Planning for Wind Power: A Study of Public Engagement in Uddevalla, Sweden

by
Michael Friesen

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Winnipeg, MB

Abstract

Despite seemingly widespread support, wind power initiatives often experience controversial development processes that may result in project delays or cancelations. Wind power planning – often derided for ignoring the concerns of local residents – is ideally positioned to engage citizens in determining if and where development may be appropriate. Following the process of a dialogue based landscape analysis in Uddevalla, Sweden, the research endeavours to better understand the ties between landscape and attitudes towards wind power, how concerned parties express these attitudes, and how these attitudes may change through public engagement. In contrast to many existing quantitative studies, the research uses one-on-one interviews with participants of the planning processes to provide a rich qualitative resource for the exploration of the topic. Five themes emerging from the interviews and their analysis, are explored in depth. These themes include: landscape form and function; the expression of public attitudes; changing attitudes; frustration with politicians and processes; and engagement and representation. Consideration is also given to landscape analysis as a method, wind power and planning in the Canadian context, and planning theory. The research indicates that attitudes towards wind power development are tied to planning processes, specifically: that the collective landscape shapes values and attitudes, is developed through discourse, and is composed of competing visions; that when formal avenues of discourse are closed, citizens will self-organize to exert political pressure with potentially damaging side-effects on relationships within the community; and that planning, when directed towards recognising and addressing concerns, can generate positive outcomes concerning attitudes towards wind power. Through engagement processes that embrace the multifaceted nature of landscape, value qualitative factors, are fair and transparent, better localize the benefits of development, and generate unique place-based policies, it is possible to acknowledge and address local concerns while still achieving global renewable energy goals. The research findings and recommendations are expected to be of interest to municipalities, citizens, and renewable energy developers to help form a shared and democratic sustainable energy future.

Key words: landscape planning, renewable energy, community engagement, public attitudes, sustainability, landscape character assessment (LCA), NIMBY (Not In My Back Yard).

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Chapter 1 - Introduction

1.1 Preamble

> "The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails."
>
> — William Arthur Ward

Wind power is not perfect, being by nature, a shifting and impossible to control resource. It can arrive when we do not need it and leave us when we do. Turbines are large, high, and can break. They are unsightly to some, a disturbance to others.

Still, despite its many imperfections, wind technology *works.* Countries have made significant contributions to reducing their dependence on fossil fuels and nuclear power through wind power. Additionally, with the proper financial mechanisms, wind power (and other distributed generation systems) offers the potential for substantial local resilience and economic benefits. In an era of uncertainty and change, these benefits are worth exploring.

No matter how noble the endeavor, though, means do not justify the ends. It is not desirable to force wind power onto a region or municipality against the will of its residents. Planning is uniquely situated to bridge the gap between policy and public attitudes, but has arguably been ineffective thus far. By engaging with community members it is possible to determine if and how implementation, facilitated by senior government policies, could proceed in a way that is sensitive to each area's unique landscape.

This project does not propose to solve the many problems associated with the development of wind power, but rather to help municipalities more effectively engage their citizens in a discussion to determine if and how wind power can be implemented in their community.

This should be considered, then, a guide for the adjustment of sails.

1.2 Introduction

Climate change is altering society's relationship with energy. Developed nations have built economies reliant on fossil fuels, and developing nations utilize fossil fuels in attempt to boost their economies and increase quality of life. As a planet we are burning more fossil fuels, and therefore releasing more carbon dioxide into our atmosphere, than ever before.

Alternatives do exist to traditional carbon-based electricity generation, but traditional carbon-free power production opportunities are limited; hydro power sites have mostly been developed, and nuclear power has been shown to be both economically questionable and a major safety concern. Over the past decades, however, distributed renewable energy has become a technically viable alternative to traditional electricity generation. Multiple nations have substituted renewables for significant portions of their electricity requirements, with wind power becoming a particular important technology due to its relative cost-effectiveness.

Despite impressive successes, the implementation of wind power is not without significant challenges and hurdles. While the technology continues to improve, it cannot compare to traditional energy generation in terms of simplicity and centrality. Perhaps most importantly, challenges regarding how, and where, to develop are causing significant delays in adoption. Despite seeing high levels of support through the population[1], wind power is particularly challenging to develop due to its visibility and concerns over negative health impacts; when projects are reified at the local level protests and lawsuits can delay or cancel projects.

Centralized planning has been effective in developing productive plants, located in isolated locations, but has often failed to effectively engage populations when energy development occurs in their landscape. The residents of Uddevalla, Sweden are divided concerning wind power development and are addressing the issue head-on through a dialogue-based landscape analysis in support of its wind power plan. Through observation of the engagement process and semi-structured interviews with participants, this research provides insight into how attitudes concerning wind power and the landscape are expressed and changed through public engagement. The research also examines a potential tool for planners and communities in the dialogue-based landscape assessment.

By engaging communities to develop local, place-based solutions to complex question of energy generation, it is possible to achieve a more sustainable future while strengthening social bonds and local determination of the landscape.

[1] As assessed in large scale surveys concerning attitudes towards the development of wind energy.

1.3 Key Terms

Community Renewable Energy: a range of energy initiatives concerned with developing greater citizen involvement in local energy planning processes and outcomes.

Landscape: a geographic area developed through the interaction of natural and social forces.

Landscape Character Assessment: a method for the analysis of a landscape's physical and social character through the division and organization of the local geography into distinct areas.

Landscape Form: the physical attributes and characteristics that define and make up a landscape. This includes an area's geological, natural, and man-made shapes and structures.

Landscape Function: the way in which a landscape is used. This may refer to the natural processes of an area, but for the purposes of this thesis generally refers to how humans use an area, including official designations (zoning, protection areas, etc.) as well as socially defined roles (place for a walk, "our neighbourhood", etc.).

NIMBY (Not In My Back Yard): a label used to undermine the concerns of those who protest against development or change. Simplification of a social dilemma in which private and public interests are at odds.

Ramböll: Primarily a technical (engineering) consulting company, that provides landscape and planning services to municipalities; responsible for the dialogue-based landscape analysis undertaken in Uddevalla.

Uddevalla: a municipality in western Sweden where Ramböll's dialogue based landscape analysis took place.

Wind Power: power/electricity obtained by harnessing the energy of the wind; in this research refers generally to wind turbines and their associated development.

Wind Power Planning: any planning that concerns itself with the development of wind power, whether at the local, regional, or state level.

1.4 Problem Statement

Research Problem

Uddevalla's previous wind power plan (2011) created an untenable situation in which wind power developers need not give sufficient consideration to the character of the landscape, nor to the concerns and knowledge of the residents; this has the dual effect of decreasing the resident's feelings of ownership of wind power developed in their community and reducing the potential for future wind power installations. Uddevalla decided to undertake a process that engages residents through dialogue concerning the landscape in order to develop the base for a new wind power plan, which allowed the researcher to explore the impact of public processes on wind power attitudes.

Research Questions

1. In what ways does the character – form and function – of the landscape impact people's attitudes towards the proposed wind power developments?
2. What are some of the ways that residents are expressing their attitudes?
3. What are some of the ways that wind power attitudes are affected by the new participatory techniques used in Uddevalla?

1.5 Purpose of the Thesis

The overall purpose of this thesis research was to develop a better understanding of citizen involvement in wind power planning using rigorous methodology and to communicate this understanding effectively to the academic community as a part of fulfilling requirements for a Master's of City Planning degree from the University of Manitoba. The research explores the effect of participatory planning methods on wind power attitudes, using Uddevalla's wind power planning process (dialogue-based landscape analysis) as a practical case to study. The following identifies and explains the goals and objectives of the study.

Goals

To generate and share knowledge regarding energy issues

Energy is an important issue with ramifications leading into the future. In order to achieve the smooth implementation of less environmentally damaging types of electricity

generation it is important to enter into a conversation about energy and its potential consequences. This requires discussing key issues of peak oil, global warming, energy prices, the viability of renewable energy, and the importance of energy conservation. It is also important to understand local perspectives on energy issues, and that knowledge creation is a multi-directional process.

To empower citizens

While many people may view spatial and energy planning as inaccessible or even boring, the empirical planning methodology of the mid-twentieth century showed the planning can have substantial effects (both positive and negative) on urban and rural landscapes and has, at times, systematically abused the power with which it had been entrusted. However, planning does not have to be an abuse of power; by engaging citizens to generate knowledge and providing residents with the ability to influence plans, and therefore their environment, power dynamics are altered and people are able to be positively involved in their own governance. Additionally, by complementing existing quantitative understandings of wind power dynamics with qualitative understanding of social functions and dynamics of the landscape, residents may be better able to question the position and facts presented by central authorities and development agencies.

To disarm the strength of NIMBY as an argument

Wind power discussions have been skewed by the reliance of proponents to dismiss the concerns of local people as self-serving NIMBY (not in my back yard) arguments that hold no validity. This not only results in a contentious development situation with residents protesting, and therefore slowing or stopping development, and developers and municipal authorities refusing to evolve practices because the concerns are seen as baseless. A thorough examination of the NIMBY literature helps this thesis to better relate to and relay local concerns.

To create a framework for future wind power planning

It was the author's intention that this thesis may provide a general framework that other municipalities and regions can use in order to guide their own wind power planning processes. Most wind power plans rely largely on technical concerns and allow for little input from the communities where wind turbines will be placed. This project shows how people can

become an integral part of what has been until now primarily a technocratic process; dialogue-based landscape analysis is a planning tool that provides an obvious avenue to pursue greater community collaboration.

Objectives

Support the development of an effective and deliberative wind power plan

The Municipality of Uddevalla supplemented the basis their for wind power plan, with the help of Ramböll[2] consultants and in collaboration with the Swedish University of Agricultural Sciences (SLU), after the municipality's first wind power plan was met with a great deal of local opposition. This thesis describes the landscape analysis process to help develop a plan that properly addresses current landscape issues through the engagement of residents in a qualitative way during the plan writing process.

Evaluate the effects on public attitudes of the "dialogue based landscape analysis method" planning technique

Ramböll undertook a dialogue based landscape analysis in order to determine appropriate implementation strategies for wind power development. While this method provides obvious steps in the right direction away from technocratic negative planning techniques, it is important to have reflective processes in order to understand how the method is perceived by the participants. This allows for refinement of the technique over time to ensure that the residents are properly involved throughout the process and that their attitudes and concerns are properly integrated.

Explore the relationship between wind power and landscape

Ramböll works with an understanding of the landscape as a basis for planning wind power. While planners generally do not work closely with the landscape in mind – unless they have specific environmental planning and landscape ecology training and experience – there is the potential for planners to utilise a type of landscape analysis in order to facilitate communication with citizens, and to integrate public dialogue into decision making. This also explores whether or not wind power can fit, at a fundamental level, into the landscape: what

[2] Ramböll is a leading international engineering, design and consultancy company, founded in Denmark. Ramböll has a diverse service portfolio, and the *Energy & Climate* teams have diverse energy solutions – including wind, waste-to-energy and district heating – that they are capable of bringing to projects (Ramböll, Annual Report, 2009).

kinds of landscapes need to be protected; what landscapes may be suitable for wind energy; and what landscapes may actually be improved or remediated through the use of wind energy. It is useful to look beyond today's formal designations in order to better appreciate the values embedded in our landscapes; sustainability may be best served by re-evaluating what is of value, and how we can best promote those values.

Engage in a series of in depth interviews

After considering various methods it was determined that the best way to accomplish the goals stated above was to engage those participants who had been involved in Ramböll's process in one-on-one conversations. There is a noted lack of qualitative research on the topic of wind power attitudes. Also, while there is considerable research surrounding what the various opinions may be (NIMBY, NIABY, Qualified Support, etc.) there is very little research pertaining to what these opinions entail in practice. By holding dialogue with a number of people who have been involved in a wind power planning process it was possible to assess their attitudes, but more importantly to understand those attitudes in relation to the dynamics of public participation. Attitudes will be assessed through the analysis of one-on-one interviews using coding; this process enables the researcher to identify themes important to individual interviewees, relate the interviews to one another, and develop a base of information from which it will be possible to undertake the research's discussion and develop conclusions.

Support Innovative Wind Power Planning in the Canadian Context

Although the contexts of Sweden and Canada have significant differences, the author has identified considerable obstacles to the appropriate development of wind power in Canada that may be ameliorated through a better understanding of the public attitudes concerning wind power and new methods to help engage communities. Although the primary resources (interviews and field notes) are developed from Swedish sources, through a considered examination of the Canadian context as well as the literature, implications concerning wind power in Canada are presented.

1.6 Scope of the Thesis

Although this thesis has endeavoured to be useful for future planning practice, the author understands that the research findings are one small contribution in the effort to introduce more renewable forms of energy to our cities and regions. To that extent this thesis

has built upon existing work in an effort to understand, supplement and refine our understanding of how people relate to wind power and the landscape, and how public engagement can alter existing attitudes.

The scope of this thesis is framed by the stated goals and objectives. This project is designed to understand the implications of a specific wind power planning process on public attitudes in Uddevalla, Sweden. The results of the analysis can then be shared with the residents, the municipality, and the practitioners in order that all parties can reflect upon their roles and involvement and provide the opportunity for an improved wind power plan and an evolving wind power planning process.

There is intrinsic benefit in building upon an existing field of knowledge that is already being applied to real-world situations. By working with the pre-existing dialogue based landscape analysis, this thesis will supplement a process that has been shown to provide tangible benefit to the community and that has a proven methodology for generating useful planning knowledge. However, despite the method's previous successes, the process is iterative by nature and dependant on context, meaning that there is always room for improvement, particularly in regards to the engagement of residents in generating useful and applicable information.

Through the combination of generating a clear understanding of the local context, a thorough review of the literature, and the in-depth qualitative research carried out with the public engagement participants, this thesis presents ideas that planners can take into the field.

1.7 Importance of Study

Considering the proliferation of renewable energy, and wind power in particular, this research is relevant and timely. The research bridges a gap between two distinct but connected issues: public attitudes, and creative planning tools & methodologies for the implementation of wind power.

In terms of the scholarly literature, this project contributes to the large body of work relating to public attitudes. While many academics and practitioners have made strides to understand public attitudes surrounding wind power, little work has been directed to how these attitudes are expressed, and even less is geared towards how these opinions can change over the course of a public engagement process. A qualitative analysis through interviews,

undertaken with participants from an actual wind power planning process, provides fertile grounds for analysis that has been left largely unexplored by wind power academics.

For planning professionals this thesis is expected to be of value in multiple ways: by providing a general introduction to the implications of wind power; by introducing landscape analysis as another tool for understanding the municipalities with which they work; and most importantly by exploring how effective public participation may affect attitudes towards development. By attaining a greater understanding of attitudes towards wind power, planners and can help to address concerns and build upon community input from the beginning. Such a process will help to ensure that proposed developments are appropriate and thereby avoid the long delays or eventual refusals that are common with many poorly planned projects today.

It is the hope of every student of planning that their major degree research project can benefit the community at large. This thesis helps provide general guidelines for the implementation of wind power in settled areas. By supporting the development of a positive wind power process, citizens can develop an understanding of the role of local knowledge in effective processes and be empowered in discussions concerning wind power planning. Ideally this will result in a smooth transition towards wind power in order to reduce our dependence on fossil fuels.

Wind power development is one of the most visible forms of electricity generation. This visibility is one of the more controversial aspects of its development, while also providing opportunity in capturing public attention and imagination; if people are confronted with their electricity generation and their energy consumption, we can begin to generate a greater understanding of, and eventually respect for, local electricity production. Transformation of our society's way of living is a seemingly impossible task, but this thesis seeks to make a small step in that direction in a democratic way.

1.8 Research Methods and Analysis

In order to answer the research questions and accomplish the stated goals and objectives, the thesis has utilized primary research techniques to generate data for analysis. Planning for energy and wind power has relied almost exclusively on technical, quantitative, sets of data for determining the impacts of, and planning for, new development; significant protests and delays have resulted from the unwillingness to engage and understand the attitudes of those personally impacted by development.

To understand these attitudes and perform an evaluation of the landscape dialogue process, it is necessary to both observe the engagements, and to provide opportunity for participants to reflect on their participation and attitudes in a non-politicized arena. While field notes taken during Ramböll's process provide an opportunity to reflect upon and analyze the public engagements, semi-structured interviews with participants provide a rich qualitative base from which it is possible to address the research questions concerning landscape, attitudes, and the dialogue-based landscape analysis that was undertaken. A research framework is presented in *Chapter 3 – Methods*, in order to show how the interview schedule relates to the research questions.

The interviews were recorded digitally and subsequently transcribed, allowing for detailed coding and analysis in order to identify key themes and patterns. These themes and patterns are explored in *Chapter 4: Analysis*. A more detailed description of the research methodology and its theoretical base can be read in *Chapter 3: Methods*.

1.9 Assumptions

All research makes assumptions; it is a necessary part of developing research and generating new data. This thesis makes several basic assumptions that frame the study: one regarding climate change, and another regarding the nature of public participation.

With regards to climate change this research made the assumption that climate change is linked to anthropogenic carbon emissions. Such an assumption is supported by numerous intergovernmental bodies and non-governmental research, such as the Intergovernmental Panel on Climate Change. Following this line of thinking, the researcher assumes that climate change is a problem that should be mitigated or solved, and that a shift to renewable energy can have a positive impact by helping to reduce the amount of carbon emitted into the atmosphere.

With regards to the nature of public participation, the researcher has worked under the assumption that providing residents the opportunity to be a part of the planning process, and to contribute to determining how development takes place, is a desirable end in and of itself. This assumption could be contrasted with a more technocratic and positivist outlook that the development of the wind power is the ultimate goal, and that there is a right way for wind power to be implemented regardless of public opinion.

1.10 Limitations

Although this thesis research has striven to be as complete and thorough as possible, all projects have limitations that need to be dealt with and this project was no different.

A primary limitation in this thesis was the inability of the author to fully understand and communicate in Swedish. The thesis studies a set of engagements that took place in Uddevalla, Sweden. These engagements were undertaken in Swedish which limited the researcher's ability to fully comprehend all of the comments and the dynamics of the engagements. In addition, considering that the municipal documents are entirely in Swedish it is possible that certain elements of the content may have been misunderstood or lost in translation. This limitation has provided challenges but they were considered by no means insurmountable; careful use of translation tools, the aid of Swedish speaking colleagues (planners and landscape architects), and communication with Uddevalla's planning department for clarification allowed the author to understand and utilize Swedish documents. While written documents require careful translation and assistance from Swedish sources, it was possible to engage with Swedes without the assistance of a translator because of the wide spread adoption of English as a second language in Sweden. For written documents that required translation a process was developed that allowed for effect understanding with minimal outside help: first, the document in question would be read in Swedish as well as my language abilities would allow; secondly, sections that were not understandable were translated with the help of Google's online translation software; thirdly, if part of the text remained incomprehensible, the aid of a Swedish colleague would be enlisted to ensure proper understanding.

Another limitation was the compressed timeline. The author is not a permanent resident of Sweden and was forced to make certain concessions with regards to balancing the amount of time devoted to the project with practical considerations such as a visitor's visa, economic viability, and thesis deadlines. Due to timeline considerations it was not possible to be present for the official adoption of the proposed wind power plan, let alone to witness how it was implemented. These events could have a significant effect on the public attitudes concerning wind power and the experience of having participated in the public engagements.

1.11 Theoretical Approaches

In order to undertake a successful research project it is important to think through the theoretical approach that will be taken, but this is a step often overlooked by researchers

(Mason, 2002). This means that the researcher must have considered the ontological and epistemological position from which he or she is operating. Not only does proper consideration allow the researcher to better relate the project to those who choose to engage with it, but it provides the author of the thesis the ability to orient themselves theoretically when difficult questions arise; through the thesis writing process, researchers are sorting through tremendous amounts of data, having a well-defined theoretical approach allows the author to more easily determine what is important for the study at hand.

Ontology can be described as the philosophical study of reality. While this seems to be a straightforward exercise at first glance, upon deeper analysis it is easy to understand why ontology has kept thinkers occupied since at least the days of ancient Greece (Heidegger, 1999); knowledge can be understood from many different perspectives, and those different perspectives may value different elements. This thesis will explore the topic of wind power based upon personal attitudes, perceptions, views, and narratives/stories. This knowledge will help to provide insight into how residents relate to wind power planning and how the experience of actively taking part in the planning for wind power can change attitudes.

This knowledge is stemming from an anti-positivist and constructionist epistemological position. Anti-positivism directly questions the appropriateness of quantitative research methods in assessing social experiences. Wind power planning theory has for the most part been dominated by quantitative surveys in order to assess opinions and determine appropriate courses of action (see: Wolsink, 2007; Warren et al. 2005); this research compliments this existing base of knowledge through rigorous qualitative research involving in-depth interviews that attempt to engage with and understand local attitudes. These attitudes are not pre-determined or static, but are constructed socially. This social constructionism argues that the meaning of wind turbines is malleable; a development may be inappropriate for one resident but may seem perfectly agreeable to another. Additionally, these attitudes can change through experiences: whether through the direct experience of, in this case, wind turbines or through deliberative processes, such as those outlined by Habermas in his theories regarding communicative action.

Electricity generation and energy markets are particularly opaque and have operated in the background throughout much of the 20th Century. This opaqueness makes the move away from rational methodologies and towards an appreciation of the validity of a plurality of planning languages all the more important (Healey, 1996). It is understood, however, that

realpolitik may make the achievement of the ideal Habermasian consensus impossible, but that planning still has the potential to provide an arena in which debates can be settled in a respectful manner that allow for strategic decision making (Hillier, 2003).

The research project is grounded in the researcher's understanding of planners' role in plan making and development. Based on the philosophy of Friedmann (1993), planners and planning should be: humanist, valuing individuality, supporting the disempowered, and aspiring for the qualitative rather than quantitative; innovative, seeking creative solutions to issues affecting our communities; political, engaging and valuing competing and contradictory voices rather than hiding behind rationality; and iterative, constantly learning and revising as processes are undertaken in order to allow flexibility and improvement.

Wind power, regardless of its potential broader societal benefits, will not be developed if communities do not perceive or experience a benefit and therefore fight it every step of the way. It is therefore necessary to develop processes that integrate community input and aim to develop outcomes that can change public attitudes. This research project aimed to reinforce the importance of collaborative processes and meaning making, while recognizing that planners play an integral role in giving these perspectives a cohesive meaning and the ability to be practically implemented.

1.12 Outline of Chapters

Chapter 1: Introduction – Provides an outline of the thesis including the goals to be achieved and how they were accomplished. The chapter should be read as a guide to the thesis that describes the author's intent and theoretical platform.

Chapter 2: Putting Attitudes and Landscapes in Context – Gives insight into the context of the project and the academic literature concerning public attitudes, energy, and landscape. The chapter provides a base of knowledge from which to conduct interviews and analysis.

Chapter 3: Methods – Describes the methodology used to generate data for analysis. The section includes a brief theoretical grounding before describing the setting, participants, measurement instruments, data collection and data analysis processes. The chapter will be particularly valuable to those who wish to understand how the research was undertaken or who wish to replicate the research.

Chapter 4: Analysis – Presents the results of the research method and analysis. After having transcribed and analysed the interviews, the results are used to explore the research questions along with the emergent themes.

Chapter 5: Discussion – Revisits the major themes of the thesis through the interpretation and reflection of the author and provides answers to the research questions. Limitations of the study are identified. Recommendations for future research are outlined. Conclusions – beneficial to practitioners, citizens, and municipalities – are presented.

Chapter 2 - Putting Landscapes and Attitudes in Context

2.1 Introduction

The literature review provides background information and academic grounding for the project. Considering the thesis is concerned with how landscape based processes affect attitudes towards wind power, the second chapter will focus on these two issues: public attitudes and landscape. However, in order to understand some of the dynamics of wind power development, in general and in Uddevalla Kommun specifically, a background section has been included.

The background provides a context for the research. Information has been collected regarding wind power and its trends, regarding the national and municipal context where the project takes place, regarding the consultant Ramböll and their wind power plan, and regarding wind power in the Canadian context.

The sections concerning public attitudes begin with the analysis of a term that often dominates questions of development: NIMBY. By analysing and disarming the dismissive term it is possible to develop a more rounded and thoughtful understanding of debate surrounding wind power. Subsequently the section analyses public attitudes related specifically to wind power. This is accomplished through the consideration of the attitude-behavior gap – the gap between society's overwhelmingly positive opinion of wind power and the resistance that occurs when projects are reified – and how it relates to various factors: NIMBY; landscape; political and institutional; and community.

The landscape section begins by generating a definition for landscape through the lens of the European Landscape Convention. Landscapes of energy are explored next in order to understand how energy infrastructure is generated in communities; an understanding of which is integral in the age of distributed energy generation brought on by renewable energy technologies. Finally the planning of landscapes is examined in order to better understand how governments and people interact to develop collaborative future landscapes, a process that is not without controversy.

These combined sections provide the necessary base from which it is possible to undertake a rigorous analysis of responses generated through interviews with residents of Uddevalla Kommun.

2.2 Background

In order to provide context for the research, background information has been collected regarding the history of wind power, its trends, and regarding wind power in the Canadian context. As this research project does not concern itself with technical details of energy generation and profitability, these concepts, though encountered during the literature review, have been largely omitted here.

2.2.1 History of Wind Power

Wind power has been present since the earth has had an atmosphere, and will continue to exist as long as the sun shines to heat the earth and create differences in temperature, and therefore pressure, across our planet. Man's first systematic use of this resource cannot be determined for certain – there is evidence that wind may have been used for work as early as 3,000 years ago – but the first well documented case of land based wind power is from 947 A.D. in Persia; wind power continued to develop and be adapted to the needs of the day, from grinding grain as a part of Europe's agricultural revolution, to pumping water during the colonization of the western united states (Wizelius, 2007).

In 1887, the Scotch professor James Blyth used wind turbines to generate electricity for the first time (Nixon, 2008). Wind power continued to be refined over the course of the 20th century, and by the 1970s was able to be used to power off-grid developments (farms, cottages) usually in conjunction with batteries to retain electricity for when the wind is not blowing. The oil crises of the 1970s changed the way the western world perceived energy, and sparked call for reducing dependence upon foreign oil; wind power, with nearly 100 years of practical use, was seen as a potential energy alternative to (primarily) Middle Eastern oil. Over the past thirty years wind power has become more reliable, more productive, and, in many cases, a realistic alternative to traditional electricity generation; starting in the range of about 20KWs of installed capacity per turbine in the 1980s, turbines (such as the Enercon E-126) now provide up to 7500 KW of installed capacity per turbine.

The United States was the first country to attempt to generate significant amount of electricity for the grid through wind power. The first wind farm, consisting of twenty wind turbines, was developed in New Hampshire, and California, shortly thereafter, introduced subsidies in order to spur the development of wind power. Unfortunately, the turbine technology was unreliable - and the projects were seen largely as failures (Nixon, 2008). When the subsidies were eliminated, and the panic of the 1979 oil crisis receded, the United

States entered into a sustained period of inexpensive energy with which wind power could not compete; this trend is reversing with the United States again entering a period of dramatic wind power growth.

While many countries were struggling with reliability, Denmark focused on small, reliable turbines that could be erected and maintained relatively cheaply (Wizelius, 2007). In conjunction with turbines that actually worked, Denmark developed a system that provided generous investment subsidies and, once the turbines were online, guaranteed a reliably high price for the electricity generated. This subsidy system guaranteed farmers a good return on investment if they erected turbines on their property and allowed multiple households to invest in turbines to support their respective economic or environmental goals. Not only did these policies help to provide fertile grounds for generating electricity by wind power, but they also aided Denmark in developing the most advanced wind power industry in the world. In the 1990s Germany followed Denmark's example and introduced significant subsidies and is now among the global leaders in wind power production. Recently, Spain has seen remarkable growth through the implementation of its policies and has recently become the first country for which wind power is its primary source of electricity generation (El País, 2014).

China has seen significant gains in renewable energy in the past decade; with wind power capacity growing by a factor of nearly fifty from 2005 to 2011, China's pace and scale of change currently exceeds any other country (United States Energy Information Administration, 2012). Centralized economic planning has allowed China to devote tremendous amounts of resources to developing installed wind power capacity. When put in context this growth, while still impressive, has several substantial caveats: energy from non-renewable resources has also exploded in growth, with China now the global leader of carbon dioxide emissions (PBL Netherlands Environmental Assessment Agency, 2013); additionally, as of 2010 one third of WTGs (wind turbine generators) were not connected to the grid – therefore not generating clean electricity to displace coal power – and some have even drawn comparisons between wind power investment and Mao's disastrous Great Leap Forward (Watts, 2012).

2.2.2 Wind Power Trends

Wind power has seen significant growth over the past thirty years and an even greater expansion over the past decade. We have entered an era that can imagine an economically

advanced world sustained entirely by renewable energy. Despite the growth, planning, and potential, wind power faces significant challenges in the coming years.

A great deal of the challenge stems from the laggardly recovery from the 2008 global economic recession. Although most of the world's scientists now agree that it is imperative to maintain a shift in temperatures of less than +2°C in order minimize the effects of climate change (WWF, 2011), renewable energy is often portrayed as a drag on the economy; when the options are portrayed as a choice between renewable energy (and environmental sustainability) and economic progress (and jobs) it is not surprising that many governments are reluctant to commit themselves to renewable objectives. The European Union, who desired to be a global leader in renewables and sustainability, is scaling back the renewable energy requirements it drafted in 2007 (Castle, 2014). With the United Nations determining that global renewable energy investment needs to grow to US $1 trillion annually in order to help keep temperature changes within the 2°C degree limit while still providing adequate energy for economic growth, any reduction in mandatory renewable energy levels is counter-productive (Randall, 2014).

The United States, the world's largest economy, is currently facing the same problems as the rest of world. President Obama's *Climate Action Plan* (The White House, 2013) proposes a number of policy directions including working with the developing world, increasing energy efficiency, and developing significant amounts of renewable energy. However, despite these policies and plans, the United States Congress recently allowed subsidies, the wind production tax credits amounting to some 2.3 cents per kilowatt hour, to expire without renewal on January 1st, 2014 (Breitbart News, 2014). China, in contrast to the United States, is responding to political pressure to reduce pollution by investing billions of dollars in renewable energy in order to reduce its dependence on coal (Watts, 2012). China is planning on developing 200GW of installed capacity by 2020; to put this in context, all of the European Union currently has an installed capacity of just over 90GW (Shukman, 2014).

