The Influence of Stakeholders on the Sustainable Development of the Wind Power Industry in Canada: The Firm's Perspective

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List of Abbreviations

BC: British Columbia

CanWEA: Canadian Wind Energy Association

DG: Distributed Generation

FIT: Feed-In Tariff

GHG: Greenhouse Gasses

IPP: Independent Power Producer

NPV: Net Present Value

NRCan: Natural Resources Canada

NSPI: Nova Scotia Power Incorporated

RPS: Renewable Portfolio Standard

RTO: Research and Technology Organization

SD: Sustainable development

ABSTRACT

We propose making an empirical application of the temporal view of stakeholder management theory by applying it in the particular context of the Canadian wind industry. The temporal view builds on insights from the resource-based view (RBV), institutional theory, and stakeholder salience theory. We argue that both early stage competitive advantage and late stage sustained competitive advantage could be dependent on the use of salient stakeholders as a special network of resources. We contribute to the literature in various ways. First we determine an empirical list of five salient stakeholders specific to the wind industry. Second, we show that, at early stages, the moderating effects of firm size and market conditions determines stakeholder support or rejection. Lastly, we show that, at late stages, the sustainability equation must take into account the introduction of new salient stakeholders. Also, we make practical recommendations for industry players and policy makers. We reached theory refinement by adopting an exploratory qualitative methodology based on interviews with seven cases of large and small wind firms operating in different electricity market types and provinces across Canada.

Keywords: Sustained competitive advantage; institutional theory; resource-based view; stakeholder management theory; temporal view; wind industry.

RÉSUMÉ

Nous proposons une amélioration empirique de la perspective temporelle de la théorie de la gestion des parties prenantes en l' appliquant dans le contexte spécifique de l'industrie éolienne du Canada. La perspective temporelle est bâtie sur les préceptes de « l'approche fondée sur les ressources », de « la théorie institutionnelle » et de la « théorie de saillance des parties prenantes ». Nous soutenons que, de part et d'autre, l'avantage concurrentiel du stade précoce et l'avantage concurrentiel durable du stage avancé, s'appuient sur l'utilisation des parties prenantes saillantes comme réseau de ressources. Notre contribution littéraire se situe à plusieurs niveaux. D'abord, nous établissons une liste empirique de cinq parties prenantes saillantes, spécifiques à l'industrie éolienne. Ensuite, nous montrons qu'au stade précoce, les effets modérant de la taille de la firme et des conditions du marché déterminent le soutient ou le rejet venant des parties prenantes. Enfin, nous montrons, qu'au stade avancé, l'équation du développement durable doit prendre en considération l'entrée de nouvelles parties prenantes saillantes. Par ailleurs, nous faisons des recommandations pratiques pour les acteurs et les décisionnaires du secteur. Nous avons atteint ces améliorations théoriques en adoptant une méthodologie qualitative et exploratoire basée sur des entrevues avec sept cas de petites et grandes firmes éoliennes opérant dans différents types de marché de l'électricité et provinces à travers le Canada.

Mots-clés: Avantage concurrentiel durable/soutenu; théorie institutionnelle; approche fondée sur les ressources; théorie de la gestion des parties prenantes; perspective temporelle; industrie éolienne.

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1. INTRODUCTION

This section provides information on the wind industry in Canada, a justification for the study, the research questions and the thesis outline.

While Canada is self-sufficient in energy, there is still room for improvement in terms of environmental protection. It is true that hydropower, which is renewable, is the dominant source of electricity, but Statistics Canada (2014) shows that a significant percentage of energy production still comes from non-renewable sources.

Due to the traditionally low cost of electricity in Canada, wind energy has, for a long time, not been an economically competitive option despite the country's excellent wind resources. The consequence is that Canada has lagged behind other countries regarding wind development, but this is changing rapidly (Industry Canada & Delphi Group, 2008). Recently, the increasing costs of fossil fuels, the rising awareness about climate change and pollution, combined with new government economic instruments supporting wind energy, have resulted in a significant increase in wind capacity. In Canada, wind power generation accounts for a mere 3% of the total electricity production, a meager percentage compared to its Scandinavian or American counterparts. In comparison, Sweden's total wind capacity in 2013 amounted to 4470 MW (of which 211.7 was offshore) representing 7% of the national electricity production. The same year in Denmark, wind power production amounted to 657 MW (including 349 MW from offshore

turbines) representing 33.2% of the total electricity production. In the United States, the current wind capacity can power the equivalent of more than 15 million homes, and over 12,000 MW of additional generating capacity was under construction at the end of 2013 (GWEC, 2013). The wind is a source of renewable energy and as such could reduce Canada's total greenhouse gasses (GHG) emissions.

Different factors and actors can either encourage the development of wind power generation in Canada or, on the contrary, prevent it. We set out in our study to explore the role of stakeholders in the sustainable development of the industry. We reckoned that a good starting point for our investigation was the firm's perspective. Indeed, wind firms are directly responsible for the operation of wind farms, and we believe that they are a useful source of information.

At this point, our main objectives are: a) To determine the main players that influence the wind in Canada; b) to establish how those players could be impediments to the development of wind; and c) to comprehend how those players could be enablers for the industry.

To achieve those goals and understand how sustainability in the industry is influenced, we opted for a stakeholder analysis approach. The roadmap for the study consists of understanding what sustainability means for the wind industry and the various roles played by industry actors to affect this sustainability. The theoretical standpoint matching this methodology is stakeholder theory. Proponents of this theory suggest that businesses are not only accountable to stockholders but also to any individual or group of individuals that are affected by the affairs of the firm. As we are going to see in subsequent sections, there are different approaches to stakeholder theory. These include a descriptive

(behaviors due to firms' characteristics), an instrumental (firms' financial and social performance), and a normative (moral prescriptions of what firms "should" do) approach.

Stakeholder theory recognizes that businesses have responsibilities to people or entities in addition to stockholders. The evolving corporate world makes it clear that a firm cannot just act impulsively, blindly motivated by the sole pursuit of profit maximization, often to the detriment of other stakeholders. Firms now widely acknowledge that they have rights and responsibilities vis-à-vis all their stakeholders. Stakeholder theory has various dimensions. According to Radin (1999), there is no single stakeholder theory but many related theories that, separately and together, explore the descriptive, instrumental and normative dimensions of the concept of stakeholder. The basic premise of all those dimensions is the fact that different kinds of people and entities have "stakes" in the affairs of the firm/business. As such, those people and entities are affected either directly or indirectly by the firm's decisions, and conversely, the firm is impacted by their behaviors.

Wind power is widely known to be an environmentally friendly alternative source of electricity with next to zero footprint on the environment (Abbey, Katiraei, Brothers, Dignard-Bailey, & Joos, 2006). The relevance of the normative approach to stakeholder theory in our study may be questioned because of the apparently harmless nature of wind turbines. However, in the literature, we will uncover the applicability of the normative approach of stakeholder theory by showing that even the wind industry faces outspoken social critics.

1.1. Area of Study: Wind Power in Canada

In Canada, wind energy generation, which we will sometimes refer for short as just wind, is part of the clean technology industry which has a C$10.6 billion capacity and an

average growth rate of 56% per annum (Analytica Advisors, 2012). Despite a challenging year in 2011, positive employment gains, high R&D and export intensities indicate that both large-scale and small-scale wind sector have the potential for future development. The industry is on the rise and has gained in recent years much attention. According to the Research and Markets Offers Report (2013), wind energy is expected to cover a large share of the electricity needs worldwide. The wind is practically inexhaustible, available everywhere. The cost of power generation is stable over the lifetime of a wind turbine; there are little fluctuating fuel costs and access to the wind cannot be easily restricted by third parties. Access to energy is essential for the business world to function, and in the windy meadows of Canada lies a tremendous source of energy sustainability. McCollum, Krey, and Riahi (2011) defined sustainability as the utilization of energy that simultaneously mitigates climate change and pollution while promoting health and energy security.

Firms operating in the wind industry vary by size and core activities. They could be small or large and focus on wind power or not, but the vast majority of the installed wind capacity is detained by large oil firms that have fostered wind into their portfolios. One peculiarity in Canada in that responsibility for natural resources exploitation (including electricity sources) falls under the jurisdiction of the provinces. We encounter different types of electricity regulations that determine the functions of electricity generation, transmission, and distribution.

Most provinces and territories have vertically integrated utilities (assuming the three abovementioned functions) that are crown corporations operating as regulating monopolies. This type of regulated market is found in New Brunswick, Quebec, Manitoba,

Saskatchewan, British Columbia, Nunavut and Nova Scotia. Another regulation type is found in Newfoundland and Labrador, Yukon, the Northwest Territories and Prince Edward Island where investor-owned distributors operate alongside the provincial utility. In Ontario and Albert, however, the electricity industry is deregulated through the creation of electricity markets. In these two provinces, electricity is a commodity that can be traded by way of bids to buy, offer to sell, short-term and long-term agreements between generators, transmitters, and distributors. Furthermore, each deregulated market has its peculiarities. In Ontario, the Ontario Power Authority (OPA) still regulates the pricing of a large portion of electricity generation while in Alberta, pricing mechanism is based on competition between independent power producers (OECD, 2010). We elaborate further on some provinces of interest in Section 2.2.1.

1.2. JUSTIFICATION OF THE STUDY

Understanding the influence of stakeholders in the wind industry is important for several reasons. First, the wind industry can help Canada be more respectful of the environment. Environmental concerns indeed are one of the pillars of the sustainable development (SD) of businesses. The other two pillars are the economic viability and the support from society (D. Williamson, Lynch-Wood, & Ramsay, 2006). Secondly, even though wind power generation in Canada accounts for 3% of the total electricity production, the sector has recently experienced an accelerated growth and the prospects for employment are opportunities at hand. Indeed, the year 2013 was a record year for wind development, with new installed capacity from 23 wind energy projects adding nearly 1,600 MW and bringing the total wind capacity to 7,803 MW. By the year 2015, the total

installed capacity exceeded the 10,000 MW landmark, enough power to meet the annual needs of over 2 million Canadian homes (GWEC, 2013).

This study aims to make two main contributions to the literature. First, we will examine the development of the wind industry with regards to the influence, both positive and negative, of relevant stakeholders. Wind development mainly consists of two components: The increase in the installed capacity (generally expressed in megawatts), and the growth in the electricity market share (effective distribution to end consumers) (Bird et al., 2005). Second, we will contribute to the body of knowledge on how stakeholder theory, in application to the burgeoning wind industry, can open avenues for sustainable development.

Verbeke and Tung (2013) discuss a time-based model of stakeholder theory for firm success. We investigate how this model could by applied to the wind industry in Canada and how it can be adjusted for the country's peculiar characteristics. In the following section, we cast light on the statement of purpose and research questions.

1.3. Research Questions and Thesis Outline

The purpose of the study is first to identify the major stakeholders of wind power firms and then to examine how those stakeholders influence the firms' activities over time. This study will provide a better understanding of how actions of interest groups and individuals lead to sustainability in the Canadian wind industry. To achieve these objectives, we investigate the following research questions:

a) How do salient stakeholders influence the development of wind projects?

b) How can stakeholder management be linked to sustainable development in the wind power industry?

Our research questions are tightly scoped within the context of stakeholder theory and the qualitative data obtained from the interviews have offered useful insights into understanding the role of the players influencing the development of the young wind industry. This type of insight could be difficult to obtain from a quantitative study (Eisenhardt & Graebner, 2007). Indeed, because the Canadian wind industry is in its infancy, both regarding development and in literary works, this study could provide the potential variables that are essential in subsequent quantitative studies.

It is important to note that these research questions are broad goals that are broken down into the assessable research propositions found in Section 2.5.3. The findings of the study conclusively answer these questions through evaluating the research propositions.

To understand how changes occur in the wind industry, we need to identify the key players involved in the decision-making process of wind projects' development. This identification will allow us to figure out how stakeholders influence the wind industry. Stakeholder theory is a good starting point in the literature review because, preconceived ideas might lead directly to such obvious stakeholders as the founders, employees, customers, governmental regulatory bodies, and suppliers. However, as we are going to see below, we will narrow down the definition of a stakeholder to mitigate bias.

This study is methodologically classified as a qualitative exploratory inquiry based on interviews. It is based on 7 cases representing the diversity of wind firms operating across Canada. A summary of our cases' demographics is illustrated in Table 3. In terms of analytical design, we use the holistic approach to case studies by grouping together firms

that have similar characteristics and then distinguishing relevant groupings regarding stakeholders influence.

Structurally, this thesis comprises six chapters. In the following section, we present a literature review of the current state of the wind industry. We also highlight how stakeholder theory may be useful in understanding sustainability. In subsequent sections, we will have a dedicated methodology chapter that will dive into the specific details of how we collected data, analyzed it and presented the results. Afterward, we present the results section addressing the research questions and propositions, followed by a discussion section that illustrates the implications of our findings for the literature. Finally, we will present the conclusion that summarizes the main contributions, present practical suggestions, discloses the study limitations and suggests possible future research.

2. LITERATURE REVIEW

The literature review provides a synthesis of the major aspects of the scholarly works on stakeholder theory. We give an account of the theoretical underpinning, and we propose various ways in which we can contribute to the literature by making empirical application within the particular context of the Canadian wind industry.

2.1. THEORETICAL UNDERPINNING

The extant literature on the wind power industry mostly consists of market analyses (Van Kooten, 2009), engineering (Gil, 2006; Hau & Von Renouard, 2013), and state of infrastructure research (Gadawski, 2011). From a management viewpoint, there is an evident gap that this study attempts to fill partially through theoretical and practical contributions. Stakeholder theory is an adequate underpinning as it takes into account all the parties that play a role in the development of the wind industry. The use of stakeholder theory, which is at the core of this study can be justified by the particularly novel nature of the wind power phenomenon and its potential social, economic and environmental benefits. In addition, there is relatively scarce research on stakeholder management in the Canadian wind industry. As we will discuss in subsequent sections, even though stakeholder theory is central to our study, we rely heavily on the temporal view of stakeholder management to address the temporal component of sustainable development. We also make use of the resource-based view (RBV) and institutional theory.

According to Radin (1999), stakeholder theory was initially recognized by business ethicists in the 1980s and has since become a model upon which many firms rely. Colloquially, a stakeholder is an individual or group of individuals who can affect or can be affected by the activities of a firm. This relatively straightforward definition has evolved

to cover and refine additional nuances that Freeman (1984) addresses in his landmark book "Strategic Management: A Stakeholder Approach". The ongoing debate about stakeholder theory is constructed around establishing a working definition that can reliably separate "real" stakeholders from non-stakeholders. Indeed, Freeman (1984) laid the foundations by implying that the way we looked at the business world did not encompass turbulences. Those turbulences are the changes that occur both in the internal and external business environments and challenge the static nature of organizations and the predictability of their outcomes. Firms are no longer simply "doing business" by acquiring raw materials, converting them into finished products and selling them to customers. This product view of the firm evolved into the managerial view of the firm. The latter view, introduced by Freeman (1984) is a dynamic approach to management, an adaptation strategy based on the interaction between the firm's internal and external environments. The internal environment comprises managers and employees, and the external environment includes groups like customers and suppliers. Inexhaustibly, this new conceptual approach was also needed to take into account the emerging importance of governments, foreign competition, environmentalists, consumer advocates, special interest groups and media.

There is an inherent problem in trying to address changes in the external environment because, in an attempt to manage turbulent times, managers' attention can be scattered. Managers can thereby focus on irrelevant stakeholders, come up with inadequate planning and ineffective corrective strategies. The problem with a comprehensive approach to stakeholder management is intimately related to the broadness of the definition of a stakeholder. In theory, virtually anyone can be more or less "affected" by the activities of a firm and can eventually be a stakeholder. The contribution of Mitchell, Agle, and Wood

(1997) to the theory allow for a more vivid insight into stakeholder identification, but most importantly, into stakeholder salience. Although the literature contains some narrow definitions of "stakeholder", it failed to address adequately the pragmatic reality that managers just cannot attend to all actual claims. The theory of stakeholder salience as proposed by Mitchell et al. (1997), explores the degree to which managers give priority to competing stakeholder claims. To avoid bias and arbitrarily exclude a category of stakeholders, Mitchell et al. (1997) started their analysis with the broad stakeholder definition of Freeman (1984). Building on this definition, the theory of stakeholder salience puts an emphasis on the entities that managers "should" pay attention to, depending on whether these entities possess one, two or all three of the following attributes: 1) the stakeholder's power to influence the firm; 2) the legitimacy of the stakeholder's relationship with the firm; and 3) the urgency of the stakeholder's claim on the firm.

Organizations have complex structures and processes that are defined not only by the environment in which they operate but also by internal characteristics and culture (Tolbert & Hall, 2009). These structures and processes interact and produce outcomes that are evaluated to determine the performance of the organization. However, what used to define organizational performance has moved from the traditional maximization of shareholder wealth to a more complex set of economic and social objectives (Crane & Ruebottom, 2011). Although firms are considered individual legal entities, they comprise various internal groups that can have conflicting interests. Even the owners of a firm can be classified into those whose image is tightly linked to the firm and those who are mere shareholders. These two categories, for instance, may have divergent interests when the firm actively engages for example in Corporate Social Responsibilities (de Jonge, 2008).

On the assumption that businesses are "going concerns" seeking Sustainable Development, managers must identify not only the parties in which the organization has interest but also the parties that have an interest in the organization. Furthermore, SD can be divided into five broad components that move beyond the traditional profit maximization view. These components are: a) Inclusiveness; b) connectivity; c) equity; d) prudence; and e) security (Gladwin, Kennelly, & Krause, 1995). Stakeholder theory is based on the premise that a business should provide benefits not only to its financiers and shareholders but also to its employees, customers, suppliers and the community. Those stakeholders can be directly or indirectly affected by or involved in the organizational activities. Being accountable to external stakeholders does not imply that managers stop acting for the benefit of their employers and convert into social agents. It means that managers can be socially responsible by engaging in activities designed to increase profits while conforming to the rules of the game and engage in free competition without deception and fraud (Friedman, 1970). Stakeholder theory is also important because it possesses various components that interact together to produce a more holistic approach to organizational performance. Literary works on stakeholder theory mainly consist of several approaches: descriptive, instrumental and normative (Donaldson & Preston, 1995). A fourth approach, the temporal perspective, has recently been introduced by Verbeke and Tung (2013).

Descriptive Approach

The descriptive perspective of stakeholder theory presents the corporation as an interaction of both co-operating and competing interests possessing intrinsic values. This approach explores corporate characteristics and management perceptions leading to

corporate behavior towards the various stakeholders. The value of the descriptive approach lies in the fact that firms utilize it to know the past, current and future state of affairs and for planning (Donaldson & Preston, 1995).

Instrumental Approach

This approach logically builds on the descriptive one and constitutes a practical tool to connect stakeholder management with traditional corporate objectives like profitability and growth. By understanding the relationships that exist between the corporation and its stakeholders, managers can adequately allocate resources to projects and classify the various stakeholders by order of importance and by time horizon (Verbeke & Tung, 2013). Freeman (1999) supports the latter stakeholder management type by stating that "if you want to maximize shareholder value, you need to pay more attention to key stakeholders" (p. 233). This kind of engagement was applied to analytical and empirical analyzes of the firm and the environment in which the firm operates (Roberts, 1992). Studies using this approach tested for such things as the attitudes of conflicting stakeholders (Sturdivant, 1979), the traditional profitability measures as indicators of strategic performance (Cornell & Shapiro, 1987) and the firm's financial policies and capital structure decisions (Barton, Hill, & Sundaram, 1989). The research conducted with the instrumental approach provided evidence of its viability for predicting and explaining how managers behave (Donaldson & Preston, 1995).

Normative Approach

The normative approach to stakeholder theory aims at redefining the functions of the firm from a moral or philosophical point of view. The extant debate in the literature is that in normative uses of the stakeholder theory, the match between theory and corporate

life is less palpable. Donaldson and Preston (1995) argue that while the instrumental approach suggests that: “If you want to achieve (avoid) results X, Y or Z, then adopt (don’t adopt) principles and practices A, B or C” (p. 72), the normative approach connotes a prescriptive nature suggesting: “Do (don’t do) this because it is the right (wrong) thing to do” (p. 72). This approach has been widely used to test models designed to explain corporate social behaviors (Roberts, 1992). It is a potential tool for drafting public policies regarding corporate social responsibilities.

