improving the trustworthiness of information. Communities bear some responsibility to inform themselves about wind developments when engaging in the siting process; however, they should be given adequate time and resources to do so (Cleland et al., 2016). The perceived legitimacy of studies commissioned by the developer can be improved by engaging residents in selecting the appropriate body to conduct impact analyses (e.g., Environmental Assessments, Noise studies, or Socio-Economic Impact Assessments).

Developer control over formal process activities such as town hall meetings and CLCs does little to build or maintain trust with communities. To facilitate more collaborative spaces, developers should consider joint production of the CLC terms of reference with residents, including members of opposed groups. In cases where members of opposition groups are included in collaborative spaces, opportunities can emerge to develop trust. As trust builds with these individuals, these 'boundary spanners' have been observed to share information and advocate for the working group's priorities within their home organizations (Coleman & Stern, 2018b; Davenport et al., 2007).

In the current study, some opposed participants were members of the CLCs but did not appear to advocate for the wind project as a 'boundary spanner'. This may be because the CLC was not seen by the opposed residents as a collaborative group. Outcomes such as shared understandings, trust, and 'boundary spanning' that can be achieved through collaborative processes are not as easily achieved through more basic

forms of public engagement like public meetings or comment periods (Coleman & Stern, 2018b).

Moving to such a model may require a change in philosophy at the level of project proponents and provincial government that recognises the value of early and meaningful engagement with stakeholders, the devolution of power into collaborative processes, and the inherent legitimacy of the outcomes that follow.

5.9.8 Greater Government Oversight

The demands placed on developers to successfully administer a fully collaborative, citizen-empowered, and participatory process may be too great. The greater institutional and personnel capacity of government is generally required to design and administer such a process (Bell et al., 2005). The ability of public authorities and regulators to provide oversight of public engagement activities can also increase protection of public interests and the environment (Jami & Walsh, 2017; see also Cleland et al., 2016). Increased government regulation and presence during public engagement would go some length toward increasing *procedural* trust and public confidence.

Use of professional third-party facilitators has been used in other contexts to foster *procedural* trust at the level of working groups (Coleman & Stern, 2018) and policy development activities (Adams et al., 2011). In this type of process, the developer, owner, multiple levels of government, residents, and other interest groups would be considered stakeholders in the proposal (see Ottinger et al., 2014). Each stakeholder would represent their interests to the group and engage in deliberative sessions to integrate local knowledge and create common ground. The facilitator's role should be to move the CLC's mandate "from information provision to collaboration" (Jami & Walsh,

2017, p. 24). This method may help mitigate bias (whether real or perceived) within the siting process and the information shared in that context. Such facilitators may also foster *rational* trust by ensuring the process is adhered to and the group stays focused on its agreed mandate. Such CLC models would likely be welcomed in Nova Scotia, but residents are not always clearly aware of their possibility.

At the policy and regulatory level, tools have been developed to evaluate the relevant procedural and outcome dimensions of project proposals (e.g., Hicks & Ison, 2018). The criteria used by government to screen proposals in Nova Scotia should consider these procedural and outcome (distributional) elements. This can ensure funding and contracts are preferentially directed to projects that offer more decision-making power and benefits to local communities.

5.10 Potential Limitations of the Study

A number of limitations to this study can be acknowledged and should frame the interpretation of results.

5.10.1 Interviewed Residents Only

The research was delimited by only interviewing residents. A complete case study could include the perspectives of developers, project owners, landowners, and government officials. The understanding of process and trust presented here represents residents' point of view only. Including the views of other stakeholders may have offered a more thorough understanding of the various trust-related factors and their dynamics. As the primary point of contact for residents, the perspectives of process leaders on trust and procedural justice are a notable absence.

5.10.2 Generalizability of Findings

Although the sample size was sufficient to achieve saturation with respect to the coding of relevant themes, the relatively small sample size (n=19) and unique contexts of the case studies in this exploratory study impose limits on the generalizability of the findings. What may be true for a small number of rural Nova Scotia residents may not be true for other residents in those, or other, communities.

5.10.3 Distributive Justice Not Considered

This study focused on resident experiences related to trust and procedural justice criteria; it did not consider the potential effects of distributive justice. The literature has demonstrated that distributive justice can positively influence attitudes toward wind (Gross, 2007; Walker & Baxter, 2017b), and also have deleterious effects on trust where benefits are perceived as bribery (Aitken, 2010). The two communities studied here were asymmetrical in this regard. Ellershouse received some community benefits, in the form of a rooftop solar array for the community centre and an annual community benefit payment that is administered by a committee of local residents. At the time of the interviews, Terence Bay had not received any form of community benefit arrangement from the developer. This may have had some effect on residents' trust but was not explored in any detail.

5.10.4 Timing and Accuracy of Data

At the time of the interviews, the turbines in both communities had been operating for some time (Terence Bay since July 2017, and Ellershouse since December 2015). Participants were asked to recall information about events that had occurred years prior. It is possible that time had affected participants' attitudes toward the turbines (Wolsink,

2007b) and with respect to trust and fairness during the process (Firestone et al., 2020). Thus, results derived from a single retrospective interview with participants may differ from results drawn from interviews conducted *during* the siting process.