While governmental investment generally changes depending on economic conditions, one of the most positive signs for wind power comes from the private sector. If social/external costs are accounted for then renewable energy generators are, and arguably have been for a number of years, cheaper to develop than coal and on par or cheaper than natural gas (Johnson, Yeh, & Hope, 2013). Famous business magnate Warren Buffet recently showed his support for wind power as an investment with an order of $1 billion worth of wind turbines;

turbines are becoming profitable without subsidy and need not fear for rising fuel prices cutting into earnings (Goossens, 2013). In certain cases, introducing wind power to the electricity mix has even been shown to reduce the cost of electricity for consumers (Ryan, 2014).

The pace of technological progress continues to make wind power a more attractive option and should continue to evolve in the coming years. The cost of wind power has fallen by ninety percent in the past twenty years and twenty-six percent since 2009 (Goossens, 2013). New battery technology may be able to store power generated in off-peak periods for one third of the cost which would make wind power more attractive to grid operators (Smith P. , 2014). New types of turbines are able to operate in a wider variety of environments, including floating turbines that could drastically reduce the cost of the still expensive offshore development (Breitbart News, 2014).

Wind power then, while by no means enjoying an unabashed boom period, is experiencing a stable growth period that is likely to continue with the potential to grow exponentially if mandatory carbon emission caps are implemented.

2.2.3 Canadian Wind Power Context

Canada provides an interesting context for the development of wind power. Although largely an urbanized nation, Canada has a massive, loosely populated, rural hinterland capable of sustaining large numbers of turbines spaced far enough from local communities that the impact could be negligible. Additionally, Canada has significant wind resources both in and along its many lakes and coasts, and throughout much of the prairies. Despite what some may consider ideal environmental conditions, wind power continues to play a marginal role in power generation in Canada, and the nation has seen massive investment in fossil fuel extraction as the country attempt to drag its economy out of the sluggishness brought on by the 2008 global recession.

At the end of 2013 Canada had 7803MW of installed wind power capacity accounting for 3% of Canada's electricity generating capacity (Canadian Wind Energy Association, 2014).[3] While wind power still makes up only a small percentage of the total, it is one of the fastest growing sectors: 2013 saw 1600MW of new capacity come online – more than 20% of

[3] Production by province varies wildly with Ontario and Quebec accounting for approximately 2400MW capacity each. Alberta is a distant third with 1120MW installed capacity. These three provinces account for 78% of the national capacity with the rest of the provinces contributing up to several hundred MW capacity and the territories providing a combined 10MW of installed capacity.

the current total national capacity – and Ontario is projected to double its capacity – from 2500MW to 5000MW – over the next three years (Roberts, 2013). If trends continue, Canadian wind power capacity is projected to reach 12,000MW by 2016 and supply 20% of Canada's electricity by 2025; reaching these targets could reduce annual greenhouse gas emissions by 17 megatonnes (Canadian Wind Energy Association, 2013).

The province of Ontario has been leading the charge for wind power development with the adoption of the *Green Energy Act* in 2009. The legislation introduced a feed-in tariff program - similar to the system found in Germany – with streamlined processes to facilitate connection to the grid for small scale and renewable energy generators, and energy conservation measures (Ontario Ministry of Energy, 2014). Although the 2008 economic crisis has likely muted some of the possible successes of the *Green Energy Act*, the province has seen, and is projected continue seeing, substantial growth in both solar and wind power capacity thanks to the subsidies and policies embedded in the new legislation.

Despite the increase in capacity, renewable energy is facing significant hurdles to maintaining its current projected growth, primarily due to the issue of public acceptance.[4] Wind power has faced severe backlash recently over concerns ranging from the impact on property values adjacent to wind farms (Nicol & Seglins, 2011), to health concerns (The Canadian Press, 2012), and to increased electricity bills (Stinson, 2014). Private energy companies are beginning to address these concerns, primarily through financial incentivization (Roberts, 2013), but municipalities generally respond to wind power development in an ad hoc manner. There is a significant opportunity to address many of wind power development challenges head on through positive wind power planning exercises such as those found in Germany, Denmark, and Sweden.

Concurrent to its renewable energy surge, Canada is investing heavily in fossil fuel extraction. In British Columbia, the province is moving towards securing billions of dollars of investment from both private and public funds for liquid natural gas extraction (Jang, 2013); Alberta meanwhile, despite already experiencing years of growth, is expecting oil sands output to surge in the coming years with a trebling of production in the next fifteen years (Vanderklippe & Cryderman, 2013). Although much of the resources extracted are destined

[4] It needs to be noted that there are significant hurdles towards increased proportions of renewable energy that have nothing to do with public acceptance; issues such as infrastructure to support decentralized energy production and smart metering require significant capital. Even in this regard though, large-scale wind power acts as an intermediate stage between traditional centralized energy generation and small-scale decentralized generation.

for export to foreign markets, the production itself entails significant carbon emissions (Bailie, 2014) that are expected to soar after 2020 without federal regulation (McCarthy, 2014). If Canada is to meet its carbon emission milestones in the coming decades, while continuing to extract resources for export, renewable energy will likely play a substantial role in the country's strategy.

Considering the context it could be argued that wind power is succeeding in Canada in spite of a lack of philosophical and societal support; wind power projects are measured in terms of economic suitability rather than global environmental benefit. While potentially demoralizing for environmentalists, this situation bodes well for the continued development of wind power across the country. Wind power is likely to continue to expand and continue to be controversial; there is significant opportunity for municipalities and regions to better prepare for the challenges and opportunities that are associated with the technology through effective and forward-looking planning policy.

2.3 Project Context

The following provides an overview of Sweden's general wind power context and a description of Uddevalla as a city and a regional municipality. In addition, the wind power planning processes and documents that were developed prior to Ramböll's involvement are explored in order to understand the situation into which planners and landscape architects stepped. Finally, an explanation of Ramböll and their landscape analysis will be presented in order to provide a context for the research that was undertaken.

2.3.1 Swedish Wind Power

Sweden presents an interesting case for wind power development. Despite being a nation with tremendous wind power potential due, primarily, to its significant coastline, Sweden has been relatively slow to adopt wind power compared to some of its northern European neighbours. Having developed significant nuclear and hydro power resources from the 1950s to the 1970s, Sweden has been able to produce adequate electricity to power its commercial, industrial and residential needs with minimal carbon emissions. During the 1970s as a response to the oil crisis, wind power planning and development emerged in Sweden as a potential alternative; unlike Denmark who focused on the broad implementation of small units, Sweden developed large (2-3MW turbines) that were viewed as expensive an inefficient (Carlman, 1988). As a result, Sweden's historical drive for wind power can be seen as superficial and resulted in minimal development into the 21st century (Larsson & Emmelin,

2009). However, as Sweden's hydroelectric and nuclear infrastructure nears the end of its useful life and the appetite for new nuclear power stations is minimal, the Swedish government has made significant steps towards development of wind power. This policy direction is not without its difficulties and controversies.

As of 2012, 4.4% of Sweden's electricity is generated by wind power, with hydro and nuclear power accounting for 45% & 39.6% respectively, and 11.2% coming from various oil and gas burning power stations (Karlsson, 2012). By the end of 2013 wind power was producing some 10 TWh for the year (Statens Energimyndighet, 2014). Wind power has developed quickly since 2006 where the output over the course of the year was only 0.99 TWh.

Despite significant growth, these numbers still fall short of stated goals set by the national government. In June of 2009, the Swedish parliament approved the goal of 30 TWh of annual wind power energy generation – 20 TWh on land, 10 TWh on sea – by the year 2020. In order to achieve this ambitious goal, there must be collaboration between Sweden's three primary levels of government: the municipalities, the regions, and the National Energy Agency (translation: Energimyndigheten). The municipalities are particularly important in determining appropriate locations, as a part of their development planning process (in Swedish: översiktsplan), and approving development permits for the development of wind turbines and small wind power parks, though larger parks may bypass the municipality and be determined at the county level. To support municipalities in their planning processes, the national government between the years 2007 and 2010 (with extensions provided for extenuating circumstances) provided more than 84M Swedish Crowns in subsidy to 212 municipalities (out of a total of 290 municipalities) for the purpose of wind power planning (Boverket, 2013). Many municipalities undertook these processes themselves, while others used the subsidy to hire consultants.

The Swedish renewable energy sector utilizes a green certificates system. This system provides the owners of renewable energy stations a certificate for every MWh of renewable energy produced by their generator; these certificates are provided in addition to the electricity sold to grid operators. These certificates are then sold on an open market to energy providers, and certain industries, in order to reach a government quota set for renewable energy. The energy providers pass along a part of this cost to consumers, meaning that all Swedes pay for a portion of developing renewable energy in their country (Statens

Energimyndighet, 2014). While this system is couched in capitalist jargon, it amounts to a fluctuating subsidy; recently this subsidy has been amounting to approximately 200 Swedish Crowns for every MWh of wind power generated. The green certificate system has been criticized by many actors: wind power critics believe that the technology is mature and should not be subsidized by the government; and wind power proponents often argue that the lack of a guaranteed return hinders development and leaves renewable energy in a disadvantageous position.

Despite the ongoing debate, wind power is being developed in Sweden. As pointed out, by 2012 wind power accounted for 7.2 TWh of production, or some 4% of national electricity generation. This development is contentious. Similar to wind power development in Canada, Great Britain, and the Netherlands; public protest and municipal uncertainty has resulted in slow development processes and investor uncertainty. The planning subsidy was meant to address these issues, but has failed to solve many of the issues facing wind power development. This has resulted recently in wind power projects relocating to less populated regions in Sweden (see: graphic from Karlsson, 2012). The most extreme example of this is development being built in Markbygden in Northern Sweden. This development is projected to contain 1,101 turbines – including many Enercon E-126, the largest mass produced WTG in the world – and produce 12 TWh of electricity per year on its own (Nilsson, 2010). This enormous wind park was proposed, in part, in order to avoid the problems faced by developing in more populated areas. However, the Markbygden project has recently faced criticism. Many environmentalists and nature lovers have long had reservations concerning the project, but recently the governmental agency Naturvårdsverket (translation: Environmental Protection Agency) has raised concerns over bird and bat habitat, and the noise being generated affecting nature reserves (Stenberg, 2014). Additionally, complications for development arose with respects to Sweden's indigenous northern people: the Sami. The development and operations of the wind park could have a significant effect on the nomadic Sami living areas and their reindeer herding operations. Negotiations to resolve issues took over four years and will cost the energy park millions of Swedish Crowns every year in compensation (Linder, 2011).

With northern placement not being a panacea to wind power development in Sweden, continued planning with municipalities and residents over the whole of the country is imperative to achieving the national renewable energy goals.

2.3.2 Uddevalla Municipal Context

Uddevalla is both a small city and municipality – comprising multiple towns and rural areas – located on Sweden's west coast, approximately one hundred kilometers north of the City of Gothenburg. The municipality is relatively small by Swedish standards at 650 km^2, or a little under half again the size of the City of Winnipeg's urban area (448 km^2). The City of Uddevalla accounts for approximately 17 km^2 of this area, with large tracts of rural land cover separating small villages making up the majority of the rest of the municipality. Uddevalla is a coastal municipality, with much of the population located within a few kilometers of the coastline and among the many fjords, with inland areas generally reserved for agricultural and sylviculture. The landscape is both distinctive and beautiful, with valleys perpendicular to the 270 kilometers of coastline, creating pockets of development separated naturally by the topography.

The municipality is home to some 53,000 residents, 31,000 of whom live within the City of Uddevalla and the rest being found in the smaller towns located throughout the municipality or in rural areas. The municipality's population decreased slightly in the 1980s during a period of industrial decline. Since the 1990s population has been growing from 47,000 in 1990 to the current 53,000.

Uddevalla was founded during the Medieval period at a crossroads between Sweden and Norway and was a strategic location, fought over in numerous wars between Sweden, Norway and Denmark. Modern Uddevalla began to emerge in the 19th century with the introduction of industrialization and the move away from agrarian and fishing based economies of earlier ages. Numerous enterprises such as the Uddevalla Safety Match Factory, Tiger of Sweden, and the Uddevalla Shipyard contributed to making Uddevalla an important Scandinavian industrial centre (Uddevalla Kommun, 2014). However, these industries have now shutdown, with the most recent example of the flight of manufacturing being the closing of Volvo's sports car manufacturing plant in 2013.

Today, Uddevalla is one of the most populous municipalities in the Västra Götaland region, but is arguably struggling to transform itself from its industrial heritage to its seemingly service based, white collar future. Uddevalla's beautiful location and short travel time to Gothenburg should ensure a steady population and economic stability, but the municipality is confronting the challenges associated with the transition from a productive, industrial and agricultural landscape, to a more residential landscape.

2.3.3 Original Uddevalla Wind Power Plan

Taking advantage of the government subsidy for wind power planning, for the past several years Uddevalla has been undertaking the development of a new plan designed to provide guidelines and instruction for the development of wind power within municipal boundaries. Information in this section is gleaned from email interviews with Lynn Joel and Peter Jonasson, two planners working for Uddevalla Kommun.

Uddevalla's wind power plan has seen significant hurdles almost from its inception. It has taken multiple years to develop and has three iterations. Initially the municipality's policy was being developed by a planner Sören Larsson. Mr. Larsson was a long-serving municipal planner with an interest in wind power, but he lacked the experience with wind power to understand how new wind power infrastructure might be perceived by residents. Sören Larsson retired before the project could be completed; work therefore passed on to two other planners, Peter Jonasson and Mikael Reinhardt.

The first wind power plan needed to be rewritten when it was discovered that the military held veto in several of the areas where wind power was deemed appropriate. A second plan was written with consideration for the military in mind. The wind power planning process was conducted in the "same way as many other [planning processes] at that time" (Jonasson, 2012) meaning that the plan was developed with minimal opportunity for public input. Both of these versions of the plan developed areas where wind power was deemed appropriate for development; this process is called positive planning, that act of determining where wind power projects should be located, therefore giving wind power developers greater certainty that their projects will be approved. In this case, planners deemed an area that had previously been protected as suitable for wind power. In addition, Uddevalla was using this second edition of the wind power plan in order to grant development approvals. The municipality was using a not yet approved plan, created with minimal public input, to develop wind power in areas that were previously protected from development. As word of development approvals for wind turbines began to spread amongst organizations, residents, and community members, there was a negative reaction to the proposed plan.

This reaction engendered the political discussion in which the major degree project is taking place. The third, and council approved, version of Uddevalla's *Riktlinjer för utbyggnad av vindkraftverk* (translated: Guidelines for the Development of Wind Farms) removed areas that are appropriate for wind power and instead created two areas: areas in which wind power

will not be established; and everywhere else. This has created the perception, at least among many residents, that everywhere aside from the 'no' area is open to development.

The plan is a straightforward document of twenty-six pages that explains the municipality's relation to wind power. The base of this relationship is guided by areas of national interest – regarding, for example, areas concerned with defense, nature, heritage, and wind power. There is little written concerning local interests – although the plan does state that future wind power projects will only be developed in areas approved by the landscape analysis – but the document does provide brief consideration for aesthetic concerns and health and safety issues. The proposed wind power plan was accepted by the municipal council on December 11th, 2011, contingent on the undertaking of the previously mentioned landscape analysis. A moratorium was placed on granting development permits for wind power projects until the landscape analysis was completed.

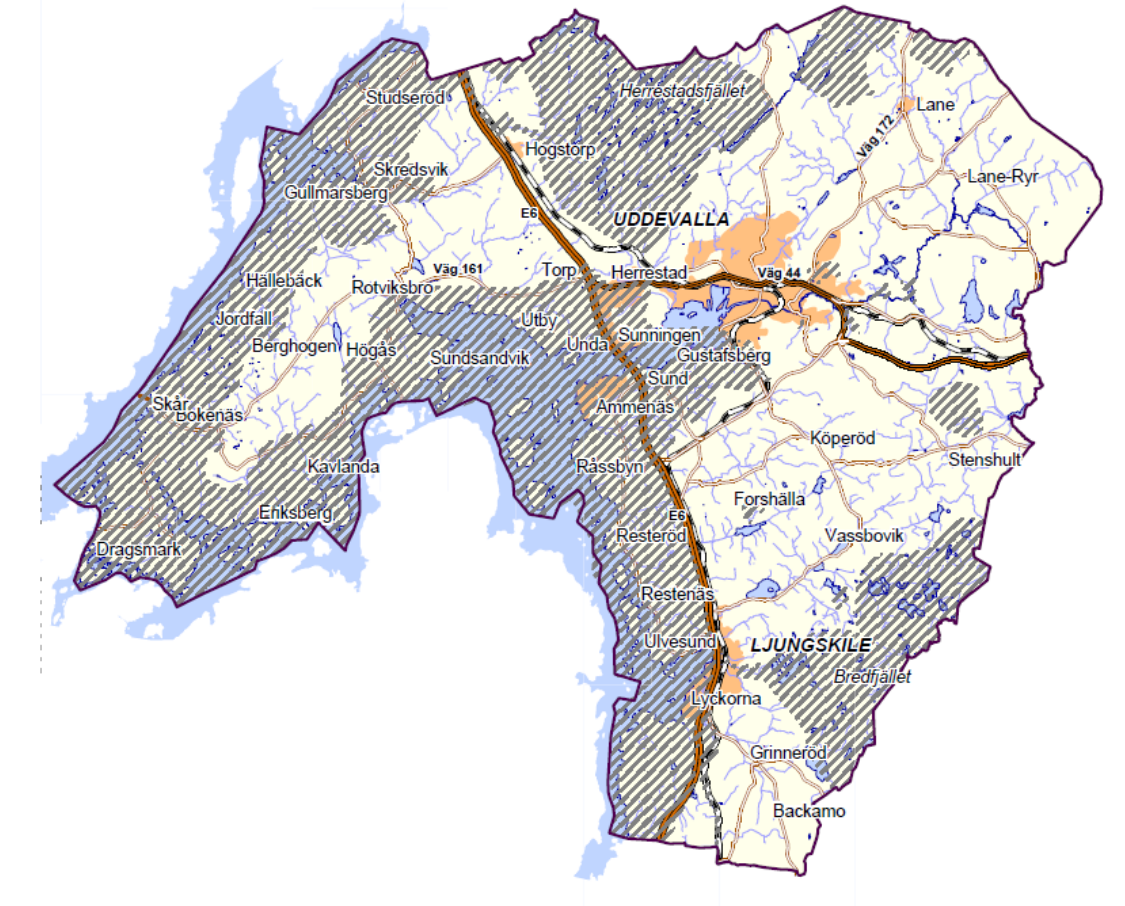

Figure 1: Inappropriate Areas for Wind Power – This map was part of the reason the third edition of Uddevalla's wind power plan was so poorly received. The cross hatched areas are described as "areas where the municipality will not discuss the establishment of wind power" which led many people to feel as though all other areas were open to development (Uddevalla Kommun, 2011, pp. 9).

The municipality chose to work with Ramböll after hearing Karin Hammarlund, a Ramböll project leader, speak on wind power planning at a conference. Karin Hammarlund, in addition to being an experienced wind power planning consultant, has published multiple articles and run several courses concerning wind power for the landscape planning department of the Swedish University of Agricultural Sciences. Her work in both the private and academic spheres has positioned her at the forefront of wind power planning in Sweden.

2.3.4 Ramböll

The landscape analysis required for the future development of wind power in Uddevalla was undertaken by Ramböll Sverige AB, a consulting firm concerned with providing sustainable engineering, design, and management solutions. This section describes the company and the landscape analysis they undertook for Uddevalla Kommun.

Founded in 1945 as Rambøll & Hannemann, Ramböll has evolved into a global consulting firm concerned with providing sustainable engineering, design, and management solutions. The company has close to two hundred offices worldwide, and more than ten thousand employees.

The project was undertaken in partnership by the Planning and Landscape divisions of two Ramböll offices – one in Malmo and one in Gothenburg. The Malmo division was assembled at the very end of 2011 and Uddevalla was one of their first large projects and the first landscape analysis of this type for Ramböll in Sweden. Due to the relatively recent formation of the Malmö division, leadership for the project was given to the senior Gothenburg office landscape architects despite the fact that Karin Hammarlund had previous experience with this type of project and was the contact that brought in the contract. Working from two offices provided some logistical issues and there were some differences in philosophy concerning the project that needed to be sorted out; these challenges were overcome and a team of landscape architects, planners, landscape historians, and geographers presented its final project findings on time in December of 2012.

2.3.5 Uddevalla Project Description

The dialogue based landscape analysis undertaken by Ramböll is a process designed to engage citizens in order to “create a quality knowledge base, foster confidence in the public, and give planners an opportunity to respond to concerns that arise in response to change... [while also developing understanding of] how local landscape values and functions fit within

a wider geographical context" (Ramböll Sverige AB, 2012, p. 5). The project was initiated to support the development of Uddevalla's wind power plan, but the analysis itself is designed to be agnostic to particular issues; in other words the landscape analysis can be directed towards other strategic planning goals as well as the current issue of wind power. Landscape analysis is a flexible collection of tools that can be supplemented and altered depending on the issues needing illumination. This section will describe Ramböll's landscape analysis, to give context to responses given by interviewees, and to provide an outline of a process that planners can adapt to their own wind power planning exercises.

Uddevalla's landscape analysis relied on two primary methods to build its report: Landscape Character Assessment (LCA) and Historic Landscape Characterization (HLC). Dialogue was used to support and verify the findings from the team's work. LCAs are used to organize the landscape into various landscape types (sometimes known as character types) and character areas. A landscape type defines geographical space by use, by topography and by physical characteristics. Character areas (generally) subdivide landscape types using not only a finer grain of use, topography and physical characteristics, but also its social importance and cultural identity. For example, if a landscape type is "forest", a character area might be "Herman's Thicket" which describes a particular part of that forest using the local name and describing how the area is used i.e. for walks or picnics. These different landscape types and character areas were visualized in GIS and described through matrices developed in Microsoft Excel.

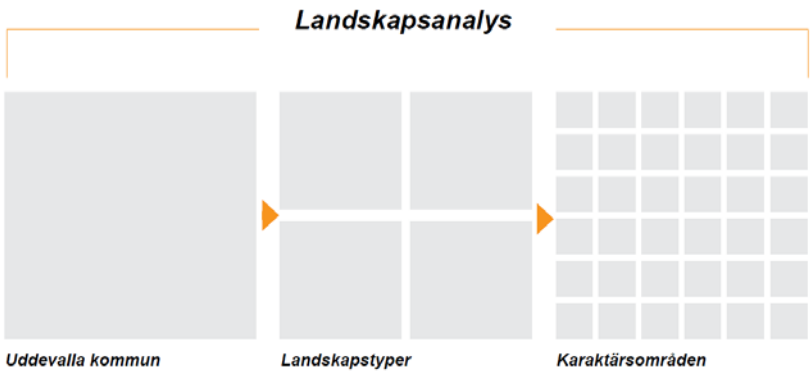

Figure 2: Diagram of General Landscape Analysis Process – The municipality is broken into landscape types (landskapstyper) before being further defined as character areas (karaktärsområden) (Ramböll, 2012, pp. 9).

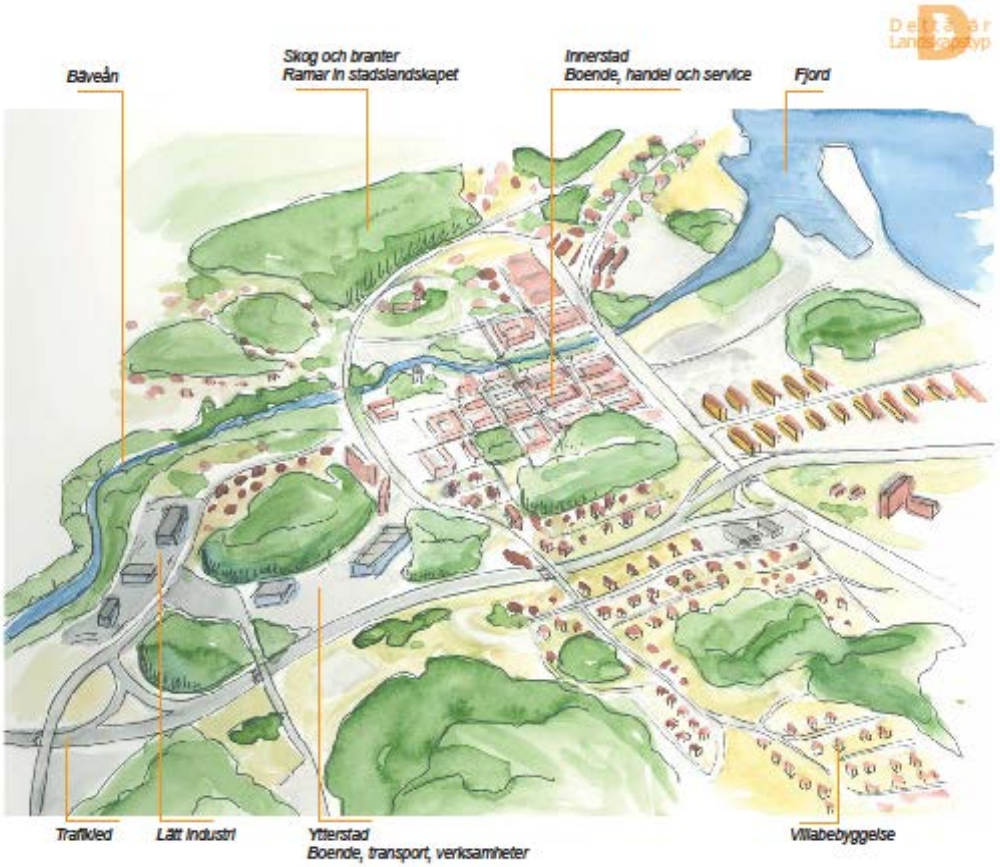

Figure 3: Example of a landscape type "Urban" from Ramböll's landscape analysis (Ramböll Sverige AB, 2012, p. 22).

An HLC identifies, describes, and analyzes patterns and processes that have shaped today's landscape" (Ramböll Sverige AB, 2012). Focusing more on cultural aspects, the HLC provides a historical dimension to landscape analyses; by examining differences between historic and modern maps, areas can be understood through time. This identifies forces of change and provides a deeper perspective on potential areas of importance and what to strive for in a transforming landscape.

A key component of the landscape analysis was citizen dialogue/engagement. The dialogue was enacted through two methods: bus tours (and accompanying questionnaire) and a public workshop. Ramböll began their project with a "desk study" to provide a base of information with which to engage citizens. With this information in hand, Ramböll employees and residents travelled through the landscape on a bus tour, providing space for residents to share their knowledge and allowing Ramböll to refine their landscape types. The generated knowledge of the bus tour was then used to define character areas. These character areas were shared and refined with residents through a public workshop which included exercises to

better understand suitability of wind power in the refined landscape types and new character areas. Finally the gathered information was synthesised into a report presented to council (in a small workshop designed to help them use the report to support their wind power planning).

Three bus tours were organized – one for each of the three distinct areas (southern, northern, and western) – in order to allow residents from various sections of the municipality a chance to speak to their particular concerns and share their local understanding and experience. The questionnaire allowed residents to share their attitudes both qualitatively and quantitatively. Participants could rate each of the areas visited on the bus tour on a four point scale (Agree Completely, Partially Agree, Do Not Agree, Do Not Know) for eight contrasting attributes (Silent, Noisy, Calm, Active and Eventful, Heritage-Filled, Contemporary, Large Scale, Small Scale). Respondents were also given space to share deeper thoughts and opinions concerning the landscape through six qualitative questions including:

- What functions (what one does) and values (what one experiences) do you think are important in this landscape?
- What elements might constitute a positive change in the landscape (for example, roads, industrial buildings, wind power, recreation)?
- What elements might constitute a negative change in the landscape (for example, roads, industrial buildings, wind power, recreation)?
- Are there any views or viewpoints that you care about in this landscape?
- Are there any landmarks (e.g. buildings or rises) that allow you to orient yourself in this landscape?
- Do you have any other information about this landscape that you want to share?

Similar to the bus tours, workshops were organized by municipal area. Workshops included a presentation from Ramböll employees to residents, in order to explain the work undertaken and to create a context for conversation. After the presentation and a period for questions regarding Ramböll's work, attendees were randomly divided into smaller groups in order to provide feedback concerning the character areas and to determine the appropriateness of wind power in each of the character areas. Residents were provided with maps, markers and a laptop computer in order to draw changes and make any notes they felt were applicable. Upon the completion of the group discussions participants were then allowed to place a pin on a group map in order to indicate where they felt that wind power might be appropriate.

The final report (see: Uddevalla Kommun, 2011) was presented in four chapters: Introduction; The Geophysical Landscape; The Social Landscape; and Wind Power in Uddevalla Municipality. The introduction describes the purpose, the method and the reading instruction of the document. Chapter 2, *The Geophysical Landscape*, provides analysis of the landscape in terms of structural analysis, historical analysis, ecological analysis, and the landscape types. Chapter 3, *The Social Landscape*, describes the character areas. Chapter 4, *Wind Power in Uddevalla Municipality*, outlines how to use landscape analysis for wind power planning, the planning tools, and a wind power strategy.