According to Freeman (1999), while the distinction between descriptive, instrumental and normative approaches to stakeholder theory is useful, it must be backed by stronger empirical evidence. The usefulness of stakeholder theory is the value it can provide to managers regarding better understanding how their organization interacts with interest groups. This point is captured mainly in the instrumental approach. Indeed, the two other approaches (descriptive and normative) are considered by Freeman (1999) as mere narratives converging towards the instrumental approach. However, because every approach is useful, what we need is a conversation that brings together those divergent views rather than one that separates them (Freeman, 1999).

Temporal Approach

More recently, Verbeke and Tung (2013) argued that the relationship that exists between the firm and its stakeholders is not static. It evolves over time through two distinct levels of adaptation critical to sustaining a competitive advantage. They argue that sustainable development inevitably has a temporal component that need to be accounted for. Adaptation is not only about catering to the demands of stakeholders throughout the firm’s entire life cycle but also about conforming to standard practices of the industry

(Brammer & Millington, 2008). According to Verbeke and Tung (2013), the stage of the firm's life cycle does matter in managerial decisions to allocate resource and to satisfy stakeholder demand. At its early stage, a firm undergoes what they termed "level 1 adaptation process", then adapts to environmental pressures at late stages of the life cycle through "level 2 transformational adaptation".

Level 1 "adaptation process" for a competitive advantage draws from RBV. It suggests that competitive edge at the early stages of a firm comes from its special network of stakeholders which provides resources that are unique from what prevails in the industry. This model supports that market entry through resource heterogeneity is a factor of competitive advantage. However, in subsequent stages of the firm's life cycle, Verbeke and Tung (2013) propose that the stakeholders who were an idiosyncratic resource, tend to require firms to align with the general practices of the industry. What we refer to as "transformational adaptation" corresponds to inter-firm homogeneity **level 2** where the firm seeks isomorphism with the industry for sustained competitive advantage. At this level, the literature supports that, for the firm to cope with isomorphic pressures, managers should no longer rely on stakeholders to achieve heterogeneous, value-creating resource combinations. Rather, they must establish a perception of legitimacy in the sense of behavior and practices acceptable to stakeholders.

With time, stakeholder theory took into account not only the stakeholders as isolated groups to deal with but also the actual relationships that exist between the firm and its stakeholders. Throughout the evolution of the theory, Freeman and other scholars fashioned related vocabulary to address three interconnected problems in these relationships (Parmar et al., 2010). The first problem is that of value creation and trade; it

encompasses the effects of a rapidly changing global business context. The second problem is the identification of connections between ethics and capitalism. The third is the issue of managerial mindset. This issue is concerned with how managers are supposed to think about management and end up being torn between either: 1) creating value, or 2) explicitly connecting business and ethics. According to Parmar et al. (2010), by using stakeholder theory and adopting as unit of analysis the relationship between a firm and its stakeholders, we have greater chances to deal effectively with the three problems above.

Given the above, in trying to understand the influence of stakeholders in the Canadian wind industry, we chose to follow the literary developments in stakeholder theory.

a) We start the inquiry with the broad definition given by Freeman (1984) supporting that virtually any individual or groups of individuals can affect or can be affected by the achievement of the firm's objectives;

b) We pursue the scrutiny by narrowing the definition of the relevant stakeholders following the stakeholder salience put forward by Mitchell et al. (1997);

c) We uncover the relevance each of the three SD components presented by Donaldson and Preston (1995) by getting the perspective of the firm;

d) Finally, given that sustainable development have a temporal component (Verbeke & Tung, 2013), and that the wind power industry is in its early stages of development (Industry Canada & Delphi Group, 2008), we are going to deductively explore the possibility that the industry is going through "level 1" adaptation. We will also determine if the industry will go through "level 2" transformational adaptation.

At the end of this exercise, the influence of salient stakeholders will be linked to the extant debate on stakeholder theory and a contribution made in the particular case of the wind industry in Canada.

2.2. The Wind Industry in Canada

The size of a business can be defined in many ways, but we decided to follow the definition based on the number of employees. In a service-producing industry like wind, the cut-off point for small firms is 50 employees. Above that size, and up to 499 employees, a firm is considered medium-sized, and above 500, large-sized (Industry Canada, 2012). In the Canadian wind industry, however, the overwhelming majority of firms are either large or small. For the purpose of this study, we will then define small wind firms as those having 50 employees and large ones as those having more than 50 employees.

In Canada, the clean technology industry is much more than technology that produces renewable energy from the wind and the sun. It comprises ten clean technology sectors organized under three market segments as illustrated in the table below. Through this classification, wind power falls under the upstream segment, precisely in the power generation sector (Table 1).

Table 1: Clean technology classification in Canada

UPSTREAM SECTORS	DOWNSTREAM SECTORS	WATER & AGRICULTURE SECTORS
Bio-Refinery Products	**Energy Infrastructure / Smart Grid**	**Water & Wastewater**
Power Generation (including wind)	***Energy Efficiency***	***Agriculture***
	Industrial Process & Products	
	Recycling & Recovery	
	Remediation & Soil Treatment	
	Transportation	

Source: Analytica Advisors (2012, p. 10)

Like any industry, the development of wind power in Canada entails enablers and obstacles. There are some elements to consider when it comes to sustainability in the wind industry. With the reality of global warming and the consequences of climate change, there is an increasing awareness amongst nations to reduce GHG emissions and turn to cleaner sources of energy. On one hand, the pressures from environmentalists, the rising prices of fuel are a few motives that push some Canadian Governments to gradually opt for alternatives like wind. On the other, energy storage, ground vibration, noise, high costs of equipment, grid integration, divergent provincial policies and wind factor reliability are some concerns that can affect the SD of the sector. Globally, however, the environmental problems facing humanity is pushing many governments to adopt greener policies like a carbon tax to influence consumers' and firms' behaviors (Polonsky, 2011). Today, with the

environmental deterioration caused by the extensive use of non-renewables like coal, oil, and uranium, the re-emergence of wind energy is an almost inevitable consequence (Hau & Von Renouard, 2013). Problems with energy supply and use are related not only to global warming, but also to such environmental concerns as air pollution, acid precipitation, ozone depletion, forest destruction, and emission of radioactive substances (Dincer, 2000). Green energy innovation incorporates technological improvements that save energy, prevent pollution, and enable waste recycling (Gil, 2006).

As for public perception and behavior, even though recent trends show that green product innovation is becoming mainstream among companies, there is still much confusion about what constitutes a green or sustainable product. The trend in the literature suggests that green product and process development is the first step towards sustainability (Smith, 2013) even though Dangelico and Pujari (2010) recognize that no consumer product has a zero impact on the environment. A 'green innovation' commonly describes a product or service that strives to protect or enhance the natural environment by conserving energy/resources and reducing the use of toxic agents, pollution, and waste. Unlike green products offered on the market like eco-pesticides that have a life cycle (use of raw material, use of energy for transformation, and disposal), wind power operates much like hydropower. It is a renewable source of energy: the raw materials (wind) required to produce it is indefinitely available.

A common way to generate power for the grid is through centralized power plants. However, wind power can also be generated by way of distributed generation (DG). This latter type of generation is not a new concept, and it is safe to say that it was a method employed in the early use of electricity (Pepermans, Driesen, Haeseldonckx, Belmans, &

D'haeseleer, 2005). Instead of generating electricity from a centralized power plant, wind DG is about disseminating power generation across various regions. There are serious doubts about the efficiency of DG in the literature, notably concerning the economic viability and economies of scale. However, one advantage is the resulting environmental benefits (Pepermans et al., 2005).

Currently, widespread integration or distributed generation of wind energy in Canada is still in its infancy (Abbey et al., 2006; Industry Canada & Delphi Group, 2008). According to Statistics Canada (2014), wind power accounts for 3% of Canada's total electricity production. This percentage is a relatively small number compared to the primary sources which are hydro (65%), nuclear (14.4%), and fossil fuel power (18%). However, shifts in provincial and federal policies, together with new technological developments suggest that centralized wind energy generation coupled with DG methods will likely play and increasingly important role in the coming decades.

2.2.1. Electricity Market Types: Regulated and Deregulated

We have introduced some peculiarities found in the Canadian electricity sector in Section 1, namely the face that there are regulated in deregulated provincial industries. There is relatively little academic literature explaining the differences between the various types of electricity markets in Canada. There is probably no clear cut distinction between regulated and deregulated markets because some provinces like Alberta exhibit attributes of both types. The bulk of information on electricity markets in Canada is contained in white papers issued by provincial grid/system operators.

Simply put, a regulated market for electricity is one where Independent Power Producers (IPPs), like wind firms, cannot directly sell to customers. Instead, IPPs must do so through electricity grid systems which themselves are owned by a provincial or municipal utility. This type of transmission is considered wholesale and is mostly regulated by a public utility act. It is, however, difficult to put a label on an entire electricity market because of the variations in how different types of energy producers are regulated, even within a single province. For example, renewable energy producers could be allowed to supply directly to consumers whereas non-renewable energy producers could not, making wholesale regulated and retail deregulated. We will therefore not endeavor to illustrate the specificities of each type of energy regulation by province. Instead, we will focus on the regulations governing wind power generation and distribution in a few leading provinces in terms of installed capacity (see Figure 1).

Ontario

According to CanWEA (2015a), this province leads with approximately 4,000 MW of installed capacity. The Ontario Power Authority (OPA) however regulates the province's long-term electricity supply through using Feed-In Tariffs (FITs) contracts with wind power producers. In the spring of 2013, the Ontario Ministry of Energy announced a formal Long Term Electricity Plan (LTEP) to update long-term supply and demand forecasts. The Ministry focussed on the diversity of supply mix, the conservation and the creation of a predictable and sustainable clean-energy procurement process. The Ontario Independent Electricity System Operator (IESO) coordinates dispatch and transmission flows and operates spot markets where sales are based on energy produced. The OPA is required to assist the Ontario Energy Board (OEB) by facilitating stability in rates for

certain types of customers and providing information relating to medium- and long-term electricity needs. Also, the OPA ensures the adequacy and reliability of the province's power systems (Goulding, 2013).

Alberta

Alberta's electricity market is unique in Canada, its wholesale and retail markets are open to competition while its transmission and distribution wires businesses are regulated. The wholesale electricity market in Alberta is unique for three reasons. Firstly, it is an "energy-only" model meaning that generators are only paid for the energy they produce, not how much they are capable of producing, as in a "capacity market" model. For this reason, wind power is concentrated in the deregulated retail market were IPPs sell directly to consumers. Secondly, ancillary services are procured on a day-ahead basis through a separate market operated on an independent third party platform. Thirdly, there are no transmission rights: System access is provided to all market participants on a non-discriminatory basis, and transmission is allocated on dispatch. Furthermore, prices in Alberta's competitive wholesale market for electricity are set at the intersection of supply and demand in real time (AESO, 2015).

British Columbia

In BC, electricity sales made through the monopoly grid systems operator are regulated by the British Columbia Utilities Commission. However, it is permitted for a wind power producer to sell energy directly to a customer if transmission bypasses the transmission system or distribution grid. In which case, the sale is not affected by the regulatory scheme for energy markets (British Columbia Utilities Commission, 1999). A

wind-powered water pump installed on-site is an example of an energy system that does not require access to transmission wires to deliver power service to the customer.

Nova Scotia

The Nova Scotia Power Incorporated (NSPI) supplies most of the electricity in Nova Scotia and owns over 95% of the province's electricity systems. It is a vertically-integrated utility as it generates, transmits and distributes electricity. Other municipal electricity utilities own and operate small power grids. They buy electricity from the NSPI and other sources and sell directly to their customers. These utilities can buy any portion of their power from any competitive IPP, including wind firms. IPPs supply over 70% of the large-scale wind turbines electricity. Nova Scotia's power utilities are regulated by the Nova Scotia Utility and Review Board (UARB) under regulations set out in the Public Utilities Act. The province's wholesale electricity market is then open to competitive providers. Wind providers can only sell to Nova Scotia Power and the municipal utilities – not directly to retail customers. However, the Electricity Reform Act of 2013 allows customers to buy power directly from licensed renewable-energy providers (Nova Scotia Department of Energy, 2014).

We observe from the above that the type of electricity market has the potential to influence wind development. The question is to figure out the incentive that firms have to invest in new or to keep the existing wind generation. In regulated markets, the provincial power authority can incentivize or discourage wind power generation. In deregulated markets, demand for green energy could either push wind development or, on the contrary, make it economically unattractive. At this point, however, it is unclear whether wind fairs

better in a regulated or a deregulated market, but this is something we address in the results and discussion section.

2.3. Stakeholders in the Wind Industry

Our first research question directly aims at unraveling the specific stakeholders that have a significant impact on the wind industry. There is a multitude of stakeholders who have positive and negative influences that could vary over time (Verbeke & Tung, 2013). Understanding stakeholder influence can be divided into two manageable endeavors. The first is the analysis of the types and degrees of influences that salient stakeholders exert and the second is the analysis of how these influences evolve over time, from early stages to late stages of industry development.

There is little literary evidence about a particular macro-, meso- or micro- wind industry stakeholders' classification. Rather, we can observe that there are international, federal, provincial, municipal and local level stakeholders. The unordered list of stakeholders identified below are drawn from the literature and considered some of the most relevant. This list, however, is by no means exhaustive; in any given case, the actual set of stakeholders relevant to the firm results from a dynamic process and stakeholders may even move from one category to another.

2.3.1. The Federal Government

The Federal Government of Canada is made up of various bodies that oversee innovation related barriers. Research and Technology Organizations (RTOs) like Natural Resources Canada (NRCan) collaborate with wind firms, and to some extent, with international RTOs and policies makers.

NRCan is of particular relevance because it seeks to enhance the responsible development, use and competitiveness of Canada's natural resources. As an RTO, NRCan pioneers many Canadian projects in science and technology, in the fields of energy, forestry, minerals, metals and earth sciences. One of NRCan's roles is to build and maintain an up-to-date knowledge base of Canada's landmass. Applied research in innovative science is conducted in facilities across Canada to generate ideas and transfer technologies.

As a policy maker, NRCan also develops policies and programs that enhance the contribution of the natural resources sector to the economy and improve the quality of life of Canadians. Also, NRCan represents Canada at the international level to meet the country's global commitments in relation to the SD of natural resources (Natural Resources Canada, 2014).

The role of NRCan in the sustainable development of the wind power industry can, however, be limited by the Canadian Constitution. Indeed, the responsibility for natural resources (including the wind) falls under the Provincial Governments, not the Federal Government. At the federal level, electricity industry regulations relate primarily to international and inter-provincial power transmission, including virtually all sales of electricity across provincial and national boundaries (Natural Resources Canada, 2013). Barriers such as an inadequate regulatory framework can impede small and large-scale wind integration into the electricity grid. In this line, Gowlings (2010) states: "it is unlikely that a single, national development process will materialize in the near future. However, provincial regulatory initiatives such as the Green Energy and Green Economy Act

(Ontario), endeavor to create a single window of renewable energy approval process for renewable energy projects across the province" (p. 6).

Canada has two internal barriers to the expansion of wind power facilities: 1) The uneven distribution of the resources throughout the country; and 2) The institutional barrier: the Canadian Constitution distinguishes between two levels of jurisdictions, and there is no integration in the national energy strategy. In fact, Fertel, Bahn, Vaillancourt, and Waaub (2013) agree that "the climate policy is merely a juxtaposition of ill-coordinated measures and objectives" (p. 1147).

Connection agreements, policies on metering and the financial value of the energy are issues that have not been addressed adequately. Even when the technical barriers are resolved, the policies guiding the implementation of projects are yet to be fully drafted. The extent of future wind power development will depend largely on a greater understanding of its impact on the power system, the current utility system planning tools, and the collaboration with all stakeholders. The combination of these factors can help develop a sustainable strategy for integration of wind energy generation in Canada (Abbey et al., 2006). To promote local wind technology in Canada, a comprehensive assessment of the potential economic, employment and cost reduction benefits associated with local wind turbine manufacturing should be conducted (Lewis & Wiser, 2007).

In Canada, an example of policy action taken toward sustainable energy adoption includes a 500 million dollars fund in technology and innovation given in 2003 to NRCan. The Government of Canada justified the fund after acknowledging that the energy industry was lagging behind the international competition. Part of this funding was specifically destined to the Decentralized Energy Production (DEP) program through which, Canada

aims at achieving technological innovation such as the high-velocity, low-temperature wind regime (Abbey et al., 2006). International collaboration is an exciting avenue that Canada can follow in pursuing these targets. In the section below we take a look at some potential partners to consider, including the exemplary Denmark (Naphade, Banavar, Harrison, Paraszczak, & Morris, 2011; Ornetzeder & Rohracher, 2013).

2.3.2. International Collaboration

In addition to domestic conditions, the wind power industry is also influenced by international factors. In comparison to countries like Germany, Spain, and Denmark, Canada has a less developed wind industry. Their wind power capacities, as a percentage of total production, were approximatively 15% (Industry Canada & Delphi Group, 2008), 23.5% and 34%, respectively (GWEC, 2013). In those countries, wind power flourishes as a result of two types of markets, the "conscience" market and the "need" market (Lewis & Wiser, 2007). The former emerges from environmentally supportive policies where the primary driver for the development of wind energy is a desire or "conscience" to produce clean electricity to reduce the environmental footprint. Governments supporting this type of market strive to make accurate assessments of the market potential and long-term economic viability. A good example is the German market, which despite having low wind speeds, managed, with very supportive policies, to be one of the leaders in the global wind market.

The need market, on the other hand, emerges out of "needs" deriving from insufficiencies in the energy supply in the context of limited generation. It considers wind power as an alternative source that is characterized by a "relatively easy indigenization and by the short

time between initiating construction and delivering power" (Industry Canada & Delphi Group, 2008, p. 11).

One way that Canada could have access to international wind technological innovation is through its national system of innovation. By creating interactions between key players like domestic RTOs, governmental agencies and Foreign RTOs but also interaction with the local community, Canada could benefit from technology improvements and frame adequate environmental/energy policies. Denmark, which has a high level of expertise in the development and integration of wind power technology, could be a partner of choice. China is also well poised for collaboration. Being the single biggest emitter of GHG, China is adopting stricter policies moving from voluntary commitments to legally binding engagements. These actions are making it one of the leading countries in wind power generation (Lewis, 2012; Vazquez-Brust & Sarkis, 2012).

Such international collaboration can facilitate technology diffusion and aid with intellectual property rights infringements. Reducing such barriers, therefore, constitutes a powerful policy leverage tool for boosting environmental innovation in Canada. However, the stimulation of domestic innovation through international collaboration implies various considerations. Lindman and Söderholm (2012) argue that the countries tend to learn more from wind power technology with global partnerships than from local integrated R&D. Aside international collaborations, public officials in Canada could get some insights into how successful local private wind power project developers made their decisions regarding the site selection and the choice of wind energy systems (Valentine, 2011).

Because, in an international collaboration setting, domestic policies can be affected by foreign initiatives, another consideration would be to understand both the determinants

of wind power development in collaborating countries and the drivers of international technology diffusion (Dechezleprêtre & Glachant, 2011). In particular, Dincer (2000) argues that in order to realize the economic and environmental benefits of renewable energy, the following integrated set of activities should be acted upon when collaborating with international partners:

a) Standards development: The development of technical and safety standards is needed to encourage the acceptance of proven technologies in the marketplace. Standards development ought to be conducted in cooperation with national and international standards writing organizations, as well as other national and provincial regulatory bodies.

b) Technology transfer: R&D results could be transferred through the sponsorship of technical workshops, seminars, conferences, training manuals, design tools and the publication of technical reports available to the collaborating countries.

c) Establishing stable institutions: The establishment of efficient and stable governmental institutions can stimulate renewable energy in general and wind in particular. Currently in Canada, these institutions are poorly aligned with the practices in other regional/local institutions. This inadequate coordination constitutes a fundamental systemic problem in the development of wind (Negro, Alkemade, & Hekkert, 2012). The Kyoto protocol is an example of an international agreement that aimed at reducing GHG and promoting renewable energies like wind power. Canada committed to this agreement but withdrew in 2010 (Van Kooten, 2009).

We can see from the literature that international activities can encourage potential users to consider the benefits of adopting renewable energy technologies.