5.10.5 Limited Trust-Related Data

Increased data collection such as multiple interviews with community residents over the course of an active siting process and additional observation of CLC and town hall meetings would have helped to create a clearer picture of how different forms of trust operate in practice and how trust levels potentially change over time.

The study also saw a disparity in the number of trustful versus distrustful comments. Despite similar numbers of trusting and distrusting participants, the higher number of comments related to distrust reflects the observation by Blackburn (2008, p. 368) that trust is most conspicuous when absent. To better investigate the sources of trust (as opposed to distrust), direct questions about trust may have been effective.

I only asked one direct question about trust, related to the trustworthiness of information received. This may have created over-representation of residents' concerns about trust in information. A study design that intentionally focused on trust as its subject may have solicited a more complete picture of residents' views on the topic by asking about trust in several process features. This would have provided opportunity for more robust analyses. However, the literature does contain articles on trust where results were generated using similar methods of analysing unsolicited comments related to trust from within interviews focused on other topics (e.g., Coleman & Stern, 2018).

Lower numbers of comments about *affinitive* trust may have been an artefact of my not having asked questions directly about residents' feelings toward the process

leaders as people. It is possible that interviewees would be less forthcoming with their personal core values and/or criticizing the character of others, perhaps not wanting to be seen as judgmental, versus the greater relative comfort expressing the more factual bases of *rational* and *procedural* trust.

The interview guide used in this study was designed to investigate resident *attitudes* as opposed to *acceptance* of turbines (see Huijts et al., 2012). Given the semi-structured nature of the interviews, residents made comments about how their attitudes resulted in certain behaviours which suggested "causal chains" (Huijts et al, 2012); however, because of the broad ground to be covered during the interview and the fact that trust had not yet been identified as the main topic of interest, I did not regularly follow up with participants to describe the connection between their attitudes (including trust levels) and behaviour. Thus, the connections between attitudes, trust, and behaviour are not as explicit as they might have been.

5.10.6 Limits of Procedural Fairness to Influence Trust

Perceptions of fairness may increase trust in situations where the issue at hand is of relatively low importance to participants. However, when an individual's desired outcome for a situation is valued by them more highly than procedural fairness, the effect of procedural fairness on participant trust may be limited (Earle & Siegrist, 2008). In these cases, successfully obtaining one's preferred outcome is related to later reports of higher trust and greater procedural fairness; similarly, a decision outcome that an individual opposes is related to that individual perceiving lower levels of trust and fairness (Earle & Siegrist, 2008). For wind opponents who strongly oppose turbines for a variety of reasons other than procedural fairness (health, noise, environmental concerns,

etc.) the overall affect of procedural fairness on trust and project support is unclear, relative to other factors. As noted, these 'other concerns' can be framed as trust-related (Fast & Mabee, 2015), though their effect on perceptions of procedural justice may be limited.

5.11 Further Research

The study results and literature review have yielded a number of suggestions for further trust research in the social dynamics of wind siting.

This study did not engage with group psychology aside from noting that trust is generally higher between members of the same group, and did not analyse the effects of intra- or inter-group trust in the context of the wind siting process. However, these dynamics may be significant to understanding how trust is affected when groups such as FORR or the CLCs are formed. As Mumford & Bell (2010) observe, trust is generated more easily within horizontal networks, especially when groups are focused on completing a shared task (e.g., FORR, focused on stopping the wind farm). The authors argue that when there is conflict with an outgroup holding opposing values, it can strengthen the trust and social bonds within the home group. The situation is then primed for distrust between the ingroup and outgroup, and prone to prolonged conflict. I saw some signs of this in a couple of interviews, such as the example below where a participant refers to the conflict and distrust with the government (outside group), and some strengthened bonds with other community members in the context of a shared struggle.

> "I learned a lot how the government doesn't work for the people of this province, and it brought our community closer together. We were fighting

for something together. But a couple community members, it ruined our relationship. So, it brought some of us closer, and it brought some of us further away." Interview 7, TB

Although I did not follow up on this point, I inferred that the community relationships which were negatively affected were between those differing in their support/opposition toward the wind farm. It may be useful to determine which specific aspects of a wind development are salient in affecting intra-community relationships. Interviews with members and non-members of a local opposition group could be conducted to learn how trust relationships evolved in that context between group members, with residents who were non-members, the developer, and with government representatives.

The community wind energy developments in this study did not fit the description of "community energy", as described in the literature (i.e., Walker & Devine-Wright, 2008). Further work could examine the factors that contribute to trust during a 'strong' community energy development process. What forms of trust are important for convening a more grassroots community wind scheme? Is interpersonal trust based on shared values (*affinitive*) more important than the perceived competence of the leaders to successfully lead the project to completion (*rational*)?

Guidance from the Nova Scotia Department of Energy (2014) suggests that developers and government prefer beginning engagement at a later stage of the siting process, after the Environmental Assessment has been completed. Further wind research in Nova Scotia and elsewhere should better determine what drives this culture of 'late engagement' amongst developers and policy makers. Research should also determine

whether an early engagement approach has been successful elsewhere in the province, whether in wind siting or other development and planning contexts.

5.11.1 Longitudinal Study

Pharmaceutical giant Johnson & Johnson faced public distrust when in 1982, several people died after ingesting Tylenol that had been tampered with. The company was able to restore trust after recalling all Tylenol capsules from store shelves and only relaunching after designing new tamper-proof packaging and demonstrating a renewed focus on product safety (Greenberg, 2014). A focus on *rational* trust appears to have been effective in this case; the company took demonstrable steps to mitigate risk and ensure a safe outcome upon relaunch.