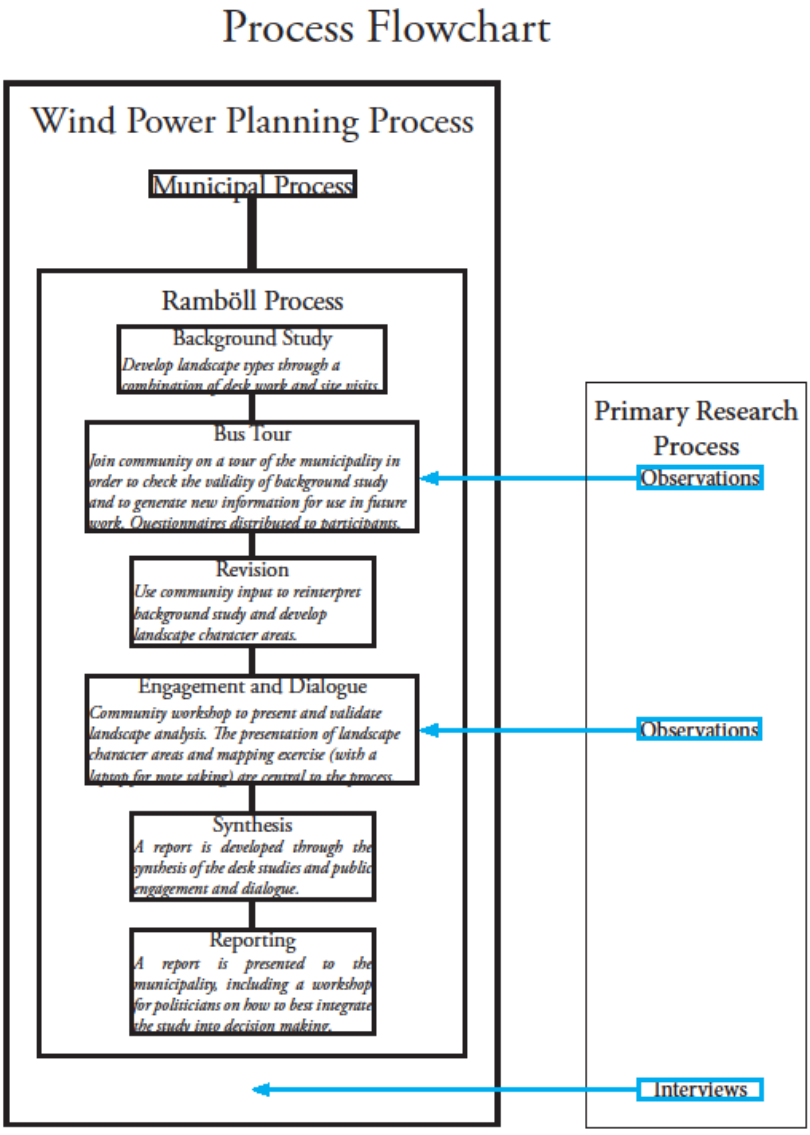

Figure 4: Process Flowchart – showing Ramböll's general planning process and how the primary research aligned with the timing of Ramböll's work.

Chapters 2 and 3 utilize dialogue processes to inform the description of the landscape, but Chapter 4 in particular strives to validate concerns of local residents. *Wind Power in*

Uddevalla Municipality highlights the primary issues facing the implementation of wind power in the municipality and develops strategies and processes for judging the appropriateness of development applications. Rather than determining which areas are ”correct” for wind power development, Ramböll’s report provides conflicts and opportunities – in both a near zone and a far zone for pertinent landscape types and character areas – that should be used while assessing development applications. Although challenges arose during the planning process – no system is perfect – landscape analysis as shown in Uddevalla offers consideration for the environment and residents that surpasses an environmental impact assessment, which is the standard wind power planning document used in Canada.

2.4 Public attitudes

Over the course of the industrial revolution, energy has become invisible. Earlier our sources of energy were proximate and sensible: fire burned in hearths; wind and water powered machines to grind grain; horses plowed our fields. With the advent of electricity and the creation of large centralised electricity generating power plants, people have become distanced from the need to experience energy in physical way.

When electricity is generated in these large, centralised, production facilities they have generally been able to be placed away from centres of habitation. Being located away from people does not ensure a good project, but it does minimise the amount and the weight of protest especially when compared to the number of people and businesses that the development will aid. Public protest can be further reduced by hiding the industrial nature of power plants through architecture – the Barsebäck nuclear power plant eschews the traditional round cooling towers for more modernistic block towers with slender chimneys – or by locating in areas with no political clout, such as traditional territories of aboriginal peoples (Windsor & McVey, 2005). In simplistic terms energy has been moved from a mundane part of people’s everyday lives to a massive engineering project that is both out of sight, and out of mind.

Modern electricity generation is located in large central facilities (nuclear and fossil fuel power plants, or hydroelectric dams) that can provide electricity for hundreds of thousands of homes and businesses. New renewable energy options are much smaller, and individually much less productive, than traditional power plants. In order to provide the electricity needed they must therefore be implemented in greater numbers and, in order to reduce energy lost, closer to where the electricity is to be consumed. In other words, renewable energy is

developed in areas avoided by traditional power plants: in sight, and in mind. Solar panels are being added to house roofs of older houses and integrated into the design of new ones, changing the appearance of buildings; district energy-heating plants are most efficient when located close to the buildings that are powered and warmed, but they can be difficult to site in inflexible Euclidian zoning schemes; wind power, standing up to 205 meters tall[5], can have significant impact on the landscape and people's physical and emotional quality of life.

Partially due to their physical impact and partially due to their proliferation, wind power developments often face a great deal of opposition from residents, conservation groups, politicians, and planners. This is exacerbated by the fact that wind power, to a greater extent than any other form of new renewable electricity, is able to compete, with little to no subsidy – and flourish if supported by generous subsidy (Vaze & Tindale, 2011, pp. 132-136) – against operational, traditional forms of electricity generation. Where business and infrastructural interests impact the quality of life of residents, a clash is inevitable and the issues change from one of economics to one of public acceptance (Warren et al., 2005). Attempting to avoid these conflicts by moving turbines to less inhabited locations is not without problems: it is expensive to connect to the electrical grid in remote locations; often development disturbs more cohesive natural environments; or disproportionate impacts for the people who do live in these "uninhabited" regions such as the Sami people of northern Sweden or the First Nations of Canada. All energy developments – whether traditional or renewable, large or small scale – have impacts on the environment, regardless of where they are placed (Elliott, 2003).

While engineers and economic policy writers can find solutions to technical issues and financial quagmires, understanding attitudes is a difficult proposition. This section of the literature review explores people's attitudes towards wind power, the types of arguments used, as well as the attitudes and motivations of those who research wind power. The purpose of this section is not to overcome or dismiss public attitudes, but to begin the process of understanding and relating to them.

The following sections will explore the debate concerning the development of wind power in communities particularly with how wind power is portrayed and perceived. This will be accomplished by an examination of one of the most prominent terms used in wind power

[5] This refers to the tallest wind turbine currently in operation, a 2.5MW turbine located near Brandenburg, Germany.

processes, NIMBY, before exploring the literature related directly to public attitudes and wind power.

2.4.1 NIMBY (**N**ot **I**n **M**y **B**ack **Y**ard)

To nearly anyone involved in planning, development, or urban issues, NIMBY (also known as "Not In My Back Yard") is a common term; browsing through planning articles, in newspapers or online, it is impossible to avoid it. In a recent article from the Toronto Star newspaper, the author makes reference to "the nattering nabob of NIMBYism" (Hume, 2012). Although the name calling is not always present, there are countless popular articles blaming a small number of residents, or a small community, and the NIMBY syndrome for delays in projects that *may* improve the community, or region, as a whole.

This prevalence of NIMBY in both popular and academic articles has resulted in it becoming one of the most controversial concepts in public attitude debates, and is a common explanation for the difficulty of siting wind turbine generators. In order to understand how NIMBY relates to wind power it is first necessary to understand the term more broadly; what is NIMBY, how is the term used and by whom, and why is the explanation so popular? Through a thorough reading of many popular and academic texts a pattern emerges: NIMBY is referred to frequently, but it is almost never explained and it is used in numerous different ways (Wolsink, 1994). It is crucial then to provide a thorough examination of the term before progressing further. The following sections will help to show the inappropriateness of NIMBY being included in discussions concerning the development of wind power.

2.4.1.1 What is NIMBY?

The Oxford English Dictionary defines NIMBY as follows:

> 1. An attitude ascribed to persons who object to the siting of something they regard as detrimental or hazardous in their own neighbourhood, while by implication raising no such objections to similar developments elsewhere. 2. A person holding such an attitude; an objector to local (esp. building) development.

This definition provides the most important elements of any common understanding of NIMBY protests: it relates to an attitude (or the person/people who hold such an attitude) who object to development. However, while this definition is generally appropriate it lacks a number of elements that are crucial to understanding NIMBY.

One element that needs supplementation is “persons who object”. While objecting to a development is crucial, to be considered NIMBY that objection should be public. It is only when a person or a group comes forward publicly, either through the media or governmental channels, in order to prevent or alter a proposed development that they will be labeled as NIMBY (Warren et al., 2005).

The next element of the definition that needs clarification is in regards to the geographic area, which is limited to a neighbourhood in the Oxford English Dictionary. While neighbourhood level opposition may be the scale at which this form of opposition originated, its use has expanded far beyond such intimate surroundings: governors of the United States of America can be considered NIMBY when they block the development of nuclear waste repositories from their entire state (Gervers, 1987); locals may protest the siting of human service facilities (medical and/or social care for those with special needs such as alcohol rehabilitation, group homes for mental disabilities, homeless shelters, etc.) because of a perceived effect on their city as a whole and business district in particular (Wilton, 2002); and in terms of wind power, non-governmental organizations such as the Campaign for the Protection of Rural England (CPRE) has been criticised of NIMBY thinking despite the fact that they actively oppose wind power developments that “have an unacceptable impact on nationally designated areas of landscape value” (Miner, 2009, p. 535) regardless of where the organisation’s membership resides. Clearly, neighbourhood does not adequately define the area where NIMBY may occur.

Rather than limiting the definition to a particular geographical area, NIMBY should be defined through emotional attachments. Just as the back yard in “not in my back yard” is not to be taken literally, the area of concern for people generally do not conform to a small radius around someone’s home. Any definition should be vague regarding location, for example using “area of concern” or some similar term in order to better represent how NIMBY sentiment is manifested.

Thirdly, while the Oxford English Dictionary mentions that a NIMBY would raise no objection to development outside of his or her area of interest; this does not properly represent the NIMBY mindset. Hemansson (2007) argues that a NIMBY would actively want the development to occur rather than not being placed at all. Therefore a NIMBY is partially defined by their resistance to the development of something that they themselves believe to be

of value to the community at large, but not at the cost of personal risk; if that risk is placed upon someone else, a NIMBY will not be indifferent, but pleased.

Finally, there is another aspect that should be considered in any definition of NIMBY: irrationality. This could include an overestimation of risks (Hermansson, 2007), and an ignorance of the effects and issues surrounding the development (Krohn & Steffen, 1999).

When all of these elements are considered, a more appropriate definition of NIMBY may be:

> 1. An attitude ascribed to persons who publicly object to the siting of something they selfishly and/or irrationally regard as detrimental or hazardous in a geographical area of personal concern, while by implication approving of similar developments elsewhere.
>
> 2. A person holding such an attitude.

This definition touches upon all the key elements of NIMBY: what people do – publicly object; why they do it – a selfish and/or irrational understanding of the development in question; and where they do it – only in areas that are of personal concern.

2.4.1.2 How is NIMBY Used?

With an understanding of NIMBY having been established, it is appropriate to examine how the term is used. NIMBY can be used in one of three ways: in an attempt to characterise opposition; as an insult intended to undermine the validity of opponents to a development; or, more recently, as a slogan to rally people in support of their opposition.

Although the origins of the term are not entirely clear, “not in my back yard” is believed to have been coined in the late 1970s – with the acronym appearing shortly thereafter – by engineers working in nuclear energy and waste management; considering the publicity surrounding the incident at Three Mile Island and, later, the disaster at Chernobyl, it is understandable that nuclear energy may have been seeing more local resistance than it had in the past. When first used in academic and popular articles, the term had no inherently negative connotations. Jakimo & Bupp (1978) acknowledge the dangers of nuclear waste and rather than denigrating them claim that NIMBYs are asking “how safe is safe enough?” Emilie Travel Livezey’s (1980) article in the Christian Science Monitor makes clear that there are some dangers involved in storing chemical waste near residential areas, and implies that there is reason for the citizens to be concerned even if that fear is out of proportion to the risk, and it is their consumption habits that necessitate the need for waste storage sites.

These early usages clearly relate to the definition generated in the previous section and provide a clear example of experts attempting to define a type of resistance in order to better understand the variables involved in siting waste facilities. Generally, the literature then assesses how to best overcome this opposition, either by overruling them as experts (Burningham, 2000) or through the use of "forceful truth-telling" (Kahn, 2000, p. 31) to educate, or perhaps more aptly re-educate, those involved.

Confusingly, academics may sometimes utilise NIMBY as a quick explanation to characterise any form of local resistance, regardless of whether it is selfish or irrational (Burningham, 2000). This overuse of the term has diluted NIMBY to the point where it can be, and is, used to describe any form of resistance, no matter how well informed or altruistic it might be. This has led to studies that attempt to distinguish between resistance movements that are NIMBY and those that are not (see: Smith & Marquez, 2000). This development shows limited promise and still promotes inconsistent usage of the term. For example, Bullard (1994), in a discussion regarding environmental justice, blames the selfish NIMBYism of white neighbourhoods for the siting of harmful developments in black communities; however, when black people oppose these developments, likely shifting them to other underprivileged areas, this is viewed positively.

In the public sphere, NIMBY plays an important role in debates concerning development. The role it plays is unfortunately divisive and inflammatory. Proponents of development use the term in an attempt to undermine local resistance to their plans (see Meyer, 2010; McClymont & O'Hare, 2008; Burningham, 2000; for wind power context see Wolsink, 2000). It is argued that if resistance is based on self-interest then it holds no validity in discussions regarding the wider community.

Used pejoratively, NIMBY labels groups resistant to projects; it implies that they are abusing the democratic process for personal gain. With local groups understanding the connotations of the term, most are quick to dismiss – or at least attempt to dismiss – a label of this type (McClymont & O'Hare, 2008), or pass this label on to another group. Burningham (2000) shows how prominent NIMBY can be in siting debates; using a new highway proposal with several alternative routes as an example, it is shown NIMBY is used by members of a public dialogue. Initially, people are quick to dismiss NIMBY claiming that they are concerned for the welfare of the entire community rather than their own personal benefit. However, as the debate continues local resistors, who have been labelled as NIBMY by town

council, use the term against the local focusing on how developments they oppose affect their golf club and residences and demand to see the addresses of councillors opposed one of the proposals.

This example shows how rather than provide relief to planning processes, the use of NIMBY entrenches current positions and makes dialogue more vitriolic. Rather than attempting to define a group in order to better understand them, this name-calling shows deep mistrust of the motives people on opposite sides of an issue (Smith & Marquez, 2000).

Recently, NIMBY has been used by local protest groups as a call-to-arms of sorts, which signals their willingness to fight for their property rights. Websites such as "Wind Turbine Syndrome" (www.windturbinesyndrome.com) have posts with names such as "Nimby and Proud!" (Pepin, 2010) and newspapers are publishing guest opinion articles with titles such as "NIMBY, and proud of it" (Bowden, 2012). This new trend towards identifying oneself as a NIMBY shows a potential shift in the definition, but it does little to relieve tension between concerning development proposals; even though the usage of the term may move away from the pejorative and dismissive meaning that has existed, it continues to be a polemic term that minimises opportunities for dialogue and compromise between the concerned parties.

2.4.1.3 Why is NIMBY so Prevalent?

In assessing why the term NIMBY has continued to see prevalent use in debates surrounding public attitudes and development it is important to consider two primary factors: the malleable definition of the term combined with the effect of invalidating an opponent's position, and the fact that the term does have elements of truth regarding human nature, related to place-based attachment, status quo bias, and nostalgia.

Although a definition of NIMBY from the Oxford English Dictionary and a refined definition have been explored, these definitions have been shown to account for only a small fraction of the term's use; academics may generally use the word in an attempt to better understand the term and its impacts, but much of the use continues to take place in popular media and in community debates. NIMBY has evolved to become a pervasive presence with little chance of being removed from our language, be it academic or colloquial (McClymont & O'Hare 2008).

Why the term is used so frequently relates directly to how the term is used: broadly and pejoratively. Due to the term's continued adaptability, NIMBY has become commonplace in describing nearly any sort of resistance movement. As an academic example, Feldman and Turner (2010) examine the response by Robert F. Kennedy Jr. to a proposed wind farm (Cape Wind Offshore Wind Project) in Nantucket sound. The authors define Kennedy's response as NIMBY, but of interest here is how the authors then describe another form of resistance: NIABY-like NIMBY. NIABY is an acronym for "not in anyone's back yard" – or "not in any*body*'s back yard" or "not in any back yard" – and has come to mean that opponents are against the technology in principle, meaning they do not want it built regardless of where it is located (see Wolsink 2000; Burningham 2000; and Meyer 2010). By creating a new term, "NIABY-like NIMBY", and then comparing it to "genuine NIMBY" (Feldman & Turner, 2010, p. 255) the authors are taking a distinct and separate concept and shoe-horning it into NIMBY's ever broadening definition.

NIMBY is not used solely to define opponents to development; it is also regularly used in attempt to undermine them. The literature surrounding NIMBY shows local protest is a primary contributing factor in the difficulty of expanding renewable energy installations (Ellis, Barry, & Robinson, 2007). If local protest can slow or stop development, this directly impacts its fiscal feasibility; those with vested interest in a project will seek ways to ensure the speedy continuation of the project. One method of ensuring that a project moves forward is to discredit opponents. Concerning the siting of waste incinerators in the USA, several authors have identified that in order to have concerns taken seriously, a group must successfully show that their claims are not based on NIMBY (see Walsh, Warland, & Smith, 19933; Heiman, 1990). Therefore a proponent of a particular development will attach the NIMBY label to opponents whether or not it is accurate, simply because the term is effective and very difficult to disprove.

The reason why NIMBY has proven difficult to for local resistors to disprove is because NIMBY does contain elements that are related to human nature and psychology. One common explanation from social scientists and psychologists is that NIMBY is a form of multi-person prisoners' dilemma (Wolsink 1994, 2000). A prisoner's dilemma is a situation where two (or more) people can cooperate in order to compromise or refuse to cooperate in an attempt to maximise personal benefit.[6] NIMBY differs from prisoner's dilemmas in that not

[6] The original prisoner's dilemma was theorised by imagining two prisoners who have just committed a crime. If both prisoners refuse to cooperate with the police, they will each receive three months in jail. If one prisoner refuses to

everyone faces the choice to cooperate (generally only a few people are asked to host the development near their properties) and that the non-cooperative outcome is not necessarily worse for those asked to host the site ((Hermansson, 2007); for example, if a neighbourhood is asked to host a care facility and their protests result in the development not being undertaken, the community may be worse off, but the residents of the neighbourhood do not have any direct negative consequences (assuming of course that they do not have a friend or relative in need of such services). Despite the differences, the connections are clear: if people are able to gain a benefit at the expense of others, generally they will do so.

Continuing on this trend of how NIMBY is related to human psychology is selfishness and how that in intertwined with place based attachment. Place based attachment refers to the idea that people become particularly fond of their back yard. This fondness has often formed an important basis for public environmental activism, and does not deserve scorn (Meyer, 2010). Humans exhibit partiality in our relationships and decision making; we care more about our partners than strangers but this does not make us inherently selfish (Feldman & Turner 2010). Protesting a development is a time intensive process and people may not be willing to dedicate a significant amount of time to fighting projects that impact them only abstractly; these same people may be willing to accept the costs of protest to protect their homes against a perceived threat (Bell, Gray, & Haggett, 2005). This resistance does not make a person selfish, but the perception of selfishness can be exploited by opponents.

In addition to selfishness, local opponents to development must prove that they are not affected by status quo bias. Status quo bias is an inappropriate preference for the preservation of the status quo and it has been shown to be prevalent in human decision making (Bostrom & Ord, 2006). Hypothetical situations such as the "Hypothetical Choice Tasks" study (Samuelson & Zeckhauser, 1988), the "Electric Power Consumers" study (Hartman, Doane, & Woo, 1991), and the "Asian Disease Problem" study (Kahneman & Tversky, 1982) show peoples' attempt to avoid outcomes framed as losses, or maintain their current commodity, even if the two options may be identical[7]. It is the preference for the familiar commodity that makes change, even well planned change, difficult to enact. Development is even more

cooperate and the other prisoner informs the police of the actions, the informant will receive no jail time and the non-cooperative prisoner will receive one year in jail. If both prisoners inform the police of the actions they will each receive eight months of jail time. This results in a situation where it is logical to betray your fellow prisoner in order to avoid jail time, despite the fact that it will most likely result in five extra months of jail time; in other words this is an attempt to maximise personal benefit through non-cooperation despite this resulting in a situation that harms everyone.

[7] In the "Asian Disease Problem" for example people had a disproportionate preference for saving 200 lives (out of 600 patients) compared to an option where 400 people will die, despite the fact that both situations have the exact same results with an identical number of patients recovering.

contentious because its effects cannot fully be understood or experienced before the completion of a project, and it is exceptionally difficult to reverse physical development once it has been undertaken. Logic dictates that if people can prefer one option over an identical (if differently worded) option simply because it is the status quo, then their judgement regarding potential changes may also be misguided.

The difficulty in disproving influence from these human tendencies – the desire to receive a free-ride, the fondness developed for our homes, and the general preference for the conservative and familiar – combined with the willingness to label nearly any grassroots resistance movement, regardless of motives and intentions, show why NIMBY has become a critical factor in development.

2.4.2 The Attitude-Behaviour Gap in Relation to Wind Power

Wind power, as a technology for producing consumer electricity, is not without its critics. There are many economists and politicians who do not believe that the technology provides an acceptable rate of return without significant government subsidy; money that could be better spent addressing other pressing social and environmental needs. Despite the debate, society is generally optimistic about wind power as a source of energy: numerous opinion polls have shown a preference for the development of renewable sources of energy generally, and wind power specifically, compared to fossil fuel or nuclear energy development (Devine-Wright 2005). Armed with these polls and taking public support for granted, many wind power developers are surprised when first encountering local resistance to proposed projects (Wolsink, 2000).

The attitude-behaviour gap, in relation to wind power, can refer to two things: a societal gap – the gulf between high public support for wind power and the low success rate in achieving planning approval for wind power developments – or an individual gap – the divide between a person having a positive disposition to wind power in general, but a negative disposition to a local project (Bell, Gray, & Haggett, 2005). Since the societal gap is generated by numerous individual gaps, it is imperative to comprehend to understand the individual gap; if there is any chance in understanding why society seems so conflicted regarding wind power development, it is through the understanding of why unique individuals may support or reject development proposals.

The following sections will examine the gap from three separate perspectives: NIMBY as a factor; landscape factors; and political and institutional factors. The purpose of this

examination is to understand the multiplicity of issues that should be considered while planning for wind power. Alone, none of the sections – NIMBY, landscape, or political and institutional – can provide an explanation of the challenges facing wind power development, but together they provide a strong base from which to understand the current difficulties in planning for such developments.

2.4.2.1 NIMBY as a Factor Influencing Individual Acceptance of Wind power

If public opinion generally supports wind power as a positive development, but communities and individuals consistently protest against such developments in their areas of concern, then there is a substantial gap between the opinion towards wind power in general and wind power developments in particular (Bell, Gray, & Haggett, 2005). NIMBY has featured prominently in literature, both academic and lay publications, surrounding wind power. This section will explore the academic writing surrounding NIMBY in an attempt to assess how NIMBY may influence wind power development.

NIMBY, the rejection of development for selfish or misguided reasons, has proliferated as an explanation, or a significant contributing factor, for the slow transition to renewable energies in numerous popular books on the topic (see: Pahl, 2007; Wizelius, 2007; Vaze & Tindale, 2011). Some academic literature supports this explanation and it is now possible to group literature into two camps: one that argues that the attitude-behaviour gap can be explained primarily by NIMBY; and one that argues that NIMBY plays an insignificant role in public acceptance.

Kahn (2000), in his article *Siting Struggles: The Unique Challenge of Permitting Renewable Energy Power Plants*, describes NIMBY as the de facto response to technological (including renewable energy) land uses; he claims that that hundreds of MWs of small scale renewable energy, primarily wind turbines but also biomass CHP plants and other renewable power plants, have been left unbuilt due to opposition from local stakeholders. While the author proposes that environmental concerns, such as the presence of the endangered golden eagle in Altamont Pass (Kahn, 2000, p. 28), do account for some of the resistance to proposed wind power developments he proceeds to claim that many opponents – including long-time Sierra Club activists, Les and Sally Reid (Kahn, 2000, p. 32) – use environmental concerns opportunistically in order to further their selfish goals (Kahn, 2000, p. 26).

Following this general line of thinking Feldman and Turner (2010) explore the ethics of NIMBY in relation to wind power. Using Robert F. Kennedy, Jr.'s editorial of the Cape Wind

Offshore Wind Project located in Nantucket Sound as a platform for exploring whether or not there is anything wrong with having NIMBY be an important aspect of the decision making process and therefore a legitimate gauge of public acceptance for infrastructure projects. Feldman and Turner initially examine the ethics of self-interest through analogy: everyone believes that children in Africa should have mosquito nets to protect them from Malaria, but the authors argue that if you do not donate your extra income to pay for these nets you are not being viciously self-serving or a bad person (Feldman and Turner, 2010, p. 259). This idea, that wanting what is best for oneself is justifiable, lays the foundation for the rest of their paper. If, as the authors suggest, forwarding opinions in order to protect self-interest is ethical then NIMBY claimants should not be chastised for protecting their rights, and if communities are worse off because a proposal is defeated, then this result is acceptable because at least this was the community's decision (Feldman and Turner, 2010, p. 261). Taken as a whole, these arguments mean that simply because an argument is characterised as NIMBY does not mean it should dismissed out of hand.

There are several flaws in the argument presented by Feldman and Turner, namely environmental justice and the need to transition to less carbon intensive forms of energy. Environmental justice refers to the fact that when affluent communities refuse development it is generally relocated to an area that will not have the resources to fight it. Although the authors do raise the issue of environmental justice they place the onus on the policymakers to determine when environmental injustice may be perpetrated and to avoid those situations (Feldman and Turner, 2010, p. 263). Of course, it must be said that the systems in place do not, in general, actively attempt to inflict environmental injustices upon the less affluent; however, these communities, by definition, do not have the resources to engage in a protracted public relations battle. Unless new systems are designed that are better able to assess which claims are "valid" NIMBYism and which claims are "invalid" then environmental injustice will likely continue.

The other flaw is in reference to the authors' statement that "the best outcome, all things considered, might be one in which the community is… worse off" (Feldman and Turner, 2010, p. 261). The long term effects of climate change are unknown, but if CO_2 emissions, which could be displaced by wind turbines, result in catastrophic weather events then it can be argued that these communities are not experiencing the best outcome. It is unfair to place the burden of climate change on one community's approval or rejection of wind turbines, but

NIMBY is not a problem of one community, but a systematic flaw in development system that allows an influential minority to undemocratically determine the future of communities.

While the previous articles have focused on NIMBY as a matter of selfishness, some authors continue to forward that irrationality or ignorance play a large part in the protests against wind power development. Many professionals and academics work under the belief that "[public] opinion is formed not by experience, but rather by ignorance, misinformation, prejudice, and fashion" (Short, 2002, p. 53). If this is the case, then the dissemination of reliable information plays a crucial role in the wind power discussion.

Warren *et al.* (2005) describe the existence of an 'inverse NIMBY' effect "whereby those with wind farms in their 'back yard' strongly support the technology" (p. 853). The authors deduce that if there are people who are in support of wind turbines after they have been constructed, then any fears that occur before development are baseless. In essence this is an academic arguing that the public's fears are unfounded and if we simply build the turbines proposed, everyone will realise how pleasant it can be to have them in their 'back yard'.

The study undertaken by *Warren et al.* involves the use of qualitative and quantitative questionnaires to determine the temporal and spatial effects of wind farms; whether or not people become more favourable to wind farms after they have been constructed, and whether or not people are more favourable to wind farms the closer they reside to them. The results of the questionnaires show that there is a marked improvement in attitude towards wind turbines after they become operational and evidence that those who live closest to turbines (between zero and five kilometers) tend to be the most appreciative of the developments in general (Warren et al., 2005, p. 866). However, there is a large minority (40% at one particular location in Ireland) who continue to have negative opinions regarding turbines; considering this significant minority it is unfair to determine that local concerns are baseless.

The danger of relying on NIMBY to characterise the attitudes of various actors and stakeholders involved in the process of wind power development is multi-faceted, but it is possible to see at least three potential ramifications: an entrenchment of positions; a lack of necessary development; and a return to the technocratic planning practices of the mid-twentieth century. If planners, governments, and developers perceive public attitude as being wholly driven by selfishness and ignorance, then they may feel no need to alter their strategy and better engage the populace (Wolsink, 2007); likewise, if objectors self-identify as NIMBY then there seems to be little point in attempting to engage in constructive dialogue.

This in turn will lead to significant delays in the planning, construction, and profitability of wind power development; a development that is considered integral to an effective transition away from fossil fuels (Greenpeace International & European Renewable Energy Council, 2010). If wind power (or another type of development plagued by NIMBY claims) is deemed important enough, then processes may be made less democratic and rely to a greater degree on top-down, centralised planning. Such an outcome would not be desirable, and it is important to therefore assess the validity of NIMBY in wind power discussions. Since the new millennium, numerous authors have begun to question the validity of NIMBY as the primary attitude in regards to wind power.

Wolsink (2000) challenges the primacy of NIMBY through the analysis of a development in the Netherlands; by constructing a survey with a set of questions to measure the existence of a 'social dilemma' or, NIMBY. The survey consists of five questions aimed at identifying potential free-ride behaviour, questions such as "Only turbines here if sited elsewhere too" (Wolsink, 2000, p. 53). These surveys showed that approximately 20% of respondents may display some tendencies towards NIMBY choices; however, Wolsink argues that this number alone is not enough to prove NIMBY. This number of 20% must be combined with the likelihood for someone to engage in political resistance (protests, writing letters, signing petitions) and with people's wind power attitudes in general. When all of these factors are taken into account, Wolsink determines that only 4% of the respondents of the survey show the NIMBY characteristics of agreeing with wind power in principle, being unwilling to host turbines for primarily selfish or misguided reasons, and being willing to participate politically (Wolsink, 2000, p.54). If NIMBY accounts for only 4% of attitudes, then Wolsink argues that there must be other motivations, besides selfishness, to explain a person's resistance to proposed wind power development.

