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New Brunswick Community Wind Projects
Getting to the Tipping Point

New Brunswick Department of Energy
Generic Business Plan

New Nouveau Brunswick
CANADA

Table of Contents

1 Executive Summary

Municipalia is a fictitious, but typical, New Brunswick community which has an interest in developing a community wind project to supplement it's annual cash flow.

The Province of New Brunswick has recently announced a Community Energy Policy that will enable communities to have assured access to the New Brunswick Power electrical system for the sale of renewable energy at a rate that is guaranteed.

It is acknowledged that small community wind projects may be less economic than large utility scaled projects that are the norm in Canada but there are advantages to developing locally owned community wind projects because the significant benefits of the projects - annual profits from electricity sales, flow directly into the community which owns and hosts the wind development. One hope for this early stage project is to help develop a template which subsequent projects can use to develop wind projects in their communities.

The purpose of this business plan is to outline the activities required to be carried out to complete Stage 2 project work. Stage 2 involves a detailed feasibility study to analyse the data gathered from the wind monitoring tower to determine the wind resource, how the winds flow over the adjacent land and what energy generation will result from a number of potential wind turbines. Once the most economic wind turbine is selected, initial engineering work will be completed to determine the ultimate project configuration and accurate (Class A - +/-5%) cost estimates for the project will be developed. With the project costs and the project energy yields known the financial performance of the project will be evaluated.

To initiate the discussion on the ultimate economic viability of the project an initial financial modeling exercise has been carried out using Class C (+/-20%) estimates for cost and energy production. The results of the financial analysis are evaluated using sensitivity analysis on several key parameters. The results show that a properly designed and constructed wind project can, with the appropriate funding support and financing arrangements provide attractive annual dividends to an equity investment.

2 Introduction

2.1 Municipalia, New Brunswick

Municipalia (the Community) is one of many typical, progressive communities within New Brunswick (and in many other provinces in Canada) where local community leadership is exploring investment alternatives that may enhance the long term cash flow to communities. The community is aware that wind energy is rapidly becoming a viable energy supply and the growing opinion, within the populace, is that ownership of this renewable resource needs to be kept as local as possible.

The community is interested in becoming an equity partner in a moderately sized wind project if it can be structured in a manner to provide predictable positive revenues to the community.

2.2 The Time is Right

A number of factors have converged, within New Brunswick to make this an appropriate time to consider the development of a community based wind project.

- The recent emergence of wind energy as a viable and economic energy supply has been well documented. This is discussed in further below but the connection between sustainable energy supply and the emerging public environmental ethic is prominent in the minds of the community leaders.
- The New Brunswick Wind Atlas, prepared by the University of Moncton indicates that many communities are located in or adjacent to some of the windier areas of the Province.
- The Government of New Brunswick has recently announced a Community Energy Policy that specifies an attractive and escalating price for wind generated electricity.

The community is confident that these factors make the timing of this initiative ideal.

2.3 Project Description

The Project, a 15 Megawatt wind plant, is proposed to be installed on a property, whose location will be finalized shortly, with adequate wind resource, suitable geotechnical and environmental characteristics to enable the selected wind turbines to be installed and operated economically. The anticipated structure of the project (although this is subject to modification dependent upon the results of subsequent analysis and negotiations) is to use 10 General Electric Model 1.5 xle 1.5 Megawatt wind turbines to generate the electricity.

The scope of the project covers all activities related to the design, financing, equipment procurement, installation and operation of the facility.

The electricity generated by the wind plant will be sold to New Brunswick Power (NB Power) under the terms of a Power Purchase Agreement (PPA) under the Community Energy Policy announced in March 2010 by the Government of New Brunswick. This electricity will be sold at a rate of $100.00/ megawatt hour (MWh) until 2011 at which point, 70% of the PPA will index at the rate of inflation on an annual basis.

Early projects, such as this, represent the initial execution of what may be many investments in sustainable energy generation projects, such as wind, by a New Brunswick community. These early projects may serve as templates for similar projects that can be carried out by communities across Canada in the coming years.

2.4 Project Ownership

The project will be developed and owned by a company owned by the community. The project will be managed by a Board of Directors to be selected from stakeholders including; funding agencies, local investors and the community. The intent of the separate corporation is to provide arms length management of this capital asset in a way that meets the investment criteria of all the participating funding agencies. The structure of the business and the formulation of the Board will be finalized during the financing stage.