2.3.3. The Provincial and Municipal Governments

It is safe to say that one essential factor contributing to the development of wind power is the availability of the wind itself. However, in Canada natural wind resources alone fail to explain why some regions deploy more wind infrastructures than others. Provincial policies represent an important factor for the development of wind power, but several factors often impede the provincial will. Canada is a federation of ten provinces and three territories and the authority and power to make laws is divided between the Parliament of Canada and the provincial/territorial legislatures. The Federal Parliament makes laws for the whole of Canada on matters assigned to it by the Canadian Constitution. Likewise, provincial legislatures make laws about the subject matters in their jurisdictions. The province of Ontario for example, as part of its wind power projects, enabled qualifying small business owners and individuals to connect their generation to the utility grid and receive a tariff for each kWh of electricity they generate (Heagle, Naterer, & Pope, 2011; Weng & Lin, 2011). As a matter of fact, the majority of the provinces' renewable energy incentives are geared towards the development and diffusion of wind and solar technologies (Jagoda, Lonseth, Lonseth, & Jackman, 2011; Stokes, 2013). Ferguson-Martin and Hill (2011) analyzed the role of government planning policies toward wind power, financial support or incentive systems, landscape values, and local ownership patterns concerning wind energy deployment. Their case study revealed that in Alberta for instance, excellent wind resources and green power marketing programs operating within the province's open and competitive electricity system were critical to the successful development of wind energy generation. The situation was almost exactly the opposite in Manitoba where, despite good wind resources, the deployment rates had been relatively low. These rates can also be explained by the fact that there is no power shortage and no

urgent need to shift from the already low-carbon emitting hydro-dominant power generation.

As for municipalities, the Federal Government, through NRCan, introduced projects like the Community Energy Planning, which is a negotiation with municipal authorities across Canada, meant to address the future problems of rising energy costs. This collaboration serves as preparatory steps made by the municipalities to ensure their long-term energy sustainability (Natural Resources Canada, 2007). The long-term goal of the Community Energy Planning is to reduce by 50% communities' dependency on fossil fuel by providing communities with guidance for developing a plan that consolidates their ideas, identifies programs and activities and helps put their strategies into action. One noticeable bottleneck for the wind industry is the fact that municipal approvals are required for the development phase of wind power projects including site plans, building permits, and even official plan amendments in certain cases. These procedures can be lengthy and can take years to complete because they require public consultation and notice. As the wind industry in Canada matures, various provincial legislatures, may take steps to revise laws to simplify procedures (Gowlings, 2010).

2.3.4. Financiers

Green innovations, in general, can contribute to business sustainability because they have a potentially positive effect on a firm's financial, social, and environmental outcomes. However, the specific effects of green innovations on these outcomes can be highly influenced by the national context in which firms develop their activities (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013). In the business world, eco-innovation is sometimes seen as a drain hole that slowly sucks up the profitability of the firm. Wind

power innovation is no exception. The costs of wind penetration are divided into 1) the direct costs of new wind generation (i.e., fixed costs of new turbines); and 2) the costs (or savings) imposed on the grid. As aforementioned a serious consideration is that the economic viability of wind power is still largely dependent on the availability of wind. According to Benitez, Benitez, and Van Kooten (2008), the expected returns of wind farms are positively related to high wind speeds. Economic projections are still being carried out; according to Granovskii, Dincer, and Rosen (2007) the substitution of a typical 500MW gas-fired power generation plant with 6,000 modern wind turbines reduces annual GHG emissions by 2.3 megatons, at an additional cost of about US$280 million per year. A cost-benefit analysis/capital repayment analysis must then be conducted to determine the financial viability of wind power generation projects in Canada. This analysis is relevant insofar as "leaders who see their business through an environmental lens find opportunities to cut costs, reduce risk, drive revenue and enhance tangible value" (Esty & Winston, 2009, p. 14).

The financing of wind projects is often undertaken by private equity investors who, according to Gowlings (2010), will pass on even the most exciting wind energy investment opportunities if they lack the industry knowledge needed to assess the venture accurately. According to the Industry Canada and Delphi Group (2008), for stakeholders to be able to respond to opportunities in large wind turbine supply chain, they must consider several financial constraints and cost competitiveness. These limitations include: 1) the competitiveness of various throughputs and size of orders; 2) the learning curve and production efficiency; 3) the purchasing power; 4) the regional labour costs; 5) the currency

exchange rates; 6) the shipping distance to clients; 7) the financing costs/interest rates; and 8) the competition from low-cost markets.

When it comes specifically to financing new projects, small wind farm entrepreneurs often try to attract investments from venture capitalists, but this type of financing has its risks and opportunities. Exercising due diligence, these investors review business plans from prospective investment in an environment dubbed by Gowlings (2010) as being first and foremost short on adequate information and plagued by the presence of substantial risks. To address these issues, venture capitalists use a set of tools and legal structures; they assemble teams with the industry knowledge, networks and contacts to facilitate the analysis of specialized offerings. However, Gowlings (2010) found that one of the most frequent responses to company management from venture capital investors and underwriters is "we do not invest in your industry."

2.3.5. The Canadian Wind Energy Association

The Canadian Wind Energy Association (CanWEA), a not-for-profit association, is the official voice of Canada's wind energy industry, actively promoting the responsible and sustainable growth of the sector. CanWEA is one of Canada's leading sources of information on wind energy's social, economic, health and environmental benefits for communities and provincial economies. It represents the wind energy community, organizations, and individuals who are directly involved in the development and application of wind power technology, products, and services. The stakeholders in the wind industry as identified by CanWEA are: 1) wind farm owners; 2) operators; 3) manufacturers; 4) project developers; 5) consultants; 6) service providers; and 7) other

organizations and individuals that influence Canada's wind energy industry (CanWEA, 2014).

According to the CanWEA, there were more than 190 wind farms nationwide in 2015. In 2013, wind power projects were built and commissioned in the Canadian provinces of Prince Edward Island, Nova Scotia, Quebec, Ontario, British Columbia and Saskatchewan. Ontario and Quebec remain the top provinces in total capacity with close to 6,810 MW combined out of the 10,204MW installed (CanWEA, 2015a).

Figure 1: Provincial distribution of installed wind capacity (June 2015)

Source: CanWEA (2015a)

2.3.6. Local Communities and Consumers

Individuals who were referred to as the "community" have, over recent years, played an increasing role in energy management. Traditionally, energy generation and management were the business of regional utilities, not individual customers. St. Denis and Parker (2009), however, found that, in Canada, communities started creating plans to

manage directly their energy systems. They state that "this community-led managerial system seeks not only to incorporate citizens' ideas and opinions but also engage them as active stakeholders in the multiple areas of energy production, delivery and consumption" (St. Denis & Parker, 2009, p. 6).

There are three areas in which communities can focus to improve their energy systems: energy efficiency, energy conservation and the switching from non-renewable energy sources to renewable ones. The motivation for this shift in management includes the desire to reduce GHG emissions, to limit the exposure to the rise in centrally generated electricity prices and to shift to a more self-sufficient energy system.

According to Dechezleprêtre and Glachant (2011), a country's policies on renewable energy innovation must consider the demand for innovation from the end users. By drawing an analogy between businesses trying to develop green services and public companies supplying wind power, consumer awareness and support is essential for success (Dangelico & Pujari, 2010). If consumers do not perceive the added benefits of using wind energy, the adoption of parliamentary laws for a departure from fossil fuel might be impeded (Miller, Spivey, & Florance, 2008). Policies for consumer sensitization can be supported with higher budgets allocated to public R&D support in wind technologies. One glaring concern for the development of wind is the opposition displayed by some segments of the population. In Canada, there is relatively little literature on the specifics of this problem but this type of resistance takes place for similar reasons in different countries. In Sweden for example, the occurrence of local resistance towards planned and existing windmills is a significant obstacle to increasing wind power capacity. Reasons given are: Visual intrusion; noise; land devaluation; and threats to the migratory patterns of flying

animals amongst others. This explanation has however been criticized for being too simplistic whereas the "Not In My Backyard" (NIMBY) syndrome was given more legitimacy for the recognized environmental disturbances of the windmills when they operate too close to inhabited areas. Despite local opposition, Söderholm, Ek, and Pettersson (2007) show that the experiences in Sweden and many other countries reveal that the local community expressed a positive attitude towards wind power. They illustrate that homeowners exhibited varied attitudes towards wind installations and paying for wind energy.

According to St. Denis and Parker (2009), an ideal power management is one that at least ensures that the demand and supply side of the equation work in balance. Also, a preferred power management can be one that makes profitable use of the excess supply of energy. By taking an active part in energy management, communities can make changes in the way energy suppliers both operate efficiently and innovate.

2.4. The Effects of Firm Size and Market Drivers

As we mentioned above, the respect of the environment is one of the pillars of SD (D. Williamson et al., 2006). Indeed, environmental missteps can create public relations nightmares, destroy markets and careers and knock off a company. Companies not integrating environmental practices into their strategy risk missing upside opportunities in markets that are increasingly shaped by environmental factors (Esty & Winston, 2009). This situation is particularly relevant because the bulk of wind capacity created in Canada is from large fossil-specialized energy producers trying to integrate environmental practices into their portfolio. Darnall, Henriques, and Sadorsky (2010) showed that in developing a comprehensive understanding of the relationship between stakeholder

influence and firms' environmental practices, researchers, managers, and policymakers need to be cautious about associating stakeholder pressures directly with the number of environmental practices across all firms. Rather, they suggest that the relationship between stakeholder pressures and proactive environmental practices varies with size. Although smaller firms are less likely to undertake as many proactive environmental practices as larger firms, they are more responsive to perceived pressures from value chain, internal, and regulatory stakeholders (Darnall et al., 2010).

Once again, there are few literary works on the broad market drivers found in the Canadian wind industry. One close example, however, is found in the American wind industry which has many similarities. The USA is a federal country with federal level and state level policies on energy while Canada has federal, provincial, and to some extent, municipal level energy policies. Bird et al. (2005) noted that in the USA, state tax, financial incentives, and state Renewable Portfolio Standard (RPS) policies do have a significant effect on wind energy development. The impact is even more pronounced when wind generation is priced competitively with more traditional generation resources like coal or gas-fired generation. They also found that new wind installation was strongly influenced by technological breakthroughs in wind turbine efficiency and the granting of federal tax incentives. Also, just like in various States, wind power is more or less developed across the different provinces of Canada. In the USA at least, it was impossible according to Bird et al. (2005) to discern one single driver for wind power development; instead, numerous drivers functioned as a package and influenced one another's effectiveness.

2.5. Building a Conceptual Framework for Wind Power Sustainability

2.5.1. Stakeholders as Enablers and Obstacles

The literature on stakeholder theory suggests that over the past decades, managers have extended the scope of their commitment from a quasi-shareholders' focus to a wide array of other interests groups called stakeholders. Our prospection for the relevant stakeholders begins with the early three major approaches in stakeholder literature: descriptive, instrumental and normative. Proponents of this theory maintain that the better a firm manages its relationship with various stakeholders, the better its financial performance will be (Donaldson & Preston, 1995; Freeman, 1984). Sound financial performance, the respect of the environment and the support of the society are, according to D. Williamson et al. (2006), the three pillars of SD.

With regards to the first pillar, while the cost of manufacturing wind turbines is relatively high, the operation and maintenance of the turbines can eventually offset initial investments (Abbey et al., 2006). As far as the second pillar is concerned, the wind industry is committed to mitigate the environmental footprint through the reduction of GHG emissions which commonly occurs from the combustion of fossil fuels, namely, those used in coal plants (Lewis, 2012). Concerning the third pillar, the support from society, our study explores the extent to which society and policy makers are willing to back or reject wind. In this respect, the literature reveals some opposition to the wind industry, even from environmentalists who are concerned with the migratory patterns of flying animals and from residents living near wind installations. If stakeholder involvement negatively influences a firm's operations, there can be detrimental consequences for its

competitiveness and sustainability (O'Higgins, 2010). A summary of stakeholders as enablers and obstacles influencing the sustainability of wind power is presented in Table 2 below:

Table 2: Enablers and obstacles in the wind industry environment

Stakeholders	Enablers	Obstacles	References
Federal Government	➢ Research, development and demonstration programs	➢ Difficulties in attracting local manufacturing	➢ (Industry Canada & Delphi Group, 2008)
	➢ Policies promoting National wind energy.	➢ Translation from national policies to provincial goals	➢ (Natural Resources Canada, 2013)
The Provincial Government	➢ Community Energy Planning facilitating translation of federal policies into provincial realities.	➢ Extensive delays in municipal approvals for wind projects	➢ (Natural Resources Canada, 2007) ➢ (Gowlings, 2010)
International Exchanges	➢ Representation and collaboration at the international level through NRCan	➢ Standards development ➢ Technology transfer ➢ Stability of institutions	➢ (Dincer, 2000)
	➢ The Kyoto protocol	➢ Enforcement Failure: Withdrawal of Canada	➢ (Metz, 2013) ➢ (Van Kooten, 2009)
The financiers	➢ Tax incentives Favorable custom duties	➢ Environment plagued with risk and information scarcity ➢ Short period for the tax credit ➢ Financial constraints and Cost of competitiveness	➢ (Gowlings, 2010) ➢ (Industry Canada & Delphi Group, 2008) ➢ (Esty & Winston, 2009)
CanWEA	➢ Provides reliable econometrics on the activities of wind farms under one umbrella association	➢ Does not have the executive power but suggests policies and solutions to provincial barriers.	➢ (Hornung, 2004)
The Local community/ Consumers	➢ Rising public awareness and participation through sensitization and incentives to operate small wind turbines.	➢ Division of views in the general public about the added benefits of using wind energy.	➢ (Miller et al., 2008) ➢ (Söderholm et al., 2007) ➢ (Dangelico & Pujari, 2010)
	➢ Positive attitudes towards wind projects	➢ "Not In My Backyard" (NIMBY) syndrome	➢ (Söderholm et al., 2007)

2.5.2. Accounting for the Temporal View

The temporal perspective on stakeholder theory, introduced by Verbeke and Tung (2013), gives us an insight into how stakeholders in the wind power industry, can constitute a source of sustainable competitive advantage. Their paper is a systematic review of the literature that results in a conceptual framework that attempts to depict how stakeholders influence the SD of an industry from early to late stages of development. We pioneer by making this recent article a cornerstone of our theoretical contribution on SD by empirically applying its theoretical model to the particular context of the Canadian wind industry. Verbeke and Tung (2013) make a distinction between "early stages" and "late stages". The former refers to the approximate time following a firm's birth where heterogeneity of resources is critical, and the latter, to the stage of development where the firm has reached maturity, generates relatively stable cash flows, and where homogeneity of resources amongst firms becomes stronger. The following paragraphs give us a literary account of key stakeholders' likely behaviors at early and late stages of industry development.

Consumers

Consumers actively search for products that provide them with the rewards or experiences they seek. At early stages, consumers perceive rewards in services as unique, different from what other firms are doing (Nelson, 1970). At late stages, however, as they become more knowledgeable regarding service research and selection, they stop perceiving characteristics as exceptional. This isomorphism pushes early stage service features to be expected as a standard across the industry.

Employees

At early stages, prospective employees readily contemplate opportunities offered by various competing firms. They search for the firm that can provide them with the type of compensation that is unique; offering an exceptional improvement in the overall well-being. This search includes such things as ethically appropriate benefits packages that go beyond the legal requirement (Russo & Perrini, 2010). As for existing employees, despite being impregnated by the current culture of the firm, they still look for signs that management listens to their concerns. Over time, at late stages, employees become desensitized to early stage benefits and exceptional heterogeneous packages that stop being as much a motivational driver in selecting one firm over the other. Employees tend, in time, to view these early stage benefits as a minimum quality threshold to be respected homogeneously across firms.

Competitors

At early stages, individual companies capitalize on inimitability to preserve profits. They also play the card of differentiation in natural, human, technological, financial and intangible resources (Dyer & Singh, 1998). At late stages, however, competitors move towards benchmarking and efficiently imitate leaders of their industries making "heterogeneity of resources for competitive advantage" a contestable cause and consequence relationship.

Suppliers

Transaction cost economics (TCE) theory supports the view that, in making decisions to buy or sell, a buyer or supplier will prefer to minimize transaction costs by using contractual safeguards (O. E. Williamson, 1985). At the early stages of the buyer-

suppliers relationship, sales contracts are very complex, formal and cumbersome on technicalities but as trust builds on over time, there is an enhanced sense of mutual reliability between transacting firms. As contract drafting becomes more standardized, they cost less, and firms have more flexibility in choosing their business partners.

Government Regulators

Changes in political regimes lead to uncertainty and sometimes undesirable business environments. However, in a stable political environment, governments tend to maintain status quo and give preference to certain kinds of businesses and industries. Changes in policies tend to be incremental. In the long run, Governments are more likely to break the status quo through a continuous adjustment of policies so as to reflect changes in the new social environment. When this social environment shifts towards cooperation and coordination needs, governments are likely to draft inclusive policies and cater for a broader spectrum of businesses, even including the minorities that were secondary concerns at early stages. This shift effectively reflects governments' move from favoritism (giving idiosyncratic opportunities to a select few business) to homogeneity (more even sharing of opportunities to a wide array of industries like wind) (Verbeke & Tung, 2013).

In summary, we can deduct the two following points from the temporal view of stakeholder management:

a) At early stages, wind firms should capitalize on stakeholders that are heterogeneous resources to gain a competitive advantage. In the long run, this heterogeneity might become standardization across the industry thereby shifting stakeholders from critical sources of competitive advantage to uncritical sources of "sustained" competitive advantage at late stages.

b) The temporal view also implies that early stage critical enablers may become late stage uncritical enablers while early stage uncritical obstacles may become late stake critical enablers.

These two deductions are visually represented in the evaluable conceptual framework (Figure 2) below. This figure is a partial adaptation of Verbeke and Tung (2013)'s framework. It is meant to evaluate the types of influence (enabler or obstacle) of stakeholders over time in order to draw implications for each stage of development (early and late) and make potential empirical refinements to the framework.

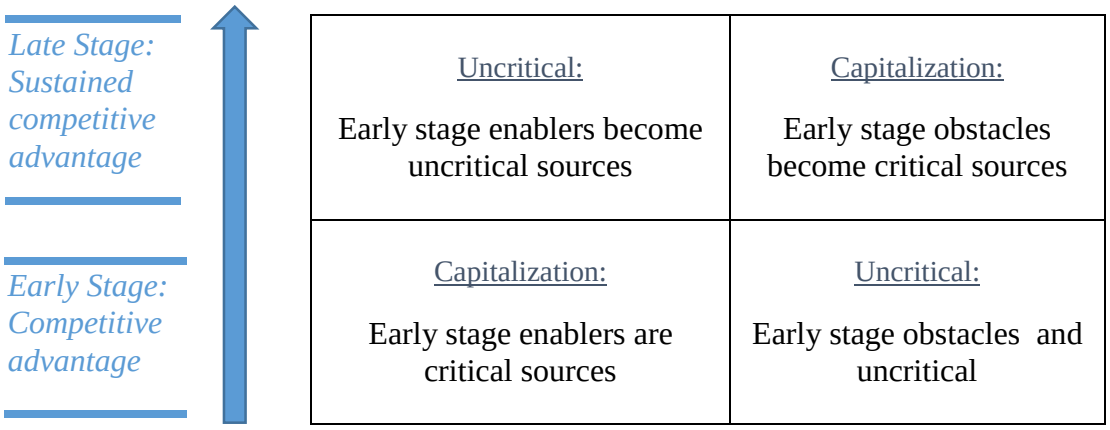

Figure 2: Conceptual framework mapping the importance of stakeholders as enablers and obstacles to SD over time

Source: Adapted from Verbeke's (2013) conceptual model of the temporal view of stakeholder theory

2.5.3. Study Propositions

The literature review of key papers led us to four propositions that will be evaluated to refine the temporal view of stakeholder management theory in application to the Canadian wind industry.

Proposition 1: Firms in the wind power industry have primary stakeholders that are worthy of higher managerial endeavor as compared to secondary stakeholders (Mitchell et al., 1997)

Proposition 2: Firms in the wind power industry adapt their SD strategies to their external environment and internal characteristics (Bird et al., 2005; Darnall et al., 2010).

Proposition 3: Because the wind power industry is in its early stages, sustainable development is highly dependent on how the industry relies on stakeholders as idiosyncratic or heterogeneous sources of competitive advantage (Verbeke & Tung, 2013).

Proposition 4: The sustainable development of the wind power industry in the long term is likely to be contingent on inter-firm homogeneity and isomorphism (Verbeke & Tung, 2013).