Adapting work based on waste incineration (Wolsink, 1994) and genetic modification (Tellegen & Wolsink, 1998) facilities, three roots of opposition – aside from NIMBY – which are NIABY (Not-In-Any-Back yard), a transition from positive attitude to negative attitude through the planning and/or development process, and those who reject particular projects without selfish motivations or a rejection of the technology in general (Wolsink, 2000).

NIABY refers to people with a skeptical attitude towards wind power in general and who do not believe that wind farms are the solution to the world's energy issues (Ellis, Barry, & Robinson, 2007). General sentiments of people in this category are that wind farms are

inappropriate for reducing emissions due to their small power contribution or that the electricity is intermittent and weather dependent, or that the impact on landscapes, in general, is not worth the benefit that the technology provides (Warren *et al.*, 2005).

The second resistance type encompasses people who have a positive attitude towards wind power which subsequently becomes negative due to experience or dialogue surrounding the construction of a particular development (Wolsink, 2000). A stakeholder may have a positive attitude towards wind power in general but through the development process may change their opinion through information made available to them. This information could be with regards to specifics about the location of the development (the eco-system may be too fragile to support turbine development) or in regards to the project leaders (the developers or local officials may not respect stakeholder concerns and opinions).

The third resistance type, the opposition towards a particular project without selfish motivations or a rejection of the technology in general, has been dubbed "qualified support" (Bell, Gray, & Haggett, 2005, p. 463). The people who correspond to this type of resistance advocate for wind power, but only conditionally; conditions are based on concerns regarding the impacts of turbines on a specific location (Wolsink, 2000). These concerns can be based on the suitability of the landscape, or nuisance (Wolsink, 2000), or the potential impact on tourism, flora and fauna, and the lack of socio-economic benefits for the community that will be impacted (Warren *et al.*, 2005).

Despite the persistence of NIMBY in popular and academic writing, there is little evidence to support that selfish or ignorant opposition is the cause of the delays in wind power development. Instead, the majority of resistance is characterised by skepticism of wind power in general, a souring of stakeholders due to the process of development, or a qualified support based on the particular attributes of a development.

2.4.2.2 Landscape Factors Influencing Individual Acceptance of Wind power

The landscape factors that influence acceptance of wind power are deeply intertwined with the effects of wind power on the environment. However, as turbines mature their effect on ecology can be minimised through technical enhancements; turbines rotate more slowly and are more visible to birds, sound is being reduced with every successive generation, and putting cables underground has short term effects, but negligible longer term effects (Magoha, 2002). Therefore, while ecological impacts need to be accounted for in the planning process and may certainly be basis for disqualifying certain areas or projects, concern for the ecology

of a site does not explain the resistance to wind power development. More important may be the less classically quantifiable issues concerning impacts on the landscape. Landscape concerns can be difficult to define, but include at least the aesthetics of wind turbines, cultural impacts, and socio-economic impacts.

Devine-Wright (2005) provides an excellent overview of issues concerning the aesthetic preferences of respondents towards wind turbines. In general, people prefer smaller groups (less than eight) of larger turbines, in colours that are neutral and generally blend with the landscape. Although this research provides insight into what may be more or less pleasing to residents in an objective way, it does not begin to assess how and why people react strongly to turbines; in a visual impact study conducted by Sustainable Energy Ireland (2003), a representative sample of 1200 Irish people indicated that wind farms are more positively perceived than mobile phone masts, electricity pylons, and fossil fuel power stations and some people consider them a positive or attractive feature in the landscape (Warren et al., 2005).

The visual and aesthetic features are only one aspect of landscape. The European Landscape Convention is an international agreement that was created with the goal of supporting "sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment" (Council of Europe, 2000, Preamble). This convention defines landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe, 2000, Article 1a). This is important as it moves the idea of landscape beyond just the pictorial. Landscape can be perceived in multiple different ways: through all of the sense, through memory, customs, habits, and values (Oles & Hammarlund, 2011). This means that turbines threaten not only ecologies (where the impacts are largely measurable: the impacts on flora and fauna, the noise and shadows emitted, the effect of the concrete pillars on soils, etc.), aesthetics (which are largely subjective), but the experience of turbines can have an impact on the idea of the cultural landscape that the residents have generated organically. When taken with van der Horst's (2007) research that hypothesises that values associated with identity, ideology, or religion may be less negotiable in land-use disputes, the influence of culture values can be useful in understanding some of the resistance to wind power developments.

In a rhetorical analysis of the debate surrounding renewable energy Barry, Ellis & Robinson (2008) discover that objectors to wind turbines often feel as though they have been disempowered by an army of foreign invaders (the turbines). In conjunction with feelings of

having their environments commoditised and industrialised, these emotions may have a deep effect on how people relate to their environment and, in turn, how they construct their self-image; homes are more than physical objects, but rather a fundamental human need that helps to construct an individual's place in society (Gallent & Tewdwr-Jones, 2001). If human life can be understood a drama, then three elements – actors, roles (behavior), and setting – are all inextricably joined in telling a local story; Hägerstrand's time-geographic approach suggests that the three separate elements must be considered together as much as possible (Lenntorp, 1999) and reinforces the importance of an individual's pocket of local order in time and space. Considering these theories helps to explain why people may feel possessive of their landscapes and why people can be skeptical of developers who appear to be motivated by profit and share different values than those of the local communities (Ellis, Barry, & Robinson, 2007).

This issue is further exacerbated by the debate surrounding wind turbines and property values; property located closer to undesirable land uses have been found to have suppressed values, and that suppression alleviates as distance from the undesirable land use increases (Farber, 1998). However, it has not yet been determined whether or not wind turbines are indeed undesirable; homeowners in Ontario recently lost a case in the province's Assessment Review Board who ruled that proximity to wind turbines is not a factor in deciding how much property tax the homeowners should pay as there was no evidence to suggest that turbines negatively impacted their property values (CBC News, 2012).

Developments do not necessarily need to be built by outside companies looking to profit off of the landscape; there are many examples of locally owned turbines. Wizelius (2007) shows how different national energy policies can produce different results that favour different types of ownership models. In Denmark, strong governmental support and financing during the 1990s ensured that many individual farmers, co-operatives, and local ownership groups had the opportunity to erect and profit from wind power development (Wizelius, 2007). This resulted in a massive investment in wind power, which now accounts for approximately 20% of Denmark's national electricity generation, however recent policies that result in less local ownership has resulted in a decrease of support for new wind power developments (Danish Energy Agency, 2010). The evidence suggests then that wind power has issues of aesthetics, identity, and materiality all rolled into one; all issues concerned with the landscape.

Generally, the landscape is used as an argument to limit the development of wind power projects – particularly by groups such as the Country Guardians and the Campaign to Protect Rural England – but research has also shown that the impact of turbines are not always perceived as negative.

Lee et al. (1989) determined that 62% of 1286 respondents to a visual impact survey deemed turbines to represent progress. There is some evidence to suggest that current or past mining and industrial areas may be appropriate for wind turbines, due in no small part to their cultural history (van der Horst, 2007; Toke, 2005). Additionally, with the decline of industry as the primary driver of developed nations' economies many of these communities face serious employment, economic, and environmental challenges. Some communities believe that wind farms have the potential to stem this decline: "[t]he wind farm will change the area's image towards having a cleaner environment… it will enhance the future prosperity of the area" (a councillor from Teesside, England as quoted in Toke, 2005, p. 1539).

However, it is important not to simply push turbines into stigmatised areas in need of an economic boost or areas that have low political efficacy. While wind power development may provide a large number of jobs while the turbines are being erected the long term employment benefits of turbine construction for municipalities in which they are placed remain largely unknown. Also, relating to social justice (as discussed in previous sections see: Feldman & Turner, 2010) these communities may not desire turbines any more than their affluent and rural neighbours, but may not have the resources required to protest the development.

This section is not designed to argue that certain landscapes, for example industrial areas, are more suited to wind power development than others, say an agricultural area; research suggests that mean levels of support for wind power development is nearly identical across all types of landscapes (Lee *et al.,* 1989). However, location is a sensitive issue; the landscape is not simply an aesthetic question, but also tied to culture (both self-image and community), and economic concerns. Every location has different challenges that need to be assessed and addressed before development may take place. This is particularly important when development is being brought to a community by outsiders whom the residents may feel do not understand the uniqueness of their landscape and will not suffer from any potential negative side effects such as a reduction in property values.

2.4.2.3 Political and Institutional Factors Influencing Individual Acceptance of Wind power

In discussing the political and institutional factors influencing an individual's acceptance of wind power installations the conversation centers on how macro political structure and decision making and municipal (micro) planning institutions relate to the local attitudes towards wind power development. The literature identifies the importance of local institutions, but simultaneously displays the limitations of local planners in the face of broader national policy goals.

Toke (2005) analyzes the result of wind power development proposals in *Explaining wind power planning outcomes: Some findings from a study in England and Wales* and he arrives at several interesting conclusions. It is generally accepted that local resistance groups (who are generally labeled as NIMBY) have an adverse impact on the development of individual projects; therefore, if a group of committed citizens advocates against a development, they have a substantial chance of defeating a proposal. However, the research by Toke finds that the fate of proposed developments lie primarily with the opinion of the Planning Officer in charge of preparing the report for council. There is an 80% association between the Planning Officer's recommendation and the final planning outcome (Toke, 2005). This does not preclude planners from working in the interest of resistance groups, but planners value the opinions of the nearest half-dozen residents to a project much more than those who live further away (Toke, 2005).

The recommendations of planners are focused primarily on how proposed developments relate to official policy and guideline requirements (Aitken, McDonald, & Strachan, 2008). This helps to explain the increasing regularity with which wind power development proposals are being accepted; in England and Wales there has been a marked rise in approval consistency since the introduction of national renewable goals in 2001 (Toke, 2005). Ideally these guidelines would be developed in conjunction with locals and represent a holistic vision for the entire community; however, many municipalities have difficulty achieving this goal.

The large scale shift towards renewable energy has been undertaken at different rates in different nations, but many places are only now attempting to integrate renewable infrastructure into national policies and goals (Toke, Breukers, & Wolsink, 2008). This has left communities to struggle with the implementation of renewable energy with very little guidance from higher levels of government and without a sound understanding of the

implications of the various technologies. In Sweden, municipalities have been mandated to produce energy and wind power plans by the central government, but they have been given very little guidance as to what these plans should contain; this has created a situation in which some municipalities steadfastly refuse to include areas for wind power development with minimal rationale, and others who allow development to proceed almost without oversight (Söderholm, Ek, & Pettersson, 2007). The resultant rapid expansion of wind power has resulted in much criticism of the technology as opposed to questioning the implementation (Breukers & Wolsink, 2007).

Municipal difficulties in determining how to appropriately accommodate wind power local have led to local institutions being labeled as a "planning problem" both by wind power developers and wind power opponents; land use planning is even taking a large portion of the blame for the United Kingdom's failure to meet renewable objectives (Cowell, Wind Power and 'The Planning Problem': the Experience of Wales, 2007). From the developers' perspective the planning process generates too much uncertainty, takes too long, and is too costly (Ellis, Barry, & Robinson, 2007). Conversely, from the public perspective the planning system is seen as unsympathetic to local concerns (Cowell, 2007). In general, both sides are correct: planning systems are often structured to invite oppositional, as opposed to constructive, participation (Bell, Gray, & Haggett, 2005) and then provides strong legal protection to the interests of objectors; simultaneously, planning has developed into a bureaucratic, as opposed to democratic, system whereby the objections of locals are noted and processed but do not necessarily impact the final planning outcome (Aitken, McDonald, & Strachan, 2008).

This has resulted in an environment that is neither conducive to the business of developing wind power, nor progressive in working with residents to determine appropriate solutions to energy questions. While the failure to provide an economically viable model is important, the focus of this thesis is on local attitudes. From the perspective of residents wind power development appears to be the commercial exploitation of their homes in favour of wind power (Breukers & Wolsink, 2007). This feeling is exacerbated with planning departments controlling the agenda of discussions and attempting to retain the illusion of objectivity through fact finding missions such as environmental impact assessments (Aitken, McDonald, & Strachan, 2008).

Wind power is located in some of the landscapes society values most: ecological niches and wilderness (Ellis, Barry, & Robinson, 2007). These areas have values that are difficult to quantify or express, and rather than developing new approaches to planning for wind power, many municipalities have instead ignored key concerns, such as visual impact, that cannot easily be fit into a planning report. Kerr (2006) did a survey of planners in Scotland to determine what aspects of planning for renewable energy is most difficult, and suggestions for improving the planning process. The answers to the first question is unsurprising as issues that provided planners with the greatest challenge were visual, landscape, and habitat concerns, while the least challenging issues are disturbance (noise, shadow flicker, etc.) as well as aviation and telecom concerns. This shows an obvious discrepancy between qualitative and complex issues compared to regulatory issues. The suggestions for improving planning processes, however, are worth examination. Rather than suggesting greater engagement with concerned local citizens, or better planning processes to address the concerns of residents, planners in Scotland overwhelmingly wish for greater centralization; in essence planners asked to be unburdened of the responsibility for their community's renewable energy. They would much rather be forced to accommodate change rather than determine change.

This desire to avoid responsibility is almost understandable considering the noted failures of top down planning, but planners have a responsibility to forward thoughtful and well considered solutions that respect multiple competing interests. Denmark has accommodated change through consultation and engagement with key community and interest groups for plans created specifically for wind power; this process allows the community to identify key areas of protection and key issues regarding development, thus relieving planners of the impossible task of determining alone what may or may not be appropriate. In this example planners are given the mandate to determine how to successfully integrate wind power with a community, and to ensure that community vetted areas see development proceed smoothly and safely; financial considerations have been considered at the national level to ensure that ***productive*** wind turbines are economically feasible regardless of where they are located or the scale at which they are implemented.

Planning for wind power has become the interface between local concerns, national policy, and financial profitability. Unfortunately, planners have generally not been given to tools necessary to cater to any of these competing interests, let alone merge all of them into successful community development. Only when local interests are given, at minimum, the

same weight as national and financial considerations will development be able to proceed relatively smoothly. In order for this to happen, national policy makers need to consider local interests as a part of wind power development, and provide resources – including time – for local planners to develop constructive local dialogue regarding the possibility for wind power in a range of locations. If national policy only caters to economic concerns, as in Ontario's Green Energy Act, or attempt to predetermine locations based solely off of wind-speed, as in Sweden's national interest areas for wind power, local attitudes will continue to rail against development projects, and local planners will continue to be unable to positively impact the situation.

2.4.2.4 "Community" Factors Influencing Individual Acceptance of Wind Energy

When exploring the literature surrounding wind power and public attitudes it was found that a growing number of articles are addressing, either directly or indirectly, the concept of community wind power. The following section has three primary goals: to provide an exploration of initial definitions for community wind power; to understand why community projects have become more common; and to assess how these projects have affected public attitudes where they have been developed. This section will provide evidence that community projects, when well-conceived and well executed, provide greater benefit to the community than traditional wind power development, and measurably improve public attitudes towards wind power.

The term "community energy" currently covers a broad range of projects, which makes providing a single definition difficult. Generally, when community renewable energy projects are referred to what is meant is: projects that are not for profit; projects that are aimed at local economic stimulus; or projects that are concerned with the engagement and empowerment of local residents (Walker, Hunter, Devine-Wright, Evans, & Fay, 2007).

This range of definitions offers opportunities as well as pitfalls that need to be avoided. Considering the recent emergence of community renewable as a legitimate alternative to traditional energy development, a broad range of definitions provides space for meaning making (Walker, Hunter, Devine-Wright, Evans, & Fay, 2007). Rather than being tied to a single type of development, communities and project makers are able to explore different opportunities to create projects that make sense for a particular context rather than attempt to shoehorn a preconceived plan into place. With this increased space for meaning making,

however, comes the potential for projects, ostensibly under the community banner, to abuse initial positive reactions to the concept of a community led process; projects that call themselves community, without taking feedback or providing tangible benefit to the local residents, undermine the community renewable energy movement as a whole (Walker, Hunter, Devine-Wright, Evans, & Fay, 2007).

Walker and Devine-Wright (2008) explore the challenges of defining community renewable energy in their article "*Community renewable energy: What should it mean?*". Walker and Devine-Wright approach the issue in three ways: through the creation of a database containing energy projects self-described as community; through interviews with policy makers and programme managers tasked with supporting community renewable energy projects; and through case studies of six renewable energy projects, including interviews with project leaders and local people. The interviews showed a diverse spread of opinions regarding community and stressed the point that project makers and programme managers "were making it up as we went along" and that community was often defined in a project in order to access governmental grants (Walker and Devine-Wright, 2008).

Despite the fluid nature of community in these projects, the authors determined that community renewable energy projects are defined primarily through two dimensions: process and outcome (Walker and Devine-Wright, 2008). Process can be understood as determining who the project is by: what people or groups have influence in answering questions such as where the project will be located, how big the project will be, what design concerns will be taken into account. Outcome defines who the project is for: who will the project benefit economically, socially, or environmentally.

Although Walker and Devine-Wright note the benefit in having the flexibility to conceive of a broad range of projects as "community", they argue that process and outcome are key components in the development of an effective community based project. While community energy projects were a new concept, the flexibility allowed project makers the room to experiment and find local solutions. However as projects have become more common, the Walker and Devine-Wright argue that labeling projects as community where locals receive no tangible benefit will "increase the scope for objection and resentment" (2008, p. 499). The authors suggest that new policy and support measures be aimed at moving development towards the area shared by A and B in figure 5 (next page).

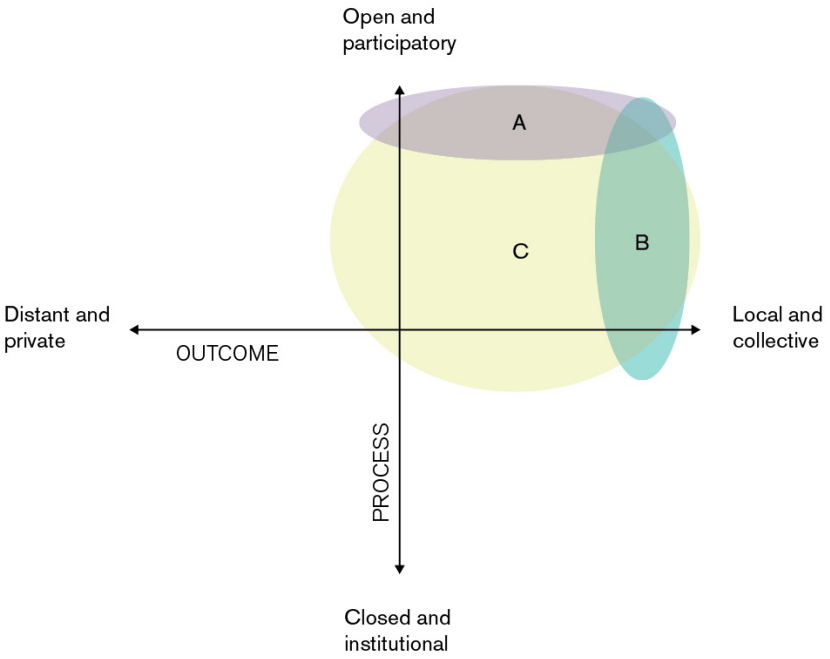

Figure 5: Community Renewable Energy A diagram describing various methods of developing wind power, with area A describing more open processes, area B describing more collective benefit, and area C showing the variety of projects that are currently termed community. Derived from Walker and Devine-Wright, 2008, pp. 498.

Community wind power has evolved in response to several linked major challenges that are limiting the widespread adoption of wind power, namely the failure of central economic policy to boost commercial interest in wind power, and the acceptance of individuals in communities facing development. Observers have noted that community ownership has been crucial to success seen in Denmark, and that spatial planning provides important arenas for debates concerning social priorities, technology choices, and environmental values which may contribute to long-term policy change better suited to community interests (Cowell & Strachan, 2007). Although they are separate issues, economic feasibility and acceptance are linked.

In developed countries that are seeing limited growth in wind power development, market driven policies have resulted in limited penetration; pre-existing power stations force wind power (and other renewable energy technologies) to compete directly against cheaper alternatives with no guaranteed subsidy to ensure profitability (Walker et. al, 2007). When this economic difficulty is combined with the uncertainty of development – wind power development is highly contested at the municipal level, and can therefore see a high degree of variability in terms of obtaining a development permit – the societal conditions are aligned against wind power. In order to appease local concerns, developers often provide monetary

incentives (generally in a lump sum, but occasionally as a proportion of yearly profits) to the community; these financial contributions are generally known as community benefit provisions (Cass, Walker, & Devine-Wright, 2010).

Cass, Walker and Devine-Wright (2010) explore the issue of public attitudes and community benefit provisions in their article *"Good Neighbours, Public Relations and Bribes: The Politics and Perceptions of Community Benefit Provision in Renewable Energy Development in the UK"*. They attempt to determine, through key stakeholder interviews, how various parties perceive community benefit contributions: are they compensation to communities who are to bear wind turbines, or are they a way of bribing key decision makers? In the United Kingdom, the issue of community contributions is complicated. As the central government has not formalized community compensation, benefits are determined in a completely ad hoc manner. Although developers appreciate the flexibility of customizing benefits to local needs and changing according to local debate, publics generally perceive contributions negatively: if the benefits are presented early in the process they are seen as a bribe, and if they are introduced late in the process they are perceived as an attempt to compensate for the negative side-effects of the development (Cass, Walker, & Devine-Wright, 2010, p. 270). Through a survey of local residents the authors discovered that support for projects is strongly correlated with a belief that that project will benefit the community (Cass, Walker, & Devine-Wright, 2010).

This line of questioning is important in at least two ways: it shows that individuals weigh the positive and negative consequences of wind power, rather than opposing them out of hand because of potential negative impacts; secondly it brings broader community concerns into the discussion showing that dissenters to wind power can be concerned with the impacts beyond their 'back yard'. By moving the discussion away from individual benefit or harm, and focusing on community issues, Cass, Walker & Devine-Wright elevate the wind power dialogue and show why local community based projects have the potential to be successful where profit-seeking corporate entities may fail.

Another benefit of community-based wind power is explored by Gross (2007) in her article "Community perspectives of wind power in Australia: The application of a justice and community fairness framework to increase social acceptance". Unlike many authors, Gross focuses on processes rather than outcomes. Gross, working from the basic understanding that communities are groups of people "who have learned to live, work, and play together" (Gross,

2007, p. 2728), posits that despite the difficulty communities have in defining and dealing with issues of justice and fairness, that these concepts are key to a healthy community. Similarly to Walker and Devine-Wright (2008), Gross argues that both process and outcome are the major determinants of justice and fairness.

Gross's article provides logical insight crucial to furthering an effective dialogue for wind power: that normal development procedures are inadequate for the scale of wind power development; and because there is no standard for what a fair outcome in wind power development is, that processes become even more important. Poor processes such as "decide – announce – defend" (DAD) create black and white camps with clear winners and losers – in wind power debates generally those who receive money for having turbines on their land, and those who are impacted without remuneration – which creates unjust scenarios that pit community members against one another. In short, Gross believes that bad processes create bad results, which then create problems within the community; the author argues and supports these ideas well, but as the article does not forward any potential helpful processes rather it at times seems to be content with describing a problem instead of finding solutions. Additionally, Gross's focus on process should be contrasted with psychological studies focusing on fairness: it is understood that the fairness of outcomes affects the perception of process to a much greater degree than process fairness affects the perception of outcome fairness (Skitka, Winquist, & Hutchinson, 2003).

Community renewable energy has therefore become more common due to the perceived failure of traditional developmental measures to achieve desired results at both the macro and micro scale. Community renewable energy addresses the linked issues of economic feasibility – by providing greater diversity of ownership opportunities and funding models – and community acceptance – by creating new development and planning processes and more localized benefit.

While theoretically superior, two case studies – one in Japan and one in Scotland – provide opportunity to observe impacts of community renewable energy on public attitudes. Potential benefits include broad community effects and a substantial increase in profits directed towards the community (either through local investors or directly to local municipalities).

Japan has developed an interesting investment system based on two separate tiers: one national, and one local. National investments provide capital for wind power projects located

anywhere in Japan, while local investments are used to gauge interest for wind power in a particular region. This system allows development to be located where there is established support for wind power.

Maruyama et al. (2007) explore the benefits of the Japanese system in their article *The rise of community wind power in Japan: Enhanced acceptance through social innovation*. The article's primary focus is on the diversity of interests that can be appealed to through the community wind power model. Japanese community wind power allows investors names to be inscribed into the turbine towers, choose names for the WTGs through public voting (through a newspaper for example), and hold events at the turbines in order that community members can meet and interact with one another. In this way, community wind power development adds multiple layers of value for an investor; not only is the investor making a low risk investment and helping to wean their country off of nuclear and fossil fuel-based electricity, but they are also making a social investment in their community (Maruyama, Nishikido, & Iida, 2007).

This co-evolution of economic, environmental, and social concerns is attractive to a great number of potential investors, and these investors are the basis for Maruyama et al.'s article. By questioning investors in two local projects as well as the national fund, the authors were able to identify the range of issues that inspired various people to invest in green funds. Environmental concerns were of primary importance for investors in the Hokkaido fund and the Japan fund, with community concerns being the secondary aspect of interest. To their credit, the authors also interviewed people who were interested in investing in these green funds, but did not. Non-investors were primarily concerned with the economic returns, or lack thereof, compared to other potential investments. Although questioning both investors and those who passed on the investment opportunity provides a balanced view of perceived strengths and weaknesses of the green fund system, the survey questionnaire is quantitative which limits potential responses and guides respondents towards the preconceived conclusions imagined by the authors. Despite the limitations of quantitative questioning, the study shows the value of community based renewable energy projects in that they appeal to a much broader audience than traditional corporate/private developments: not only do they appeal to those willing to invest in the economic aspect and those who are concerned with global environmental concerns, but also those with a desire to strengthen their community.

Scotland, which is actively promoting wind power as the most advanced and competitive of the renewable energy systems, has also experimented with community renewable energy with positive initial impressions. Warren and McFadyen (2010) assess the effect of local ownership on attitudes towards wind power in their article *Does community ownership affect public attitudes to wind power? A case study from south-west Scotland*. In terms of development, trust between communities and developers is a central issue: if outsiders are seen as profiting from local resources, this will magnify fears that the landscape will be compromised (Warren and McFadyen, 2010; Wüstenhagen, Wolsink, & Bürer, 2007). This impression of an invasion by big business is one of the reasons why local ownership has seen a high proportion of both local support and planning acceptance in Scotland (Warren and McFadyen, 2010). Local ownership will not change attitudes from negative to positive, but what it is able to do is amplify positive associations and suppress negative ones. Additionally, local concerns regarding the effect on tourism appear to be overblown: according to survey results, 90% of visitors are neutral to wind power in the landscape, with having positive associations with wind power and the final 5% having negative associations with wind power. This tourism analysis lacks depth, but is an important initial step in understanding how wind power could affect rural areas that are dependent on their natural landscape to draw visitors.

Possibly the most interesting aspect of the authors' study comes from a direct comparison, in terms of profit, between a community owned wind power development of three turbines and a traditional private development of 70 turbines. The municipality received yearly profits of £28,000/turbine for the locally owned development compared to local disbursements (in the form of annual community payments) of £369/turbine for the privately owned development (Warren and McFadyen, 2010). While it has to be stated that these community payments do not include increased property taxes or rent paid to landowners – these figures should have been included in the analysis to provide a more accurate comparison – this discrepancy is considerable and shows the potential profit that can be obtained for local communities in wind power development.

When analyzing the effects of community renewable energy on local acceptance, Japanese experience has shown that by providing community-building events and opportunities as a by-product of wind power, development becomes appealing to people who might normally possess a neutral attitude; development is no longer beneficial only to those with financial stakes or who take a global view of environmental issues, but also those who wish to strengthen their community. Scotland helps to highlight how local ownership

increases trust in the project, how fears of impact on tourism appear to be overblown, and most importantly, shows the potential for local profit when development is undertaken by the community.

Community renewable energy therefore refers to a range of renewable projects where the process is open and participatory and/or the outcomes are local and collective; the most effective projects appear to be those that encompass both of these ideas rather than one or the other. Community-based projects have become more common due to the failure of traditional development to achieve desired results at both the macro and micro scale. Community renewable energy addresses the linked issues of economic viability and local public attitudes. In particular, community renewable energy attempts to maintain community fairness and justice. Fairness is accomplished by appealing to a broader range of citizens than standard developments, through both the potential processes – new planning and decision making processes - and outcomes – through different (public and private) ownership opportunities.

2.4.3 Public Attitudes Conclusion

Public attitudes cannot be reduced to a single word, no matter how loudly it may be shouted. NIMBY, regardless of how it is defined, does not adequately describe the motivations of the vast majority of individuals who take part in wind power discussions. Attitudes are developed over time and can change in response to a number of different factors, from the processes under taken, to specific siting questions, to concerns over fairness of outcomes. In order to develop appropriate wind power, communities need processes that consider the landscape, that are not overruled by senior governments, and that allow for a reassessment of both processes and outcomes in order to develop unique and fair solutions. If processes are tailored uniquely to communities and provide substantial opportunity for community input and benefit, then it is possible to develop positive attitudes towards wind power development.

2.5 Landscape

When one searches for landscape using Google’s search engine, it is possible to see some beautiful photos.

While some critics may label most of these images as cliché or trite, there is an undeniable beauty in the verdant and lush images. They portray a range of scenes: valleys with rivers, ripening crops, mountain ranges, silver lakes, idyllic villages, ominous forests,

intricate gardens, and much, much more. One thing conspicuously absent is the presence of people.