No residents in this study reported that their early distrust toward the developer or process had been repaired. We know little about whether broken trust between residents and developer/government can be restored in a wind context, and if so, how? Which types of trust would be best to focus on for trust repair? Which methods are effective and how long might trust repair efforts take? Would proactive trust repair efforts early in the siting process be effective at mitigating the potential damage to the *dispositional* trust environment caused by previous developments?

A wind siting process can be characterised by a series of milestone decisions, including: selection of wind turbines as the appropriate energy technology for the area, site selection, project financing and ownership structure, size and number of turbines, environmental and regulatory approvals, and final go-forward to construction (Simcock, 2016). Future work could explicitly probe residents' and process leaders' expectations for siting and more frequently assess how these change as the two groups interact as the

project moves past various milestones (Dwyer & Bidwell, 2019). Such research would be useful to confirm the relationship between expectations for procedural justice and the factors that lead to different forms of trust, and to observe more carefully the relationship between trust and project attitudes. Which forms of trust are important during each of these decision processes?

How does trust for developer, government, and wind energy change during the course of turbine siting and construction? Would we see something like Wolsink's (2007b) U-shaped curve, a divergence/polarization of trust levels similar to Firestone et al.'s (2020) post-construction observations about fairness, or some other pattern? A longitudinal study could deepen the understanding of how trust and procedural justice influence each other over the course of a wind farm siting process and help determine the significance and direction(s) of the causal relationship (Huijts et al., 2012).

The question was asked of participants whether their attitudes may be different if the project was being developed by the local municipality, a community group, or a multi-national energy company. Interestingly, residents responded unanimously that it did not matter to them who the developer was. This suggests that the more significant influences on attitudes were regarding *how* the process was carried out, not *who* was doing it. Future work could ask this question in a larger sample, to a community that was early in the process. It may be that once the project is operational the owner is less visible and no longer matters. However, different owners could offer communities a more- or less-collaborative process or varying benefit arrangements at the outset, and this may affect perceptions.

This study speculated that many residents did not participate in the siting process

after a perception of tokenism and due to high background levels of *dispositional* distrust. The attitudes of the "silent majority" (Bell et al., 2005) could be studied to determine why they choose not to participate in wind siting processes. What is the relationship between *dispositional* distrust toward government and/or development, and the willingness to participate in a siting process? Similarly, does an individual's expectations about what constitutes a fair siting process (and the perceived likelihood of having those expectations met) influence their decision to participate?

Further work could investigate in greater detail residents' expectations for a wind siting process, including the source of the expectations. Are they drawn from personal values? How much of a role do the process leaders, government, media, or other sources have during engagement activities in influencing expectations?

Early development of interpersonal trust between residents and process leaders has been identified as key to fostering overall trust in the siting process (Dwyer & Bidwell, 2019), and seems to have been lacking in the current study. Future research could look more closely at how interpersonal trust is developed between process leaders and residents. What type of informal interactions and settings are most effective at building interpersonal trust? Is the trust based more on competence (*rational*) or shared values (*affinitive*)?

5.12 Conclusions

This exploratory study used semi-structured interviews to examine the attitudes of residents in two rural Nova Scotia communities toward their local "community" wind projects. Previous research has indicated that despite some confusion around the definition of "community", projects with high levels of procedural justice and trust tend

to foster higher local approval and support. However, the concept of 'trust' in previous research tended to be poorly defined and the factors that lead to trust or distrust were unclear. Trust has been an under-appreciated analytical lens to understand the relationship between perceptions of procedural justice and local project support. Initial thematic coding of the interview transcripts suggested that trust was a major theme explaining residents' attitudes toward their local project. To further examine the role of trust in explaining the dynamics of the wind siting process, a deductive coding framework was applied to the data. Qualitative data analysis was then conducted to investigate the following research questions:

1. Do the four forms of types of trust identified by Stern & Coleman (2015) adequately explain the trust environment experienced by residents during a community wind siting process?
2. What are the factors that lead residents towards the four types of trust or distrust during a wind siting process?
3. How are perceptions of procedural justice related to the different forms of trust?
4. Are certain type(s) of trust more significant in shaping resident perceptions of procedural justice and overall project support?

The findings suggest that the four forms of trust identified in the natural resources management literature are instructive for understanding the trust relationships between residents and process leaders during a wind siting process. All four types of trust were evident in the data. Overall, residents interviewed were evenly split on whether they generally trusted the process leaders and the rules governing the process, with those who were more deeply engaged with the process tending to be less trustful.

Distrust was triggered by a combination of eight (8) factors, while trust was

attributed to five (5) factors. Comments about distrust were more numerous and comprised the main focus of the study. Factors leading to trust and distrust were related to residents' expectations regarding the principles of procedural justice. Those who had expectations for a collaborative, citizen-empowered process did not have those expectations met and became distrustful. Those with lower expectations for procedural justice, in line with an "informing" or consultative approach (Arnstein, 1969, 2019), which were met, were generally trusting.