- **Proposition 4a:** Critical early stage enablers become uncritical sources of a sustained competitive advantage at late stages.
- **Proposition 4b:** Uncritical early stage obstacles become important sources of a sustained competitive advantage at late stages.

The literature review has allowed us to identify a gap that we attempt to fill. Because our research questions cover broad topics, we divided them into four evaluable research propositions that we address in the Results and Discussion sections.

3. RESEARCH DESIGN AND METHODOLOGY

In order to answer our research questions, we explain in this section the methodological approach used to collect and analyze the data. Also, we give an account of the tool used to validate our findings.

3.1. APPROACH

In this study, we explore the issue of wind power sustainability in Canada, a specific area of research that has received little attention in the literature. As we pointed out in the literature review, research on stakeholder management in the Canadian wind industry is scarce enough that our study has a strong explorative nature. This gap is the primary reason we adopt a qualitative approach. Creswell (2007) argues that qualitative research is appropriate when a problem or issue needs to be explored. Indeed, exploration is necessary because our research questions involve the identification of variables that cannot be easily measured. A qualitative design is preferred when examining a problem where there is little research with results to rely upon and use as predetermined literary information. Creswell (2007) adds that we also conduct qualitative research because we need an elaborate, detailed understanding of an issue. In our study, we can reasonably say that ascertaining how stakeholders represent enablers and obstacles from early to late stages of development would be easier done by talking directly with experts involved in the wind industry. We deemed appropriate to allow those experts to tell their stories through face to face or telephone interviews, unencumbered by what we expected to find or what we had read in the literature. In developing the topic of this study and in designing the research questions, we aimed at refining the temporal view of stakeholder management. To achieve this goal, we engage in the identification of the individuals, organizations, socio-political and

regulatory bodies that have a stake in the wind power industry in Canada (Hennink, Hutter, & Bailey, 2011). We also want to suggest practical recommendations for practitioners and policy makers based on the analysis and results.

We chose a case study design for our data analysis as proposed by Yin (2009) for several reasons. Case studies are not only appropriate for the exploratory phase of an investigation (Yin, 2009) but are also particularly adequate under the following three conditions that our study meets: 1) The research questions are of the form "how" or "why"; 2) the researcher has no control over the behavioural events of the study; 3) there is a focus on contemporary events.

It is important to note that authors like Yin (2009) and Creswell (2007) view case studies as a methodology or a comprehensive research strategy and not just a choice of what needs to be investigated. In that sense, a case study "copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence" (Yin, 2009, p. 18). Such sources of evidence include but are not limited interviews, observations, documents and audiovisual. According to Creswell (2007), the hallmark of an excellent qualitative case study resides in the in-depth understanding of the case(s), typically through the collection of many forms of qualitative data. However, while Creswell (2007), believes that relying on a single source of data is generally not enough, Yin (2009) argues otherwise. The latter asserts that unlike ethnographies, which usually require hefty and detailed investments in observational evidence, case studies "are a form of inquiry that does not depend solely on ethnographic or participant-observer data. You could even do a valid and high-quality case study without leaving the telephone or Internet" (p. 15).

In the light of these nuanced views, it can be argued that, based on the sole use of interviews as data collection source (without the usually associated diversity of data sources), the methodology for our study would not be considered a case study. Moreover, since our study adopts the design of a case study regarding data analysis, we do not wish to specify a traditional methodological classification naming. Therefore, although we consistently use a case study design as far as data analysis and reporting are concerned, we consider our study to be an "exploratory qualitative inquiry based on interviews."

Our particular case study design is "holistic multiple case study" where the cases and units of analysis are the various participating wind firms. At the center of our paper is theory refinement in the particular context of the wind industry. Johnston, Leach, and Liu (1999) demonstrate that case studies may be used to improve theories. Our conceptual framework lays down predictions made about the contribution of stakeholders to the sustainable development of the Canadian wind industry. Through our data analysis, we draw conclusions about the reliability of the combination of the temporal view of stakeholder theory (Freeman, 1984; Verbeke & Tung, 2013) with the theory of stakeholder salience (Mitchell et al., 1997). Depending on the findings, we would be able to assert if the data supports or disproves our research propositions and consequently refine Verbeke and Tung (2013)'s framework.

3.2. DATA COLLECTION

Our data emanated of seven (7) consented, voice recorded, semi-structured, in-depth interviews with participants having a high degree of responsibility in their respective wind firm. We also had one participant working in the solar industry, but he virtually gave his perspective from a previous professional experience with a small wind company. The

principal investigator conducted a pilot test as part of qualitative research course, and although the participants were not wind companies, they had firm commitments to using clean technologies. Building on the interview protocol of this pilot study, we formulated a list of interview questions for our protocol. We systematically used this prepared interview protocol to ensure a high level of consistency in the lines of inquiry (Patton, 2002). We consistently followed the questionnaire attached in Appendix A. However, through contextual probes, we gave credence to fluidity and dynamism rather than rigidity in the conversations (Rubin, 1995). Because the interviews are semi-structured, a similar list of questions were asked to every participant but we made room for extrapolation, probing and other relevant non-written questions (Patton, 2002). Our protocol has a set of questions categorized under 3 (three) main topics, namely: a) Background information; b) the influence of salient stakeholders on the activities of the firms: and c) the effect of stakeholder management on SD. We specifically asked each participant to label the types (positive, negative or neutral) and degrees (low, medium and high) of influence that every primary stakeholder has on their wind activities, both at early stages and potentially, at late stages of development. The interviews were then transcribed verbatim by the principal investigator.

The selection of participating firms was done using the following criteria:

Sampling: The sampling method was purposive (Creswell, 2012) because we specifically targeted companies operating in Canadian wind power industry. We used snowball sampling by obtaining participants through interviewee referrals. We have a fairly even number of large (3) and small (4) wind firms disseminated across some leading provinces

of Canada in terms of installed wind capacity. We reviewed those provinces in the literature.

Number of Cases: The literature does not agree on a particular number of cases to use in order to produce reliable results. In fact, Hillebrand, Kok, and Biemans (2001) argue that a well-structured analysis can give legitimacy to research involving only a single case. They mention that the detailed analysis of an individual case can be useful in business research to understand and explain consumer behavior for theoretical generalization. Additional cases might be mere replications or extensions of the first cases.

We believe that conducting seven interviews can give us a sufficiently accurate picture of how industry stakeholders influence wind sustainability.

Population:

A notable electricity regulation structure comparable to Canada's can be found in the United States, which is also a federated country. However, unlike in Canada, most states have adopted deregulation through the encouragement of competition in electricity generation, transmission and distribution (VanDoren, 2002). Obviously, the aim of our paper is not to make a detailed comparison between the electricity regulations of Canada and that of other countries. However, we deem that, given the peculiarities of the Canadian regulation (see Section 1), it is reasonable to limit our population to the wind firms only operating Canada and numbered at 54 according to the Canadian Wind Energy Association (CanWEA, 2015b). Also, due to limitations of time and resources, we could not extend the population beyond the national boundaries but decided to focus inquiry accordingly.

The participants for our interviews are executives of wind firms publicly listed on the CanWEA website. They may or may not be connected to the grid. Those firms own, operate or develop wind farms located across Canada (CanWEA, 2015a).

3.3. Data Analysis and Representation

We guided our data collection relying on previous theoretical propositions made throughout the development of stakeholder theory. Analysis of interview data started during the interviews themselves with memoing which consists of jotting down interesting ideas as they emerged during the conversations. These ideas include such thing as the degree and type of influence perceived about salient stakeholders. The notes served as probes that are additional questions to the interview protocol, effectively making interviews unstructured but richer. We then extracted deductive parent and child codes (or nodes) from the literature, and we input those codes into NVivo. This list of codes, found in Appendix C, emanates from the fundamental articles of our research propositions. After transcribing the interviews' audio recordings, we coded the transcripts by assigning portions of the scripts (ranging from single words to ideas and paragraphs) to the relevant deductive code(s). We also use some inductive codes that emerged as we analyzed the data. Afterward, we refined our code list by generating themes (grouping similar codes) on stakeholder theory, RBV and institutional theory literature (Anagnostopoulos & Papantonis, 2008; Hennink et al., 2011). Salience was determined by asking participants about and the degrees and types of stakeholder influences. Also, we gathered participants' views on late stages stakeholder influence to assess the temporal view of Verbeke and Tung (2013). We coded the data demographically to group and distinguish cases that had similarities and differences in size and market regulation type. The analysis of the data was

done with the assistance of NVivo, which facilitated the grouping of codes into broader categories, the generation of themes and the interpretation of patterns through comparison, categorizing and conceptualization. The holistic nature of our analysis pushed us to make comparisons and interpretations by grouping cases that had similar attributes (size and market regulation) rather than doing a systematic case by case comparison. The strategy for our cases is, hence, mainly "pattern matching" which consists of uncovering similarities, differences, and explanations for the causes, effects and influences of stakeholders across the various cases (Yin, 2009).

3.4. VALIDITY OF RESULTS

The internal validity of the results relies on the use of inter-coder reliability (Miles & Huberman, 1994) using the following equation:

$$Intercoder\ reliability = \frac{Number\ of\ agreements}{Number\ of\ agreements + Number\ of disagreements} \times 100$$

Where, the number of agreements represents the number of interview codes that the principal investigator and his supervisor agreed upon and vice versa. The reliability test was conducted on two random pages of each interview transcript. We achieved a satisfactory rate of 89.8% agreement (see Appendix D). Another strategy was "collaboration" that is the continuous development and revision of codes and interpretation between the principal investigator and his supervisors (Miles, Huberman, & Saldaña, 2013). It should be noted that case studies design are indeed suitable for theory refinement. In fact, by formulating a logical reasoning for the empirical findings, we may conclude that the results are not only valid for the cases investigated but also for other cases that are

structurally similar (Hillebrand et al., 2001). We also give another account about the validity of results after we analyze our findings, in the conclusion.

4. RESULTS AND ANALYSIS

This section presents the results of the seven interviews conducted with representatives of wind firms. We first present an exhaustive list of the salient stakeholders mentioned by the interviewees and then explain how firms prioritize them and label their influence. Subsequently, we interpret the results by showing the importance of this classification. Still relying on the data, we finally present the perspective of the firm on how to link stakeholder management with sustainable development.

The goal is to conduct a logical discussion that provides answers to the two research questions laid out in Section 1.3:

a) How do salient stakeholders influence the development of wind projects?
b) How can stakeholder management be linked to sustainable development in the wind power industry?

4.1. DETERMINING THE SALIENT STAKEHOLDERS

Mitchell et al. (1997) find it useful to narrow down the list of stakeholders by following three main criteria, namely, stakeholder legitimacy, power, and urgency. In our cases, the priority criteria are different from those of Mitchell et al. (1997) due to the particularities of the Canadian wind industry.

4.1.1. Demographics of the Cases

Across Canada, the vast majority of wind farms are owned by IPPs of various sizes who operate under different market regulations and conditions. They range from small renewable energy cooperatives to large fossil energy specialized companies. The table below summarizes the demographics of our participants:

Table 3: Summary of the cases' demographics

	Regulation	Size	Dominant energy type	Primary Province	Secondary Province
Case 1	Regulated	Small	Wind	BC	N/A
Case 2	Deregulated	Small	Solar	Ontario	N/A
Case 3	Deregulated	Small	Wind	Nova Scotia	BC
Case 4	Deregulated	Large	Fossil	Alberta	N/A
Case 5	Deregulated	Large	Fossil	Alberta	Ontario
Case 6	Deregulated	Large	Fossil	Alberta	Ontario
Case 7	Regulated	Small	Wind	Ontario	Alberta

Source: Interview participants

We recorded a variety of stakeholders, some of which played an obviously important role in the wind industry while others did so to a lesser extent. Our interview protocol accounted both for the type (positive, negative or neutral) and the degree (high, low or medium) of influence perceived by each participant (representing a case). Table 4 below summarizes our findings:

Table 4: Summary of the types and degrees of stakeholder influence

Stakeholders \ Cases		Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Government Regulators	Federal	Low -	Low–	Low +	High +	Low +-	Low +-	Low +-
	Provincial	High +-	High +	High +	High +	High +	High +-	High +-
	Municipal	Low +-	Medium +	High -	Medium +-	Low +-	High -	Low +-
Financiers		High +	High -	High +	No	No	No	No
CanWEA		No	No	Low +	Low +	Low +	Medium +	No
Local Community		Low +-	Low +	High +-	Low +-	Low -	Medium –	Low -
Consumers		Medium –	High +	Low +-	Low +-	Low +-	No	No
International Partners		High +	Medium +	No	No	High +	No	No
Employees		No	No	No	Low +-	No	Low +	No
Competition		Low +-	Medium -	Low +-	Low +-	No	Low +-	No
Shareholders		No	No	No	High +	No	High +-	No
Suppliers		Medium +-	Medium +	No	Medium +	Medium +	No	Medium +-
Top Management		No	No	No	No	No	High +	No
Cooperative members		No	High +	No	No	No	No	No
Environmental Activists		Low -	No	No	No	Low -	Medium -	No
Frist Nations		High +-	No	Medium +	Medium +-	High +-	High +-	High +-
General Public		Medium -	Low +	Medium +	Low +-	No	No	No
Industry Association		Low +	No	No	No	No	No	No
Landowners		No	No	No	High +-	High+-	High +-	High +-
Provincial Utility		High -	No	No	No	No	No	No

Sources: Author's estimation

Legend for Table 4

Item	*Meaning*
-	Negative Influence
+-	Ambiguous Influence
+	Positive influence
No	Participant did not mention the stakeholder
Low	Low influence of stakeholder
Medium	Medium influence of stakeholder
High	Strong influence of stakeholder

N.B.: Although we asked participants to identify "neutral" influences, they instead identified stakeholders who had both positive and negative influence. Thus, we termed these instances as "ambiguous".

The term "stakeholder" covers such a wide array of entities that it would be devoid of interest and inaccurate to attempt establishing an exhaustive list. We focus on the individuals, groups, and institutions that participants viewed as primary stakeholders after examining each stakeholder identified by the participants. Afterward, we discuss their selection criteria. As we are going to see below, some stakeholders identified were already found in the literature review while other made a first appearance in the analysis.

4.2. Stakeholders Identified in the Literature

Federal Government

Through the opinions expressed by participants, 1, 2 and 3, small, wind- specialized firms perceive the direct influence of the Federal Government as mainly low because it electricity regulation falls under the authority of the provinces. Participant 1 states: "There

is nothing federal in Canada…the Federal Government has really, as far as I can tell, no interest in this industry or I would say a negative interest if there is any right now." Participant 2 adds: "The only role that the Federal Government plays is to create an atmosphere in favor of oil." We can infer that the Federal Government has a low stake and a negative influence on the activities of small wind firms.

On the other side, large non-wind-specialized firms that have wind power as part of their portfolio can be influenced only if there are federal requirements for carbon reduction. Participant 4, for instance, states: "This is the reason why the Federal Government is rated number 2, very high on our stakeholder list. With respect to our coal plants, the Federal Government has come up with some regulations that place absolute limits on the lives of our coal plants… we have two coal-fired power units for example that by the end of 2019 must either shut down or capture half of the carbon dioxide emissions which is very expensive, so it is very compelling."

We can see here that there is no consensus among participants about the low and negative influence of the Federal Government on wind development. This uncertainty is due to the inherent differences between market regulations and firm sizes.

Indeed, participant 4 shares that the Federal Government placed absolute limits on the lives of his firm's coal plants, thereby pushing the move towards renewables like the wind. This is a tricky situation for such a firm because while wind activities are boosted by carbon quotas, the core activities, which are fossil-specialized, are impeded. However, as far as the wind portfolio is concerned, the Federal Government appears to have a positive influence. According to Table 4 however, this is the only positive influence recorded for

this stakeholder. All other cases, both small and large firms, reported a low influence that ranged between negative and ambiguous. We, therefore, treat case 4 as an outlier because his says were not confirmed by any other interviewee. The limit placed by the Federal Government specifically targeted coal plants and not large firms.

In sum, the Federal Government's influence in the early stages of development, irrespective of firm size, was largely ambiguous and uncritical. The effects of market conditions spotted here depended on the regulation of coal plants.

Provincial Government

As we mentioned, federal policies on green energy are implemented in conjunction with Provincial Governments who, across the interviews, were given a very high influence rating. Participant 3 states: "Provinces come up with the actual plan to do that, and so part of the plan from the provinces is to require renewable energy targets. The Federal Government is kind of involved, but it is more the Provincial Governments that are doing the work and coming up with the targets." Participant 1 also supports this idea by stating that: "So it's all about the provinces, and that's also the nature of the Canadian Constitution… Provinces have that power over energy, it's the provinces, and they will bring in their target on clean energy."

In both regulated and deregulated markets, Provincial Governments made efforts to promote wind with renewable energy targets. The two primary instruments are: a) "Compliance policies" that push large energy firms to gradually transition away from coal (closure of old polluting coal plants and carbon taxation); and b) "encouragement policies" that help both large and smaller firms to invest in wind. Encouragement policies include

FITs, bids into competitive calls for power, accelerated capital cost depreciation, and wind generation emission credit. In this vein, participant 3, for instance, mentions the encouragement instrument COM-FEED (community feed-in tariff program).

Table 6, reveals that all participants attributed by consensus a high influence and by majority a positive influence rating to their Provincial Governments.

Municipal Government

According to Table 4, the degree of influence of Municipal Governments varies from low to high depending on whether provincial approval trumps municipal permitting or not. For instance, it does trump municipal approval in Alberta but not Nova Scotia. This situation appears paradoxical because Alberta is a deregulated market while Nova Scotia is not. Concerning the type of influence, participant 3 states: "Municipal Governments can be very negative sometimes. They have the power if they do not like a wind farm down the street, and they know the community does not want it just denied the application." Also, participant 5 argues that municipalities in Alberta often have the power to reject wind farm construction and that it takes only a few district counsels to carry out the decision. We decided to focus on case 3 and case 5 because they mentioned a high degree of influence. Although they are structurally opposed (size and market regulation), both provinces expressed a strong and negative influence. Furthermore, we do not observe a logical pattern for influence type and degree across the rest of the cases. The analysis goes back to the Provincial Government trumping municipal approvals and for this reason, we give credit to the high instance, in this case, the Provincial Government. Moreover, only two cases out

of seven expressed concerned about their Municipalities. We, therefore, do not consider Municipalities as prime stakeholders.

Financiers

A firm can finance its wind projects through equity, debt or off-the-balance-sheet. However, participants mostly referred to financiers as debt providers. This is why Table 6 displays a set of "no" for large firms (cases 4 to 6). For confidentiality sake, we will not reveal the nature of case 7 but, it is clearly an outlier because, although being small, the nature of its activities does not call for financiers. In our cases 2 and 3, small companies rely heavily on the support of debt providers like banks and mutual funds. In Nova Scotia, access to debt financing by our participating small firm was crucial and feasible. Participant 3 states: "Yes traditionally, it has been life insurance companies and pension funds that have been providing the debt on wind farms in Canada. Mainstream banks are not too involved in providing debt financing; it is mostly life insurance companies in Quebec." While access to debt was also crucial for our small participating firm in Ontario (case 2), the perceived risk attached to renewable energy cooperatives deterred banks from venturing into renewable energy projects. In Nova Scotia and Ontario, even though debt seeking is important to the businesses, offering equity is part of the small firms' business model. For our participating firm (case 1) in British Columbia, financial support mainly came from a multinational partner.

When it comes to large firms, participants report that wind power is a small part of their investment portfolio, utterly financed off the balance sheet. This situation makes financiers an irrelevant stakeholder group for wind activities. Participant 5, for instance, states: "We do not finance our projects." Although large firms finance their operations, we

decide to include financier into our prime stakeholders' list because their support is crucial to small firms which, together, the latter form a significant percentage of that total wind generation (Abbey et al., 2006).

CanWEA

Across the board, the Canadian Wind Energy Association (CanWEA) has a relatively low influence on the actual wind activities of the firms, at least not directly. This remote influence is translated by a very low perception of influence by participants. Participant 7 mentioned that the role of CanWEA is "to advocate for the industry to various levels of Governments in Canada, Provincial, Federal and even at times Municipal and local but also to the public." The question of how successful CanWEA had been only led to a restatement of its mission. The role of CanWEA is not necessarily for growth, but it is making sure that rules are predictable, that contracts do not get altered or changed and making sure that the industry adjusts to new information on local impacts. The Association provides such things as guidelines for community consultation and property valuation. However, the consensus among firms was that, although their interactions with this entity had been widely positive, they were too limited for CanWEA to become a primary stakeholder.