This may be why planners can feel out of their depth when landscape is discussed; in North America, landscape often refers solely to the selection of plants or the detailed design of environments – be they gardens, public squares, parks, or urban areas. Planners generally, though by no means always, concern themselves with public engagement and policy & plan development.

Figure 6: Landscape Image – Image taken by the author representing the tyeps of images that may be found by searching for "Landscape" through Google's search engine.

However, this understanding of landscape as ornamentation is as cliché as those photographs uncovered during an internet search. Landscape is experiencing something of a renaissance of late, particularly with the adoption of the European Landscape Convention by the Council of Europe in 2000. This part of the literature review explores landscapes in relation to wind power. The exploration is presented through three primary subsections: What

is Landscape?; Landscape and Energy; and Planning for Landscapes. The examination will allow readers to better understand landscapes in general, to understand how landscapes have entered into the discussion surrounding energy generation and sustainability, and how landscapes are being planned.

2.5.1What is landscape?

It is easy to understand why a google search of 'landscape' results primarily in finding pastoral pictures; the Merriam-Webster English Dictionary (2014) defines landscape as:

1. a) a picture representing a view of natural inland scenery
   b) the art of depicting such scenery
2. a) the landforms of a region in the aggregate
   b) a portion of territory that can be viewed at one time from one place
   c) a particular area of activity: scene <the political landscape>
3. obsolete : vista, prospect

Landscape, therefore, has several unique qualities stemming from one word and its usage. The purpose of this subsection is to provide a holistic definition for landscape to better understand its use, importance, and potential.

It is diaphor, a word that combines at least two dissimilar ideas thus generating tensive meaning (where different meanings of landscape are in tension with the others) (Tuan, 1978). Landscape is also a word that is defined as a representation and a thing that is being represented. In terms of use of the word this is simply a curiosity, however when landscape is put into practice this curiosity becomes an important aspect of the circularity of influence between object and representation. When a landscape – landforms of a region in the aggregate – is represented by a landscape – a picture representing a view of natural inland scenery – the image is shaped by the objects within the artist's field of vision, but in turn the landscape becomes altered through the application of the artist's representation (Olwig, 2004). Take for example European agricultural reformations in the 16th century and beyond; governmental surveyors would map a region in order to combine separated plots of land and optimize agriculture. Although the surveyors' maps would in no way change the physical world, the landscape would begin to shift in order to reflect its representation. The same type of process has been undertaken in other theatres such as the colonization of North America.

Understanding the circular relationship helps interpreters of landscape to better understand how landscapes are shaped and influenced. Referring again to the definition of landscape, nature plays an important part in current understandings of landscape. However, in

the modern age there are very few areas that are free from the direct influence of humans – none if you include climate change as a part of the equation. Even the most seemingly bucolic settings are not free from human influence. Consider Julian Barnes's (2000, p. 60) novel "England, England" in which a character reflects:

> I stood on a hill… and looked down on an undulating field past a copse towards a river and… a pheasant stirred beneath my feet. …A person passing through would no doubt have assumed that Dame Nature was going about her eternal business. I knew better. …The hill was an Iron Age burial mound, the undulating field a vestige of Saxon agriculture, the copse was a copse only because a thousand other trees had been cut down, the river was a canal and the pheasant had been hand-reared by a gamekeeper.

Landscape is influenced by natural processes, to be certain, but it is not defined by it. Huge tracts of land are used for forestry, or agriculture, or industry, or mining, or urban development have varying degrees of influence from natural processes, but they are all landscapes.

In response to accelerating landscape changes brought about by local and global economic forces, the Council of Europe adopted the European Landscape Convention (ELC) in 2000. The ELC defines landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe, 2000, Ch. 1, Art. 1). Moreover, the "landscape is a key element of individual and social well-being and… its protection, management, and planning entail rights and responsibilities for everyone" (Council of Europe, 2000, preamble). By ratifying the ELC, European nations choose to "recognize landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity" (Council of Europe, 2000, Ch. 2, Art. 5). Importantly, the ELC was conceived as a response "to the public's wish to enjoy high quality landscapes and to play an active part in the development of landscape" (Council of Europe, 2000, preamble) and states that landscape is "[t]he concern of all and lends itself to democratic treatment, particularly at local and regional level" (Council of Europe, 2000b, II, 23) because "[i]f people are given an active role in decision-making on landscape, they are more likely to identify with the areas and towns where they spend their working and leisure time. If they have more influence on their surroundings, they will be able to reinforce local and regional identity and distinctiveness and this will bring rewards in terms of individual, social and cultural fulfillment (Council of Europe, 2000b, II, 24).

According to Kenneth Olwig (2007) all of this entails a radical change from the traditional way of perceiving the landscape as a form of scenery. Landscape has changed from being a result of natural processes to, through the ELC, being shaped by discursive practice. As the Council of Europe is not a legislative body, but a moral authority (see: European Convention on Human Rights) landscapes have been deemed a European *res publica* – or a matter that is "known to everyone, concerns everybody and is therefore deliberated in public" (Heidegger, The thing, 1971, p. 175). Landscape has changed from possessing only natural and aesthetic meaning, to being recognized as having political, legal, economic, ideological, material, social, and symbolic meaning (Krauss, 2010).

A new definition does not simply solve all of the concerns that have developed previously. Previous tensions regarding the area and its representations are smoothed with the definition found in the ELC, however new tensions between various scales of responsibility take their place. The ELC touts the importance of public engagement and democratic processes without calling for reduced authority from governments in their ability to enable change in local landscapes for purposes of economic development and national interest. The goals of the ELC are to enshrine local knowledge and character, but calls for the reduction of the landscape into technical parts in order that it can be planned and organized. There is, unfortunately a failure to bridge these two concepts which Olwig (2007) notes is the reality of broad agreements such as conventions; Olwig (2007) states that the process of a *res publica* will allow local areas to solve their own problems concerning landscape planning decisions.

Therefore, a landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors; the landscape is created not only through physical change, but is shaped by discursive practices and faces the challenges of power dynamics and conflict embedded therein. In a sense, landscape and society are mirror images: landscape reflects the will of society, while society is shaped by the landscape it inhabits. This circularity provides both difficulties and opportunities: it is impossible to change landscape or society without both being involved in the, often overlooked and difficult, process; however, if positive change is implemented landscape and society have the ability to positively reinforce one another in a virtuous cycle.

2.5.2 Landscapes and Energy

Having developed an understanding of landscape it is necessary to explore how they are related to and shaped by energy particularly by the generation of electricity. Energy is likely

to be the foremost driver of landscape transformation in the coming decades (Nadaï & van der Horst, 2010) and it is important for communities and policy makers to reassess their understanding of energy and the landscape. This section will assess how energy is generally manifested in the landscape and present opportunities for changing our understanding and processes for the development of energy resources.

Energy has developed into a national and global issue, and because of this local interests can often be forgotten, if not outright ignored. Conversations concerning energy infrastructure and policy generally take place at the national level with limited concern for local issues (Cowell, 2010), at least until development is reified at potential sites. With large scale energy projects, such as a natural gas thermal generator plant, this issue may be overlooked because of the immense amount of energy being produced and the ability to locate generators in remote, centralized, locations. It is not possible to ignore distributed energy as the generators require relatively large areas in order to generate relatively small amounts of electricity.

Localized issues are further complicated due to the determinism of physical landscape characteristics in deciding where renewable energy can be implemented (Nadaï & van der Horst, 2010); solar panels need clear skies and wind turbines require strong breezes to produce consistent electricity. Due to these requirements, centralized governmental bodies will often pre-determine where energy is acceptable and move to implement it in those locations. Only after decisions have been made regarding where energy infrastructure is feasible is any consideration paid to local interests and landscape. Additionally, the technical aspects of energy planning – for example: grid capacity – further remove energy from everyday society than many other important policy issues (Cowell, 2010).

When landscape does enter into the energy discussion, often it is in the traditional landscape as scenery dimension. The United Kingdom has designated “Areas of Outstanding Natural Beauty” which play an important role in the wind power discussion in that region; wind turbines are generally not permitted within the boundary of an area of natural beauty, however development can be challenged even if it is visible from the borders of an Area of Outstanding Natural Beauty. In this way, landscape enters into the discussion not as something to consider, or one piece of a larger puzzle, but as a barrier to overcome (Cowell, 2010). Energy is framed by landscape as a necessary evil and is in a way banished to areas where other uses are deemed unviable. However, as has been shown, despite the reduced

breadth of appeal, these areas are still the landscapes of those who inhabit them and have intrinsic value apart from economic viability.

Resistance to energy is not limited to wind power or aesthetics, however. Frolova (2010) has examined discourses on hydropower in Spain and discovered that the once lauded technology, a major aspect of General Franco's modernization plans, has come under greater scrutiny and experienced protests concerning the development of hydrological resources for electricity generation. Hydropower development can be significant and far reaching, able to disrupt entire ecosystems and alter landscapes and uses that have been present for generations. Despite the cultural significance of water and water-ways little to no attention was paid to such concerns during the middle of the 20th century when Spain undertook its massive modernization projects. In response, multiple protests have emerged against proposed hydro power developments; these protests were joined by hundreds of thousands of individuals, marking some of the largest Spanish protests since the country's transition to democracy (Frolova, 2010). Energy concerns are not limited to the local landscape as is shown in Spain with regards to hydro power, in Germany and Japan with regards to nuclear power, and across the globe with concerns over oil, gas and coal extraction and use. Landscapes of energy have been transformed in political battlegrounds; power infrastructure is the manifestation of political power and citizens are not willing to accept major change in their landscape without representation, regardless of the technology. The question of landscape is not what the change might be, but rather who controls and benefits from it.

The question of benefit is an important one because energy landscapes are not necessarily perceived negatively. Landscapes, even the most neglected of them, are spaces of discursive process and therefore are replete with narratives; even the most derided energy project sees benefit for someone, and there are generally local interests as well, even if they are concentrated in a few landowners or investors. Collier & Scott (2008) approached the issue by researching the after-use potential of industrially harvested peatlands in Ireland. For many of the people in the community surrounding these peatlands the landscape brought productivity, prosperity, security, and warmth particularly in harsh economic climates (Collier & Scott, 2008). It is possible to that positive relations to energy generation (or extraction) can be developed with regards to landscapes, but positive emotions will only be generated when local people are a part of the process and some of the beneficiaries.

Landscape provides opportunity to not only explore potential benefits for locals, but also to completely reconsider the scale and purpose of energy (Nadaï & van der Horst, Introduction: Landscapes of Energy, 2010). At a national scale even the most unique and cherished of landscapes will appear to be little more than a point on a map. Landscapes – being socially dynamic, resourceful, and progressive – offer the opportunity to conceptualize energy in terms of specific places, rather than specific goals, and to engage in realistic and localized policies (Nadaï & van der Horst, 2010). In particular, landscape offers the potential for heterogeneity that is generally absent in large-scale energy discussions (Nadaï & van der Horst, 2010).

Heterogeneity in the landscape refers to the idea of maintaining a number different and specialized uses within a small area. Traditional landscapes are traditional not only because of their age and cultural significance, but because they represent the work of multitudes of generations adapting and refining their environment to derive maximal utility (Antrop, 2005). This allowed for small areas, workable by a single family in many cases, to develop in a manner substantially differentiated from even its immediate neighbours due to unique micro-climate and micro-geographical peculiarities. Post-modern landscapes are differentiated from traditional landscapes primarily by their dynamism in terms of both speed and scale; landscapes are no longer formed and integrated, but designed and imposed (Antrop, 2005). Mass-market landscapes – whether for housing, or energy, or commerce – require economies of scale in order to turn a profit for developing landowners; diversity is a costly luxury that has often been deemed unnecessary. As a result we have large swathes of development undertaken with little to no regard to the natural processes underlying them, generally for a single purpose, with occupants having neither the need nor the ability to refine their holdings. By working at the local, landscape, level energy production can be integrated into otherwise energy consumption landscapes in order to develop the diversity that is the hallmark of traditional, sustainable landscapes.

Krauss (2010) hypothesizes that this form of landscape development is already a de facto reality in Northern Germany's coastal areas of North Frisia and Dithmarschen. Northern Germany has seen substantial investment in wind turbines over the past decades, largely through local initiative and clever interaction with various national and global policies. Despite initial technological and social difficulties – particularly with regards to the scale of individual turbines and wind farm developments – Northern German communities understood the value of electricity and the benefits that a new wave of electrification could bring to the

region (Krauss, 2010). Rather than following the national government's preferred wind farm method, local politicians and land owners developed their own policy and slogan: a turbine for every farm (Krauss, 2010). As criticism towards the unplanned erection of turbines throughout the landscape rose, the region responded quickly through planning by designating areas of community-owned land for wind power thus creating an area appropriate for wind power while avoiding negative consequences of disorganized development (Krauss, 2010).

German communities, rather than arguing about whether or not wind power is a "good" technology, were concerned with how they can retain responsibility for the maintenance, shaping and administration of their landscape. Rather than being reactive to development, they were proactive in developing solutions that worked for them. Northern Germany is an area particularly adapted to landscape change – low lying lands under threat of flood and used to technological solutions to environmental concerns – but local leadership understood that new energy development brings forth changes to the landscape, but that these changes can be beneficial. By integrating rather than implementing, Northern German people exerted their will and altered the landscape by creating a "civic windscape" (Krauss, 2010, p. 206).

Landscapes of energy are landscapes of political will. Technical, historically centralized, and of immense national economic significance, national policy has often overlooked, or consciously ignored, local interests. Landscape, when considered, has usually been seen as a barrier to be overcome rather than an element to integrate resulting in substantial conflict between local and national interests. However, landscape – particularly when combined with the distributive nature of renewable energy technologies – provide opportunities to reconsider the purpose and scale of energy and develop more dynamic, democratic and heterogeneous landscapes of energy. Some communities, in Northern Germany especially, have developed their own response to energy questions in their landscape through clever use of national policies and strong political will. Although the North German landscape is particularly well suited to local adaptation of national energy policy, they show the potential benefits of using the landscape to develop iterative, discursive processes at a local scale to integrate, rather than implement, new landscapes of energy.

2.5.3 Landscapes and Planning

As landscapes of energy have been shown to be a meeting point of societal, natural, and technical importance, local planning has the opportunity to play an important role in determining the future of energy generation. The following section will explore planning for

landscape, with special attention paid to difficulties encountered when planning. Additionally, this section will explore two methods of planning for the landscape: the landscape character assessment, and the HLC (Historic Landscape Characterization).

It needs to be understood that planning can refer to a range of processes and methodologies; landscapes and energy are currently being planned for by municipalities and central government agencies. There are, however, significant barriers to local scale planning at a national (or provincial) level. Cowell (2010) examines the efforts of the Welsh Government's planning processes to identify acceptable locations for wind power within their state. Cowell finds that the government begins their process through the formulation of constraints from absolute – national nature reserves or military areas, distance to residential areas (500m), appropriate average wind speed (6m/sec), etc. – down to localised constraints – airports and other special sites/land use. Subsequently, electricity distribution impacts are taken into account such as spare grid capacity and the likely hood of additional capacity in the future. A fourth set of criteria, "Additional Criteria" (Cowell, 2010, p. 225), provides area selection advice such as having capacity for at least 100MW of onshore wind, containing at least two separate prospective wind farm sites, being single ownership pieces of land with easy access, and containing few and isolated dwelling. The exercise ignored the value of the quotidian landscape and those who inhabit it, and by searching for areas with few and isolated dwellings, it can be argued that they wish to avoid landscape discussion entirely by minimizing the possibility for community backlash by focusing on areas with the fewest residents, and, though not outlined in official documents, those of lesser affluence (van der Horst & Toke, 2010).

Governments undertake map making exercise and identify areas of interest, but lack the local knowledge to cherish local institutions and embedded desires within the landscape; it is transformed from a discursive process of cultural identity into a list of features. Rather than being a process of co-generation to understand the landscape and create strategies sensitive to its unique context, map making generally reduces the complexities of landscapes in an effort to bring them under control and reduce or remove the barriers to technical progress (Cowell, 2010). Not only does this discredit the people and place where the efforts are taking place, as well as undermine the essence of the European Landscape Convention (to be fair, only in its signatory countries may the ELC be undermined), but it does not solve the problems of public acceptance as shown by the continued protest against wind power in many local processes (Cowell, 2010).

With the renewed understanding of landscape as an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors that is shaped by discursive practices and whose protection, management, and planning entail rights and responsibilities for everyone, centralized and technocratic planning do not adequately represent the will of the people or reflect their responsibilities and desires embedded in the landscape. Therefore planning for landscape requires significant and thoughtful participation in order to hold legitimacy.

Authors have considered participation in terms of planning and resources and provide a valuable overview of how participation may be undertaken. Petty (1995) outlined seven types of participation: manipulative participation; passive participation; participation by consultation; participation for material incentives; functional participation interactive participation; and self-mobilization. In most western countries participation will generally be undertaken as consultation – where professionals question the public and their responses may or may not be used in decision making processes – or functional – where decision makes have already determined project goals and then engage the community to help achieve these externally determined goals with minimal cost and interruption. Only interactive participation and self-mobilization allow for the community to be involved in collaborative processes that are necessitated by the new paradigm ushered in by the European Landscape Convention.

It is into this need for collaborative meaning and decision making that planning has an opportunity to make headway; it requires a merging of scientific knowledge and cultural knowing in order to properly represent both the landscape and the opportunities for change. This derives from the Habermasian understanding that technical rationality and experiential knowledge are equally valid within deliberative policy processes (Collier & Scott, 2008). Planning is not only about the future, but also about understanding the narratives of the past and present and how they might be respected in the development of an area. In sharing individual experiences and knowledge we can share and generate knowledge and potentially radically change individual and collective points of view (Nadaï & Labussière, 2010). Further discussion concerning collaborative processes for energy planning can be found in section 2.1.2.4 “Community” Factors Influencing Individual Acceptance of Wind power.

Although community planning with the Habermasian ideal in mind is a noble goal, there are issues that have arisen in the application of localised energy planning. Oles and Hammarlund (2011) explore the issues in their article *The European Landscape Convention,*

Wind Power, and the Limits of the Local: Notes from Italy and Sweden. By investigating development and planning processes in Italy and Sweden the research parses local interests and shows the difficulty of planning 'with the community'. Italy has seen impressive growth in wind turbines development in the past decade growing from some 600 MW installed capacity in 2001 to nearly fourteen times as much in 2013 (European Wind Energy Association, 2013). This has been lauded by Italian environmental groups, but condemned by heritage organizations as a thoughtless destruction of heritage landscapes; this debate is consistent with wind power dialogues across Europe (Szarka, 2004), however Italy is unique due, in part, to the reach, the depth, and the breadth of one organization in particular: the Italian Mafia. The Italian Mafia has the funds and political power to bribe officials in order to sway development processes in their favour, or circumvent them altogether; this corruption has undermined Italian faith in basic governmental institutions and transformed wind power into a symbol of corruption (Oles & Hammarlund, 2011). This example defies common explanations of wind power in which it is a foreign entity that threatens and exploits a local landscape. When undertaking planning processes with a community it is integral to recall that that within the local community itself there are power structures and those with selfish motivations.

Sweden, while not beset (to the same extent) by organized crime, faces its own challenges in planning for wind power. Dalarna is an area of national historic and cultural identity for Sweden and there have been concerns regarding how their landscape might be affected by the implementation of wind power. Municipalities and residents took part in a discursive planning process in order to identify shared values and concerns. This shared process led to hope that municipalities had understood that wind power could be best addressed by collaborating across municipal boundaries; however, as turbine sites are selected familiar conflicts emerge. As developers ask for ever larger areas, municipalities have reverted to arguments concerning the fairness of locating turbines within particular municipal boundaries and economic compensation for those municipalities that accept more turbines than their neighbours. While not enmeshed in the same illicit and corrupt activities as their Italian counterparts, finding a balance between local/individual benefits and the global/common goals is challenging even after shared planning exercises.

While local politics and power structures mean that on occasion the best planning processes do not result in optimal outcomes, thoughtful planning measures are an important part of assessing the landscape and creating an arena for thoughtful debate regarding its

future. As landscape has become an increasingly important part of local governance, several techniques have been developed to help plan for landscapes, namely the landscape character assessment (LCA) and historic landscape characterization (HLC).

LCA is a method that attempts to explain what makes individual areas distinctive; through proper assessment it is reasoned that understanding areas will help development conform to that area and contribute to the local quality of life (Swanwick, 2002). The LCA accomplishes this primarily through analysis of what is present in a landscape, and then helping to understand that landscape's sensitivity to change; through this understanding it is possible to design and set policies that respect the landscape and shape future development or conservation.

An LCA can be divided into two primary steps: characterization – the process of understanding and describing the landscape – and judgement – applying the characterization into the development of policy. Characterization is a four stage process of defining the scope, undertaking a desk study, collecting field data, and classifying and describing the landscape. This process is open to interpretation and can be done to varying degrees of depth depending on time and budgetary constraints. The process divides the landscape into repeatable landscape character types, which are collections of physical properties, such as rolling flatlands, and landscape character areas, which are imbued with place specific values.

An HLC is a method of transparent processes used to assess and interpret abstract characteristics of history in the present landscape (Herring, 2009). By comparing maps of different historical eras it is possible for practitioners to understand how the landscape has changed over time and begin a conversation concerning history and its value in the landscape.

Both the LCA and HLC processes can provide significant value in understanding how landscapes have been formed and are currently used, but both processes focus significantly on the physical aspects of landscape and rely significantly on professional opinion in their construction. While the LCA gives allowances for public, or stakeholder, input (Swanwick, 2002, p. 13) it is not embedded in the process itself. This issue is further compounded in the HLC where one must question the validity of historical maps (which were often produced for political or economic reasons without actually representing the real world situation) and the importance of historical structures within the landscape to present populations and contemporary dialogues; age does not automatically imbue a structure with value. Additionally it could be argued that these processes are inherently conservative; by

developing maps that place particular value on historical and present conditions it is possible that we are limiting their future potential and flexibility. Moreover, if not all communities have the means to undertake an LCA/HLC process an environmental justice question must be raised as unwanted development may be directed to those places not able to show the value of their landscape in the appropriate bureaucratic method. With these concerns in mind practitioners and publics must be diligent in choosing methods that create space of substantial stakeholder and public input and avoid speaking only in terms of threats to the landscape, possibilities must be explored as well.

Planning with landscape is still a nascent concept that must overcome significant bureaucratic and social hurdles to become an effective and representative process. With energy in particular planning is a process of minimizing costs through the imposition of centralized political will cloaked as “the greater good”. Map making is a process of simplification and elimination of barriers rather than an opportunity to develop complex and place specific solutions. However, local landscape planning has the potential to be a bridge between technological and cultural ways of knowing by engaging local populations in a process to develop holistic goals and visions for how their landscape should develop. However, local populations are rarely cohesive and planning must be sensitive to local power dynamics in order to counteract selfish or self-destructive motivations. Landscape Character Assessment and Historic Landscape Characterization are processes intended to better understand and represent the landscape, but care must be taken to thoughtfully engage residents and to avoid trying to freeze a landscape in time.

2.5.4 Landscape Conclusion

Landscape is not only natural vistas and beautiful photographs. Landscape now refers to the collected natural and social processes that are responsible for shaping our environments. This has significant impacts on how planning and development should take place in the future; although the landscape is experienced physically, it is constructed socially and must be planned locally. This contrasts significantly with how energy has traditionally been planned: in a centralized and technocratic fashion at a national or supra-regional scale. However, landscape planning offers potential to develop new paradigms of energy use and generation that are not possible if separated from public input. Planning still has significant social and bureaucratic hurdles to overcome; local processes are not without their challenges and localized power struggles. Effective processes must be developed that not only identify

opportunities within the physical landscape but also capture social processes and cultural identity.

Chapter 3 – Methods

3.1 Introduction

The purpose of this research project is to generate greater understanding of wind power concerning landscape character and function, and how attitudes are changed by public engagement. The research questions included in this study include:

1. In what ways does the character – form and function – of the landscape impact people's attitudes towards the proposed wind power developments?
2. What are some of the ways that residents are expressing their attitudes?
3. What are some of the ways that wind power attitudes are affected by the new participatory techniques used in Uddevalla?

This qualitative study describes the attitudes of residents taking part in a wind power planning process in the municipality of Uddevalla, Sweden. Interviews and observations were employed to understand residents' attitudes, how they were being expressed, and how they changed over the course of the engagement. The generated data was transcribed and subsequently coded according to the research questions and emergent themes that arose during the course of the research.

The following section explains the methodology of research project. Beginning with the theory that helped to inform the research, the chapter will subsequently describe the setting, the sample/participants, the measurement instruments, the data collection, and the data analysis. These sections are necessary to provide sufficient context for the examination of the generated data in *Chapter 4 – Analysis*, as well provide information concerning validity and replicability for future researchers.

3.2 Methodological Theory

Research is considered by some to be the opposite of action; the act of recording events and remaining neutral. In the social sciences – including city planning – this danger is particularly confounding due to the uniqueness of every community; where scientists in Geneva can rest (relatively) assured that the neutrinos they are observing will travel the same speed in their labs as in a lab in Massachusetts, planners should by now know that data generated in a community in Toronto may not be applicable to development in Mumbai. The situational contexts are too different.

Similarities, of course will exist, and lessons can be learned across borders and cultures, but if the essence of the scientific method can be understood as repeatability, then "objective" observation has no place in planning, for every project and every meeting will be different. In fact, the very idea of objective observation can help to promote the destructive power inequalities of the status quo (Fal Borda, 2001). When undertaking a planning thesis, much like when involved in planning as a municipal employee or consultant, it is important that a project actively provides benefits to a community; not objectively, but in the eyes of the people who call that place home (Minkler & Wallerstein, 2003). To this end, the research has engaged local residents in individual interviews in order to allow them to provide their narrative of wind power planning in the municipality. By using qualitative interviewing (see: Mason, 2002) to engage with citizens as co-learners, away from any official planning engagement, it is possible to assess opinions and generate data in a less politically charged arena. Qualitative interviewing is particularly important for the topic of wind power which has seen significant quantitative study of public attitudes, but has largely ignored qualitative work.

Kemmis (2001) states that research in the social sciences can be divided into three broad categories: analytic; interpretive; and critical. Analytic research searches for ways to get things done effectively: the most effective solution to a given problem. Interpretive research means attempting a practical understanding of communication to inform fair and prudent decision making. Critical research attempts to emancipate populations from the chains – be they habit, discrimination, neglect, or any other number of elements – that bind them. Qualitative interviewing and observation provide the opportunity to address all three of these categories: analytic research to assess the effectiveness of the dialogue based landscape analysis; interpretive research to generate understanding regarding the residents attitudes of their landscape and how these change through engagement; and critical research in terms of recording local narrative and helping to provide focus to the concerns of an engaged citizenry.

3.3 Setting

This study took place in Uddevalla Kommun, a municipality on the west coast of Sweden approximately 100km north of Gothenburg. The municipality has an area of 650 km^2, composed of a small urban centre, surrounded by smaller villages, rural housing and agricultural areas. The municipality has approximately 270 kilometers of coastline; valleys have formed perpendicularly to the coast creating pockets of development separated naturally by the topography. Most of the population has, historically, been located close to the coast

with inland areas being reserved for agriculture and forestry uses; more recently however, residential development has been locating in more rural areas, in order to take advantage of certain benefits afforded by greater isolation.

The municipality has a population of approximately 53,000 residents, 31,000 of whom live within the 17 km^2 urban centre. The population is divided nearly evenly with 49.6% of the population being male and 50.4% being female. The average age is 42.4 years of age with the population being broken down as follows:

Table 1: Uddevalla population figures – attained via UrbiStat **(2012)**.

Age Range	Number of Inhabitants	Percentage of Population
0 – 2	1,863	3.55
3 – 5	1,863	3.55
6 – 11	3,462	6.59
12 – 17	3,409	6.49
18 – 24	5,169	9.84
25 – 34	6,180	11.76
35 – 44	6,182	11.77
45 – 54	6,790	12.93
55 – 64	6,790	12.93
65 – 74	5,049	9.61
75 and Up	5,773	10.99

Uddevalla was a major industrial centre for Sweden during much of the 19th and 20th centuries. However, with increasing globalization and the export of production to cheaper locales across the globe, most of Uddevalla's production capacity has been moved. While Uddevalla's beauty and proximity to Gothenburg should ensure economic stability in the near term, the municipality is facing challenges associated with the transition from an industrial and agricultural past to a more white collared and service-based future.

Information was generated on three separate occasions, twice via observation and once via interview. Observations were noted during bus tours and workshops, which were conducted by Ramböll. Each bus tour explored a section of the municipality with residents of that particular area, stopping at key areas so that the group could discuss their impressions of

the landscape. Workshops were held, again one for each area, in the municipal hall, either in the main auditorium or a smaller meeting room; observations were conducted for all 3 workshops. One-on-one interviews were conducted in a variety of locations around the municipality, at the interviewee's convenience. An additional two interviews were conducted via telephone on December 11, 2012, for two participants who were unavailable the previous weekend.

3.4 Sample/Participants

A non-random convenience sample was used by the researcher in order to select interview participants. Participants were restricted to individuals who had taken part in the wind power planning engagement processes hosted by Ramböll over the spring and fall of 2012. In order to allow deep analysis, the sample size of interviews was kept relatively small; participants of this research study included seven residents of Uddevalla from a pool of some sixty people who partook in the engagement. As the focus of the research is on public attitudes regarding how they are expressed and changed, interviewees were not limited to a particular group (pro or anti-wind power) or to a particular geographical area (where a particular wind farm in being planned, for example). As such, the participants represented a range of opinions and locations throughout the municipality. During Ramböll's engagement, contact information was collected and attendees were asked if they were willing to take part in an interview; those who agreed were emailed and asked again if they were able to be a part of an interview during the days in which the researcher was in Uddevalla. Several community members expressed a desire to interview despite being unable to meet in person during the researcher's trip and phone interviews were organized separately.