Note to Reader - Non-conventional nature of the business plan

Because this business plan describes a business structure that is atypical of those described in most business plans, a variation in the format of this business plan will be noted. There are no products to be marketed, there is limited staff, modest management and minimal operational requirements. As a result, the risks attendant with a venture such as this is much different than most business propositions. As long as the wind flows as projected, the electrical interconnection performs as designed and the wind turbines operate as per their warranty, the electricity generated by the wind plant will conform to expectations. With a PPA to purchase any and all electricity generated, the risk related to the project cash flow is greatly diminished. The challenge of the business plan is to ensure competent equipment is selected, ancillary facilities are adequately designed and constructed and that adequate financing is obtained to enable the project to meet the target business objectives.

2.5 Objectives of this Business Plan

This business plan constitutes a Stage 2 Business plan for wind projects. While there are a number of ways to describe the evolution of a wind energy project, the assumed sequence for this business plan falls into four stages.

Stage 0 is a simple desktop study where a potential project is evaluated for potential viability. If the New Brunswick Wind Atlas indicated an average wind speed at 80 meters to be 5 m/s, if the location was found to be adjacent to a historical Acadian or Micmac settlement or if the electric interconnection was 50 kilometers away, work on the project would not have proceeded to this point. Stage 0 involves a site visit, a review of local wind atlas and topographic data as well as a cursory review of grid interconnection options and a rough calculation on whether a wind project might be feasible. Rough estimates on wind data, energy generation, project costs and financial analysis are prepared. For wind projects, this stage should provide a Class C estimate (+/-20%). Stage 0 work can, typically, be completed for less than $5,000.

Stage 1 activities include the wind resource assessment work, a review of interconnection alternatives and a preliminary assessment of environmental issues to ensure there are no likely hurdles to the project execution. With the release of the Community Energy Policy ensuring that any wind project will have access to the grid at a specified 'Feed-In Tariff', the key to assessing the finance

ability for a wind project lies in the detailed analysis, engineering and cost estimating to develop a Level B cost estimate (+/- 10%). Stage 1 work can be completed for approximately $100,000.

This business plan has been prepared to secure financing for Stage 2 activities. Stage 2 completes the preliminary design work, wind resource analysis, wind turbine selection, environmental assessment activities, wind plant layout and optimization, engineering cost estimates. It will yield final project cost estimates. Work on this Stage begins with the evaluation of a number of candidate wind turbines for the project and an assessment of their optimized energy yield. Through an iterative process using budget cost estimates, the most economic wind turbine can be selected. Following the selection of a preferred wind turbine, detailed cost estimates can be made to complete the civil and electrical work required to install the turbines. This stage's activities will yield a Class A (+/- 5%) estimate of final costs with contingencies.

With accurate cost estimates and the projected annual revenue, computed from the energy yield analysis and the terms of the PPA, the cost and revenue parameters of the project can be used to evaluate the financial results. These results are used, with a financial model, to compute the economic viability of the project using a number of references. The primary reference for this analysis is the 'After Tax Internal Rate of Return' on invested equity. With the analysis complete, financing groups may then be engaged to assess financing options available. At the conclusion of this stage, the financial characteristics of the project are well enough known to decide to proceed with the project or not and what sort of additional investment may be required to make the project move forward.

Stage 3, which will follow the successful completion of Stage 2, if the economics are sufficiently attractive, will involve the finalization of project financing and the execution of commitments to finalize design, order components and build the plant.

There are three objectives of this plan:

1. Secure the necessary funding to enable a Stage 2 analysis of this wind project to be carried out.
2. Demonstrate that this project can demonstrate that economically viable wind plants can serve as desirable investment opportunities for progressive communities. Because of its early nature, executing this project may require additional external investment, as described later.
3. Assemble additional information so that further refinement to this business plan will be sufficient to develop a Stage 3 financing prospectus to secure project financing if the analysis of the current stage demonstrates that the project is economically viable.