Local Communities

The relation that exists between wind firms and local communities varies with firm size and market regulations. Both large and small firms comply with provincial laws. While larger firms manage local community opposition by making benefits payments, smaller firms manage it by including the local community into their wind projects through equity

stakes. Participant 3 states: “Instead of big multinational companies coming to Nova Scotia to build projects and take the equity or to pull up the dividend over 20 years for those projects out of the province, essentially by requiring local ownership, we are keeping those dividends flow in the province.” To illustrate provincial community benefits participant 3 also states: “In Nova Scotia, there is a program called the community FTI program that was really funded by our department of energy ensuring that the people building wind farms help meet Nova Scotia's renewable energy targets and also integrating a community component into it, and the benefit of that, of course, is to keep the money in the province.”

Ontario stood out as having a highly wind-opposed local community. Participant 4 states: “Yes like I said it really depends on the jurisdiction, from what I see, in Ontario you see quite a bit of opposition.” Participant 6 adds: “Again it is hard to say because I think there is a really vocal opposition (in Ontario), I wouldn't say it is the majority, but there're a lot of people and they are really well organized and they are very vocal.” Participant 3 further hints to a potential explanation of local community opposition by saying: “Community members can be positive and negative, you need a community support, so that takes a lot of work. In Nova Scotia, it has gone both ways, some communities support certain wind projects while other communities have been quite opposed to them but in the end it is very hard for the community to stop a wind farm.”

We can see from the last quote that vocal opposition does not necessarily deter firms from pursuing wind projects and even then, firms are not legally required to satisfy the “unpleasant visibility” and health hazard claims made by the community. This situation is, of course, possible, provided that minimum legal requirements like official safe distances are met. Firms, however, make efforts not only to secure a good long term

relationship but also to address any opposition. Participant 3 states for instance: "I want to make a precision, there is not a whole lot they (the local community) can do but we actually need to consult with them, and you absolutely want to approach them at the early stage and work with anybody who is opposed. It is going to make the whole process still smoother, cleaner and easier if you consult early and often with the community members." Participant 1 complements: "The fourth stakeholder I would say is communities, they don't really have the power to give you that power purchase agreement… but they can stop your project, and they can also be supportive of your project which can help you with the Provincial Government."

In sum, the influence of the local community, independently of firm size and market type, appeared to be largely low and ambiguous. Only participant 3 mentioned a high degree of influence which is not corroborated by the other interviewees.

Consumers

Consumers are the end receivers of the electricity generated by wind. They can be institutions/businesses or individuals (residential). The latter tend not to have any significant influence (demand pull) on the activities of the firms. Participant 1, who was the only one to mentioned residential customers as stakeholders, states: "We do sell up green products on the residential basis. However, while the customer wants to have green power, he does not necessarily want to pay extra for it."

Institutional customers have a higher demand pull influence, but participant 5 acknowledged that customer demand does not drive developments in wind capacity. The exception for the high influence in case 2 is because the cooperative members (with high

impact) are also the consumers. For these reasons, we do not include customers in our prime stakeholder list.

International Partners

This stakeholder group is mentioned by cases 1, 2 and 5. In the literature, international partners are primarily foreign RTOs and policy makers. In our cases, however, they take the form of: a) A foreign company seeking the services of a local wind developer (case 1); b) an international financier like a bank willing to finance small wind projects in Canada (case 2); and c) a foreign equipment supplier (case 5).

A small size wind power developer like case 1 heavily depends on international investors whom themselves study the markets in order to venture into the most profitable provinces. Participant 1 states: "So the international piece is very important, and the money is international when you look at these projects." On the other hand, participant 2 barely mentions international debt financing when acknowledging that capital is almost entirely raised through local equity. Finally, participant 5 portrays the vital importance of international equipment suppliers who decided to open regional offices in Canada. Thus, international partners are an important stakeholder group either as financiers or suppliers.

The levels and degrees of influence varied on a case by case basis but in practice, we cannot classify "international partners" as a distinct stakeholder group. Rather, we have to divide and aggregate it into the three stakeholder groups mentioned above.

Employees

Participants 4 and 6 mentioned employees as stakeholders. The dominant theme during interviews supports that employees are general stakeholders who do not directly drive wind development. Interestingly, interviewees conveyed the idea that it is rather the development of wind power that drives employment in the sector. Participant 4, when asked about sustainable development for his company, states: "Sustainability in my mind is … how we balance social things like employee satisfaction and employee turnover." Although the literature recognizes that employees are evident stakeholders, most of our participants did not put emphasis on employee influence on wind activities. Therefore we will, not give this stakeholder priority in our stakeholder classification.

Competitors

Competition refers to a broad spectrum of power producers sharing the electricity market with our participants' firms. It is composed both of wind- and non-wind-specialized firms and its effects varies from one participant to another. Participant 3 noted that competition was far from being a negative influence on his small company that operates in a niche market. He notes that in this niche market that small firms focus on is of low interest to competition, especially large companies. This situation represents an opportunity for small wind power developers in the province to venture into untapped markets.

On the other hand, participants 1 and 2 expressed their frustration at the fact that the Federal Government gave massive subsidies to the fossil fuel energy sector. They report that the situation only widens the gap between the developments of both types of energy generation. In this vein, participant 2 states: "It's unbelievable, you have to read about

these things, how many billions of dollars are given to subsidies and tax breaks to the oil industry. It is really unbelievable."

Overall, the competition can be interpreted to have a mainly low and indirect influence on the activities of individual wind power producers.

Shareholders

There were two instances in which participants mentioned shareholders. The high influence of shareholders, as portrayed by participants 4 and 6, are conspicuous in that those stakeholders will encourage managers to pursue wind projects that are, in effect, profitable portfolios. Participant 4 states: "Their interest is very much in the returns we get from our investments. And so, very positive in so far that we are able to get a positive return from a wind power generation." Shareholders will then support wind projects that have a positive net present value. However, because wind projects are long term, the accuracy of predictions will largely depend on market conditions like price, demand and policy stability. While shareholders' influence is reported positive in case 4 and ambiguous in case 6, both participants, acknowledged a high influence, and this is the reason we include them in our prime stakeholders list. Also, because participants did not convey the idea that wind projects were run at a loss, we assume that shareholders will primarily support wind portfolios.

Suppliers

The firms involved in our study are part of a supply chain and do not necessary manufacture, ship in, install or maintain wind power equipment. These tasks are often outsourced from suppliers who, therefore, play a recognized role in the development of the

industry. Participant 2 states: "It is all the people in the industry itself who produce and install. As a cooperative, we do not produce or install ourselves, it is a supplier, a developer, an electrician." Although participant 1 noted that the declining cost curve of wind equipment had stabilized and that these costs are not expected to decline further significantly, there was a generally positive attitude towards the current cost of wind facilities relative to the last decade. Moreover, participant 4 noted that since there is a multitude of suppliers to choose from in the competitive market, firms have the flexibility to issue Requests for Proposals (RFPs). He states: "There is the fact that the price of wind power has come down has made it relatively more competitive." Overall then, participants conveyed a positive influence regarding suppliers. However, because the market for wind equipment is very competitive and due to the abundance of suppliers to choose from, participants deem that the influence of this stakeholder group is not critical. Moreover, from Table 4, we can see that no participant attributed a high influence to suppliers. We acknowledge these responses and will then not consider suppliers as prime stakeholders.

4.3. Stakeholders Uncovered

Top Management

The CEO, as a stakeholder, was only mentioned once by participant 6. She underlined that even though the company's focus was not on renewable energy, the CEO's vision to embrace renewable energies was enough of a push to increase investments in the wind portfolio. Participant 6 declares: "Honestly, I think the reason that our company even has the renewable energy department is largely thanks to our last CEO who really embraced renewable energies and thought his vision was that the world was shifting away from carbon-based economy and we needed to get in the game."

We can reasonably assume that the CEO and the top management form one stakeholder group because of their ability to decide on the firm's strategic direction. Although the top management was mentioned only once, we interpreted the top management as an unspoken high influencer. Because large companies primarily focus on non-wind projects, it is highly likely that investments in new wind generation are as a result of a strategic orientation, especially in deregulated markets with little provincial compliance policies like Alberta. This situation is illustrated in case 6 where top management's influence was high and positive, tipping the scale in favor of wind power. This interpretation is an example of the contribution we bring to the conceptual model of Verbeke and Tung (2013). We go beyond considering critical enablers by accounting for the potential effect of firm size and market conditions. We can, therefore, see that even without regulatory pressures, the top management of case 6, and of other cases for that matter, can play a crucial role towards adopting wind portfolio. For these reasons, we include the top management in our prime stakeholders list.

Cooperative Members

In our study, the small renewable energy cooperative primarily gets financial support from their members in a form of equity. As we saw, these members also happen to be consumers. Financing from co-op members is paramount as debt financing for this new type of venture is not well understood by banks that perceive them as too risky. According to participant 2, co-op members were very enthusiastic about their projects by providing financial support, volunteering on the Board, and performing other administrative duties. In summary, they have a high and positive impact on the running of cooperatives. However,

in effect, cooperative members must be divided and aggregated to the financiers, and the consumers, rather than being treated as a distinct group.

Environmental Activists

In our literature review, we determined that there was no consensus on the harmless nature of wind power. In fact, the environmental activists mentioned by participants 1, 5 and 6 positioned themselves against wind energy. The participants expressed that this stakeholder group has a low influence because no wind firm is legally required to follow up with claims made by such groups. Environmental activists voice opposition when they deem that wind farm operations endanger certain flying species like bats and birds. Also, participants agreed that these oppositions are very rare thus making environmental activists not a primary stakeholder group. Participant 5, for instance, states that "not as much in my experience no, a lot of special interest groups will be protecting natural habitats, protecting certain wildlife or protecting waterways, and there is less of that when it comes to a wind farm. That will be more prevalent in power plants like gas-fired plant development." This situation conspicuously suggests us to exclude environmental activists as prime stakeholders.

First Nations

Participants were very explicit in expressing First Nations as a stakeholder group, distinct from the local community. Participant 3 states: "It is nice to differentiate them because of that legal requirements sometimes to consult the First Nations. It is important to give them a little more say in what happens on those lands that were traditionally theirs." The importance of First Nations' influence on wind projects mainly depends on the legal

requirements for consultation and whether the wind farms are built on or near Crown, traditional or reserved land. In Nova Scotia, for instance, First Nations are almost amalgamated with the local community whereas it is crucial in BC to obtain First Nations' backing before building wind projects. Regardless of location and legal requirements, First Nations' acceptance of wind farms is largely ambiguous. Participant 6, expert in aboriginal and stakeholder relations states: "First Nations have come out and have said that they are in opposition to those projects for various reasons, largely impact on traditional practices and lack of tangible financial benefits from the development but overall on balance, I would say it has to be neutral." Although participants differentiated First Nations from the local community, we interpreted their responses in a different way. In effect, First Nations, are a form of landowners that have a strong influence. Therefore, although we reckon them a prime influence, we aggregate First Nations to the landowner category.

General Public

This stakeholder group can be viewed as the average, layman person who has a point of view about wind power. Participant 1 mentions: "Obviously, our society is energy hungry and despite our best efforts we can't seem to bring our thirst for energy down, our emissions per unit output are coming down but that is not enough. It is partly because of society's voracious need for energy." Wind power then could to be partly pushed by the need market. However, participants claimed that the move towards cleaner sources of energy like the wind is a result of both the need and the conscience market. Indeed, participant 2 expresses: "Today, it is a little easier and widespread, a lot of people know that it (the shift to cleaner sources of power) is necessary, and there are rules that are being framed around that."

In sum, participants interpreted the general public's influence as ambiguous. They recognized that, as a collective mindset, the general public appears to embrace the conscious market while at the same time opposing government wind subsidies. Also, no participant noted a high degree of influence, the reason we do not include the general public in our prime stakeholder list.

Industry Association

This stakeholder group was only briefly mentioned by participant 1 who states: "We try but our industry is not very powerful, and so we have an industry association, and I would say they try not to be confrontational about it." Given the seemingly modest influence this association appears not to have a significant impact on the industry. Also, because we do not encounter this stakeholder group in the other interviews, we will not include it in our prime stakeholder list.

Landowners

Apparently, wind turbines are built on land, mostly agricultural. The consensus amongst participants is that when farms are built on private land, the landowners become paramount stakeholders with whom firms sign lease contracts and less commonly, equity contracts. Participant 6 notes: "The landowners, we are building on their infrastructures, we are building on their properties, and they are very important stakeholders… So the impact of landowners is very high, without having agreements with private landowners, we are not going to build anything". Participant 5 adds: "Well, on an individual basis, your biggest stakeholder is your landowner."

The degree of influence of landowners depends not only on the amount of the lease payments but also on the long-term responsibilities. Participant 5 states: "I would say their influence is neutral, there are positives and negatives. First of all, they do allow you to be on their land; they are compensated for that, so that is a good thing. It is a contractual deal but on the other hand, the ongoing demand from an operations perspective can be rigorous. So because we are in farmland, we have obligations to maintain roads and things like that, and that can sometimes be onerous." The long term relationship that ensues dynamically pushes landowners to be also classified under the local community. In summary, participants 4 to 7, who mentioned this stakeholder group, all attribute a high influence. We find it interesting that not small firms mentioned landowners as a stakeholder. However, this can be explained by the fact that their projects are executed on a much smaller scale than that of large firms. Nevertheless, we can deduct from our analysis that landowners are a primary stakeholders group with an ambiguous influence.

Provincial Utilities

In regulated markets such as in BC, a provincial utility assumes responsibility for electricity distribution (system operator). This electricity is produced by and bought from IPPs. When the provincial utility is vertically integrated, it also generates electricity and becomes a direct competitor to IPPs. Participant 1 states: "The provincial utility is the big stakeholder, so, as a monopoly customer, they can make or break what's going on and to this point it has been difficult… institutionally it is a bit of an uncomfortable arrangement if you are a customer, supplier and competitor all at the same time, it muddies the waters."

When the provincial utility is also the arm that implements the policies that the Provincial Government puts in place, it has even more power to decide on electricity prices which are then likely to be a reflection of the utility's interest.

In regulated markets, the provincial utility off-taker (buying power from IPPs at pre-negotiated prices) then has a high influence, but the type of influence depends on whether or not it implements provincial policies on wind. The higher the renewable energy target, the more positive the influence is on the wind industry. Evidence in case 1 suggests a positive relationship between the provincial utility's influence and that of the Provincial Government. Although we have one occurrence on the provincial utility as a stakeholder, we assume that all regulated markets have a provincial (or municipal utility). To some extent, we also suspect that participants in regulated markets did not want to compromise their situation by uncovering an eventual conflict with the provincial utility. In addition, in deregulated markets, like Alberta and Ontario, the distribution of power to the grid is still regulated by the provincial utility. The influence of the provincial utility is not as sharply presented as previous prime influencers, but our analysis suggests to consider seriously this stakeholder group which would then have a largely negative influence.

In sum, in no particular order and based on the rankings provided by our participants, we present the following list of as the five (5) likely most salient stakeholders:

a) **Provincial Governments** who showed a high and positive influence;
b) **Financiers** who have a large impact on small wind firms even though limited access to credit was reported. Equity provided by cooperative members or by the local community is also necessary to wind development;

c) **Top management** pro-active on wind investments or pushed by shareholders to embrace wind portfolio. It has a high influence as it supports strategic wind projects, particularly in large companies;

d) **Landowners** who own most farmlands on which wind farms are built and are therefore important stakeholders;

e) **Provincial utilities** that have a high impact especially in regulated markets where they are vertically integrated.

4.4. Linking Stakeholder Management with SD

We asked participants to express their views on sustainable development, and we matched their responses with the SD components brought forward by D. Williamson et al. (2006), namely, the economic, environmental and societal pillars. From one case to the other, each pillar had a different weight in the sustainability equation. In the sections below we examine the importance of each component and how the temporal view of Verbeke and Tung (2013) factors into that equation.

4.4.1. The Firm's Perspective on SD

Drawing from our deductive codes, we weighed the importance of each sustainability component expressed by the participants in Table 5 below:

Table 5: Importance of the Sustainability Components

Cases / SD components	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Internal financial performance	Minimal importance	Minimal importance	Minimal importance	Important	Important	Important	Minimal importance
Environmental	Important	Important	Somewhat important	Important	Somewhat important	Somewhat important	Important
Societal	Important	Important	Important	Somewhat important	Somewhat important	Somewhat important	Important

Source: Developed by the author

The table reveals that there is are possible meaningful differences between firm sizes about the importance of SD components.

On the economic aspect, there are polarized views on the external and internal economic importance. Small firms represented by participants 1, 2, 3, and 7 did not emphasize the importance of internal profits as part of their SD strategy. They tend to pursue more external economic benefits while larger firms insisted on the importance of internal profits. Participant 3 states: "The economic side is definitely something our company has wrapped up, we are actually providing economic development for the rural community." By contrast, participant 4 mentions: "I struggle with that a little bit personally, I don't think that it is our role to make society better, we do not want to make that argument, but I don't think that it is necessarily the role of the firm."

Although the views on the environmental component were somewhat balanced for both large and small businesses, the latter, however, attributed a higher importance.

Because our participating firms are “going concerns”, it is obvious that a large portion of their motivation to invest in capital intensive projects like wind power is a favorable return on investment. In fact, a rational firm would not deliberately pursue projects with negative cash Net Present Values (NPVs) unless other tangible or intangible benefits can be drawn. However, across interviews, we note that the engagement of smaller firms is also more passion-driven than that of larger firms. All large companies, who are primarily fossil-specialized, undertake wind projects mainly as part of their diversification strategy and as a way to reduce their environmental impact. On the other hand, smaller firms have wind power as their primary business activities. Participant 3 states: “If I really wanted the job, I could just leave and go work in the oil sector, no problem and make an awful lot more money more than what we are making here, but we chose not to do that so, you know, so that says something.” By contrast, participant 5 states: “What we're trying to do when we developed our portfolio, and that goes beyond wind, it is broader than just wind but we're attempting to minimize our footprint on the environment.”

Given that larger firms have more rigid decision-making processes than small firms, we can assume that a significant investment in wind power for a non-renewable specialized firm will heavily depend on the strategic direction of top management. In this line, we acknowledge again participant 6 noting that the CEO’s decision was a determining factor of wind investments.

4.4.2. Managing Local Stakeholders

So far, our study has illustrated who the salient stakeholders in the wind industry likely are and how they could constitute either enablers or obstacles to the sustainable development of the industry. The local community is one stakeholder group that we did

not include in our prime stakeholders list. However, participants gave it special credit. The relationship between the firms and this group is marked by the fact that, although clear legal requirements do not compel firms to abide by the will of the local community, firms try to facilitate cohabitation by attempting to achieve maximum local stakeholder satisfaction through a) compensation and; b) opposition management.

Compensation

Compensation is given either as a monetary or non-monetary value for any eventual loss or harm suffered as a result of nearby wind farm implantation. At the "development" (prospection and early contracting) phase of wind farms implantation, firms focus on making arrangements for construction with the local community. During operations, the local community effectively becomes a permanent stakeholder with a long-term and sometimes costly (operating costs) relationship

Firms, especially large ones, do sign community benefits agreements consisting of lease payments to the landowners, and this is a motivator for landowners to support wind projects. There are also agreements with the municipality whereby firms would pay taxes. An example of a more modern non-mandatory practice is the "pooled arrangement" whereby the radius of the benefit-receiving community (around wind farms) is extended. Wind firms also compensate for collateral damages on roads as the transportation of wind turbines requires heavy-duty trailers. Finally, there are sharing arrangements to fuel local economic development through the funding of such things as community halls and charitable foundations.

Opposition Management

Opposition management starts at the development phase of wind projects when wind firms do consultations with local stakeholders and First Nations. Participants agreed that resistance is very community specific and, depending on location, communities, families and individuals can have a voice strong enough to draw the attention of the firms and the general public. Some of the most common complaints expressed are noise disturbance from spinning rotors and transformer stations as well as health related issues. Participant 4 states: "We studied it, we put a barn around the substation to no avail, and sometimes no matter what you do you can't necessarily make those stakeholders happy but the wind farms very much meets all of the legal requirements." In this situation, firms and independent bodies do research to study the potential health impact of having wind farms near communities. The outcome of such research is to find a cause and effect relationship and the establishment of a safe distance. Also, firms hold open houses to engage personally with stakeholders and try to avoid intermediation and have as much direct interaction as possible with opposing stakeholders.