In the absence of a clear process definition being provided to residents in advance of engagement activities, residents conducted their own research on the regulatory framework and/or were left to infer the rules in real time based on the actions of government and process leaders. As a result, *procedural* and *rational* trust were affected concurrently by many of the same factors. Some participants became frustrated with the lack of clarity and came to oppose the project and/or disengage from the process. Participants in natural resources management contexts (Coleman & Stern, 2018a) and energy siting processes (Fast, 2017; Firestone et al., 2020) have also been observed to lose *procedural* trust and disengage from a process they see as unfair.

Most importantly, a sense of tokenism during public engagement frustrated those who had higher expectations for citizen empowerment, and eroded trust in process leaders and regulators. A pro-development bias in the regulatory process caused some to perceive that the interests of residents were not being protected by the rules governing development, and to lose *procedural* and *rational* trust. A perception that process leaders were providing misleading information or concealing it violated expectations for honesty, transparency, and full disclosure of planning details, which sowed further distrust. The

factors leading to *procedural, rational,* and *affinitive* distrust also generated longer-term *dispositional* distrust in some residents with respect to industry-led consultation processes and the ability of government to protect and listen to its citizens. This mechanism for prolonged, generalized distrust may contribute to the general low-trust environment that developers face when initiating projects (Cleland et al., 2016).

Residents who were trusting tended to be satisfied that the engagement process adequately considered resident concerns, information provided was timely and trustworthy, and that the developer representatives were generally "good people" whose core values showed respect for residents by listening, demonstrating care, and being forthcoming with a community benefit arrangement. Trusting residents also tended to express sympathy for an individualistic or neo-liberal set of values, starting from the position that individuals are free to do what they want if they are not harming others - a position likely to be shared by developers (Goedkoop & Devine-Wright, 2016).

Despite the attention granted in the literature to the importance of interpersonal trust on acceptance of wind attitudes, especially in the early phases of a process (e.g., Dwyer & Bidwell, 2019), the major forms of distrust affecting attitudes in this study were *procedural* and *rational*. However, the formation of these types of distrust may have been exacerbated by a general absence of early interpersonal trust between process leaders and most distrustful residents. *Affinitive* trust in particular is important for initiating and supporting collaboration in working groups (Coleman & Stern, 2018a) and was generally lacking between process leaders and project opponents.

Most opposed residents were explicit that they may have accepted the local project were it not for the process being conducted in a way that resulted in their feelings

of broken trust. Contrary to the advice of developers and government direction in Nova Scotia, early engagement is preferred by residents (see also Corscadden et al., 2012). The results suggest that trust, and *rational* and *procedural* trust in particular, are one of the important criteria required to obtain the "qualified support" of residents (see Bell et al., 2005). Stern & Baird (2015) proposed that long term collaboration requires adequate levels of *affinitive*, *procedural*, and *rational* trust. The findings here suggest that the same may be true for shorter-term working groups initiated to facilitate renewable energy developments.

For renewable energy to be sustainable, it must consider and achieve *social* sustainability, including measures of procedural justice (Walker & Baxter, 2017a). Trust was found to be central to how residents experience a siting process and perceive its fairness. The vision of community wind energy expressed in the literature was not realized in the two cases studied. More collaborative processes that focus on building early trust with communities and observe the locally-defined principles of procedural justice may be more likely to engender broad community support than was observed in the two cases here.

Trust requires a willingness to accept vulnerability to a third party with the expectation that the other party will act in one's best interest (Rousseau et al., 1998). The build-out of renewable energy infrastructure requires that turbines are expanded into new areas where residents will be largely unfamiliar with the technology and its effects. The importance of trust in wind siting will therefore continue to be seen in the amount of uncertainty faced by communities when confronted with a project proposal. Acceptance of project proposals implies a willingness to accept vulnerability in the face of this

uncertainty, and an expectation that the process leaders will act positively toward the community and succeed at mitigating any perceived risks.

Policy makers and developers should move proactively to accommodate increased public demand for collaborative development processes, bearing in mind that trust is difficult to build and is easily lost. Process leaders should be aware of the different forms of trust and design collaborative processes that foster each. Engaging early, providing trustworthy information, and developing relationships with residents would be a start (Corscadden et al., 2012). Being willing to trust communities first, by accepting the vulnerability inherent in democratic processes, adopting local understandings of procedural justice, and accepting increased government oversight may go some distance toward building trust with communities.

The findings presented here should be read in the context of the study's limitations. Only residents were interviewed and a study including the perspectives of process leaders and government representatives would provide a more fulsome picture of the cases. Distributive justice, and the provision of community benefits in particular, may have influences on resident trust but were not considered as part of this study. The factors that lead to trust were not explicitly investigated during the interviews which resulted in a focus on distrust and its antecedents.

Researchers should continue to ask how we can design wind siting processes that consider individual and community-level expectations for procedural justice, accommodate individual differences in *dispositional* trust, and foster *procedural*, *rational*, and *affinitive* trust. Similar case studies of grassroots community wind energy developments with high trust levels could offer contrast to the findings here which focus

mostly on distrust. A longitudinal study that includes perspectives of developers and government and tracks the development of expectations, sense of procedural justice, and different types of trust throughout a project's milestones would provide a richer perspective on the way these features interact.