As this research project works under the assumption that all opinions expressed through engagement processes are valid regardless of demographic classification, the research did not take into account details such as age, gender, ethnicity, socio-economic status, and geographic location. This allowed themes to emerge naturally through the interview process rather than biasing the work with presumptive conclusions. The only limitation to being interviewed is to have taken part in at least one aspect Ramböll's landscape dialogue process for the Municipality of Uddevalla; three of the interviewees had joined both the bus tour and the workshop, while the other four joined only the workshop. However, over the course of the interviews certain information became clear: all seven of the interviewees were over forty years of age; two women and five men were interviewed; all of the interviewees were property owners; five of the interviewees owned properties near to proposed wind farm sites;

and three of the participants identified themselves as pro-wind power in Uddevalla, with the remaining four identifying themselves as anti-wind in Uddevalla.

3.5 Measurement Instruments

The researcher conducted interviews and undertook observations to collect the data. The following section will describe the above mentioned interviews and observations and assess the validity and reliability of the instruments.

Interviews

Semi-structured interviews were undertaken in order to engage with participants of Ramböll's landscape dialogue process. The interviews were designed to allow residents the opportunity to reflect upon the engagement process and to express their attitudes towards wind power and the landscape and how those attitudes have been expressed and changed. One-on-one interviews allowed the researcher and participants to explore the issues in a non-politicized and non-confrontational environment without fear of intimidation or social manipulation (Cooke, 2008). Interviews were conducted in a location of the participant's choice. The interviews consisted of eight questions divided into divided into three general sections: existing attitudes (four questions); wind power and the landscape/landscape analysis (two questions); and participation and changing attitudes (two questions). The complete interview schedule is reproduced as Appendix A. As the interviews were semi-structured, questions arose during the interviews that were not foreseen by the researcher and allowed the interviews to clarify vague statements and probe into unintended, but interesting, topics. In order keep the interviews as unintimidating and natural as possible, the researcher eschewed note taking during interviews and instead relied on digital recorder to capture the conversation. The conversational nature of the interview helped to avoid easily politicized answers; many participants had strong opinions and were coming from entrenched positions that had to be overcome in order to generate useful data regarding changing attitudes and landscape values.

The interviews were able to generate a significant amount of data concerning residents' attitudes and experiences; however its validity is contingent on the participants themselves. If residents do not engage in the process honestly it will not generate valid data. The interview schedule was designed to overcome initial politicized answers by asking similar questions in different ways to force participants to examine their own responses and generate new meaning for themselves and the researcher. So long as the participant engages in a forthright manner,

the generated data will be valid. As the research study is assessing something ephemeral, attitudes that are transitory in nature, reliability is not a valid concern (Stenbacka, 2001).

Table 2: Research Framework

Research Framework	
Research Question	Interview Question
In what ways does the character and function of the landscape impact people's attitudes towards the proposed wind power developments?	What are some of your favourite places in Uddevalla and why? What do you do there? How do you feel wind power might affect these places?
	This process undertaken by Ramböll and the municipality put a great deal of focus on the landscape. What do you think of this kind of analysis? Was it helpful in understanding the municipality? Did it help to frame the question of wind power and the effects wind power might have? Did the landscape analysis resonate with you?
	What is the role of wind power in Uddevalla?
What are some of the ways residents are expressing their attitudes?	What are some of your thoughts on wind power in general?
	Have you had the chance to share your opinions with either the municipality or Ramböll? How did you communicate with them?
What are some of the ways that wind power attitudes are affected by the new participatory techniques used in Uddevalla?	What did you think of the engagements hosted by Ramböll? Do you feel as though they are taking your opinion into consideration when doing their work?
	Has this process changed how you might consider the development of wind power in Uddevalla? How?

The interviews are the primary method for answering the research questions that are central to this project. A research framework was developed in order to identify how interview questions relate to each of the research questions. The research framework therefore provides a road map from the process of interviewing directly to the analysis.

Observations

Observations were undertaken in order to understand the engagement process developed by Ramböll and were used primarily to inform the research and the subsequent interviews. The observations also helped to provide insight to the second research question:

what are some of the ways that residents are expressing their [wind power and landscape] attitudes?

As the processes – described in greater depth in Section 2.2.4.2 Uddevalla Project Description – were taking place in Swedish, the researcher's ability to grasp fine details was limited. In particular it was often difficult to understand precisely what individuals, either participants or coordinators, were saying. As such, the observations were concerned more with themes of conversation, issues of particular controversy, and how participants conducted themselves. The researcher was a non-participating observer, whose presence as a researcher was made clear to the group before the engagements began. Observations were written as field notes which were examined after the engagements and grouped into themes.

Observations rely primarily on a researcher's ability to understand and interpret the actions taking place around them. In this regard the validity and the reliability of the method can be brought into question. Considering the researcher was not a fluent speaker of Swedish, there is a chance that information could be misinterpreted or misunderstood completely. For this reason observation was used primarily to help contextualize the research rather than to answer the research questions directly.

3.6 Data Collection

Interviews

Interviews were conducted on the evening of December 7th, 2012 and the afternoon and evening of December 8th, 2012, several months after the community workshops and just after the release of Ramböll's final report. Interviews took place in Uddevalla at a location selected by the participant for their convenience: two interviews took place in the participants' respective homes; two took place at a local café; and one interview took place at a local restaurant; two participants were unavailable during the researcher's dates in Uddevalla, and phone interviews were conducted instead. A translator was requested for one interview and was therefore present to facilitate communication for both parties. Interviews occurred individually, in a non-threatening and non-politicized setting. Interviews were semi-structured, following a general interview schedule (Appendix A) and recorded digitally to allow for transcription.

Observations

Observations occurred for both of Ramböll's engagement phases: the bus tours and the workshops. Bus tours took place over the course of two weekends at the end of March and beginning of April, 2012 (March 31, April 1, and April 7); observations were taken during the first two bus tours but, due to time and cost constraints, were not taken for the final bus tour. Each bus tour lasted approximately 4 hours, traversing the municipality with residents, discussing the form and function of the landscape and stopping at locations that the Ramböll team deemed of particular importance. Workshops, again one for each area, were held on the 9th, 10th and 11th of October 2012 and were approximately three hours apiece. Workshops took place in Uddevalla's municipal building, with one being hosted in the main auditorium and the other two, with fewer participants, in a smaller meeting room. For both sets of events, the researcher was a non-participant. The researcher was introduced at the beginning of the events, but did not contribute directly to the discussions or processes; however, when approached by curious participants, the researcher spoke with them to describe his work and answer any questions that they had. Field notes were recorded in a notebook.

3.7 Data Analysis

Semi-structured interviews, recorded and transcribed, provide a rich qualitative data base for textual analysis; once transcribed, the interviews were coded in order to facilitate comparisons between the participants and between various emergent themes and topics. Field notes were also coded in order to identify emergent themes from the researcher's observations. Coding is essential to reduce complex data into manageable pieces. This research project has relied heavily on Strauss's analysis (as described by Neuman, 2000) in order to understand the data generated through interviews and field notes.

Consistent with Strauss process, the project's first stage of analysis involves *open coding* which located themes and assigned codes. Codes were developed through the reading process rather than being determined beforehand; however, because the purpose of the interviews was, at least partially, to answer the three research questions it is unsurprising that three of the major themes that emerged align with the research questions. This stage of research had a low level of abstraction and codes were used to note critical terms, key events, and themes. These codes were open to change and refinement upon further review, and in following stages. The coding concerning the expression of attitudes especially underwent multiple changes over the course of several reviews.

The primary sources were read in a literal and interpretive manner. Interview transcripts were read literally, noting what was said, and the order in which it was said, to help inform the analysis; when a resident said, for example, that they deepened their involvement in municipal wind power planning after having attended a developer led open house, this statement was taken at face value to help understand the setting and context within which the interviewee was operating. Additionally, the transcripts were read interpretively in an attempt to derive deeper meaning from statements made during the interviews; for example when an interviewee stated that wind turbines are industrial, this can be read and interpreted as a statement representing a deeper conflict between contesting land uses and the role of landscape and geography in identity.

Although the open codes were related and compared to one another during the coding process, the step towards axial coding, in which the relationships between the various open codes are examined, was not taken. The codes then may be considered useful and pertinent groupings of open codes, rather than axial codes.

The final stage of analysis, selective coding, occurred only after all of the data had been generated. This stage analyzed the coded and organized data for instances that illustrate themes and provides material for the support of discussion and conclusions.

In addition to following the principles of Strauss's analysis, this thesis has analysed the data, particularly the field notes from the engagements, with negative evidence in mind. Occasionally what is omitted or forgotten can be as important as what is included. This was particularly useful during the engagements because of the researcher's limited understanding of Swedish; while it was not possible to have understood all of what was discussed, it was easier to take note of what was missing from the conversation.

With the observations noted and interviews undertaken, transcribed, and analysed, the results of the research are presented next, in *Chapter 4 – Analysis*.

Chapter 4 – Analysis

4.1 Introduction

The purpose of this research project is to generate greater understanding of wind power concerning landscape character and function, and how attitudes are changed through public engagement. The research questions included in this study are:

1. In what ways does the character – form and function – of the landscape impact people's attitudes towards the proposed wind power developments?
2. What are some of the ways that residents are expressing their attitudes?
3. What are some of the ways that wind power attitudes are affected by the new participatory techniques used in Uddevalla?

In support of answering these questions, *Chapter 4* analyses and presents the data generated through the methods described in *Chapter 3 – Methods*. The following sections are structured to present the findings resulting from each of the measurement instruments: interviews; and observation.

Interviews were transcribed to provide a qualitative base for study. The interviews were analysed using Strauss's analytical process, which involves open coding to locate themes. Five themes were identified in the analysis – three of which align directly with the research questions presented above – and are presented in five separate sections. Observations were analysed textually via field notes. Due to mitigating language circumstances (engagements and any conversations that took place therein were conducted in Swedish) observational analysis has paid particular attention to negative evidence and is presented in one section.

4.2 Interviews

Interviews were the primary method chosen for data generation due to the rich qualitative material that is developed through transcription. By providing seven residents with an opportunity to reflect upon their engagement and experience with wind power planning in a non-politicized and non-judgmental arena, it was possible to move beyond superficial and canned responses; by using semi-structured interviews it was possible to explore themes that were unknown prior to the start of the interview. Analysis relies on Straussian analysis of the transcribed interviews. The stages utilized include *open coding*, which locates themes and

assigns codes, and selective coding, which analyses the organized themes for instances that best illustrate themes and provides material for support of the discussion and conclusions. For a full description of the methodological process please see *Chapter 3 – Methods*.

Seven residents took part in the interviews and each participant provided a unique perspective the provided insight into individual desires and opinions while still providing information that related to the larger wind power planning projects, and to the difficulties faced by the community as a whole. Each resident self-identified as either pro or anti wind power in general, though there were many qualifying factors that would change that opinion depending on the particular project. While each interviewee was especially concerned with different topics, the interview results showed similar concerns and frustrations even if participants might identify themselves as being on opposite sides of the issues. Brief descriptions of the interviewees are as follows:

> Interviewee A: a resident particularly concerned with the impact of wind turbines on quality of life for residents in the country side and the lack of respect shown by Council towards resident concerns.
>
> Interviewee B: a resident concerned with poor quality of planning produced by the municipality and the lack of initiative shown by Council over the wind power planning process of the past half-decade.
>
> Interviewee C: a resident concerned primarily with sustainability and ways to move away from nuclear energy, but who also wishes to engage in municipal issues in general.
>
> Interviewee D: a resident concerned with the scale of wind power development in Uddevalla, and the potential impact on the health of their family.
>
> Interviewee E: a farmer concerned about property rights, the urbanization of rural Uddevalla, and the political deceptions undertaken by municipal council.
>
> Interviewee F: a resident concerned with the future of the municipality and the need for appropriate development determined through public engagement and co-management strategies.
>
> Interviewee G: a resident concerned with the lack of dialogue concerning potential development and the influence of private development and monetary interests taking precedence over the public good.

Five prominent themes emerged from the analysis of the transcribed interviews. These themes are: landscape form and function; expression of attitudes; changing attitudes;

frustration with the politicians and the planning process; and engagement and representation. The analysis from each of these themes is presented in the following sections.

4.2.1 Landscape Form and Function

The first of this project's research questions concerns itself with how landscape character, its form and function, can shape or impact people's attitudes towards wind power. Landscape, as shown in *Chapter 2 - Putting Landscapes and Attitudes in Context*, is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors; landscape is the nexus of physical form, social structure, cultural heritage, economic development, and natural environment. The most tangible of these elements, and thus the most accessible through the interview process, are form and function. Landscape form relates to the physical attributes and characteristics that define and make up a landscape. Landscape function refers to the way in which a landscape is used (for the purposes of this thesis this refers to the anthropogenic rather than natural processes and uses). Despite landscape having an important role in Ramböll's engagement process, over the course of the interviews, respondents found the topic of landscape was difficult to discuss.

Ramböll spent significant portions of its engagement and final document (see: Ramböll, 2012) identifying, classifying, analyzing, and explaining various aspects of landscape character. Despite their efforts, landscape – particularly landscape form – was a topic about which most interviewees had difficulty discussing. Although a difficult topic for participants to articulate, the interviews provided insight into the general feelings and attitudes towards wind power based on landscape character. Issues concerning landscape form and function generated during the interviews include the importance of the coast, the unsightliness of the turbines, concerns over the scale of development, wind power generating positive associations with the landscape, possible appropriate locations, fears of noise, agricultural viability, recreation areas, and the localization of landscape.

The coast of Uddevalla is one of the municipality's defining characteristics. Over recent years, the western shore of the municipality has seen significant investment as a recreation destination. The coast has played a significant role in Uddevalla's socio-economic history – first as a place from which to launch fishing boats, and subsequently as a harbour that fostered the areas industrialization – and now bridges and a boardwalk have been installed to allow residents an unparalleled access to their history and the coast's natural beauty. This coastal landscape has developed an important, if difficult to define, place in the hearts and minds of

residents. Many of the residents, when asked about their favourite places in the municipality, spoke fondly of the coast, but were unconcerned of development due to development restrictions: "…my [favourite] areas here [include] the coast… but they have already restricted the area closest to the coast so there will not be any wind power there". A resident new to the municipality, also noticed this sentiment over the course of the engagements, stating that, "people said that you definitely cannot have them near the coast".

While the coastal landscape is the only landscape that was consistently appreciated by the participants, there were some common themes regarding landscape form and the appropriateness of wind power development in the area. In general people did not focus on the aesthetics of wind power, meaning the general tone of wind power development dialogue is different from those taking place in Britain or, to a lesser extent, the United States of America. Only three of the seven interviewees spoke about the aesthetics of wind turbines, with one claiming that they were beautiful and two dismissing them as ugly. Despite the lack of focus on aesthetics, there was concern about the height of the turbines. One resident in particular, noted that the turbines were "170 meter right up in the sky… and the eye is [caught] whether you want it or not. And the blinking at night, the white blinking light, - it's like a circus!" while another stated "you must build them so high. And your view is [ruined]. [They're] connecting to whatever you look [at]."

Residents in areas of potential development are concerned about how turbines might impact the residential look of their areas. Several residents noted the industrial character of turbines and how this might clash with the natural and bucolic atmosphere where they live. One resident in particular was concerned with the longer term impacts on the environment: "the terrain here is very up and down… it is not just the power stations but the roads that must be built. I think it was 20000 cubic meters of rocks that they must bring here to fill up the valleys [in order to build the roads]. And other places to take it away. So it's a terrible disaster in the nature."

The final statement of the previous paragraph moves away from the impact of individual turbines towards concerns regarding the plans for development as a whole. One resident provided an anecdote that reflects the experience of many participants in the wind power planning process: "My best friend… said to me that we will be planning wind farms at home. Okay, I think, it's no problem for me. Let them do it. Several months later he shows me the map of the company who wants to build the turbines… when I look at the map then I

understand what it was about: it's too close to hundreds of peoples' homes." This statement shows the concern of residents not over one turbine, but cumulative effect of multiple turbines in a particular area.

Not all comments concerning landscape form and wind power were negative. Many residents, even those who were self-declared against wind power, agreed that wind power could show care for the environment. One resident said that wind power can improve the landscape "because [it] tells that we take care of the energy in the wind and that is a positive thing to me," while another felt that wind power "means simplicity and it is a symbol for a cleaner kind of energy." Many residents spoke about the potential of linking wind power with areas that are already less attractive; in particular participants were intrigued by the possibility of placing turbines near existing highways. Placement of the turbines plays an important role in determining how wind power might be able to take into account landscape form. One participant insightfully examined the importance of form:

> *I used to talk about wind mills, that it could bring something to a landscape. If Picasso had made three wind mills and put it in the landscape and it was very nice, then people would come just to see it; it's something that [gives] value to the landscape. But if you just let it happen it will be a catastrophe… You must know when it is beautiful or when it is grotesque. You must decide that. That is enough. Or that is okay, that isn't.*

Form is of course only one aspect of landscape. Another important element to consider is the function of the landscape, and this is where a great deal of conflict is focused. Recently, Uddevalla has seen significant expansion in rural residential development of large suburban style lots in previously resource based areas. Wind turbines were described earlier as industrial in character, but in terms of function they are more agricultural. Wind turbines have become an important aspect part of many farmers' incomes. The conflict over function then is one between residential users and rural production.

Residential users are extremely concerned over their quality of life, particularly the potential impact of sound produced by wind turbines. One resident explained that "we moved out here because [of] the nature… we have given up the convenience to live in the city, and therefore we think that we will keep it this way and not be in the industrial area." One participant became involved in the wind power planning process after seeing a proposed development plan for his area: "the planned wind farm to the house is too close and the sound in Sweden is 40 dB(A), and they say that it is not more than a refrigerator sounds, but [if] I

have a refrigerator that sounds like that I would put it out… this [development] is going to get my family a problem I think." A third resident identifies noise, or rather the current lack of noise, as "one of the most important values for living in this area. Noise is one of the environmental disturbances that has an effect on most people in Europe. Then we must be very careful when we destroy the silence."

Residential concerns are, however, not the only opinions that need to be considered. One interviewee is a farmer and land owner who describes a significantly different picture than that of the local home owners. The interviewee explains that "ninety-five percent of all the active farming [in Uddevalla] has disappeared during [the past] forty years. There [are now] less than ten properties that are doing any sort of farming." Flipping the discussion on its head, the interviewee claims that "it is not only related to the problem of windmills, but the whole problem of urbanization. [The area] doesn't have a value more than being a retreat for people." Increasing urbanization and decreasing revenues from farming have had a significant impact on the feasibility of agricultural production in the region; wind power could potentially be 40% of the income from the property. "[Farmers have the] responsibility to keep the landscape open but [are] not allowed to… benefit."

Although function of the landscape provides significant room for contention and conflict, it may also provide an avenue for potential resolution. One of the most cherished aspects of Uddevalla's landscape is the potential for recreation. Many of the interviewees spoke fondly of their ability to cross-country ski in the winter or hike in the summer. Despite the fact that the forested hills are an important part of their landscape, many interviewees saw the potential of moving wind power to these sparsely populated areas. One interviewee claimed that "up in the forest I have [a hard time] to see that it would affect anything at all… When you are in the forest you hardly see the wind power. You don't see the tower… because the forest takes all the sight." Another resident believes that "nature [and] fresh air" are the most important aspect of being outside and that even if wind power has an effect on the recreation and nature areas that "it is better to build there than where people live, because those who [ski] and run, they can go home afterwards."

One aspect that seemed absent from the interview responses as a whole, is the lack of discussion concerning the diversity of landscape. Many participants spoke of the importance of engaging the community, those who "are the experts in [the] area," but there was a general lack of concern for broader community concerns. Several interviewees spoke negatively

towards wind power as a technology, but then provided no alternatives for reducing carbon emissions or reliance on nuclear energy. Conversely those who were particularly pro-wind power had little concern over how wind power might affect those living close to the turbines and the need to come to mutually agreeable solutions. One resident however, noted the importance of historical and cultural landscapes and appreciated that there is "a lot of diversity that has to be addressed correctly."

4.2.2 Expressing Attitudes

The second research question is concerned with assessing some of the ways that residents are expressing their attitudes. For the purpose of this research, the expression of attitudes will be considered in two ways: how residents organized to support their attitudes prior to the Ramböll engagements; and the rhetoric used to argue the correctness of their attitudes. While the previous section explored attitudes, particularly those concerning the landscape's form and function, this section will analyze the arenas in which those attitudes were expressed, and the form that residents' expressions have taken.

Uddevalla's wind power planning process had spanned multiple years before Ramböll became involved. The ongoing and contentious nature of the process led to significant discussion in both formal and informal arenas (for a complete description of the project, see section 2.2.3 Project Context). The following provides examples from the interviews showing how residents were able to express their attitudes in the private sphere.

An important aspect of the wind power development in Uddevalla was that early in the process, many residents' first introduction to wind power in their community was not through the municipal planning process but rather private, developer led meetings. While it is possible for developers to engage communities with care, compassion, and an open mind, residents did not use these adjectives to describe their experience. Residents described what are commonly referred to as "DAD" (decide, announce, defend) style meetings. One resident recalls the experience:

> *There was a meeting on the early stages and some information from the [developers]. They told us about the plans… We could stand up and say something if we wanted, but their plans have not changed because of that.*

Several other residents also spoke about how a developer led meeting was the hook that engaged them in further planning processes; another resident having remembered how after

seeing the proposed plan thought "…this can't be. We must have a platform to discuss the effects."

Initially, residents contacted the municipality, both politicians and planners, individually to share their attitudes. Residents wrote emails, or contacted the municipality in other ways, to share their opinions and begin a dialogue about wind power in their neighbourhoods. All the interviewees who contacted the municipality were disappointed with the response. When asked about what type of reply they had received after contacting their local government, one interviewee answered simply "Nothing… they just [threw] it in the bin." Another resident described communication with the municipality as "banging your head against these civil servants and politicians [and] you have a feeling that they are not listening to you."

Although meetings with developers and the communiques with the municipality did not generate the dialogue or the outcomes that most residents considered satisfactory, it provided the impetus for residents to self-organize; one resident even claimed that "it started a movement around here." After seeing the plans for some 50 turbines "in a rather small area", residents formed a group to discuss wind power in Uddevalla and in order to develop a platform with which they might engage the municipality. Organizing allowed residents to consider how wind power might be developed in Uddevalla and gave people the courage to re-engage with the municipality as well as developers. As a group, residents wrote letters to politicians, hosted meetings, visited with developers and generally applied political pressure. One resident explained the importance of the group: "we [wanted] to discuss how [to develop wind power in Uddevalla]… it is important that you discuss this how question together so there won't be any hidden questions… The community has not said yes… the discussions are very aggressive… [but] it is better to stick your head in a wasp's nest than in the sand." Residents feel as though this group played an important role in generating dialogue and allowing further expression of attitudes. One resident sums up their sentiment: "… we were a crowd… now they had to listen."

Although residents expressed their attitudes through organized groups, there were other important interactions that allowed residents to also express their attitudes informally. Uddevalla is a relatively small community and the people on either side of the wind power debate can be neighbours, friends, or even family. One resident described the interaction with a close friend:

> *He said to me we will plan wind farms at home. Okay, I think it's no problem for me. Several months later we meet again and he shows me the map [of the proposed development]… then I understand what it was about… I said to my friend that I am glad you showed me this but we will have different opinions.*

Although he claims that his relationships have improved (after "several years of no happy Christmas") this is not always the case. One resident remained bitter after an exchange with a neighbour. When the interviewee's wife tried to speak with the neighbouring landowner, she was told that "[they] need to accept. No discussion." When not given a proper avenue to discuss potential changes in the landscape, attitudes can be expressed in ways that may damage relationships in the community.

The interviews clearly show the arenas in which residents were able to share their attitudes, and some of the ramifications of expressing their attitudes in these arenas, but another important aspect of expressing attitudes are the linguistic methods used by residents to express and support their attitudes. Analysis of the interviews uncovered two common rhetorical methods: authoritative and/or technical language; and personal impacts.

Significant amounts of literature concerning NIMBYism in local land use conflicts, show how the term is often used to undermine local resistance to various types of development (see Meyer, 2010; McClymont & O'Hare, 2008; Burningham, 2000; and particularly regarding the wind power context (see: Wolsink, 2000); wherein it is argued that if resistance is based on self-interest, then it holds little validity in discussions concerning the community as a whole. In an effort to avoid the moniker, people adopt stances that are more objectively defensible. In nearly all of the interviews, the participant would attempt to take a position of authority concerning wind power, generally from a perspective of either criticizing or praising wind power technology.

Although the interview was not designed to explore questions of technology or expertise, most of the interviewees made sure to mention either the superiority or inferiority of the technology (depending of course on their general attitudes). On occasion this would take the form of an off-hand comment; when asked to initially explain their opinion concerning wind power one resident responded "…I'm not sure it's very cost effective."

Often, interviewees would use extremely precise numbers and figures in arguing their position in order to provide definitive solutions. One of the major concerns of residents was

the impact on the quality of life that noise might generate. In order to argue against the impacts of noise, one interviewee expressed his desire "for longer distances between the houses, where people live, and the turbines. Today it is five hundred meters. That is too little. It should be at least one thousand [meters]." Another resident, rather than relying on distance, explained his fear in terms of decibels: "they say that [40 dB(A)] is not more than a refrigerator, but… 40 dB(A) is industrial noise. If they have 35 [dB(A)] I think I don't give a damn." Residents choose to rely on a set figure rather than on quality of life because arguing with numbers allows them to have an authoritative and scientific stance.

It was not only those who opposed wind power made use of technical figures. One land owner who is attempting to develop wind power was quick to refer to a technical document, an environmental impact assessment, to dismiss the fears of neighbours. This land owner, or a developer on his behalf, had an environmental impact assessment undertaken concerning the proposed wind power development in his area, and very clearly believes that it shows the technical evidence is in favour of dismissing concerns of residents:

> *…I am very much relying on that [environmental impact assessment]. And they didn't have anything to say about this wind park. Nothing at all… the local people are against it of course, but this shouldn't be the reason [that it is not to be built]. There must be some other reasons. If the reason is 'not in my back yard', that is not a reason.*

This same land owner also looks at wind power from a financial perspective, highlighting that if the wind park generates six to seven million SEK in net revenues every year, that because of taxes "more than half of this will go to the community," which although not said verbally, implied that there is a certain point at which a reduced quality of life in the area is acceptable.

In addition to using technical rhetoric, residents pointed out the lack of knowledge by those who hold divergent opinions and the need for greater education. This call for greater education took several forms. One resident criticized the viability of wind power because of the necessity of a back-up energy source and then said: "yes. Most people don't know about that. [They just think] 'Ooooooooohhhh gooood! [Renewable] Energy! Very good!'" Another resident, who was extremely critical of nuclear power, was critical of society's general lack of understanding concerning their own energy use; this resident recounted an encounter at a planning meeting where she explained using wind turbines to pump water back into a hydro-electric dam before commenting that "…nobody told them that before." Another interviewee was rather dismissive of Ramböll's engagement process because "the participants were

different people with different kinds of backgrounds. I know quite a lot about wind power, but most don't."

Despite interviewees' rhetoric concerning objective figures and their superior knowledge regarding the topic, participants would generally revert to expressing personal opinions concerning their personal context. Landscape concerns common interests and broader community issues, and Ramböll's engagement process and report focused very much on the appropriateness of wind power in general areas based on landscape character. However, residents often referred back to their particular circumstances. One resident commented that "we moved out here because of the nature and… have given up the convenience [of the] city, and therefore we think that we will keep it this way," and another, when discussing the noise states that "this is going to [give] my family a problem." A landowner hoping to develop a wind farm expressed extreme distress over the fact that if the wind farm is not developed he could lose "forty percent of [his] income, [and] it would be very difficult [financial] times for [him]."

The two major rhetorical devices – technical objectivity/authority and personal context – are diametrically opposed. It is possible that this was a reasoned plan, to supplement a qualitative experience or attitude with a quantitative one, however this could be a function of the interview process whereby preconceived technical arguments were encountered and through deeper questioning it was possible to assess more personal attitudes.

4.2.3 Changing Attitudes

The third research question is concerned with understanding some of the ways that attitudes have been changed through the use of new engagement techniques. With a general understanding about how landscape form and function shape participants' attitudes and how these attitudes are expressed, it is important to assess whether and how attitudes have changed due to the participation in Ramböll's engagement process. This section provides analysis of residents' responses concerning their own perceived change in attitude, and also explores other portions of their interviews to discover less apparent changes in attitudes.

Dealing with entrenched positions is a difficult prospect for planners and landscape architects. As development issues are contentious and often portrayed as a zero-sum game, participants often feel the need to defend their position lest they lose bargaining leverage. It is unsurprising then that most of the respondents, when asked directly whether or not their attitudes had changed, responded negatively. One interviewee used the question to show their

wind power authority, responding "I don't think so, because I was so involved… in wind power [already]." Another interviewee was more direct, responding simply "not at all."

However, when probed further on the topic of changing attitudes, something becomes clear: people refuse to admit a change in attitudes towards the technology. Those who self-identified themselves as pro-wind power remained staunchly in favour of the turbines as a means to achieving their alternative power aims, whether being a reduction in nuclear power or a reduction in carbon emissions. Those who felt as though the technology is inefficient and wasteful spending by the government continue to feel that wind power should not be developed in Uddevalla. However, what residents expressed during the interviews was that their attitudes towards the planning and development process for wind power had been altered. People involved in the wind power process have been so frustrated that Ramböll's engagement process gave them a renewed outlook on the situation. One of the organizers of the community group said that the process brought "hope, that there will be a big difference from the [developer's initial proposal]" and that the residents "needed the whole process, otherwise [they] wouldn't have a document to rely on [in discussions with the municipality and developers]". Another resident spoke positively of their experience and the sense of hope that it engendered: "[in their plan the wind power] was right on [top of] me… so I hope this will be something positive… I hope so."