The results allowed us to extract a possible list of relevant stakeholders and precise the importance of the sustainable development components from the firm's perspective. In the following discussion, we link these findings back to the literature and show the contribution we make to the temporal view of stakeholder management.

5. DISCUSSIONS

In this section, we relate our results back to the literature to make a theoretical contribution. The theoretical contribution is built on three main literary concepts: a) Stakeholder salience; b) the moderating effect of firm size and market conditions; and c) the temporal view of stakeholder theory.

5.1. STAKEHOLDER SALIENCE

We started our investigation with the broad definition provided by Freeman (1984) to ensure no stakeholders, potential or actual, are excluded from the analysis either arbitrarily or a priori.

Our proposition 1 is: *Firms in the wind power industry have primary stakeholders that are worthy of higher managerial endeavor as compared to secondary stakeholders.*

From the seven interviews, this broad definition yielded 18 stakeholders/stakeholder groups. We then focussed on the stakeholders who "really count" from the firms' perspectives. The analysis reveals that there are five likely salient stakeholders/stakeholder groups which are: a) The Provincial Government, b) the financiers, c) the top management, d) the landowners, and e) the provincial utility. The exercise also aims at assessing if, the firms' perspective on stakeholder salience follows the prescriptions of Mitchell et al. (1997) on legitimacy, power, and urgency.

"Legitimacy," in general, narrows the view on stakeholders by attempting to define relevant groups in terms of their direct relevance to the firm's core economic interests. Brenner and Cochran (1993) adds that legitimacy consists of a non-trivial relationship with an organization such as a transaction, or moral responsibility. Indeed, the basis of a legitimacy between a stakeholder and the firm lies in a contractual relationship (Cornell &

Shapiro, 1987). Such relationship ranges from an "interest in a right (legal or moral) to ownership or legal title to the company's assets or property" (Carroll & Buchholtz, 1989, p. 57). We found, in our results, examples of such contractual relationships with salient stakeholders like the financiers, the landowners, and the provincial utility.

As far as "power" is concerned, Mitchell et al. (1997) further break down the concept into three sub-concepts namely:

a) Stakeholder dominant, where the firm is dependent on the stakeholder. We encountered this situation when small businesses depended on equity providers and when big business in regulated markets depended on the monopoly distributor, vertically integrated provincial utility.
b) Firm dominant, where the stakeholder is dependent on the firm. We did not encounter this sub-concept in our prime stakeholder list.
c) Mutual Dependence, where firm and stakeholder are mutually dependent. In our study, we found this situation between the firm and the top management and the shareholders. This latter type of support is very critical to the existence of the firms (Bowie, 1988). Also, top management in large companies holding the strategic orientation has high power to steer the firm towards having wind portfolio. It is worthy to note that shareholders satisfaction and top management decision are linked, making the two groups important decision makers (Magness, 2008).

The salient stakeholders uncovered by our participants mostly fell under the first sub-concept "stakeholder dominance." While the other two sub-concepts are valid, they did not appear as important for our particular cases.

The third stakeholder salience criteria supported by Mitchell et al. (1997) is urgency which they define as something that calls for immediate attention, pressing, compelling or imperative. In other words, urgency happens when: a) A relationship or claim is of a time-sensitive nature; and b) when the relationship or claim is important or critical to the stakeholder. However, we did not uncover in our data any stakeholder identification relevant to the urgency criteria. Although participants did not explicitly mention legitimacy and power, their explanations connoted the two concepts.

Our data revealed that the assessment of the level of stakeholder influence depends on: a) The proximity of wind farm implantation; b) the involvement direct or indirect of stakeholders in wind projects; and c) whether or not there are regulatory requirements attached to working with the stakeholder.

These three criteria do not contradict those of Mitchell et al. (1997) nor Magness (2008), rather, they serve as a complement. In sum, because participants demonstrated that some stakeholders, more than others, are worthy of higher managerial endeavor, we conclude that the data ***supports our first proposition***.

5.2. Moderating Effects of Firm Size and Market Conditions

Organizations have complex structures and processes that are defined not only by the environment in which they operate but also by internal characteristics and culture (Tolbert & Hall, 2009). These structures and processes interact to produce outcomes that are evaluated to determine the performance of the organization. Indeed, our study has uncovered so far that the influence of stakeholders on the SD of the Canadian wind industry could be dependent on the firm size and market conditions.

Our proposition 2 is: *Firms in the wind power industry adapt their SD strategies to their external environment and internal characteristics.*

Firm Size

According to Darnall et al. (2010) large firms have a more rigid decision-making process while small businesses' flexible decision-making process grants them more room for innovation. On the other side, larger firms can allocate greater resources towards resisting stakeholder pressures rather than yielding to stakeholder concerns (Bowen, 2002). Indeed, we found that large wind firms manage opposition by compensating the local community for the implantation of wind farms whereas small businesses adopt an inclusive strategy geared toward involving the local community in wind projects. Small businesses achieve this by making the local communities owners (equity providers) and consumers of their own generated electricity. Ferguson-Martin and Hill (2011) also analyze the role of local ownership patterns on wind energy deployment and find that smaller firms are more likely to offer equity stakes.

Small businesses have significantly fewer resources compared to larger firms (Dean, Brown, & Bamford, 1998). This situation pushes smaller firms to seek a competitive advantage in other ways. They tend to be younger and, therefore, more innovative and focused on niche markets (Fitzroy, 1993). We noted this in our interviews with case 2 and case 3 who allowed only residents of their city and province respectively to acquire equity. By contrast, no large firm offered equity as a mode of financing wind projects. Our analysis of the components of the SD components also reveals that firms, invariably of their size or province will go about SD by abiding by the minimum environmental regulatory

requirements. However, notable differences were noted on the economic and societal components of SD. Whereas large firms give high importance to their financial performance, smaller firms rather emphasize an inclusive financing strategy whereby they invite the local community to own partly wind projects. In fact, as a good reputation is central to small business success, small firms, therefore, tend to be more responsive to local stakeholder concerns as their success is often related to their degree of legitimacy and approval from local stakeholders. Because of their size, many small firms attract clients and employees from the local community (Besser, 1999; Perrini, 2006). Also, Darnall et al. (2010) argue that when small firms are subject to local stakeholder pressures (like opposition to the building of wind farms), their managers deem these pressures as "quite threatening" and, therefore, encourage the smaller firms to respond with greater vigor. Therefore, these managers are more likely to initiate actions to address stakeholders' concerns.

As far as SD is concerned, the extant literature suggests that smaller firms may be more responsive to stakeholder pressures. We find that smaller wind firms adopt more societal practices than their larger counterparts. They also tend to pursue environmental practices for reasons different from larger firms. Because small businesses focus on wind, their operations are geared towards preserving the environment and their environmental component has more importance than that of large firms who engage in wind activities primarily to curtail their environmental footprint. Darnall et al. (2010) argue that large companies that have abundant resources will engage more with stakeholders. While that is faithful to some extent, we found that in the case of the wind industry, small firms rather give more legitimacy to the societal component of SD in a form of equity offerings whereas

large firms' community benefits commitment only included such things as the building of town halls. Even though large firms undertake societal activities as part of their SD strategy, they are not as societally inclined as smaller firms. In fact, most instances of societal engagements were mere fulfilments of regulatory requirements. Only at late stages in stakeholder relationship do large firms consider similar equity offerings.

In our study, while small firms focus on wind, the majority of the wind generation in Canada emerges from large non-wind focus companies that have wind generation as part of their portfolio. Participant 4 declares: "We certainly want some lobbying in the best interest of wind power, but it cannot be to the detriment of other forms of generation (fossil)." This quotes exemplifies how large companies sometimes face conflicting strategic directions as to what type of generation (renewable vs. non-renewable) to invest in.

Even though large firms engage in wind activities due to stakeholders' pressure, participants report that wind portfolios are not run at a loss. We find that while it is true that some large companies engage in clean power generation due to regulatory pressures, others embrace wind power as part of their sustainability strategy. We can conclude that investments in wind energy by large fossil-specialized firms could result from a combination of stakeholders' pressures and financial profitability. Thus, the absence of an economic incentive can significantly compromise the willingness of large companies to engage in wind.

Market Conditions

Our analysis so far shows various types and degrees of stakeholder influences. Like Darnall et al. (2010), we concluded that the engagement of firms in proactive wind activities can be explained by their size and by stakeholder pressures. In addition to these two factors, we also find that "market drivers" are a possible significant factor in SD. Although our study focuses on how stakeholders can constitute enablers and obstacles to the sustainable development of the Canadian wind industry, a recurring trend in the interviews reveals just how important market conditions are and how relevant there are to SD.

We found that the wind market is governed by a set of provincial policies on retail and wholesale distributions in regulated and deregulated markets. Our analysis and results show the effects of each type of market regulation on the development of wind activities, both in small and large firms.

We noticed similarities between the Canadian electricity market and the factors driving wind development in the United States. A clear analogy can, for instance, be drawn between Ontario's green energy act and California's 1978 Public Utility Regulatory Policies Act (PURPA) and State and Federal tax incentives pushing new investments in wind. Furthermore, other prominent market drivers promoting wind projects were a) the quality of the wind resource; b) the access to transmission; c) the cost of conventional generation; d) the need for new electricity supplies; e) the willingness of power companies to integrate wind into their systems; f) the ease of siting and permitting wind facilities; g) the quality of the power delivery system; and h) the rules that govern the transmission

system (Bird et al., 2005). Other broad market drivers include such things as natural gas and oil prices and seasonal demand peaks.

We pointed out in our literature review that when it comes to international exposure, countries tend to learn more from wind power technology with a global collaboration than with local integrated R&D (Lindman & Söderholm, 2012). This situation is not captured in our data but we, nevertheless, show that international collaboration essentially consists of financing partnerships and equipment supply.

In conclusion, the ***data support our second proposition*** because firm size and market condition do appear to have an influence on the sustainable development of wind power in Canada. However, like in the United States, it was impossible to discern with exactitude all the drivers of wind power development. Instead, numerous drivers function as a package and influence one another's effectiveness Bird et al. (2005). It is evident from the growth of installed wind capacity that a combination of policies, vastly improved economics, and a developing market for green power has a sizable effect on the wind industry.

5.3. A Model for SD with the Temporal View

This section consists of evaluating the conceptual framework (Figure 2) developed in section 2.5.2 from the literature and then making refinements based on our data analysis. Verbeke and Tung (2013) propose that stakeholders' agendas and their relative salience to the firm evolve over time, requiring what they dubbed level 1 adaptation. Gulati, Nohria, and Zaheer (2000) also support that combining stakeholders as a network of value-creating resources will enable the firm to have a unique position in the industry. Then, when

dominant stakeholder pressures shift from supporting heterogeneity towards stimulating homogeneity in the industry, Verbeke and Tung (2013) argue that the firm must engage in level 2 transformational adaptation to sustain competitive advantage. Indeed, over time stakeholder preferences evolve, and their stakes change based on the strategic issues considered relevant at a particular point in time (Freeman, 1984). Conspicuously, access to resources remains important even in the late stages of a firm‘s development. The main point is that, without the idiosyncratic combination of resources from stakeholders at early stages and without showing an appropriate level of conformity at late ones, the firm will likely not survive.

Because competitive advantage erodes in the longer term (Jacobsen, 1988), it was important for us to identify the key stakeholders involved in this erosion process. Our findings are different from the salient stakeholders used in the paper of Verbeke and Tung (2013). They prioritize consumers, employees, competitors, suppliers and the Government. We rather found that the Canadian wind industry's key players are likely to be the financiers, the landowners, the Provincial Government, the provincial utility and the top management.

We asked our participants to describe how salient stakeholders constitute enablers or obstacles first at early stages and then at late stages of development (Figure 2) to evaluate if:

- Our Proposition 3 is: *Because the wind power industry is in its early stages, sustainable development is highly dependent on how the industry relies on stakeholders as*

idiosyncratic or heterogeneous sources of competitive advantage (Verbeke & Tung, 2013).

- Our Proposition 4a is: *Critical early stage enablers become uncritical sources of sustained competitive advantage at late stages;* and
- Our Proposition 4b is: *Uncritical early stages obstacles become important sources of a sustained competitive advantage at late stages.*

This evaluation consists of analyzing what type (enabler or obstacle) and degree (critical or uncritical) of influence each of the salient stakeholder represents, first at early stages and then at late stages of development and then verify if the shift in influence, if any, supports or overturns the conceptual framework. Put simply, we are evaluating if:

- In Proposition 3, firms rely particularity on salient stakeholders as sources of a competitive advantage in early stages;
- In Proposition 4a, critical early stage enablers, become uncritical sources of a sustained competitive advantage at late stages; and
- In Proposition 4b, uncritical early stage obstacles become important sources of a sustained competitive advantage at late stages.

5.3.1. Early Stage Competitive Advantage

Stakeholders typically provide valuable resources to the firm in early stages. Without these resources that foster heterogeneity (in line with RBV approach), the firm would not exist (Hall & Martin, 2005; Mitchell et al., 1997). During early stages, a firm's competitive advantage is sustainable so far as competitors cannot imitate its value-creating strategy (Barney, 1991).

At early stages of development our participants gave the following perspectives on the influence of salient stakeholders:

Provincial Government

When it comes to the Provincial Government, participants expressed an overwhelmingly critical and positive influence. As we saw in section 4.1.1, the demand for green power, including wind, is largely driven and motivated by encouragement and compliance policies. Both developers like case 1 and operators like case 3 reveal that they worked smoothly at the early stages with their respective Provincial Governments. This collaboration is meant to identify construction sites, get licenses for land and obtain environmental assessment clearance amongst others.

Financiers

Financiers contribute to the development of the industry by providing capital. They can be the local community/cooperative members in the case of small firms and the shareholders in that of large ones. However, most participants simply assimilated financiers with debt providers. However, although the latter have made efforts towards evaluating precisely the risk of lending to small renewable firms, access to credit remains a significant challenge. Indeed, risk adverse financiers are reluctant to go through the paperwork necessary to make accurate risk profiles for small renewable projects. Participant 2 noted that such financiers were mostly willing to invest high capital projects with equally high rates of return. Also, banks often require liability to be extended to the personal properties of small firms' top management. Although, in large companies, shareholders were reported to support positive NPV wind projects, others with short-term goals might position themselves against capital-intensive, long-term investments in wind generation portfolio

(de Jonge, 2008). Financiers appear to be critical resources both to small and large firms. In sum, giving the significant contribution of small wind firms to the development of the industry (Abbey et al., 2006) and the fact that they are impeded by financiers, we can classify the latter stakeholder group as critical obstacles.

Top management

Because wind is capital intensive, the top management has to make sensitive strategic business decisions. From our data, we note that wind development in small firms is primarily linked to niche markets. This situation occurs because the community living near wind farms shows support towards wind projects. Participants 3 and 1 note respectively: "It is knowing your limits, skills and find what the company is good at, we are a small private company, and we concentrate on those smaller community type projects" and "I would say in the current environment, firms have to be very focused, very efficient, the margins are very tight, and they have to be able to exploit the few niches and opportunities that do arise". Participant 2 adds: "The involvement of the local community in these projects has a double advantage; it is an answer to the NIMBY syndrome, and from consumers (the local community), they also become electricity producers." These quotes exemplify how the top management is crucial to the success of small wind firms.

In larger firms, we found that what motivates top management to embrace sustainability is greener leadership (from the CEO in case 6) and risk diversification, all within favorable market conditions. Risk diversification here consists of investing in profitable wind projects in addition to the existing non-renewable generation in order to mitigate price volatility that occurs as a result of seasonal demand and oil and gas market price fluctuations.

In both small and large firms, the top management's willingness to push wind energy forward can then be interpreted as a likely critical and positive influence.

Landowners

Landowners proved to be possible critical stakeholders because wind farms are generally built on private land. Participant 1, for instance, states: "Their influence is big, big, in BC and becoming bigger. On our first project, we worked with 3 First Nations that all have territories within that area where we are building. We had worked with them early." Participant 1 also shares that the development phase takes about 3 to 4 years to get a wind farm running. He estimates that the positive attitude of landowners (and First Nations) contributes to the relatively short development time. He states: "Three years sound like a long time but that is not too much of an issue for the wind industry, with all the stakeholder consultation and I don't think you want to rush that." In sum, even though the long-term relationship with landowners was hypothesized by participant 5 as being costly, the general attitudes conveyed positivity towards landowners whose approval is critical to building wind farms.

Provincial Utility

In regulated markets, vertically integrated utilities could contribute to price uncertainty for wind firms through unfavorable price mechanisms. They are likely to have vested interests that are in conflict with the development of wind. Participant 1 reports that his provincial utility is an obstacle to the development of wind. Whether, in regulated or deregulated markets, the distribution of electricity from wind IPPs to end consumers is done through the grid which, itself, is managed by the provincial utility. Although grid connection rules change from one type of market to the other, the influence of the

provincial utility remains critical because according to participant 2, the building of a new, specialized grid for wind is not a viable investment. IPPs would reasonably want to use the existing grid rather than building a new one to reach consumers. At early stages then, we can attribute a critical and negative influence to the provincial utility.

5.3.2. Late Stage Competitive Advantage

At late stages, we proposed that salient stakeholders would contribute to inter-firm homogeneity via isomorphism pressures. At this stage of industry development, firms have reached maturity and established relatively stable cash flows. Also, the institutional forces seeking homogeneity among firms become stronger (Oliver, 1997). They play a pervasive role in stakeholder management.

Provincial Government

An example of government position shift illustrated by Mitchell et al. (1997) is that, as governments implement stricter environmental protocols, there would be a likely shift towards more cooperation and coordination among firms in the industry to create a legitimate conduit for voicing industry concerns. At late stages, our participants do not anticipate any dramatic change in the position of their Provincial Government on wind power. They believe, however, that favorable policies (like the FTIs) promoting wind development will not be as critical an enabler as during early stages. In effect, those kinds of policies would be new standards in the energy industry. Participant 2, for example, reports that, as wind grows, it is expected to become more competitive, cost and price-wise, with fossil energy generation. Participant 1 also indicates that Provincial Governments are anticipated to balance to equilibrium the subsidies and policies between the renewable and

the non-renewable energy sectors. At that point, although Provincial Government's influence remains positive, participants project this influence as being largely uncritical.

Financiers

At late stages, participants reported that the financing of wind projects would be made easier. In this vein, Participant 1 said that, as the industry evolves, financiers will be more willing to offer debt to small firms because they would better tolerate the risk involved in such lending. This situation is both expected to make financiers future enablers and create a competitive market of debt providers where firms will have the opportunity to select the most favorable financing offers. At later stages then, the influence of financiers can be termed as positive and uncritical.

Top Management

The top management may have little expertise in the running of small firms or may not embrace sustainability in large companies. However, we do not find any such evidence in our data. Participant 4 report that renewable energies like wind are here to stay, slowly increasing their market share in the total Canadian energy mix. We can already see this growth trend through the continuously increasing installed wind capacity figures provided the CanWEA. Participants acknowledge that top management will most likely continue to be an enabler at late stages, but at a less critical level because isomorphic environmental concerns will come to be expected in the electricity industry.

Landowners

In addition to small firms that already allow equity offerings to the local community, Participant 6 reveals that at late stages, large companies also consider pursuing

equity partnerships in wind energy development with First Nations and Landowners. This situation is likely to keep landowners open to the idea of the utilization of their land by wind farms. At late stages, Participant 6 also anticipates that the signing of fair and uncomplicated lease contracts (contractual homogeneity) will be widely spread, making landowners approval not as critical as during early stages.

Provincial Utility

At late stages, provincial utilities could facilitate the distribution and retail of wind power by limiting conflicts of interest, especially when those utilities are vertically integrated. This idea is not captured in our interviews. However, at late stages, participant 2, for instance, reckons that, as isomorphic pressures on renewable energy adoption rise, vertically integrated provincial utilities will improve on existing electricity system and build more complex energy grids and energy system that will facilitate renewable power transmission. This idea implies that as traditional energies would phase out, the grip operator would become more dependent on renewable IPP, increased mutual dependence (Mitchell et al., 1997). Also, participants believe that the rules of the electricity system will be more flexible, consistent, and easy for wind firms to abide by. These reports make us attribute a positive and uncritical influence of the provincial utilities at late stages of industry development.