This study supports findings from the natural resources management literature which suggest that trust is key to the function of engagement processes, and that distrust can undermine the function of such processes and lead to opposition. It also supports research in the wind siting literature that interpersonal and informational trust are important early conditions for fostering local acceptance. Findings also support the broader notion that a well-defined model of trust is a useful lens for understanding and explaining the dynamics between process leaders and participants during wind siting processes. Trust was also found to be deeply embedded in the principles of procedural justice and is a necessary condition for those principles to be met. *Procedural* and *rational* trust effect perceptions of procedural justice most strongly, while *affinitive* trust also explained some of the local attitudes observed. Expectations for procedural justice vary significantly between individuals and whether or not those expectations are met is formative to residents' sense of procedural justice, and placing of trust or distrust in the process and/or its leaders.

The benefits of a move toward "community energy" as a citizen-empowered participatory process that provides local benefits has been acknowledged by governments and researchers, as evidenced by Nova Scotia's COMFIT program. These ideals are generally supported up to the point where governments and industry would be required to devolve real power to groups of regular people. Whether sufficient trust can be

established between residents, developers, and governments for community energy to successfully navigate across this uncanny valley remains to be seen. The answer will have broad implications for the future of the energy system and broader society.

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Appendix A: Letter of Invitation

DALHOUSIE UNIVERSITY

INVITATION TO PARTICIPATE IN WIND ENERGY RESEARCH / CONSENT FORM

Project title: Living with wind energy: What does it mean?

Lead researcher: Cody Walter, Master of Environmental Studies candidate
School for Resource and Environmental Studies
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Introduction
You are invited to take part in a research study about wind energy being conducted by me, Cody Walter, a student at Dalhousie University, as part of my Master of Environmental Studies degree program. For the study, I am seeking participants who live within 5 km of a wind turbine. The information below tells you about what is involved in the research, what you would be asked to do, and about any benefits, risks, inconvenience or discomfort that you might experience. Your participation in the research would be voluntary and you would be free to withdraw from the study at any time. You may discuss any questions you have about this study with me or Michelle, as

you prefer.

Purpose and Outline of the Research Study

The goal of the study is to gain a better understanding of community-based wind projects by exploring what these energy projects mean to the people who live nearby. I plan to speak with a total of 40 residents who live within 5 km of a wind turbine to understand their attitudes and opinions about the turbines, and the way the project was developed. The intent is to understand the experiences of people who have lived through a wind development, then share that information with other researchers and policy makers, so that 1) the views of local residents are represented in the planning and development of renewable energy projects, and 2) we can determine if there are common preferences among residents that might lead to "best practices" for more successful community energy projects in the future.

Who Can Take Part in the Research Study?

You may participate in this study if you are a Nova Scotia resident over the age of 18, and live within 5 km of a wind turbine.

What You Will Be Asked to Do

This study will examine local residents' views of community-based wind energy through in-depth interviews. If you agree to participate in this study, the steps will be as follows:

Please call or e-mail me (Cody, 705-698-0607 or cody.walter@dal.ca) to arrange a time and location of your choosing to discuss a series of questions about how your local wind energy project was developed, the costs and benefits of the project, its effects on the community, and what you would like to see for wind energy in the future. The interview should take approximately 60 to 90 minutes. Initial and follow-up phone calls and e-mails are expected to take 30 minutes. Interviews will be audio-recorded and transcribed later.

A copy of the interview transcript will be sent to you for any corrections and comments you feel are appropriate. You will have the opportunity to withdraw your interview responses from the study if you wish. If you consent to being anonymously quoted, a copy of these quotes will also be provided to you for corrections/comments. Review of your interview transcripts/quotes is expected to take approximately 30 minutes.

The resulting information will be compiled by me and assessed for common themes and traits. Preliminary results will be shared with you, and you will be invited to provide comments or feedback if you wish.

Final results will be presented in academic publications, public presentations and other communication tools, such as industry newsletters or policy documents. Results will be

made available to participants by email upon request. All identifying information (names, address) will be separated from the data beforehand. **Your responses will remain completely anonymous.**

Possible Benefits, Risks and Discomforts

Participating in the study might not benefit you directly, but we might learn things that will benefit others. In particular, one of the objectives of this research is to determine how local residents feel about the way nearby wind turbines were developed. This information will be used to recommend ways that the process of developing wind turbines could be improved in the future. This may help other communities in Nova Scotia and across Canada who are considering wind energy developments.

This study is expected to involve minimal risk to participants or the community. Some may find benefit in having their voice heard and a chance to express their concerns about parts of the project they did not like. However, in some cases wind projects have caused a lot of conflict and discussing them can be upsetting. If some of the questions are deemed upsetting, you will have the option to skip that portion of the interview, or to end it.

Compensation / Reimbursement

Participants will be entered into a draw for a $100 gift card. Winner will be selected at the end of the study.

How your information will be protected:

Should you choose to participate in the study, your privacy will be assured. Your participation in the study will be kept confidential. All communication regarding the study (e-mails, voicemail) will be discreet. Michelle and I will be the only people with access to your specific information (name, address). This information, along with the interview transcripts, will be encrypted and stored on my laptop under password protection. Your interview transcript will not be associated with your name, but will instead be assigned a code, ensuring that **your identity remains anonymous**. The anonymous interview transcripts will be shared with a colleague, Dr. Jamie Baxter at the University of Western Ontario, for the purpose of comparing the opinions of people from Nova Scotia and Ontario communities.