3 Wind Energy as a Community Business

3.1 Utility Wind Energy – State of the Art

Wind energy is the fastest growing source of electricity generation in the world. In Canada alone, there were 950 MW of wind energy installed during 2009, representing an investment of more than $2 billion. Wind energy's strong growth comes as no surprise because over the last 20 years this rapidly advancing technology has continuously reduced costs and improved performance. The average size of a utility wind turbine has grown from 200 kW in 1990 to 2,000 kW in 2010 and the cost of energy has been halved in that time. Wind energy, in the appropriate wind regime, is now economically competitive with all other forms of new electricity supply. Wind has two additional attractive features; it has zero fuel cost which mitigates against a future where more volatile energy prices may create economic uncertainty. It also has virtually zero emissions which hedges against future carbon pricing scenarios that most people feel will be essential to address climate change.

Of the $2 billion invested in wind power facilities in Canada in 2009, essentially all of it has been invested by large developers and multi-national companies who secure investment from global sources for investment in utility scale wind projects. Utility wind projects are usually large, often 100 MW or greater. They connect to the utility's high voltage transmission system. Because they are so large and so expensive, they require significant initial capital investment for predevelopment work to reach the project financing stage. These initial investments are significant enough that they are usually carried out by large national or multi-national companies or by well financed developers with access to liberal amounts of quiet investment capital. Community wind projects do not have these luxuries of money or space to develop their projects.

Projects are typically financed with a combination of debt and equity. 30% of the investment, nominally, is equity, and investors expect to obtain a return on these equity investments of 10-12%.

This investment structure has been used for most utility wind projects across Canada, particularly in New Brunswick, where all of the wind developments to date have been carried out by large companies with no roots in New Brunswick. While it must be acknowledged these large companies have the investment capacity to make these projects work, there is an emerging consensus, within New Brunswick and across Canada, that these large companies are extracting the major benefits from these projects, in the form of dividends, out of the communities and out of the Province.

3.2 Opportunities and Challenges for Community Wind

Although the rapid growth of wind projects across Canada has found broad public favour, there has been, in some quarters, a backlash in many communities, to these developments. Some of the objections to these wind plants are related to noise, perceived health effects or concerns over impacts on viewscape. These concerns have been vocally presented but represent a minority of people's views. Most of the concerns raised can be resolved with proper placement of turbines and with proper education. But a more fundamental question is being raised in these communities. Why do we need rich developers 'from away' to come in to our communities make an investment and then leave taking most of the benefits of the project with them. Communities take pride in their local resources, such as wind, and there is a strong sentiment within communities that any economic developments arising from these projects should be retained as locally as possible.

It is, in part, this growing sentiment that triggered the Government of New Brunswick to develop a Community Energy policy. The notion of community wind has emerged to counter the trends of siphoning off the benefits of wind projects by trying to increase the local content of the projects. In this way, it is expected that the revenues from the projects will flow, increasingly, to the local communities and enable the local communities to redirect the cash flow into desirable community projects.

While community wind projects tend to keep the benefits derived from wind plants local, they have two significant challenges, in addition to the challenges that all wind projects face with respect to wind resource and environmental issues, which will need to be addressed before they can be widely deployed.

The first challenge is cost. Large projects have economies of scale that enable the energy to be delivered at lower cost. For community wind projects to be effective there needs to be some development work, in early stage projects – such as this project, to identify ways to minimize costs for the development and installation of community wind projects.

The second challenge is financing. Large utility projects are financed by large companies who have ready access to the significant amounts of investment capital required to finance these projects. For community based projects, things are not as simple. As an example, a 15 MW project will cost $30-$35 million. Using conventional financing ratios, available to large developers, the local community will need to raise $9-$11 million to complete the project. For communities, with no experience in projects such as this, the equity requirements may even be higher, although communities do have access to some investment funds such as infrastructure programs that may be utilized. Accessing this capital is an activity that will require creativity and participation from interested and committed local groups. Some additional capital will likely be needed, in early projects such as this, to ensure sources of capital can develop an understanding of the technology and the community application, without incurring unacceptable risk.

A related challenge to the financing is the initial investment required to carry out the feasibility (Stage 2) studies. Before a community wind project can commence negotiations for financing, there needs to be a significant amount of preliminary work done to engage wind turbine manufacturers, to complete wind flow modeling and initial wind plant design and to carry out the cost estimates and conduct the feasibility studies required to engage investment opportunities.