We summarize, in Table 6 below, the perspectives of our participants on the types and degrees of influences each salient stakeholder exerts on wind activities both at early and at late stages of firm/industry development.

Table 6: The shift of salient stakeholders' influence from early to late stages

	Early stages influence		Late stages influence	
	Type	**Degree**	**Type**	**Degree**
Provincial Government	Enabler	Critical	Enabler	Uncritical
Provincial utility	Obstacle	Critical	Enabler	Uncritical
Financiers	Obstacle	Critical	Enabler	Uncritical
Top management	Enabler	Critical	Enabler	Uncritical
Landowners	Enabler	Critical	Enabler	Uncritical

Source: Developed by the author

Deducting from the results of Table 6, we can draw the following implications for propositions 3, 4a and 4b:

- Because all our cases relied on salient stakeholders as critical sources of competitive advantage in early stages, we can conclude that ***the data illustrates that our Proposition 3 is valid***.
- All early stage salient stakeholders, who are critical enablers, will, in late stages, remain enablers, and only represent an uncritical source of sustained competitive advantage. Those stakeholders are the Provincial Government, the top management, and the landowners. ***This conclusion, therefore, supports our Proposition 4a***.
- All early stage salient stakeholders, who are obstacles, were reported to be critical influencers while we proposed that they were uncritical ones. At late stages, those obstacles convert into enablers, however, representing only uncritical sources of sustained competitive advantage. ***This conclusion buttresses our proposition 4b*** which, therefore, has to be refined. First, our model, which is based on the temporal

view of Verbeke and Tung (2013), must acknowledge that not all salient stakeholders are critical enablers and that some are critical obstacles. Second, the pervasive nature of isomorphic pressure will make early stage critical enablers and obstacles only have an uncritical influence at late stages. Taking into consideration these facts, we then refine our conceptual model represented by Figure 3.

5.3.3. Potential New Prime Stakeholder Entry

Although considered secondary stakeholders at early stages, the Federal Government, and the local community are stakeholder groups that were reported by participants to play a potentially critical role in the late stages.

Federal Government

As Harrison and St. John (1996) explained, "political power influences environmental uncertainty. Stakeholders with political power have the ability to influence events and outcomes that have an impact on the organization, whether or not they have a financial stake in the organization" (p. 49). Governments are often motivated to maintain the status quo, and fundamental changes tend to happen sporadically. Participants reported that the Federal Government has little influence on the wind industry at early stages. However, participant 1 reckons that this stakeholder will have a far greater role to play at late stages, mostly, in the coordination of the environmental efforts of individual Provincial Governments across the country.

The Local Community

Depending on the province, the local community often demonstrated against the wind motion sweeping Canada and used social or even political means to prevent the construction of wind farms near their properties. Just like Söderholm et al. (2007),

participants mention that such opposition is based on claims of health concerns, depreciating property value, and deterioration of traditional practices in the case of First Nations. Participant 6, for instance, states: "Wind projects can impact property value. So we rely heavily on the Canadian Energy Association for some of the studies that they have done and what their conclusions are around property value." At late stages, however, participant 5 argues that, for local communities, wind infrastructures will become part of the landscape. He supports that wind turbines will appear much less invasive. He even hypothesizes that the local communities will accept wind turbines as a cultural heritage and massively stand for them. Also, participant 6 reports that the relationship with local communities will only get better and stronger and more sophisticated as wind portfolios grow.

5.3.4. Refined Theoretical Framework

Our original conceptual framework developed in Section 2.5.2 and based on the temporal model of stakeholder theory (Verbeke & Tung, 2013) is a visual combination of our four propositions. While propositions 1, 2, 3 and 4a were found to be accurate, proposition 4b called for refinement. At this point, we want to summarize the elements we gathered to refine our original conceptual framework:

- Proposition 1: The salient stakeholders that Verbeke and Tung (2013) used in their model were identified following a review of the literature. Although their approach was grounded in the theory, we, for the purpose of our specific cases, identified the relevant salient stakeholders by narrowing down the broad stakeholder definition of Freeman (1984). This exercise produced salient stakeholders listed numbers 1 to 5 in the refined framework.

- Proposition 2: Our analysis shows how both firm size (internal characteristic) and market conditions (external environment) effectively influence their SD adaptation strategies. These two elements, therefore, are accounted for in the refined framework.
- Proposition 3: We showed in the discussion that all cases relied on early stage salient stakeholder as a critical source of competitive advantage.
- Proposition 4: In the refined conceptual framework, we acknowledge that the moderating effects of firm size and market conditions determine if early stage salient stakeholders are either enablers or obstacles. Also, we illustrate that, at late stages, the latter moderating effect is negligible due to the likely pervasive influence of stakeholders' isomorphic pressures.

Another important contribution we make to the temporal view of Verbeke and Tung (2013) is the introduction of stakeholders that are considered secondary at early stages but primary at late stages. In our particular cases, we found that both the Federal Government and the local community fulfilled the attributes of such new entrants.

Through the results and discussion, we have attempted to answer our original research questions by evaluating our four propositions. Following our interpretation, we can now incorporate our findings into the temporal view of stakeholder management. Our refined framework represented in Figure 3 below improves the original framework of Verbeke and Tung (2013) by integrating the theoretical contributions discussed in this section through red highlights.

The refined framework shows that at early stages of development, wind power support (represented by a "+") or rejection (represented by a "-") by each salient

stakeholder should take into account the moderating effects of firms size and market conditions. Also, we have identified that there is a potential entry of new salient stakeholders at late stages of development where isomorphic pressures replace resource heterogeneity of early stages.

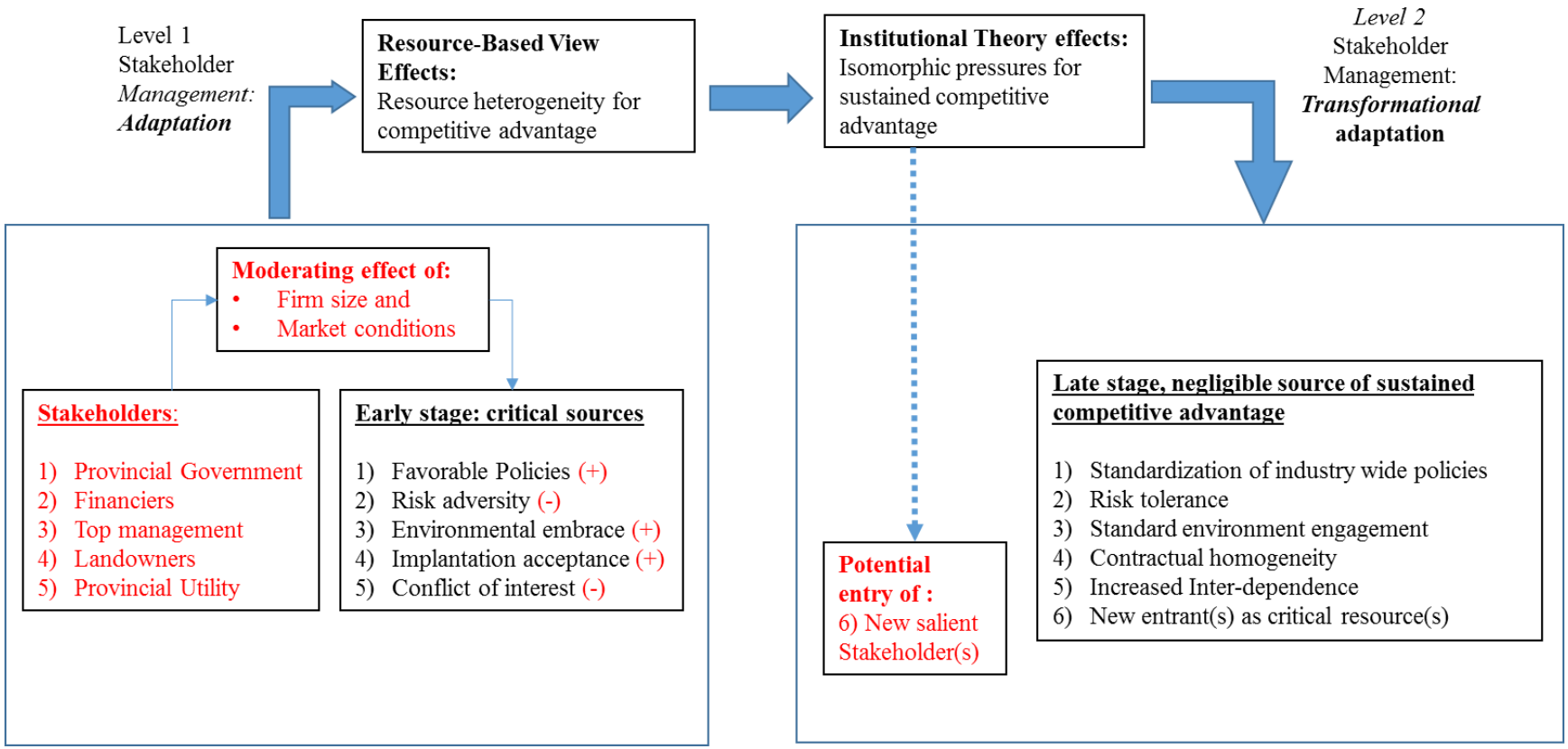

Figure 3 Refined temporal view of stakeholder management theory in the Canadian wind industry

6. CONCLUSION

Stakeholder theory has undergone several adjustments, from the early conceptual phase of Freeman (1984) to the temporal view of Verbeke and Tung (2013). It was used through the various approaches of Donaldson and Preston (1995) and the salience focus of Mitchell et al. (1997). The theory was applied both in general studies of firms' management (Darnall et al., 2010; Jansson, 2005) and in the understanding of the influence that stakeholders can have in a niche industry like wind (Weis, Ilinca, & Pinard, 2008). We embarked on this topic because we identified a gap in the literature concerning the application of stakeholder theory to the wind power sustainable development.

Although the wind industry is growing rapidly, to our knowledge, research on the influence of stakeholders on the industry's SD was not adequately addressed in the literature. Our study builds on insights from the already considerable extant body of knowledge on stakeholder theory. It attempts to connect current developments in the theory to the practical and contemporary phenomenon of wind energy development in Canada. Pursuing this topic allows us to make two types of contributions. The first is an empirical refinement of stakeholder theory as we apply both the salience concept of Mitchell et al. (1997) and the temporal model of Verbeke and Tung (2013). The second contribution is the provision of practical recommendations for practitioners and policy makers in the sector. In this section, we summarize these contributions, present the limitations of the study and suggest possible future research.

6.1. Summary of Theoretical Findings

Our study takes an exploratory focus on the various ways in which stakeholders influence the activities of wind firms in Canada. Based on seven cases across some of the leading provinces in Canada regarding installed wind capacity, we attempted to uncover the major stakeholders. We also endeavored to understand how those stakeholders influence the short and long-term development of wind projects. In addition, we tried to explain how firms' size and market conditions factor into the sustainability equation. The exploratory nature of the task required us to use a broad approach to SD to avoid biased and preconceived ideas. Stakeholder theory provided an adequate framework to start in that it considers all groups and individuals who can influence and can be influenced by the activities of the firm (Freeman, 1984). The broad definition yielded 18 stakeholders groups, out of which 5 were presented as salient by our participants. Those were: a) The Provincial Government; b) the financiers; c) the top management; d) the landowners, and e) the provincial utility. In the context of the Canadian wind industry, this is a possible empirical contribution to the general list of salient stakeholders of Verbeke and Tung (2013) which was solely based on a systematic literature review. In addition to the contribution of Mitchell et al. (1997), who determined that stakeholder salience is contingent on legitimacy, power and urgency, we showed that, in the case of wind, salience could be largely attributed to: a) The proximity of wind farms to inhabited areas; b) the direct or indirect stakeholder involvement in wind projects; and c) the regulatory requirements attached to working with the stakeholder.

As far as SD is concerned, we used the concepts provided by Donaldson and Preston (1995) which account for the economic, societal and environmental aspects of business

operations. We determined that, depending on firm size and market conditions, firms perceive salient stakeholders, as sources of competitive advantage, differently. We agreed with Darnall et al. (2010) on the fact that small firms would pursue external legitimacy with the local community whereas larger firms would give priority to their internal profitability. The effects of market conditions, although clearly present, was harder to grasp because of the complexity that resulted from the combination of electricity market types (regulated and deregulated) with other factors such as the cost of conventional generation, the need for new electricity supplies, the willingness of power companies to integrate wind into their systems and the rules that govern the transmission system amongst others (Bird et al., 2005).

SD implicitly conveys a temporal view as supported by Verbeke and Tung (2013). These authors developed a conceptual framework showcasing how the influence of salient stakeholders is likely to evolve over time, from early stages to late stages of firm-level and industry-level development. Our study, in addition to providing an actual empirical list of salient stakeholders, also brings two majors refinements specific to the wind industry in Canada.

The first is that, at early stages, although heterogeneity of salient stakeholders as resources dictates competitive advantage, the influence of these stakeholders should take into account the firm's size and market conditions. These two factors result in the fact that early stage salient stakeholders could possibly be either enablers or obstacles, one detail that Verbeke and Tung (2013) did not account for in their SD framework.

The second contribution is that, although isomorphic pressures dictate sustained competitive advantage and mitigate the moderating effects of firm size and market conditions, we need to recognize the likely critical role of new stakeholder entrants at late stages. This introduction was also not captured in the original framework of Verbeke and Tung (2013).

6.2. Managerial Implications

In addition to theoretical contributions, we also make practical recommendations for industry participants and policymakers on how to achieve sustainability in the wind industry. It is worth noting that the following views are the researcher's interpretations, stemming from interview data.

Policy Makers

Policies have proven to be a crucial component of wind sustainability. Holburn (2013) argues that while operational factors influence financial returns for wind projects, any shortcomings at the provincial level can potentially be compensated by sufficiently generous government policy. Our participants identified policy makers as the Federal, Provincial and Municipal Government agencies in charge of electricity market regulation. Also, other authorities, not directly related to the power industry, such as Provincial Ministries of Education were perceived by participants as useful contributors to wind SD. In fact, participants suggested that renewable-related courses be integrated right from the primary school curriculum. Education is also where CanWEA that was identified as a secondary stakeholder could play a more influential role as part of its mandate is to advocate to the various levels of governments and the public. The association could raise awareness through stronger political lobbying and media campaigns like an active Twitter

account and a comprehensive, informational website. Again, education with readily accessible and convincing econometrics on the long-term viability of wind can be the next step of CanWEA in its efforts to market wind power as a real alternative energy.

As we saw in the results, participants reported that the adoption of wind is mainly as a consequence of a "conscience market," one that primarily promotes a cleaner environment. Participants reveal that government policies and regulations largely drive the demand for new wind capacity. Participant 4 suggested that governments in Canada can mimic compliance policies like RPSs adopted in the United States and other European countries with proportionally higher wind development. However, establishing green energy targets ought to be done realistically and gradually because there is still a strong reliance on non-renewable forms of energy in large energy firms. To promote wind, government regulators then must find means to create an open competitive market, where, although emissions constraints are laid up, competition would be based on the most long-term cost-effective energy options. The data supports that wind power most likely fares better in deregulated markets. An encouraging sign for wind is that its price (equipment, operation, and maintenance) has stabilized making it relatively more competitive with both traditional generation and other forms of renewables. RPSs would most likely drive wind generation because, relative to other forms of renewable energies like solar for example, wind is inexpensive. To satisfy the green standards, one of the lowest form of renewable energy is wind.

The following are perspectives brought forward by participants:

a) Participant 4 shared that streamlining government administrative processes for project approvals and permitting can significantly improve the attractiveness of a province for wind firms. Indeed, Holburn (2013) argues that the processes by which a policy is implemented are as important as the nature of policy itself. The ease of obtaining approvals, permits, and the fairness of procurement processes are paramount. Delays in permitting and approvals could allow firms to reallocate quickly capital to other projects within their portfolios in jurisdictions that offer shorter approval time horizons.

b) Participant 1 advocates for selling price stability and predictability. The policy for the energy sector, as a whole, can make all subsidies visible and apparent to the public so that the trade-offs and the decisions are transparent, not hidden nor manipulated in a way that favors the non-renewable energy sector. Holburn (2013) supports this view by mentioning that the stability of the provincial policy for wind energy rates is crucial. Because of the lengthy duration of the development phase and the longevity of installed assets, investors prefer the predictability and the certainty that policies will not change in an adverse manner, especially before off-take contracts are agreed upon. Also, participant 7 shares that the wind industry needs to have more price stability than other energy projects that have more variable fuel costs. He suggested the introduction of a revamped type of the now discontinued FTI.

c) Participant 3 suggests more federal leadership in renewable energy policies in addition to the existing valuable provincial leadership. Like Fertel et al. (2013), we find that, at early stages, the Federal Government has minor interests in wind development (status quo). Although the provinces in our study have made considerable

efforts towards wind development, there is a marked imbalance in terms of installed wind capacity from one province to another. This is where the Federal Government can act by coordinating individual provincial efforts through nationwide targets and cross-province transmission facilitation.

Managers of Wind Firms

Following our analysis, we uncovered two possible major obstacles faced by small and large wind firms. On one hand, while small firms established good relationships with the local community through inclusive wind projects, large ones rather adopted compensation programs. On the other hand, while small firms had more difficulties finding debt financing, large firms expressed no concerns about wind projects financing.The concern of large firms is finding a balance in investment portfolio management; that is wind vs. non-wind generation.

These two situations illustrate that managers of small firms can make their business propositions more appealing to debt providers while those of large firms could both make local wind projects acceptance higher and strive to establish accurate market forecasts that will determine medium and long term optimum portfolio investments.

When it comes to small firm financing, managers have the uneasy task of securing the debt by exhibiting economically viable wind projects to debt providers. However, this is precisely what is required of them because wind projects may be uncommonly new and risky from the lender’s perspective.

In large firms, one way managers can enhance the relationship with the local community emanates from a suggestion of participant 6. She supports that what needs to happen in

community engagement is more in-depth, meaningful, face to face conversations on the ground with stakeholders that are relatively more collaborative in nature. She also proposes that large wind firms offer stakeholders real and legitimate opportunities to contribute to the shaping and development of wind projects. Ultimately this attitude of large companies is expected to replace the "box checking" open doors legally requirements. Also, companies can start engaging with people even in the pre-development stages and talk more about how they can provide real tangible benefits to their communities.

We believe that implementation of these recommendations by large and small wind firms will help wind development both at early stages of resource heterogeneity and at late stages of isomorphic pressures become pervasiveness.

In sum, our study provides useful theoretical refinements of stakeholder theory and practical recommendations supported by qualitative data obtained first hand from wind industry experts across Canada. Also, because of the methodological rigor followed to mitigate case study research generalizability problem, we believe that the results of this study are transferable to other structurally similar cases (Hillebrand et al., 2001).

6.3. Limitations of the Study

Case study research, and design for that matter are primarily criticized on the basis of three issues: lack of objectiveness, methodological rigor, and external validity (Johnston et al., 1999). The critics doubt the extent to which empirical data, collected by case research, may be used for generalizing to the whole population. Thus, while the opponents of case studies accept exploratory case research, they feel that the results of case studies cannot be used for theory-testing. However, Johnston et al. (1999) also argue that case

studies may be used to confirm research hypotheses or propositions in the event of qualitative research like ours. Although Yin (2009) state that "case studies are not generalizable to a sampling universe" (p. 204), he also argues that one way to generalize case study results to a larger population is to "test theory." This solution revolves around the concept of theoretical generalization that is, investigating whether empirical facts support a theory. Even though well-known authors like Yin (2009) argue that "the external validity problem has been a major barrier in case studies," we decided to do due diligence by at least following the prescriptions of Johnston et al. (1999). We addressed our study's generalizability problems by:

a) Beginning the research with propositions developed from the literature;

b) Sampling an even number of large and small firms across Canada;

c) Adopting a logical and systematic way of collecting and analyzing data through semi-structured interviews with a standard questionnaire and the use of NVivo software to reduce the risk of manual coding errors;

d) Working under the close supervision of thesis supervisors and boosting inter-coder reliability.