Quotations from your interview may be used for a publication; however, they will be attributed to a fictional name. Moreover, you will be given the opportunity to review your quotations in advance of any publications, and withdraw them if you choose. This means that **you will not be identified in any way in our reports**. The name of the community, and of the wind project, will be used in our publications.

Your data will be retained for one year past the end of the project, (estimated as September 2019), then permanently deleted.

If You Decide to Stop Participating

You are free to leave the study at any time. Should you agree to be interviewed, you may choose to end the interview at any time, and for any reason. If you decide to stop participating in the study, you can also decide whether you want any of the information that you have contributed up to that point to be removed or if you will allow us to use that information. You will have a period of up to three months after the interview to decide whether you'd like to withdraw your information from the study. You can withdraw consent for using anonymous quotes up to the time of publication of the results.

How to Obtain Results

As detailed above, a copy of the interview transcript will be sent to you for any corrections and comments you feel are appropriate. Preliminary results will also be shared with you, and you will have three weeks to review the material and provide comments or feedback if you wish. Final results will be presented in academic publications, public presentations and other communication tools, such as industry newsletters or policy documents. Final publications will be made available to participants by email upon request.

Questions

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Cody or Michelle (contact information at top of page 1) at any time with questions, comments, or concerns about the research study (if you are calling long distance, please call collect). We will also tell you if any new information comes up that could affect your decision to participate.
If you have any ethical concerns about your participation in this research, you may also contact the Research Ethics Department at Dalhousie University at (902) 494-1462, or email: ethics@dal.ca

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Signature Page

Project Title: Living with wind energy: What does it mean?

Lead Researcher: Cody Walter, Master of Environmental Studies candidate
School for Resource and Environmental Studies
Dalhousie University
E-mail: cody.walter@dal.ca
Phone: 705-698-0607

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked to take part in an in-depth interview that will occur at a location acceptable to me, and that the interview will be audio-recorded. I agree to take part in this study. My participation is voluntary, and I understand that I am free to withdraw my interview transcript from the study for a period of three months from today.

_____	_____	_____
Participant Name	Signature	Date

(After the Interview is completed)

I confirm I have completed the interview and agree that direct quotes (without my name) may be used. I understand I will have the opportunity to review any quotes being considered for use and may withdraw the use of my quotes up until final publications are submitted (approximately July 2018).

Appendix B: Mail-out Flyer Distributed via Canada Post

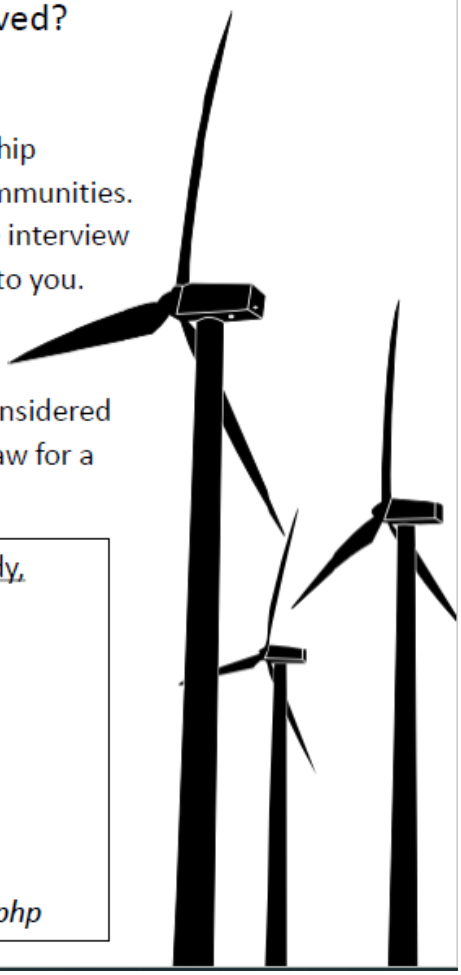
DALHOUSIE UNIVERSITY

COMMUNITY WIND RESEARCH

- How do you feel about living with wind turbines in your community?
- Has there been any benefit to the community?
- How was the community treated during the development process? Can the process be improved?

Your voice matters!

This study is trying to understand the relationship between wind turbine developments and host communities. You would be asked to take part in a 30-60 minute interview about the wind turbines, in a location convenient to you. Volunteers should be Nova Scotia residents over the age of 18. Your participation in the study would be strictly **confidential** and all responses considered **anonymous**. Participants will be entered into a draw for a $100 gift card.



For more information or to participate in the study, please contact:

Cody Walter (Lead researcher)
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DALHOUSIE UNIVERSITY

Interview Guide: Living with wind energy: What does it mean?

Preamble

This interview guide sets out the general questions that may be asked to local residents in two Nova Scotia communities in connection to the above study. It also has generic questions for both weak and strong community wind energy projects. It is primarily aimed at local residents, but could also be adopted for a wide variety of stakeholder groups. The interviewing strategy is to start with very open-ended questions on each topic to learn if the participant guides the conversation into areas of interest to the project. If they do not, the interviewer will "manually" narrow the focus and follow up with standard probing questions to draw out particularly useful insights.

Preliminaries:

- Thanks/explain purpose
- Consent forms
- How much time?
- Permission to record

Warm ups:

- How long lived at this location?
- Family links to the area?
- How many people live at this address?
- Types of employment in the family?