All but one of the interviewees felt isolated from the planning process and developed a more positive attitude simply through the opportunity to "interact with the politicians." Although many participants were still unsure of whether and how wind power might be implemented in Uddevalla, residents felt previously as though they had not had a chance to speak their opinions, or that those opinions were not respected. Interviewees were genuinely grateful for having "a chance to say something." One participant, a relatively new resident, remarked upon the importance of seeing their words included in Ramböll's final document:

> *I wrote [that], and they put it in the report. And that is good. I feel that they listened… It means [so] much to a person who is new and I feel that I am kind of a satellite here. When you get that feedback, I think they are really nice. They listen to me. And I think that is why more people should engage because they would see that they actually take it seriously.*

By engaging honestly with residents it appears that Ramböll had significantly shifted many of the participants' perceptions of the wind power planning process which has in turn changed opinions concerning wind power development within their municipality.

In addition to changing attitudes towards the process, the engagement techniques also shifted attitudes towards where wind power may be appropriate. Through an exploration of the landscape, residents were provided with information concerning turbine requirements, allowed to explore their landscape values, and developed potential landscape synergies. The primary requirement for the development of wind power is adequate wind resources and the participants accept that "if we must build them it is better to build them where it is good wind." One resident who is staunchly pro-wind power came to understand that the coast is of particular importance to the residents of Uddevalla and they came to respect their neighbours' opinions. Another resident appreciated the synergistic option of putting turbines "along the highway, because you already have infrastructure for the transport and so on; you have the noise and there are no people living there."

Although participants did not have their attitudes towards wind power technology changed, or at least were not willing to admit to having those attitudes changed, the new planning process had a positive influence on attitudes within the municipality. Ramböll's engagement provided a fresh outlook on the planning and development process, which has created a more positive attitude toward potential development. One resident summed it up by saying that they haven't changed their attitude "about wind power, but maybe this process is really good for everything that happens in the community."

4.2.4 Frustration with Politicians and Process

Although not a research question, nor was it actively pursued in the interview schedule, one aspect that residents felt the urge to discuss was their frustration with Uddevalla's planning process for wind power, and with the municipality's politicians. Two issues in particular came up consistently across the interviews, regardless of whether or not the interviewees were positively or negatively disposed to wind power. These issues were: a lack of trust in politicians; and dissatisfaction with the planning process.

The most vocal and angry aspect of participants' frustration is directed towards the politicians. Whether deserved or not, politicians have become a focus point for the community's anger. The anger stems primarily from a lack of trust concerning the politicians' motives. Actions of the politicians would be perceived as malicious by the residents and land

owners regardless of their intent. For residents who have been working against wind power development, their distrust started after having invited a group of politicians to discuss potential issues in the municipality. After having spent significant effort in preparing their thoughts the group felt as though the politicians did not honestly engage in the process. The group was "very disappointed afterwards because they [didn't] seem to be especially interested or, as politicians are [wont to do], just say something and not mean it." Building upon the existing frustration of residents "banging [their] head against… politicians [and having] a feeling that they are not listening to you," residents felt as though politicians had no intention of considering the community's opinion. Once this initial impression had been made, residents became suspicious of potential collusion. One resident remarked early in their interview that during Ramböll's engagement process, their group "had one politician, and a landowner, and those two sat whispering. Why?" Another resident, while discussing the same topic stated they "[are] suspicious, but I hope that's not true". A third interviewee, visibly upset asked "why are [the politicians] such coward[s]? ...You must have some sort of ethical way, as a politician, to look at it. [It's] more or less like prostitution: give me your vote and I do whatever you say."

Stemming from the lack of trust, residents also question the politicians' motives for hiring Ramböll to provide a deeper planning process. Some residents who are hoping to have wind power developed on their property perceive the Ramböll process as a way for "local politicians… [to] escape from the first commitment they made." Certain residents who were opposed to wind power development, feel as though the new process is "a trick to hold [the politicians'] backs free" to develop as much wind power as possible. Even residents who feel as though the process is being undertaken in good faith and are impressed by Ramböll's final product, have a lack of trust in the competence of the politicians worrying that "the board of politicians will sit down and read [the] report, and I don't know what the result will be."

In addition to the mistrust of politicians, there is a general dissatisfaction with the wind power planning process as it exists in Uddevalla. One resident who has been involved in wind power for many years complained about Uddevalla's planning process:

> *Well, in Uddevalla it has been a big problem with wind power planning because they have been working on it for 6 years and they have done, I don't know exactly, at least 3 different plans, and they need to redo it every time… I think it has been a very long and very bad process… So they have to decide sometime. I think it has taken*

> *much too long time. It would be much better if the kommun had told that we have this policy in wind power: we want wind power or we don't want wind power in our area. You can see in other places they say we want wind power because we want renewable energy, but Uddevalla just, ah, have not said, they have not… uh… decided yet.*

The lack of a solid plan has led one resident to describe Uddevalla's plan as a "land owner [saying] 'Come to me! Come to me!' What kind of planning is that? No planning at all."

Following the frustration of the planning process, residents are questioning the greater purpose of planning. Participants felt that Uddevalla's planning purpose has been to "squeeze in as many [turbines] as you can" and question the value of such a philosophy. "People need to be better involved. People should be sent a letter. But we were never sent anything," shared one resident, portraying the importance of public engagement in planning that is shared by many of the residents. Those interviewees who had joined in a community group concerning wind power were particularly critical of the technocratic process claiming that wind power planning "is not only about the wind [turbines], it is about how we can let the citizens have an involvement in their living area, and how we will develop and also give to the next generation."

4.2.5 Engagement and Representation

The final major theme identified through the analysis of interviews, concerns engagement and representation. In an effort to understand how participants perceived and reacted to the new planning techniques utilized in Uddevalla, residents were asked several questions concerning the processes hosted by Ramböll. This theme contains three primary subtopics: the contentiousness of the process; representation through the processes; and the final product. For a summary of the wind power planning process, please see the process flowchart in section *2.2.4.2 Uddevalla Project Description.*

Despite the best efforts of the Ramböll team, the engagement process was a contentious affair. Public engagement remains the most difficult aspect of planning; attempting to balance contending attitudes and desires – particularly once those attitudes have become entrenched – while attempting to generate constructive, productive, dialogue is extremely challenging. Processes can be easily derailed by obstinate and protective parties, and as engagement is generally a process of compromise, individuals rarely leave completely happy.

Residents had multiple complaints regarding the engagement exercises. Lack of time was a particular problem; one resident did the calculations:

> *We had thirty minutes and we had twelve areas. That gives us 2.5 minutes per area. You can imagine how deep we can get in 2.5 minutes… Of course it took some time just to start up the group. And then they made another mistake: you should never put a computer in the group if you have just thirty minutes.*

Other residents felt much the same citing a lack of time and the requirement to provide opinions concerning all of the landscape areas, regardless of the group's knowledge of the areas in question. The lack of time also resulted in groups not being able to share their results with the group at large.

The inability to discuss issues as a larger group was a complaint reiterated by several of the interviewees. Although the participants complimented the Ramböll team on their professionalism, they noted with a sense of disappointment the fact that Ramböll would "kill [discussions] whenever they pop up." Although the interviewees understood that time was limited, they would have appreciated the opportunity for more general discussion.

The most contentious element of the engagement was the mapping exercise in which groups of residents – the groups being put together at random – discussed landscape areas and the potential for wind power within the municipality based on landscape character. The aim of the exercise was for the group to, ideally, come to a consensus regarding potentially appropriate areas for wind power development. Once potentially appropriate areas had been determined, residents would be free to place one pin each in a map to identify what area they preferred.

Both those positively and negatively predisposed to wind power were critical of this exercise. Those who were negatively predisposed felt as though land owners "[ran] before all the others and put [pins] in the map." One land owner also felt as though there was significant cheating; consensus was difficult to obtain and "when we [could] not agree, we don't write anything, and don't put anything on the map. Afterwards [the residents] are back on the computers, putting their ideas and opinions and putting pins on the map." As tables were allowed to self-direct it is possible that both of these stories are true, or it could represent the distrust built up between two opposing factions over the past several years. The most praising comment spoken with regards to the mapping exercise was that "it's better than nothing."

Similarly to the issue concerning the mapping exercise, both those people positively and negatively predisposed to wind power development in Uddevalla felt as though their counter-parts were over-represented in the public engagements. Concerned residents commented that a "majority… on the bus tour and work shop [were landowners,]" while one landowner described the group as being held "more or less hostage [by the]…negative and loudest."

Though neither side could agree on who was over-represented, most participants agreed that there were not enough people from the municipality participating. There were an abundance of people who had a stake in the outcome taking part in the process, primarily land owners who might be able to develop wind power, or residents who might be impacted by the erection of turbines in proximity to their homes. Largely absent, however, were the silent majority; only those "with the highest voices are the ones being heard." One interviewee had a theory as to why more residents did not join the process: "that was a normal Wednesday evening… and it's hard to get people out from the TV."

In addition to the contention of the process, some of the participants question the applicability of the landscape analysis in general. Some residents found the final report difficult to understand. One community leader stated: "I hope I understand it correctly when I've read it. But I have been in this process, so deep in the process, so I could read what they meant, but I think that it can be difficult… to understand." One resident who works with wind power complained that the Ramböll presentation used a "lot of technical terms, a lot of maps and a lot of information in 30 minutes." That person felt as though it was "pretty hard" to understand despite knowing "all the plans that Uddevalla has about wind power" and believed most people would have "a hard time to understand what [Ramböll] said" in their "very abstract" and "academic" presentation.

Despite the frustration felt by participants in the engagements, and some of their reservations concerning the final document, interviewees were unanimous in their approval of the final document. In particular, residents appreciated the iterative process undertaken by Ramböll. The process was designed to generate data with residents, allow the planners and landscape architects to work with the information and then have the final product vetted once again by residents. Even though initial maps might show that "the border between the areas was different from what [the residents] would call [their community]," by the end of the process, residents felt as though Ramböll "had taken care of [their] remarks". Another thought

that Ramböll was “really nice [because] they listen[ed] to [us]” and believed that is the reason “why more people should engage” because “Ramböll actually takes it seriously.”

The interviewees felt as though the final landscape analysis “was very good”. In particular, both sides could appreciate that the document “was very clear” and provided an unbiased analysis of the landscape that was “not taking sides”. Although different participants are hoping for different – sometimes conflicting – results, the report paints the complex picture of competing interests and can show politicians, in the words of one resident, that the development of wind power is “not as easy as it first looks.”

4.3 Observations

Observations were undertaken primarily to complement the interviews and to develop an understanding of Ramböll’s process of engagement. Details emerged over the course of the engagements that provide insight for the research and validate the themes uncovered in the analysis of the interviews.

Politicians were a target for significant frustration, and even anger, from participants in the planning process, but to their credit the politicians were prepared to join in the planning process. However, though politicians were present during the all of the observed processes – not all politicians were able to make all of the engagement sessions, but at least one politician was present for each session – politicians played a marginal role. Rather than take a lead and share their opinions or provide a nexus for discussion and debate, the politicians seemed content to allow Ramböll’s team to be the focus. The politicians were observed, generally, sitting together in a small group away from the front. This is not to say that the politicians were unengaged, they participated as asked/required, and spoke with any and all residents who questioned them, but as a group, the politicians seemed reserved. Although it is not possible to divine whether these actions are because of the backlash that the politicians had received – and they would therefore prefer to play a slightly reserved role – or because they simply wished to see how the discussion proceeds before interjecting, it is possible to imagine how such actions could frustrate residents. Through their interviews residents claimed to have wanted an engaged council, with whom a dialogue could be undertaken; throughout the engagement process such opportunities were limited.

The politicians were not the only people to partake in multiple engagement processes. Ramböll divided the municipality into three sections in order to be able to create groups of a manageable size and ensure that residents are working with areas of which they are more

likely to have pertinent information, and of which they are most interested. However, as the days passed, the observer began to recognize several individuals joining multiple processes designed for residents of the different sections. Although it was not possible to ascertain their impact on the processes – it is possible that these individuals joined only to have an understanding of the dialogue and debate taking place in each of the districts – it appeared as though they were consistent contributors to the discussions. Although there were few people showing up repeatedly, repeated participants do the process a disservice by minimizing the importance of the less vocal and less decided (concerning their attitudes towards wind power) residents of the municipality.

In a similar vein, the planning processes – in particular the bus tours - were not intended to be overtly concerned with wind power. Ramböll's process was a landscape analysis that was directed towards uncovering residents' connection to their landscape in order to generate meaning that would be useful in considering any number of development issues including, but not limited to, wind power. However, as residents had been so concerned with wind power, it was difficult for dialogue to be directed towards anything aside from wind power.

Finally, during the final engagement a mapping exercise was undertaken in order to allow residents the opportunity to work together in order assess the potential appropriateness of various landscapes and areas of their municipality for wind power. It was expected that the process would be contentious, but significant challenges arose. Participants were each assigned a number randomly in order to mix different members of the community together and avoid a situation, for example, in which all of the land owners would join one group. The process became extremely fragmented. Mini-groups form within the various assigned groups, creating on occasion what appeared to be conflicting cliques – on several occasions it was observed that one small group might be at the computer inputting their opinions while one group was at the map writing their opinions before the two groups switched. Additionally, certain groups dissolved completely in order to go and join others. Having cliques within randomized groups, and having other groups dissolve completely in order to go and join other groups/people, serves to show how strongly positions had been defined before the engagement took place. Many people were not joining the process with an open mind, but with a preconceived goal.

4.4 Analysis Conclusion

The analysis of data generated through the research method has provided significant insight concerning public attitudes and wind power. Five prominent themes emerged from the semi-structured interviews with participants in Ramböll's process: landscape form and function; expression of attitudes; changing attitudes; frustration with politicians and the planning process; and engagement and representation. Additionally, observations provided insight into community interactions and validated many of the themes uncovered through the analysis of the interviews.

Landscape form was a difficult topic for interviewees to discuss. Many of the respondents focused on the character of the turbines themselves rather than how they may complement or contrast the landscape. There was a sense, however, that when allowed to propagate without thought, that they can overwhelm the character of the landscape. Landscape function was much more prominent than landscape form in the consciousness of interviewees; residential uses are conflicting with the area's traditional rural and agricultural economy. Landscape function provides potential areas for development in the forested hills of the municipality where few people live and most feel as though outdoor appreciation would not be significantly impacted by wind power development.

When considering the expression of attitudes, the interviews show the resilience of community members when faced with municipal bureaucracy and a conflicting rhetoric in their arguments. Most residents' first exposure to wind power was not through a municipal planning process but rather through private development meetings. When residents encountered disinterested responses in their individual discussions with politicians and planners they formed community groups in order to discuss the issues and to put political pressure on the municipal council. It was important to develop formal avenues of dialogue concerning the topic as resentment and anger was building between residents and landowners concerning potential development. In arguing their case, interviewees attempted to take a position of technical authority in order to show the superiority of their position. There was a general feeling, from both the pro and anti-wind power lobbies, that those people who disagreed with them were simply lacking appropriate knowledge. However, despite the call for objective solutions, interviewees also admitted to personal context playing an important role in their attitudes and why they chose to express them.

Although most residents claimed that their attitudes towards wind power had not changed, the interviews showed that significant changes in attitude had occurred through the engagement process. Attitudes towards wind power technology in general – as in whether or not the technology is effective in the fight against climate change, or if it is a good investment for state funds – did not change through the engagement process; however, attitudes towards wind power within the municipality were altered. Interviewees felt empowered by the engagement and felt as though the process of wind power had become fairer. In addition, potentially appropriate or inappropriate areas for wind power development were discovered, which in general created greater positivity towards development.

Due to Uddevalla's long municipal wind power planning process, significant anger and frustration was directed towards politicians and the municipal planning process in general. Regardless of the interviewees' attitude towards wind power, all of them were frustrated with the political flip-flopping and the planning process that allowed residents no voice. This has led to a questioning from interviewees regarding the purpose of planning and how it serves the community.

Finally, the interviews uncovered concerns regarding the engagement process and representation. As Ramböll was brought into an already contentious situation, participants who were interviewed approached the process with a fair amount of skepticism. Interviewees felt as though the engagement exercises were skewed to favour their opponents and that the engagements in general were over represented by those with vested interests and under represented by regular citizens. Many participants also questioned the usability of a landscape analysis considering it overly academic or abstract. Despite reservations, the interviewees appreciated Ramböll's iterative process and felt as though the final document provided to the municipality was clear and unbiased and had the potential to guide the difficult process of wind power planning in Uddevalla.

Although observations were undertaken primarily to complement the interviews and to better understand Ramböll's engagement process, the observations provided important insight that validated the interview responses. Politicians generally played a marginal role and appeared unwilling to forward their opinions during the engagement processes, which is reflected in interviewees' frustration with politicking instead of decision making. Several people with vested interests attended multiple engagement processes and potentially skewed or silenced the dialogue of the residents who had not made up their minds before joining the

process. Vested interests may have also been the reason for the difficulty in focusing discussion on landscape instead of wind power. Finally the final engagement's mapping exercise was controversial and there were a number of people who did not follow the rules precisely, which led to the impression of cheating.

Chapter 4 presents and analyses the raw material generated through the methodology introduced in *Chapter 3*. This analysis presents unique findings that can contribute to the greater discussion concerning wind power, landscape, and public attitudes. The next chapter discusses the findings in greater depth and provides greater synthesis between the primary research and the academic literature that helped to inform it.

Chapter 5 – Landscape as Democratic Dialogue

5.1 Introduction

Renewable energy offers the opportunity for a reduction of carbon emissions or dependence on nuclear fuels, but also carries with it a requirement for change from the status quo. The development of wind power can have significant impacts on communities, particularly in terms of their landscape. Issues of fairness and fears over quality of life can lead to tremendous friction that can delay or derail wind power development; in other cases poor planning processes can lead to unfettered development that can have serious ramifications on a landscape's form and function.

Multiple studies have assessed general opinions concerning wind power in a quantitative way; large scale opinion polls at the municipal, provincial/state, or national level in order to understand society's general outlook concerning the technology. Studies that show broad support for the technology of wind power in principle are then used to characterize local opposition as unfounded "NIMBYism". Such characterization undermines the validity of local opposition without first understanding the nature of the attitudes that compose the local dialogue.

The focus of this research project was to generate an understanding of attitudes overlooked by large-scale quantitative surveys. Interviews generated a rich, qualitative, textual resource through which coding and analysis provided insight into local dynamics in order to better understand how planning processes can shape attitudes concerning wind power and landscape. By working with residents who had just taken part in a municipal wind power planning process – in this case a landscape analysis – it was also possible to assess the process itself. Such an assessment facilitates the continued evolution of wind power planning, contributing to both professional practice and the development of place-based solutions to a challenging issue.

This chapter explores the research more broadly, providing the researcher's insight and opinions developed over the course of the study and tying various aspects of the research together. *Section 5.2 Discussion*, will provide a summary and synthesis of the results generated through the analysis as well as an interpretation of those results concerning research questions, themes emerging from the study, and research goals outlined in *Chapter 1*. Limitations affecting the research, initially described in *Chapter 1* based on the design of the

study, are reassessed in *Section 5.3 Limitations* to address unforeseen limitations emerging during the data collection and analysis. *Section 5.4 Recommendations for Future Research* explores some possibilities for future research that have emerged through the research process. Finally, *Section 5.5 Conclusions* identifies key conclusions and final thoughts.

5.2 Discussion

The Discussion section provides the author with the opportunity to convey a synthesis of the results generated through the analysis while also referring back to the literature review in order to provide broader interpretation of the results. The discussion addresses the five themes that emerged from the analysis: landscape form and function; expression of attitudes; changing attitudes; frustration with the process and politicians; and engagement and representation. In addition to these themes, the discussion also provides space for the consideration of landscape analysis as a method, and the implications of landscape analysis for Canadian wind power planning.

5.2.1 Landscape Form and Function

The first theme, and research question explores how landscape character, the form and function of the landscape, impact people's attitudes towards Uddevalla's proposed wind power development. Landscape character and function play a significant role the formation of attitudes, in particular, residents closely tie their identity to the local landscape, and potential changes in that landscape can be viewed with suspicion.

Landscape form was a challenging issue for residents to address and answers to questions were frequently vague. Some residents felt as though turbines were ugly, with an overly industrial character ill-suited for the hills of Uddevalla, while others found the turbines fit with the natural character of the landscape and show care for the landscape. Many of the interview participants spoke about the coastal area as being particularly beautiful and important, and therefore inappropriate for wind power development.

In contrast to form, function proved to be a rich topic for discussion. Attitudes concerning what may be appropriate or inappropriate for various landscape areas were spoken with considerable conviction. Many of the residents near the proposed wind power developments consider the area to be residential. They chose to live there based on particular attributes and characteristics that serve their residential purpose: calm, quiet, relaxation. People are concerned about the effect turbines will have on their families and their quality of

life. In particular, residents are concerned over the scale of change. One or several turbines placed appropriately may be acceptable, but dozens threaten to overwhelm the landscape character.

However, suburban residents are not the only people present in the landscape; before residential expansion, most of the areas were, and continue to be resource areas for agriculture and sylviculture. For those concerned with a livelihood derived from resource extraction, the function of the landscape was interpreted differently. The one farmer who participated in the interviews felt as though his ability to work the land and derive a livelihood was being infringed upon by residents. With small scale farming becoming more difficult, wind power offers a way to supplement income and maintain the rural character of the surrounding landscape; the farmer argues residents appreciate the quality of life that large tracts of undeveloped land provide them, but are unwilling to consider the economic impact or potential of those surrounding lands.

Recreation lands, where residents can hike and ski, came up often during the interviews as well. Residents appreciate the opportunity to experience the outdoors, but do not see wind power as a negative addition to these areas. Interviewees noted that a wind turbine does not impact one's ability to experience fresh air, and because one is embedded in the forest, the turbines would be largely invisible either way. Most importantly, for some interviewees, was the opportunity to leave the turbines behind when leaving the outdoors and heading back to their homes; while enjoying the outdoors a little bit of noise or motion from the turbines is acceptable, but not while trying to sleep. However, many of these recreational areas are protected in national schemes, meaning that the local government likely does not have the authority to implement development in these areas. If landscape is a local concern, to be democratically discussed and determined as per the European Landscape Convention, then these limitations will require review.

The information generated through the interview process concerning landscape shows significant commonalities with the body of literature concerning wind power and landscapes. Visual character and aesthetic is a subjective issue which rests significantly with personal preference (Devine-Wright, 2005; Warren et al., 2005). However, residents showed considerable attachment to their landscapes beyond aesthetics, the form and, in particular, the function of the landscape appears closely tied to the values and identity (van der Horst, 2007; Lenntorp, 1999) of residents inhabiting the space. Those residents appear to be concerned

about the commodification of “their” landscape and are skeptical of the motives of those pushing for development.

Proponents of wind power can also feel ownership of the landscape but approach it from a different perspective. A farmer must appreciate the potential commodification of the landscape, whether through the growth of crops or, potentially, through the development of wind power. Other wind power proponents consider the landscape more broadly, if not globally; the potential negative side-effects of wind power development appear small compared to what they perceive to be the environmental consequences of doing nothing.

These competing visions of landscape cannot be considered separately, but must be thought of concurrently. As enshrined by the European Landscape Convention, the landscape is recognized as a shared heritage (Europe, 2000a). As landscape is a discursive process (Olwig, 2007), it is expected to have competing visions that require debate and compromise. The inclusion of recreation areas hosting wind power offers the potential for Uddevalla to develop unique policies that respond to local needs and local concerns (Nadaï & van der Horst, 2010). Although landscape changes occur at a staggering pace, thoughtful development can help to create landscapes of heterogeneity where multiple uses co-exist to develop dynamic and diverse landscapes.

5.2.2 Expressing Attitudes

The second theme, and research question, explores some of the ways that participants are expressing their attitudes. In general, residents self-organized in order to develop political capital that would ensure they are heard by politicians; once organized, residents tend to speak in an authoritative rhetoric in an attempt to downplay their subjectivity.

Local residents of areas impacted by wind power development complained of the planning processes through which they were introduced to wind power in their neighbourhoods. A private development company held a town hall type meeting during which they presented their plan. Although residents were given an opportunity to speak, interviewees did not feel as though their concerns were taken seriously. After the initial meeting, residents attempted to contact the municipality but felt as though they were ignored by planners and politicians.

In response to the feeling of being ignored residents self-organized in order to develop greater political capital. Using this greater political capital, residents organized meetings and

engaged with politicians to share their attitudes and apply pressure that, arguably, resulted in the Ramböll process taking place. Residents generally wanted the opportunity to discuss how wind power could be developed appropriately, and to avoid the animosity developing between neighbours in the community through proper engagement processes.

In the interviews with participants, interviewees invariably relied on authoritative rhetoric in support of their position. By either questioning or praising the technology through the use of quantitative figures, residents supported their position by avoiding subjective issues. However, over the course of the interviews, through probing follow up questions, personal opinions were uncovered as significant motivators in the expression of attitudes.

Interviewees were initially put-off by the planning process for wind power. Walker and Devine-Wright (2008) explore this issue and determine that projects can be measured along two axes: outcome and process. In this case, the outcome would be primarily distant and private, with benefits going to large companies or individual land holders and the process was closed and institutional, with no opportunity for public input or discourse. Although expansion has only been planned, rather than carried out, Breukers & Wolsink (2007) show that criticism of the technology is a common response to proposed change. Such a response is only compounded when planning systems rely on overly bureaucratic systems in order to determine planning outcomes (Aitken, McDonald, & Strachan, 2008), such as those in Uddevalla during the initial wind power planning process.

Considering that NIMBY, an English term, was both understood and used by Swedes during the interviews, it is unsurprising that participants attempted to support their arguments using authoritative and technical language. The NIMBY characterisation is generally used by proponents of a development in order to undermine the arguments of those who are protesting a plan or development (see Kahn, 2000). In response to these accusations, or in an attempt to avoid them altogether, interviewees protesting the development of wind power use technical language, such as concerns of efficiency and use of tax dollars as the primary reason for challenging development. Similarly, but from the opposite side, a landowner spoke primarily about the benefit to the municipality in terms of tax revenues as the primary reason for wanting to develop wind power.

5.2.3 Changing Attitudes

The third theme, and research question, explores how attitudes have changed as a result of the new participatory techniques used in Uddevalla. Although residents did not experience

a change in attitudes towards wind power as a technology, there was a tangible shift in attitudes towards the planning and potential development of wind power in Uddevalla; by providing residents with the opportunity to share their concerns and see them reflected in Ramböll's work offered residents – both for and against wind power – with a feeling of ownership and control over the process and the potential future development.

When asked, interviewees both for and against wind power all initially claimed that their attitudes towards wind power were unchanged over the course of the engagement process. However, when follow up questions were asked, and through the analysis of responses from other questions, residents clearly showed a change in attitudes, just not towards the technology of wind power itself. Belief in wind power as a technology is only one aspect that should be considered when planning for wind power, and if interviewees answered honestly it is possibly the most unlikely attitude to change.

Having seen their comments, changes (of landscape borders), and concerns reflected in Ramböll's final document, residents felt – or at least hoped – that the municipality was listening and did care. Although significant resentment and distrust remained, both between various groups in the community (e.g. landowners and residents) and between the community members and the politicians, interviewees expressed a considerable change in attitude. Whereas at the beginning of their experience, residents felt as though they were "banging [their] head against [a wall]" (Interview, 2012), by the time of their interviews at the end of Ramböll's public process, residents noted hope that development would be appropriate.

Additionally, some residents also came to change their attitude concerning where wind power development may be appropriate. Several interviewees wanted to explore opportunities concerning development along roadways and other infrastructure areas; another came to understand that the coast is sacred to many residents and should not be developed. Essentially, the shift in attitudes represents a real world example of the sharing of individual experiences changing individual and collected points of view (Nadaï & Labussière, 2010). Although the shifts in attitude in the Uddevalla case may not be radical, the Municipality, by moving from passive participation to a more functional or interactive participation (Petty, 1995), has made an important step to greater democracy and equality within the municipality.

The interviews – through the exploration of the rationales and attitudes of protestors – support the work undertaken by academics to disprove the NIMBY argument (see: Wolsink, 2000; Bell, Gray, & Haggett, 2005; Warren et al., 2005). Those who are most opposed to

wind power development in Uddevalla are not opposed for selfish reasons; these members of the community have significant concerns regarding development's impact on their environment and their quality of life. The planning process, in not addressing and dispelling these concerns has created a situation in which support from the general public is impossible. Residents consider the development exploitative of their local environment that benefits only very few people economically while harming the majority. Rather than being a question of benefit, as generally characterised by NIMBY detractors, development of wind power becomes an issue of fairness. When a process is initiated that addresses concerns and allows for fair deliberation and unbiased analysis, residents see marked improvement of attitudes towards the development of wind power.

5.2.4 Frustration with Politicians and Process

A fourth theme emerging from the interviews and generated through the analysis is the frustration with politicians and the planning process. Due to the way in which planning for wind power has been handled over the past five years, members of the community have become frustrated with the lack of direct answers from politicians and the multiple revisions of the wind power plan.

Residents working against wind power became frustrated with the municipality through their attempted interactions with the municipal government. Initially, residents felt ignored and unimportant when their correspondences went unanswered. Positively, however, this feeling prompted residents to join together in order to form a neighbourhood group in order to organize their concerns and ideas. However, when politicians attended a meeting organized by this group and seemed disinterested in their concerns, resentment began to sink in. Things have progressed to the point where chats between a land owner and a politician are viewed suspiciously as collusion. Inhabitants of Uddevalla who are pro-wind power also experienced frustration with politicians, with one interviewee calling politicians "cowards" for only being concerned with votes rather than what is right for the municipality.

The mistrust in politicians extended to the process undertaken by Ramböll. Some of those in favour of wind power imagine that the new process is a way for the Municipality to renege on previous plans that would have resulted in, potentially, significant personal gain. Conversely, some residents against wind power consider the process a way for politicians to free themselves from public opinion and develop however they see fit. Even those who feel as

though processes were undertaken in good faith have so little trust in the abilities of the politicians and town staff that they feared the final report would be misused.

The frustration with politicians was compounded through the general dissatisfaction with planning in the municipality. Proponents of wind power, particularly those with something to gain, have seen multiple years of opportunity wasted as plans are revised and reworked only to finally hire external consultants to do the job. Those who question the benefit of wind power view the previous plans as a thinly veiled lure to wind power developers that isn't real planning at all.