Despite those remedies, there are inherent constraints that are attached to conducting a master's thesis on the time and budget allotted. The sample only consisted of 7 firms out of over 54 operating in Canada (CanWEA, 2015b). This sample can be viewed as a small and perhaps not representative sample. On the other hand, some may regard it as adequate as it represents 13 percent of all wind firms operating in Canada. We think that the number of cases is our study is a legitimate limitation to the generalizability of our results. While we firmly believe in the internal validity of those results, we much acknowledge that their

applicability to the entire Canadian wind industry will require further data collection and analysis, both from the firms' and from the stakeholders' perspective. However, despite these limitations in sample size, we collected perspectives from a fair representation of the population. We obtained data from 4 small firms and three large ones operating in 4 of the leading wind provinces (Ontario, Nova Scotia, Alberta and BC) with different market conditions (favorable and unfavorable) and electricity market types (regulated and deregulated).

There are a few more limitations we need to point out. First, the conclusions made about the types and degrees of stakeholder influences are based on a single interview per case. Therefore, the responses might not have reflected the actual perspective of each case. There is a possibility of participant bias as the topic of renewable energy and climate change can stir up passions. This potential bias is the reason we specified in the thesis title that the study is based on the firm's perspective and not the stakeholders'. Second, we presumed, based on the paper of Industry Canada and Delphi Group (2008), that the wind industry, as a whole, was (at the time writing the thesis) still in its early stages. However, various firms could have different maturities or development levels. Third, as the moderating effects of firm size was a central element of our conceptual framework and theoretical contributions, it is worthy to note that the main literature it is sourced from Darnall et al. (2010). These authors analyze firms in the manufacturing industry, which industry is significantly different from the wind industry by nature (products versus services) therefore jeopardizing cross-applicability. Lastly, because of time constraints we were not able to add member checking and triangulation to our list of validation tools.

6.4. SUGGESTIONS FOR FUTURE RESEARCH

The very nature of our theoretical framework calls for follow-up research. Although our late stage conceptual deductions are empirical, they are based on potentially biased participants' perspectives. Only a longitudinal study will provide a definite conceptual model that has a temporal view. In that regard, even with the confidence that we put in the validity of our results and analysis, the next confirmatory step would be to conduct a longitudinal study that will evaluate the actual influence of salient stakeholders at late stages. These findings could then be compared with those we produced from early stages (current study). This assessment could determine the suitability and validity of our refined conceptual framework, opening an avenue for potential further refinements.

The exploratory focus of this study yielded a list of 18 stakeholders of which 5 were qualitatively interpreted are salient. It is possible, through descriptive and future quantitative research, to conduct a survey that could verify and refine our findings. Similar descriptive quantitative techniques could further enlighten the readers on the stakeholders that are most likely be the market entrants at late stages of development. Also, using the three components of sustainable development proposed by Donaldson and Preston (1995) and the two criteria of stakeholder salience uncovered in the study as variables, future endeavors can quantitatively determine the contribution of each stakeholder to SD over time.

Another topic, reoccurring in our interviews but clearly beyond the scope this research, is that of advancements in wind power technology. Some participants deemed that technology is a critical factor of SD. There is already a considerable body of knowledge on this topic (Gil, 2006; Hau & Von Renouard, 2013) and because we focussed on

management research, we did not find it relevant to include technology or engineering-related sections in this thesis. However, given that all participants (except 2 and 5) insisted on technological advancements for wind SD, we would suggest even more technical research on the particular obstacles mentioned in our data including: Storage capacity, turbine efficiency, and dispatchability amongst others. Interestingly, we noted divergent views on the usefulness of management research versus technological research. While participants 5 and 7 support that favorable policies could help wind SD, the next step according to them is advancements in storage technology. Participants 1, 3 and 5 on the other hand strongly believed that what is lacking in the wind industry is a real favorable Canadian energy policy avoiding distortions in the energy sector pricing and encouraging price transparency. In this vein, we take our suggestions even further by recommending that both management and technology researchers compile their findings to determine the real missing piece in the wind SD equation.

We conclude by pointing out that our study followed a precise and rigorous methodology and that limitations were disclosed for the aspects where we fell short of validation. We made useful theoretical contributions to stakeholder theory by empirically refining the temporal view, all within the boundaries of an industry that is booming economically with high prospects for employment, local and macroeconomic and environmental benefits. Because the wind industry is young and needs attention, we also made practical recommendations inspired by firsthand, on-the-job industry experts. We believe in the strength of the central theoretical and practical conclusions uncovered, and we encourage that further research, as suggested, be carried out.

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APPENDICES

Appendix A: Interview Protocol

A) Background information

1) What experience do you have working in the wind industry?
2) Tell me about the role you play in this firm.
3) What are your views on wind power as an alternative mainstream source of electrical power?

   Briefly tell me about the vision of your company, and the contribution it may bring to the Canadian wind industry.

B) The influence of salient stakeholders on the activities of the firms

4) What are the individuals, groups or institutions your firm regards as stakeholders?
5) Out of those stakeholders, which ones are primary influencers? How is priority determined and given?
6) Tell me more about the kinds of influence (positive, negative or neutral) each of these stakeholders exert on your activities?
7) How do wind power policies emanating from Governments, whether Federal, Provincial or Municipal, affect your company?
8) Can you explain the management system put in place to respond to the various kinds of stakeholder influences?
9) Do you have international collaborations? And if yes, how does it impact your company's performance?
10) How does CanWEA contribute to the development of your firm?

11) Can you tell me about the positive and/or negative impacts of the local community on you activities?

C) The effect of stakeholder management on sustainable development

12) What does sustainable development mean for your firm?
13) What will it take for your firm to be competitive in the wind industry?
14) Beyond your company, what will it take the Canadian wind industry to compete effectively and efficiently against the traditional sources of power?
15) Considering that the wind power industry in Canada is relatively young, can you tell me how primary stakeholders contribute to the development of your company in the short term?
16) How can the role of priority stakeholders in your sustainable development be any different in the long term?
17) Finally, how can the Canadian economy benefit from developments in the wind energy sector?

Appendix B: Ethics Approval Notice (part 1)

File Number: 12-14-11 **Date (mm/dd/yyyy):** 12/16/2014

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice

Social Sciences and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Martine	Spence	School of Management	Supervisor
Namatié	Traoré	School of Management	Co-Supervisor
Éboua Yves Éric Didier	Moularé	School of Management	Student Researcher

File Number: 12-14-11

Type of Project: Master's Thesis

Title: The influence of stakeholders on the sustainable development of the wind power industry in Canada

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
12/16/2014	12/15/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A

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Appendix B: Ethics Approval Notice (part 2)

File Number: 12-14-11 **Date (mm/dd/yyyy):** 12/16/2014

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: http://www.research.uottawa.ca/ethics/forms.html.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: http://www.research.uottawa.ca/ethics/forms.html.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

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Appendix C: Code Book

Name	Description	Hierarchical Name	Number Of Coding References
Competitive Advantage	Node containing the factors (enablers and obstacles) affecting the firm's competitive advantage that is, its ability maintain a favorable business position, relative to competitors	Nodes\\Competitive Advantage	82
Enablers	Factors in favor of the firm's competitive position	Nodes\\Competitive Advantage\Enablers	30
Business practices	Refers to the favorable use of skills, knowledge and research applications	Nodes\\Competitive Advantage\Enablers\Business practices	8
Risk diversification	Diversification of risk through investment portfolio	Nodes\\Competitive Advantage\Enablers\Business practices\Risk diversification	18
Energy portfolio	Wind being part of non-wind-specialized firm's investment portfolio	Nodes\\Competitive Advantage\Enablers\Business practices\Risk diversification\Energy portfolio	17
Timing	Risk diversification by demand season of the year	Nodes\\Competitive Advantage\Enablers\Business practices\Risk diversification\Timing	1
Market conditions +	Refers to the external markets conditions outside the firm's control, acting in the favor of wind development	Nodes\\Competitive Advantage\Enablers\Market conditions +	144
Conscience market	Willingness to produce wind power as a result of environmental concerns	Nodes\\Competitive Advantage\Enablers\Market conditions +\Conscience market	15
Decreasing cost	Falling cost of equipment acquisition and construction for wind businesses	Nodes\\Competitive Advantage\Enablers\Market conditions +\Decreasing cost	5
Favorable policy	Internal or external policies in favor of wind capacity increase	Nodes\\Competitive Advantage\Enablers\Market conditions +\Favorable policy	59
Low fuel cost	Refers to the low cost of natural gas generation coupled with wind generation	Nodes\\Competitive Advantage\Enablers\Market conditions +\Low fuel cost	4
Low oper. Risk	Low operational risk: low probability of operation risk and price fluctuations	Nodes\\Competitive Advantage\Enablers\Market conditions +\Low oper. Risk	7

Low price vola.	Low volatility of kWh electricity prices from early to late stages of development	Nodes\\Competitive Advantage\Enablers\Market conditions +\Low price vola.	7
Need market	Motivation to produce wind generation as a result of a need for more electricity	Nodes\\Competitive Advantage\Enablers\Market conditions +\Need market	3
Technology +	Technological advancement in wind technology facilitating wind power development	Nodes\\Competitive Advantage\Enablers\Market conditions +\Technology +	34
Smart Grid	Technological advancements allowing for better wind integration, implementation and distribution to consumers through the electricity grid	Nodes\\Competitive Advantage\Enablers\Market conditions +\Technology +\Smart Grid	18
Wind resource	Favorable wind speeds for the industry	Nodes\\Competitive Advantage\Enablers\Wind resource	10
Obstacles	Factors negatively affecting the firm's competitive position	Nodes\\Competitive Advantage\Obstacles	52
Energy Focus Conflict	Developing wind power to the detriment of current the core activities, general related to fossil generation	Nodes\\Competitive Advantage\Obstacles\Energy Focus Conflict	6
Market Conditions -	Refers for external markets conditions outside the firm's control, impeding wind development	Nodes\\Competitive Advantage\Obstacles\Market Conditions -	24
Benefit Scepticism	Doubts about the environmental benefits of choosing wind power over fossil generation	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Benefit Scepticism	7
Capital intensive	Early stage substantial capital investment	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Capital intensive	4
Cross prov. trans.	Refers to the lack of cross-province transmission limiting wind power development	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Cross province transmission	4
Technology -	General technological limitations preventing wind development	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Technology -	12
Complex grid	Difficulty in modifying current grid to accommodate new wind power supply	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Technology -\Complex grid	4
Unfavorable policy	Polices poised to limit wind power development	Nodes\\Competitive Advantage\Obstacles\Market Conditions -\Unfavorable policy	19
Variable price	Variable retail prices of electricity (generally in deregulated markets)	Nodes\\Competitive Advantage\Obstacles\Market Conditions	4
Unpredictability of speed	Inability to anticipate with accuracy wind speeds	Nodes\\Competitive Advantage\Obstacles\Unpredictability of speed	3

Visibility	Mot In My Backyard syndrome and opposition due to how visible windmills are	Nodes\\Competitive Advantage\Obstacles\Visibility	14
Development stage	Refers to the development stage of the firm or of the topic discussed	Nodes\\Development stage	96
Early Stage	Relatively short time after firm's creation, implementation of new undertakings	Nodes\\Development stage\Early Stage	32
Late Stage	Stage of maturity for the firm and stable cash flow, after a relatively long time of implantation and operation as well as topics discussed with future states connotation in mind	Nodes\\Development stage\Late Stage	63
Financing	Refers to how the company funds its wind business	Nodes\\Financing	39
Balance Sheet	Project finance internally with balance sheet	Nodes\\Financing\Balance Sheet	3
Cash inflow	Cash inflow generated from selling wind power generation	Nodes\\Financing\Cash in Flow	5
Project Finance	Funding of projects (development and construction)	Nodes\\Financing\Project Finance	29
Debt	Debt financing	Nodes\\Financing\Project Finance\Debt	8
Equity	Equity financing	Nodes\\Financing\Project	21
Influence of stakeholders	Degree and type of influence exerted by the stakeholders on wind power related activities of the firm	Nodes\\Influence of stakeholders	295
Degree of influence	Magnitude of the influence	Nodes\\Influence of stakeholders\Degree of influence	161
High	High influence	Nodes\\Influence of stakeholders\Degree of influence\High	97
Inexistent	No influence	Nodes\\Influence of stakeholders\Degree of influence\Inexistent	4
Low	Low influence	Nodes\\Influence of stakeholders\Degree of influence\Low	41
Medium	Medium Influence	Nodes\\Influence of stakeholders\Degree of influence\Medium	19
Type of Influence	Type of support/opposition from stakeholders	Nodes\\Influence of stakeholders\Type of Influence	133
Mixed	Mixed influence	Nodes\\Influence of stakeholders\Type of Influence\Mixed	7
Negative	Negative influence	Nodes\\Influence of stakeholders\Type of Influence\Negative	40
Neutral	Neutral influence	Nodes\\Influence of stakeholders\Type of Influence\Neutral	26
Positive	Positive influence	Nodes\\Influence of stakeholders\Type of Influence\Positive	60
Location	This represents the province(s) and Territories in Canada or abroad where each of the participating organization has wind farms in operations or where topic is discussed	Nodes\\Location	178

Alberta	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Alberta	33
Australia	Location where topic is discussed	Nodes\\Location\Australia	4
BC	This is a province (British Columbia) /territory in Canada where a company has implanted its wind farm	Nodes\\Location\BC	15
Europe	Location where topic is discussed	Nodes\\Location\Europe	27
Belgium	Location where topic is discussed	Nodes\\Location\Europe\Belgium	8
Denmark	Location where topic is discussed	Nodes\\Location\Europe\Denmark	2
Germany	Location where topic is discussed	Nodes\\Location\Europe\Germany	8
Norway	Location where topic is discussed	Nodes\\Location\Europe\Norway	1
Sweden	Location where topic is discussed	Nodes\\Location\Europe\Sweden	1
Manitoba	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Manitoba	3
New Brunswick	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\New Brunswick	8
Newfoundland	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Newfoundland	3
Nova Scotia	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Nova Scotia	10
Ontario	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Ontario	36
Prince Edward Island	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Prince Edward Island	1
Quebec	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Quebec	20
Saskatchewan	This is a province/territory in Canada where a company has implanted its wind farm	Nodes\\Location\Saskatchewan	3
USA	Location where topic is discussed	Nodes\\Location\USA	11
Market regulation	Regulation governing the retail price of wind power a given province	Nodes\\Market regulation	9
Deregulated market	In a non-regulated market, prices are fixed by the energy producers and are often dictated by the laws of demand and supply	Nodes\\Market regulation\Deregulated market	8
Regulated market	In a regulated market, a provincial body (generally the provincial utility) determines a fixed price at which it buys electricity from independent energy producers	Nodes\\Market regulation\Regulated market	1
Solar	Node referring to solar power related topics	Nodes\\Solar	3
Stakeholder management	All the procedures and mechanisms put/ to be put in place to maintain a satisfactory relation with stakeholders in general and the local community in particular	Nodes\\Stakeholder management	44

Compensation	Contractual compensation (financial or not) for damage/loss suffered by the implantation of a wind farm	Nodes\\Stakeholder management\Compensation	10
Opposition management	Pre-development networking by the firm with stakeholders, relationship building and negative influence mitigation	Nodes\\Stakeholder management\Opposition management	27
Stakeholders List	List of stakeholder individuals, groups and institutions identified by the participants	Nodes\\Stakeholders List	400
CanWEA	The Canadian Wind Energy Association	Nodes\\Stakeholders List\CanWEA	9
CEO	The Chief Executive Officer of the Firm	Nodes\\Stakeholders List\CEO	2
Competition	Other firms competing for the energy market, not only for wind but also other types of generation	Nodes\\Stakeholders List\Competition	34
Consumers	End users and consumers of wind-powered generation	Nodes\\Stakeholders List\Consumers	11
Institutional	Clients such as businesses and large corporate establishments typically with high demand	Nodes\\Stakeholders List\Consumers\Institutional	2
Residential	Residential households clients	Nodes\\Stakeholders List\Consumers\Residential	1
Coop Members	Members/owners of a renewable energy cooperative	Nodes\\Stakeholders List\Coop	10
Employees	Employees of the firm power generating firm	Nodes\\Stakeholders List\Employees	3
Environmental Activists	Those stakeholders include NGOs and interest groups militating for environmental protection	Nodes\\Stakeholders List\Environmental Activists	6
Financiers	Those are providers of funds for the development, construction, and operation of wind farms	Nodes\\Stakeholders List\Financiers	19
First Nation	Indigenous Canadian community officially recognized as an administrative unit by the Federal Government or functioning as such without official status	Nodes\\Stakeholders List\First Nation	31
General Public	Larger community not living around wind power facilities but whose opinion or action can more or less influence wind firms	Nodes\\Stakeholders List\General Public	10
Governments Regulators	Governments regulators in charge of the electricity market	Nodes\\Stakeholders List\Governments Regulators	155
Federal Government	federal agencies and bodies	Nodes\\Stakeholders List\Governments Regulators \Federal Government	35
MOE	Ministry of Environment	Nodes\\Stakeholders List\Governments Regulators \Federal Government\MOE	2
NavCan	Navigation Canada	Nodes\\Stakeholders List\Governments Regulators \Federal	1
Political groups	Political party having a clear position on wind power and acting accordingly	Nodes\\Stakeholders List\Governments Regulators \Federal	1
Municipal Government-Regional district	Municipal agencies and bodies	Nodes\\Stakeholders List\Governments Regulators \Municipal Government-Regional district	26

Provincial Government	Provincial agencies and bodies	Nodes\\Stakeholders List\Governments Regulators \Provincial Government	66
Industry Association	Association of wind firms at the provincial level	Nodes\\Stakeholders List\Industry	2
International Partners	Investors in wind projects outside of Canada	Nodes\\Stakeholders List\International Partners	11
Landowners	Owners of land on which wind turbines are erected	Nodes\\Stakeholders List\Landowners	15
Local Community	Community living within or near the wind farms	Nodes\\Stakeholders List\Local	47
Local partner	Investors in wind projects located in Canada	Nodes\\Stakeholders List\Local partner	1
Provincial Utility-Off taker	Governmental body responsible for energy prices, regulations, and distribution. In regulated markets it makes a call where independent energy producers bid for the most competitive price.	Nodes\\Stakeholders List\Provincial Utility-Off taker	12
Shareholders	Owners of a firm	Nodes\\Stakeholders List\Shareholders	8
Supplier	Wind company supplier of equipment/maintenance	Nodes\\Stakeholders List\Supplier	12
Sustainable development	The ability for the firm to effectively balance its economic wellbeing and environmental and societal impact over time	Nodes\\Sustainable development	64
Economic	Economic component of sustainable development	Nodes\\Sustainable	3
Internal Economy	Related to the internal economic position of the firm	Nodes\\Sustainable development\Economic\Internal Economy	16
Environmental	The environmental impact of the firm	Nodes\\Sustainable	25
Societal	The beneficial societal impact of the firm on the local or larger community	Nodes\\Sustainable development\Societal	30
External Economy	Potential impact on the Canadian economy (not the firm's financial well-being)	Nodes\\Sustainable development\Societal\External	23
Health benefit	Cost savings from improved long-term health	Nodes\\Sustainable development\Societal\External Economy\Health benefit	2
Job Creation	The creation of employment as a result of wind generation pursuit (development, construction and operation phase)	Nodes\\Sustainable development\Societal\External Economy\Job Creation	15

Appendix D: Inter-coder reliability test

Points to note:

- Each case represents one of the seven (7) interviews conducted
- Coding was done independently by assigning one of the seven (7) major themes in the table to each paragraph in the two (2) random pages of each interview transcripts
- "1" means that the principal investigator and his supervisor agreed on the assigning or not of a theme code
- "0" means that there was a disagreement on the assigning or not of a theme code

Themes / Cases	Competitive advantage	Development stage	Financing	Influence of stakeholders	Stakeholder management	Stakeholder identified	Sustainable development
Case 1	1	1	1	1	1	1	1
Case 2	1	1	1	1	1	1	1
Case 3	1	0	1	1	1	1	1
Case 4	1	1	1	1	1	1	1
Case 5	0	1	1	0	1	1	1
Case 6	1	0	1	1	1	1	1
Case 7	1	1	1	1	0	1	1
Total	6/7	5/7	7/7	6/7	6/7	7/7	7/7

$$Intercoder\ reliability = \frac{Number\ of\ agreements}{Number\ of\ agreements + Number\ of disagreements} \times 100$$

$$= \frac{6+5+7+6+6+7+7}{7 \times 7} \times 100$$

$$\boldsymbol{Intercoder\ reliability = \ 89.8\%}$$