Topics

1. **Overview of the local wind energy project?**

- How does the local project fit into the local area?
- Why do you think this?
    - Main positive aspects of the project.
    - Main negative aspects of the project.
- Is this a common view in the local community?
- Are there others – and you need not name them - in the community who hold a different view from you? Why do you think they do?
- Do you think you would hold a different view of the project if it was owned by the community? A large multinational company?

2. **Development of the local wind energy project**

- Please tell me about the process that led to the project being located in your community.

- When did you first hear about the project? How did you get to hear about it?
- How did the developer attempt to engage the community about the project? How "in tune" were they with the concerns/needs of the community?
- Could you describe *your* participation in the project (if any)?
- Did you have an opportunity to give comments on:
    - The turbine size?
    - Turbine locations?
    - The scope and types of community benefits?
- Would you have liked any of these things changed?
- What should have been done differently?
- What is your sense of the standards/restrictions in place and who ensures these are met?
    - Was this information easy to access and clear?
    - **How do you feel about the people who are ensuring the rules? (trust them?)**
- What has been the most significant, important, or meaningful part of this wind development?

3. Ownership and Benefits

- Which groups do you think gains most from the project? (developers/community/neighbours/landowners/nation)
- Which groups bear most of the costs of the project? (developers/community/neighbours/landowners/nation)
- What do you think are the main benefits of the project for the local area?
- How do you think these could be improved?
    - Who should get what and how?
- Who do you feel should be responsible for improving benefits?
- How do you feel about host communities being encouraged to act collectively as a community (or groups within the community) rather than as individuals?
    - E.g., landowners who could lease land for turbines working with wider groups in the community
- What kind of information did you receive about the project, and from who/where? How trustworthy did you find this information?
    - E.g., Community leaders
    - Legal advice?
    - Information about other sites being considered?
    - Information about what the neighbours receive?
    - Information about what the neighbours think about turbines?

4. Community and other Conflict

- What role did social conflict within the community play in relation to the turbines?

    - How was this expressed? **(What point in the process? Over what?)**
    - Why do you think that is?
    - Please comment on wider consequences for the local community
    - How was the conflict been community members addressed/resolved? (Externally with help of planners, developers etc. or internally within the group)
- To what extent has the project had wider *positive* benefits on relationships within the community?

5. Community Agency (Weak Community Model)

- How do you think a community-based model would be received here?
    - Why is that?
- How would you describe your interest in getting involved in a similar community owned project in the future?
- How would you prefer to be involved?
    - Interaction with developers?
    - Interaction with other residents?
- To what extent do you think community-based development is the way to go forward with wind energy development?
- Who should be taking the lead role in making this happen?
    - Developers?
    - Government (level?)
    - Residents themselves?
    - Is there a role for municipal government?

6. Community Agency (Strong Community Model)

- How has the community-based model been received here?
- How would you describe the community engagement process?
    - Why do you think community-based development happened here?
        - Transferable to other places? Why/not?
- How would you describe your interest in getting involved in a similar community owned project in the future?

7. Wind Energy Development Policy

- What do you think local/national government could do to improve how wind energy is developed in this area?
- What would be your priorities for government action?
- What can others learn from what has happened here?
- How have your views on the project changed since you first heard about it?

8. Closing items

- Anything you'd like to add/things you think we've missed?
- Who else would you recommend we speak to – with respect to the local wind energy project? (somebody who thinks differently than you do?)
- Thanks for time
- Sharing audio and/or transcripts; member checking later in the project

Appendix D: Confidentiality Agreement for Transcriptionists

DALHOUSIE UNIVERSITY

Confidentiality Agreement

This agreement is between: Cody Walter, MES Candidate with Dalhousie's School for Resource and Environmental Studies, and [Transcriptionist] for the research project titled: Living with wind energy: What does it mean? [REB File # 2017-4324]

Summary of job description/service provision:

The transcriptionist will be provided with audio files of interviews conducted with research participants. The files will have a code assigned to them. Each file should be transcribed in a separate Microsoft Word document (template will be provided), with the Word document named using the identifying code. Word documents should be password-protected and stored in a secure location at all times. Text should be organized by speaker, and all language should be transcribed, however unimportant it may seem (i.e., please include "small talk".) Insignificant acknowledgements such as "mhmm" or "right" may be omitted.

I, [Transcriptionist], agree to:

1. Keep all the research information shared with me confidential. I will not discuss or share the research information with anyone other than with the Researcher(s) or others identified by the Researcher(s).

2. Keep all research information secure while it is in my possession.

3. Return all research information to the Researcher(s) when I have completed the research tasks or upon request, whichever is earlier.

4. Destroy all research information regarding this research project that is not returnable to the Researcher(s) after consulting with the Researcher(s).

5. Comply with the instructions of the Researcher(s) about requirements to physically and/or electronically secure records (including password protection, file/folder encryption, and/or use

of secure electronic transfer of records through file sharing, use of virtual private networks, etc.).

6. Not allow any personally identifiable information to which I have access to be accessible from outside Canada (unless specifically instructed otherwise in writing by the Researcher(s)).

Transcriptionist/Research staff:

(Print Name)	(Signature)	(Date)

I, Cody Walter, agree to:

1. Provide detailed direction and instruction on my expectations for maintaining the confidentiality of research information so that [transcriptionist/research staff] can comply with the above terms.