With maps simplifying the municipality into two zones – appropriate for wind power or inappropriate for wind power – based almost exclusively on national restrictions (see: Uddevalla Kommun, 2011, pp. 9), Uddevalla's early attempts at planning did not address local concerns and it is therefore unsurprising that public attitudes were substantially negative (Cowell, 2010). Initial negative experiences with politicians and planning resulted in significant entrenchment of attitudes.

Through political and planning failures in the beginning of the process, Uddevalla made things considerably more difficult on itself than it had to be. Ramböll, inheriting a difficult situation, had to concern itself with managing toxic relationships and building bridges between groups at odds with each other instead of working collaboratively in order to develop unique place based solutions. When undertaking a plan, municipalities must understand that significant effort, money, and political capital can be saved by planning well the first time. It is imperative to engage with residents early, to respond to their questions and concerns, and to allow participants to see their fingerprints on the plan. If these steps are followed then significant frustration and anger can be avoided while simultaneously developing locally attuned and implementable policies.

5.2.5 Engagement and Representation

A fifth theme emerging through the interviews and analysis was resident concerns with engagement and representation. Although not a research question, this research project is concerned with the engagement process. Participants in Ramböll's process critiqued several aspects of the process, but interestingly every participant respected the final report completed by the consultancy and agreed with its contents.

Due to the circuitous planning process undertaken by the municipality before hiring Ramböll, and the resentment and frustration that had developed (as discussed in the previous section) the Ramböll process was contentious. Generally, groups with entrenched opinions assembled with the expectation of defending their predetermined positions rather than collaborating to develop new possible policy directions. Although Ramböll's process actively attempted to disarm these entrenched positions, participants were not completely satisfied with the process.

Participants noted that there was not enough time to undertake the required tasks that are a part of the engagement. One resident did the math and discovered that because residents were asked to assess 12 distinct landscape areas in thirty minutes, residents had only two and a half minutes per area to consider, discuss, and record their opinions. Additionally, not being able to report back to the group in order to share and compare results as a group was considered an unfortunate omission.

Despite many of the participants criticizing town hall type meetings, where "experts" present information and then residents have a chance to discuss their feelings in an open debate, multiple interviewees noted that they were disappointed there was not a greater opportunity to share ideas with neighbours. As many planners understand, however, public open debate can often result in confrontational and unproductive meetings. The choice to limit unstructured discussion was an active decision by the Ramböll, rather than an oversight. Still it may be beneficial to develop additional meetings in order to allow for more public input and debate.

A mapping exercise in particular, drew criticism from those positively and negatively predisposed to wind power. Participants felt as though the mapping exercise, in which groups were supposed to identify areas appropriate for wind power, was a failure. People accused others of changing pin locations after the exercise was complete, adding pins that were not discussed with the group, or isolating the computer in order to make sure only their ideas were noted.

All of the interviewees felt as though the engagements were dominated by special interests. Whether the interviewee was a self-proclaimed wind power proponent or detractor, they felt as though the other side had more representatives and were given more focus in the process. Both groups felt as though there were too few regular people from the municipality participating. The interviewees recognized that most of the participants had a personal stake

in the outcome of the process, whether through potential development of lands or from the impacts of wind power development on their residences. All parties would have appreciated greater input from the "silent majority".

Despite concerns over the contentious processes and the representation, interviewed participants universally praised Ramböll's professionalism and the final report they produced. Although many of the interviewees found the report dense and complex, and some of the presentations overly technical, people who had the chance to read the final document found it unbiased. Several respondents also made mention of the iterative plan making process and how satisfying it was to see the document change to take into account their comments and involvement.

As opposed to many planning processes that are structured to invite opposition (Bell, Gray, & Haggett, 2005), and then protect the interests of objectors (Aitken, McDonald, & Strachan, 2008), Ramböll strove to develop a constructive participatory process. Previous bad planning processes had created a toxic environment in which processes had to take place (Gross, 2007). Although planning in an environment of mistrust and suspicion is difficult, and concerns were noted prominently by participants in their interviews, Ramböll developed a document that was respected and valued by the community.

5.2.6 Landscape Analysis as a Method

A valuable aspect of this research was the opportunity to be a part of the dialogue-based landscape analysis method which was utilized by Ramböll to support the town's wind power plan. Through an assessment of the method, this research will give planners the opportunity to determine how a landscape analysis may be suitable to their own planning processes and improve upon the limitations uncovered in Uddevalla. The following section provides space for the author's reflections upon the benefits and drawbacks of the landscape analysis method. A description of the method has been provided in section *2.2.4.2 Project Description*. For those interested in reading the landscape analysis, see: Uddevalla Kommun, 2011, in the bibliography.

First and foremost, Ramböll's process was designed to engage with residents and other stakeholders in order to develop and share understanding concerning the landscape. Significant time and energy was expended on working with residents and other stakeholders. Dialogue was central to the process and provided insights and opportunities that would not have been possible through desk study or more traditional engagement techniques alone. By

bringing a group into the landscape and generating new ways of thinking about their municipality, Ramböll was able to substantially shift the discussion towards a positive and constructive process.

Through the inclusion of voices that had been previously ignored, dialogue-based landscape analysis ameliorated a toxic situation. In addition to improving the situation and bringing neighbours together who were previously unwilling to speak, the plan that was developed was respected by all parties and provided a way forward for the consideration of future wind power projects. In particular, the iterative nature of the plan, whereby Ramböll developed drafts of the plan, and would then bring their work to the public in order to collaborate and generate new and more thorough understanding of the community. Interviewees responded positively to having their words reflected in the document. Gross (2007) argues that positive planning processes create positive outcomes within the community, and interviewees maintain hope that Ramböll's planning process was good for everyone.

Some of the more pro-wind power interviewees believe that the development of wind power will provide substantial benefit to the community in and of itself. Cass Walker and Devine-Wright (2010) explore the effect of community benefits on support for wind power planning, and determined that support for wind power projects correlated strongly to belief that a project will benefit the community. No project is without a mix of benefit and detriments and the dialogue based landscape analysis added another dimension to the discussion, supplementing the municipality's largely technocratic preliminary report.

From the point of view of landscape practitioners, landscape analysis provides significant opportunities for progress. By embodying the tenets of the European Landscape Convention the dialogue-based landscape analysis moves the public consciousness beyond the landscape as a picture. Although the interviews had trouble addressing the landscape, the Ramböll process is a preliminary step in generating discussion concerning the landscape, which in turn will allow for greater democratization of the landscape.

In general, the arguments for the development of wind power largely focus on the quantifiable. Many arguments concern tonnes of CO2 saved, or number of megawatts produced, or potential tax dollars generated; however the landscape in not an entirely quantifiable item. The strength of the landscape, and its charm, comes from the qualitative experience. It is not possible to quantify the experience of a sunset, or of rain falling through

the leaves, or of a quotidian walk to school. These small and intimate scenes are the elements that give landscapes meaning. Ramböll's process not only provides space for these stories to be told, but attempts to give them value within a planning paradigm. The analysis undertaken by the Ramböll staff for the final chapter Wind Power in Uddevalla Municipality provides an attempt to account for the experience of wind power on the unique landscape and how it might be experienced. Although this effort relies on the generalities on the landscape character areas, by allowing decision makers space to consider the subtle effects of wind power, at a variety of scales, Ramböll has elevated the practice of landscape planning.

While dialogue-based landscape analysis is a beneficial process that, through the accounts of the interviews, ameliorated the situation in Uddevalla, the process is not without room for improvement. These comments should be read as constructive criticism, and it is understood that some of these issues cannot be easily overcome.

Foremost among the concerns is the relative lack of time for engagement. As noted by multiple interviewees, there was not always enough time to debate and consider the various landscape areas. Additionally, and arguably more importantly, was the lack of breadth achieved while engaging the community. Many positive planning processes as outlined by Wizelius (2007) include not only residents, and land owners, but also a community groups in order to develop a thorough understanding of how the landscape is used and appreciated. Additionally, wind power developers could be invited to provide their insight into the economic aspect of the business and share their knowledge and requirements. Considering, however, the toxic environment partially created by the DAD (Decide-Announce-Defend) type planning implemented by developers, it is likely that input from the development community would have been met with considerable scorn and suspicion.

Part of the issue stemmed from the fact that Ramböll's dialogue-based landscape analysis was forced to contend with the internal conflict of undertaking a landscape analysis that could be considered agnostic towards wind power, while simultaneously contending with wind power attitudes and needing to deliver a document that supports decision makers in their wind power planning. Ramböll used the landscape as one way to disarm opposing groups of citizens, but by ensuring that the issue was not focused entirely on wind power, they limited their ability to develop a comprehensive plan. Consideration for the base requirement of effective wind power, wind speed (in m/s) was considered, but the larger issues of economic fairness and local prosperity were largely ignored. When considering the engagement in terms

of Walker and Devine-Wright (2008), it was concerned with process, and developed one that was open and participatory. While developing good processes is noble in and of itself, if the planning process ignored potential incomes it is limiting its own impact. Also, Skitka, Winquist, and Hutchinson (2003) showed that while processes are important in shaping opinions of fairness, outcomes have a greater impact on perceptions of fairness; in essence this means that the most open process that results in a poor outcome will be seen as less fair than a closed process that has positive outcomes, at least retroactively.

Another issue is the lack of definitive areas for wind power development. Ramböll did not have the mandate to determine where wind power is or is not appropriate; as consultants they were limited to outlining areas of investigation or areas of possible investigation. It is understandable that a municipality hopes to maintain its political will rather than have it subsumed by a private company. Still, by not delineating areas for development, the dialogue-based landscape analysis ensured that there must be a continuation of the planning process and a new document created. While it is always desirable to create the best possible plan before finalizing where development may occur, considering the wind power planning process had already been ongoing for at least three years, a more definitive conclusion may have been well received.

Despite its shortcomings, the dialogue-based landscape analysis must be considered a success. Its limitations as a planning document must be considered in the light of financial and political realities. Private planning processes are expensive and public engagement requires significant time and money. Budgets must be maintained, and it is not possible to spend unlimited amounts of money. By cherishing and making visible the qualitative experience of Uddevalla and its residents, Ramböll was able ameliorate a toxic situation and develop a plan that, at the very least, provides a way forward.

5.2.7 Implications for Canadian Wind Power Planning

The Canadian wind power industry is significantly different from its Swedish counterpart. Despite differences, there are lessons that can be drawn from the Swedish planning process to inform better Canadian practices.

Canada currently generates only a small proportion of its electricity supply – approximately three percent – through wind power (Canadian Wind Energy Association, 2014). However, there is significant projected growth in the coming years (Roberts, 2013). With the implementation of the Green Energy Act, Ontario is the province that has most

courted wind power and other renewable energy development through their funding mechanisms. Along with wind power development, however, has come significant backlash from local residents affected by the turbines. Residents have raised concerns over property values, health, and increased electricity bills.

The resulting backlash has slowed the development of wind power in the province and has resulted in the Government of Ontario revising the Green Energy Act in order to restore municipalities' ability to provide input concerning the location of turbines within their borders. A project being developed in Norfolk County, south of Brantford, against the wishes of council serves as a reminder of how contentious projects can be (Sonnenberg, 2014). Essentially, the Province of Ontario has fostered a bureaucratic system that encourages the DAD (decide-announce-defend) planning; a new planning method could ameliorate the situation in a manner similar to what was experienced in Uddevalla.

A new methodology would require a significant move away from, not only the bureaucratic system, but also from the technocratic value system that guides development. The strength of the dialogue-based landscape analysis lies in having the courage to value qualitative experience over quantitative reasoning. There is currently little space for community/landscape values in the largely technical environmental impact assessments that guide development decisions.

Ontario has shown it is willing to subsidize wind power through the implementation of a feed-in-tariff system. Cass, Walker, and Devine-Wright (2010) identified that community support is correlated closely to belief in community benefit. In addition to providing greater opportunity for community input and collaborative planning, Ontario should design more opportunities for broad based and collective outcomes. Japan has addressed this issue through the development of a two-tiered investment system that allows for wind power investment by individuals targeted at either the national or local level (Maruyama, Nishikido, & Iida, 2007); such a system could help Ontario identify regions that are more willing to engage in dialogue-based processes. Good processes could help rebuild trust between the wind power industry and communities. Another option is to foster the development of more co-operatively owned or municipally owned, wind power parks; by giving as many as people as possible a stake in the wind power industry it is possible to remove the impression of an invasion by outside interests (Warren & McFadyen, 2010).

The situation in western Canada is slightly different. With less population density than southern Ontario, there are more spaces for wind turbines to be erected that are less invasive to communities that are not consulted. That being said, if wind power development continues to become increasingly attractive as an investment and business opportunity, it stands to reason that western cities, their suburbs, and particularly towns will soon be facing the effects of development. A process such as the dialogue-based landscape analysis would allow for communities to proactively plan for potential alternative energy solutions rather than being forced to reactively respond.

Additionally, wind power has the ability to be developed in a way that supports urban planning goals. If a municipality is struggling with suburban sprawl and wishes to develop an urban containment boundary, wind power could be used to create borders to stop or slow development. In a metropolitan region like Vancouver, where agricultural lands face significant development pressures, the establishment of wind power areas aligned with existing agricultural lands could help to reduce encroachment and make smaller scale farming a more profitable endeavour. Wind power does not need to be an invasive element in the landscape; if properly planned and considered, wind power can help to conserve the landscape and allow traditional uses to evolve effective responses to urbanization.

Finally, by implementing better landscape planning processes and therefore developing a greater understanding of landscape in a holistic rather than pictorial sense, Canadian municipalities and planners may be able to better integrate qualitative factors into their planning paradigm. Landscape analysis practitioners and proponents understand that social and cultural values are important aspects of planning, and they provide space for these values to be considered. Understanding landscape and giving value to it may allow for development – apart from the development of wind power – to move beyond development for development's sake; through the understanding of landscape it is possible to choose development types that support and reinforce the values of that landscape.

5.2.8 Thoughts on Planning Theory

In section *1.11 Theoretical Approaches* it was explained that the research project was focused on plurality and communicative decision making and grounded in the researcher's understanding of the planner's role. The study reinforces the initial understanding of the importance and the power of dialogue and deliberation in addressing contentious issues and determining appropriate strategies.

Ramböll's planning process shows the difficulties of achieving Habermasian consensus in real world situations in which competing interests are interacting in limited amounts of time in a politicized arena (Hillier, 2003). Despite the challenges – and failure to achieve consensus as evidenced by residents refuting the idea that they have changed their opinions concerning wind power – moving the process away from the traditional rational methodologies associated with wind power planning (grid capacity, average wind speed, maximum noise allowances, development pro formas) and towards a communicative approach to strategic argumentation (Healey, 1996) provided for a reconsideration of attitudes. In addition to the opportunity to voice their concerns, residents were buoyed and made hopeful by the final document that balanced their concerns with more traditional, and still important, considerations such as average wind speed. Although consensus was not formed, the interviewees respected the plan and even if they did not completely agree with every aspect understood how the conclusions were drawn and deemed the process fair; significant portions of the debate had been settled, if not entirely resolved (see Hillier, 2003, p. 54). In an imperfect world, reaching a settlement that involved parties feel is fair is an impressive accomplishment and, at the very least, something upon which Uddevalla's planners can continue to build.

Although not discussed earlier in the thesis, it is important to speak briefly about story-telling and the persuasiveness of arguments. Throgmorton (1992) argues that planning is a future-oriented narrative where actors are simultaneously co-authors and competitors in the creation of a community's story. Those individuals and groups who present the most persuasive stories will have them accepted and woven into the ongoing and forward looking narrative, while the tales that fail to captivate will be left aside. Planners play a difficult role through their position as plan writers (collective story tellers) and competing voices. Ramböll's landscape analysis provides an arena in which professional knowledge and local wisdom can mingle in order to develop a more complete understanding of issues and considerations integral to successful planning and implementation.

Another storytelling aspect that became evident through the interview process was the need for depoliticized arenas for discussion and meaning making. Residents are affected by tense political situations the same as planners. Rather than speaking completely openly and without inhibition, residents craft arguments that they feel will be most persuasive. The interviewees in Uddevalla, almost without fail, brought a technical, "rational" angle into their arguments. While it seems reasonable that residents used these technical arguments in a way

they feel enhanced their rhetorical position, or at the very least worsened the position of their opponents, it felt hollow and tacked on during the interviews. By moving planning away from a rational framework, planners will help to undo the notion these technical arguments are the only valid arguments in a municipal environment.

Perhaps in a perfect world, planning processes would begin as a blank slate with no major conflicts influencing participation or decision making, however, in practice there are often pre-existing issues surrounding development. Landscape analysis provides significant opportunity for mediating conflicting interests due to its embracing of the subjective and qualitative. During the interview process, the strain that is placed on relationships through controversial planning processes became clear. When development creates winners and losers, fairness is brought into question and relationships are worsened and resentment grows. This study reinforced the importance of planners as mediators; the most controversial aspect of Ramböll's planning process was the mapping exercise in which cliques formed and discussion was strained or non-existent. Having planners join the tables (and allot enough time for the exercise) in order to ensure conversations remain constructive would be an important, albeit expensive, step. Additionally by allowing different voices the opportunity to discuss their hopes and concerns around the same table, new opportunities emerge.

Although group processes are crucial, this study reinforced the importance of less formal interaction and dialogue processes. There is a significant difference between what people are willing to say in a private discussion compared to what they might feel comfortable saying in group situations. Additionally, the meandering conversations may stumble upon ideas that were unexpected and even impossible to foresee. Although challenging, this study shows the importance, and potential insight, of informal processes. Although by definition difficult to plan, by embedding themselves in the community it may be possible to engage a broader spectrum of participants than those who take part in open-houses and to engage them in a more meaningful way.

5.3 Limitations

The research project was successful in engaging with participants of the dialogue-based landscape analysis process and developing a better understanding of the interaction between landscape, attitudes, and wind power, there were several limiting factors that affected the outcome of the study.

The first limitation is concerning the participants. Upon reflection, the self-selection of participants may have skewed the results and provided a less than representative sample. Planning processes are often criticized for predominantly engaging and addressing the loudest voices in the room, and by choosing interviews through self-selection it was evident that those who took part in the interviews did so, in part, to further their own cause and justify their claims. By coming into the interview with a position that they wished to defend, the interview process occasionally reached dead ends in discussing particular issues such as landscape form.

A second limitation is related to the researcher's lack of Swedish language skills. Perhaps surprisingly, the limitation was not most severely felt during the interview process, but rather during the observation of Ramböll's engagement processes. There were multiple discussions – both at the group level concerning the municipal landscape and more intimately between participants – that may have provided further insight into the attitudes of participants that were not recorded or noted in any way due to the researcher's inability to understand what was said. Most Swedes speak English fluently, and the interviews, while occasionally slowing in order to determine a particular term or express an idea, proceeded smoothly. The most significant limitation raised by the researcher's lack of Swedish during these interviews is that, on occasion, when attempting to help the interviewee find a particular word, the interviewer may have directed the interviewee's response. Occasions for such a possibility were rarely discovered when listening to and transcribing the interviews.

A third limitation is the compressed timeline during which interviews took place. Several interviews took place over the phone as there was only one weekend that was possible for interviews. These phone interviews, while still providing valuable insight, lacked the depth, casualness, and interaction present in the face-to-face interviews.

The above noted limitations may have affected the validity of the results. Interviews conducted by a researcher fluent in Swedish, who interviewing participants with a less predefined position, and all interviews being conducted in person, may have resulted in findings that better reflected the attitudes of Uddevalans concerning wind power and landscape.

5.4 Recommendations for Future Research

The results of this research point towards several recommendations for future research. First and foremost, a researcher could undertake the same general process, but address the limitations noted above. Future research, particularly undertaken by a practitioner with a

complete grasp of the Swedish language, could supplement the interview process through a more thorough and effective observation process.

In addition to addressing some of the limitations uncovered through the research process, the research opens several opportunities for future research that builds upon this work. The research project presents attitudes as developed through planning processes and consideration of the landscape. Future research could assess: how development takes into account the landscape/landscape assessment; and how attitudes continue to develop during and after the development process.

Thirdly, it may be informative to complement the findings presented here with research focused more on outcomes. This research focuses almost exclusively on processes, and how processes can affect attitudes. However, the literature review uncovered that process is only one component of determining attitudes (Walker and Devine-Wright, 2008). It would be valuable to work with or observe development actors focused on more collective outcomes, whether co-operative or municipal ownership or some other type of development that better includes local actors. Also, engaging with residents to understand their attitudes towards a more locally based form of development would fill an important gap in research concerning wind power. Such a research project would help to provide a more comprehensive understanding of how attitudes towards wind power, and potentially other forms of development, are formed and altered.

Finally, building upon the work undertaken by Ramböll concerning landscape and wind power in Uddevalla, a practical research project could be to design a comprehensive wind power plan. Such a plan could incorporate the landscape guidelines developed in the fourth chapter of Ramböll's landscape analysis and use them to build more localized suggestions and projections. It may be possible to develop more concrete guidelines that protect and cherish the landscape while creating an environment supportive of appropriate, dialogue based development.

5.5 Conclusions

Three primary conclusions are drawn from the results of this research project concerning landscape, attitudes, and process. The first conclusion is that the character of a landscape shapes residents' values and therefore residents' attitudes towards wind power. A second conclusion is that residents will find ways to express their attitudes regardless of municipal response (or lack thereof) and will shape their expressions to suit their perceived

need. The third conclusion is that engagement processes, by altering the perception of fairness, are able to alter attitudes and ameliorate unproductive discussions.

The results of this study indicate that attitudes towards wind power are partially formed by the character – the form and function – of the landscape. Residents felt significant ties the landscape and identified it personally as "their" landscape. This sense of ownership is linked closely to the residents' values, identity, and self-image. A change in landscape can therefore be perceived as a personal attack. However, landscapes are not homogeneous and often contain multiple perspectives or overlapping perspectives. As a result, landscapes are an area in which competing values may come in conflict.

Communities would be well served to integrate landscape and its heterogeneity into their planning processes. Rather than attempting to identify a singular goal or value system, it may be of value to showcase an area's multiplicity and range of perspectives. Landscape is created – at least partially – through discourse, so promoting discussion between different landscape users will help to broaden individual perspectives and create more holistic understandings of landscape. By bringing different landscape users together to discuss competing perspectives it is possible to develop unique, place-based solutions that can reinforce the core values of multiple parties while guiding necessary or desired change where appropriate.

The second conclusion emerging from the research is that residents will find ways to express their attitudes regardless of municipal actions, or inaction. The Municipality of Uddevalla engaged in a relatively closed planning process in developing its initial wind power plans; many residents were first alerted to the development of wind power in the municipality through developer led DAD (decide-announce-defend) processes that did not allow for local voices to be heard. When repeated attempts to express their attitudes through formal political and planning channels were ignored residents developed their own informal channels which led to both positive and confrontational encounters with neighbours and other members of the community. Additionally, in order to reinforce their position, residents have adopted technical language and arguments in expressing their attitudes in order to support their positions in a way that will be respected.

Planning departments can harness public attitudes rather than compete with them by ensuring that they implement quality engagement processes. The dialogue-based landscape analysis is an example of a process that can support the development of a democratic plan,

whether for wind power or another issue. Processes concerning the landscape should value and consider feelings, values and other qualitative factors as much as technical concerns; addressing technical concerns are necessary to ensure a project achieves maximum effectiveness, but addressing qualitative issues is required to determine if a project is acceptable to begin with. Also it is not realistic to expect municipalities to be able to engage with the public regarding every issue. However it is important to develop channels through which residents can express their attitudes and receive a measured and considered response. Such systems allow planners to gauge the importance of issues and will allow planners to respond to public concerns before they have the opportunity to fester and generate significant community conflict.

The third conclusion stemming from the analysis is that participatory techniques, such as Ramböll's dialogue-based landscape analysis, can positively affect attitudes as well as relieve broader community tensions and conflicts. The interviews identified a noted improvement in attitudes towards planning and development and the perception of fairness in the community, despite attitudes remaining unchanged towards wind power technology. Participants in the engagement process were willing to alter their opinions concerning where and how wind power development could occur throughout their community. The ability to change attitudes and adjust thinking based on engagement also shows the inappropriateness of the NIMBY term in municipal wind power development discussions; residents have concerns regarding potential development and its impact on their lives and their landscape. If these concerns are discussed and addressed in a fair and open manner, then attitudes can change and concerns may disappear.

In order to develop an environment where attitudes can be expressed honestly and given the opportunity to change it is advisable that municipalities eliminate NIMBY from their lexicon and focus on developing processes that are fair and transparent. Participants responded well to iterative processes in which they could see their impact, or the impact of the community, on the final product. In addition to developing fair processes, municipalities that wish to develop the most positive attitudes towards wind power development should investigate moving towards greater fairness in outcomes through the implementation of more collective forms of ownership and profit sharing.

Communities face a choice in the coming years concerning how they will respond to the climate change crisis, and wind power has the potential to play a significant role in the future

of energy. To this point, landscape and wind power have largely been portrayed as at odds, while centralized and institutional planning processes have obfuscated the issues, commodified the landscape, and generated significant resentment. Collaborative landscape planning processes provide the opportunity to develop solutions unique to each landscape's character, challenges, and opportunities. Planning is uniquely situated to bridge the gap between wind power policy and implementation; using the collective landscape as a guide we can develop a future that is more sustainable, equitable, and diverse.

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Appendices

Appendix A – Interview Schedule

Appendix B – Informed Consent Form

Appendix C – Ethics Certificate

Appendix A – Interview Schedule

Existing Attitudes

- What are some of your thoughts on wind power in general?
- What about its role in Uddevalla?
- Have you had the chance to share these opinions with either the municipality or Ramböll? How did you communicate with them?

Wind Power and the Landscape/Landscape Analysis

- What are some of your favourite places in Uddevalla and why? What do you do there? How do you feel wind power might affect them?
- This process undertaken by Ramböll and the municipality puts a great deal of focus on landscape. What do you think of this kind of analysis? Was it helpful in understanding the municipality? Did it help to frame the question of wind power and the effects wind power might have?
- As a resident do you feel as though the analysis was “true”? i.e. did the landscape types and areas resonate with you and seem correct?

Participation and Changing Attitudes

- Could we reflect on the experiences through the engagements hosted by Ramböll? What did you think of it? Do you feel as though they are taking your opinion into consideration when doing their work?
- Has this process changed how you might consider the development of wind power in Uddevalla? How?

Appendix B – Informed Consent Form

UNIVERSITY of MANITOBA | Faculty of Architecture
Department of City Planning

Department of City Planning
University of Manitoba
Winnipeg, Manitoba
Canada, R3T 2N2
001-204-474-8769
001-204-474-7532
haldenyl@cc.umanitoba.ca

Informed Consent

Research Project Title: *Planning for Wind Energy: A Study of Public Engagement in Uddevalla Sweden*

Principal Investigator and contact information: Contact Mike Friesen by email at michaelafriesen@gmail.com or by telephone at 076197196

Research Supervisor and contact information: Contact Professor David Van Vliet by email at David.VanVliet@ad.umanitoba.ca.

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

If you have any questions about your rights or about the ethics of this study, please contact the University of Manitoba Research Bannatyne Campus Research Ethics Board by telephone at 001-204-789-3389

Information for Participants

The purpose of this research is to better understand wind power planning in Uddevalla and the effectiveness of the public engagements that were hosted by the municipality and Ramboll. You are being asked to participate in a research study in order understand how the engagements were experienced by the participants.

You will engage in recorded (in order to better study the results) conversation with the researcher, using an digital tape recorder to capture our voices, to understand three aspects of wind power in Uddevalla: your attitudes towards wind power; how you felt about the engagements hosted by the municipality and Ramboll; and how those engagements affected your attitudes towards wind power. This conversation will take approximately one hour.

It is important to recognize that wind power is a controversial issue in Uddevalla. If you share opinions that are unpopular with your friends and neighbours, there may be social consequences (angry neighbours, friends who cut contact). In order to protect your privacy and anonymity, your name will never be used on any written documents or reports and every effort will be made to ensure that no personal information is used so that your input will not be recognized. In addition, only the researcher will have access to the information from this conversation and all data will be electronically encrypted to keep it from falling into the wrong hands, recorded conversations will be deleted at the end of the practicum (approximately February 2013), and your name will not be attached to any of the data.

This research will help to expand knowledge about planning for wind power, and how various techniques help or hinder the inclusion of residents and concerned citizens into the process. This will generate useful data that may have been missed by the engagements held by the municipality and may provide useful information for the municipality to consider in planning for wind power. This conversation will also provide you the opportunity to tell your story about wind power in Uddevalla and reflect on your own opinions in a non-politicized and judgment free environment.

UNIVERSITY OF MANITOBA | Faculty of Architecture
Department of City Planning

Department of City Planning
University of Manitoba
Winnipeg, Manitoba
Canada, R3T 2N2
001-204-474-8769
001-204-474-7532
haldenyl@cc.umanitoba.ca

This research is to be used for a master's practicum and will be accessible to other researchers interested in the topic. This practicum will also be shared with the municipality of Uddevalla in order to provide more information for them to use while planning for wind power. In addition, this research may be used in writing an article for professional planning journal. A summary of the research findings will be provided to you approximately one month after the interview, and if you desire a copy of the final project that will be provided as well (either through email or a hardcopy will be mailed to you); this information may be useful to you in your interactions with the municipality regarding wind power.

This process is entirely voluntary and you may refuse to participate or end your participation at any point. No warning or written documents are required to end your participation. If you choose to end your participation all information and data will be deleted and nothing will be used in the practicum.

Consent

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the [insert full name of appropriate REB]. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

Printed Name: _____

Signature: _____

Date: _____

This protocol has been explained to the participant and they have appeared to understand the research study.

Researcher's Name: _____

Researcher's Signature: _____

Appendix C – Ethics Certificate

PANEL ON RESEARCH ETHICS

Navigating the ethics of human research

TCPS 2: CORE

Certificate of Completion

This document certifies that

Michael Friesen

has completed the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE)

Date of Issue: **21 October, 2012**