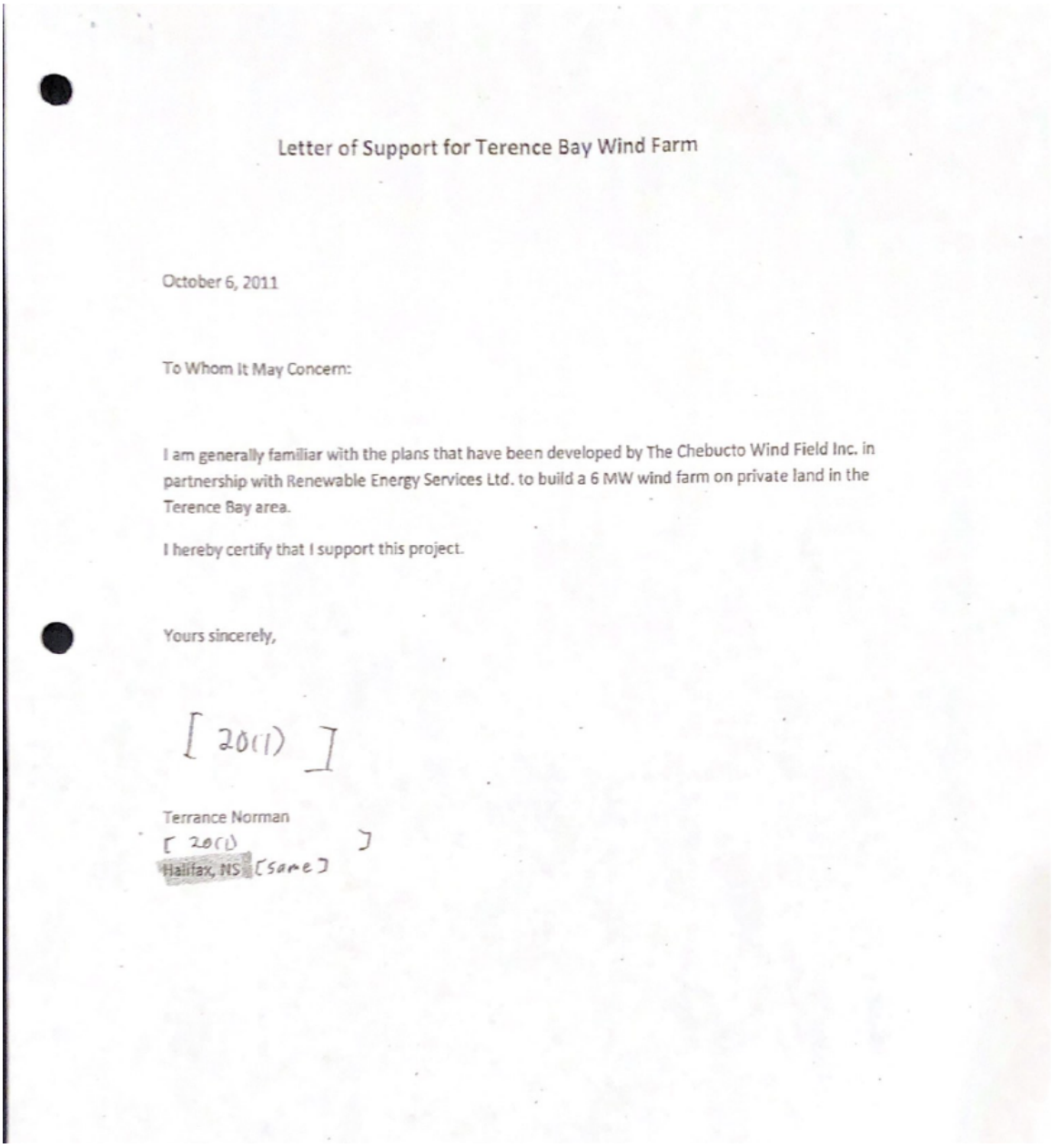
2. Provide oversight and support to [transcriptionist/research staff] in ensuring confidentiality is maintained in accordance with the Tri Council Policy Statement Ethical Conduct for Research Involving Humans and consistent with the Dalhousie University Policy on the Ethical Conduct of Research Involving Humans.

Researcher(s):

(Print Name)	(Signature)	(Date)

Appendix E: Letters of Community Support for Terence Bay Windfarm

Letter Submitted by the Developer:



Letter of Support for Terence Bay Wind Farm

October 6, 2011

To Whom It May Concern:

I am generally familiar with the plans that have been developed by The Chebucto Wind Field Inc. in partnership with Renewable Energy Services Ltd. to build a 6 MW wind farm on private land in the Terence Bay area.

I hereby certify that I support this project.

Yours sincerely,

[20(1)]

Terrance Norman
[20(1)]
Halifax, NS [same]

Letter Submitted by Resident of Hammonds Plains:

Letter of Support for Terence Bay Wind Farm

October 6, 2011

To Whom It May Concern:

I am generally familiar with the plans that have been developed by The Chebucto Wind Field Inc. in partnership with Renewable Energy Services Ltd. to build a 6 MW wind farm on private land in the Terence Bay area.

I hereby certify that I support this project.

Yours sincerely,

[. 20(1) .].

[Same]

(Print Name)

[Same], Hammonds Plains, Nova Scotia, [Same]

(Address)