3.3 The Economics of Community Wind Energy

Because of the 'economies of scale' challenges facing community wind projects, it is reasonable to assume that the economics of community wind project will, initially, be less attractive than larger utility wind projects. Nonetheless, it is possible that a model can be developed that actually makes the community wind model more economic in the long term. The near term justification for community wind projects must be made based on the political appeal of local ownership of renewable energy based generation. This will be justified by a cost benefit analysis that concludes the benefits of a community wind project, i.e., the equity of local ownership and the cash flows derived from the project, exceeds the additional premium that must be paid to develop these smaller projects. It may prove to be the case, in the final analysis, that further evolution of the project structure, such as amalgamating community projects into larger, more economic projects and the

creative utilization of local funding sources, may be required to maximize the cost benefit ratios for community wind.

It should be clarified that the assumptions herein are that a project of this size has sufficient economic viability to merit the investment in the facility. This will be determined by the ability to secure financing based on final cost estimates and energy yields. A better return on investment may be possible by increasing the size of the project to increase the economy of scale on construction, financing and operation of the facility. This option will be evaluated during the Stage 2 analysis period and alternate groups may be engaged, during this stage, to determine the extent of interest in a larger joint project that should reduce costs and improve cash flow to all participants.

3.4 Primary Objective of the Business Plan

The community has been actively exploring the concept of a community wind project before the government announced their Community Energy Policy and expects to be one of the first community wind projects in New Brunswick. However as noted in the previous section, there are many uncertainties related to community wind that will require initial investment to resolve.

The three objectives of the business plan were described earlier. **The primary objective for this phase of business plan, which is essential to moving the project forward, is to secure the investment that is required to complete all of the prefeasibility (Stage 2) studies and move the project to a 'Ready for Investment' state**.

4 The Project

4.1 Site Description

Several properties are under consideration for the project. The property that presents the best investment for the community, based on a number of factors will be selected. Wind resource, environmental characteristics, soil conditions and access to transmission capacity will be among the factors to be considered in the final site selection.

4.2 Project Baselines and Options

The project is assumed to be a 15 MW wind plant, consisting of 10 – 1.5 MW wind turbines. This may change once detailed negotiations with wind turbine suppliers are conducted. It is possible that larger turbines may be used, if it is found to be more economic, but for the base case assessment of the project finances, 1.5 MW turbines were selected.

A project with the potential to be expanded is desirable. A larger plant offers economies of scale and would increase the probability that permanent employees would be retained by the project, potentially in the community.

4.2.1 Wind Resource

Because the wind is the 'fuel' for a wind project, it is critical that the extent of the resource be carefully and thoroughly assessed. The wind resource can be estimated using generic tools such as the New Brunswick wind atlas and this methodology is used for Stage 1 studies. But to accurately assess the resource in a particular locale, it requires the installation of a wind monitoring tower to measure the wind, as close to the hub height of a planned wind turbine as possible. Wind speeds in excess of 8 m/s are exceptional for wind energy. Wind speeds between 7-8 m/s are usually economic and wind speeds below 7 m/s require careful development if they are to be economically developed.

The site is assumed to have an annual average wind speed of 7.5 meters/second. With typical operating losses for an array of ten of the selected wind turbines, we have estimated the annual wind energy generation for the 15 MW project will be 45,743 MWh, with an annual capacity factor of 34%. This will be more accurately computed during the Stage 2 analysis.

4.2.2 Wind Turbine Options

While the extent of the wind resource is the most critical parameter to enable the economic development of a wind energy project, the selection of the most suitable wind turbine manufacturer and model is also a critical consideration. A turbine manufacturer must be competent, reliable and stable. It must also be keen to participate in the market niche of interest. Community wind projects are relatively small and many large manufacturers are not interested or only mildly interested in smaller projects. Additionally most manufacturer's offer different sized rotors and different tower heights for each turbine. Each tower and rotor option impacts annual energy generation on the revenue side but also affects turbine cost, foundation size and the cost of installation on the cost side. This requires an iterative analysis, with a full understanding of all parameters, to select the most economic option for each turbine.

This project will focus only on established technology in the multi-megawatt class which has been proven to offer the most economic and most reliable wind energy generation. The base case assumes that the project will utilize GE Wind Energy's 1.5xle turbine. This wind turbine, with a rotor diameter of 82 meters, has a rated capacity of 1,500 kW and is usually installed on an 80 meter tower. This turbine is the most popular utility scale wind turbine in the world with more than 13,000 installations world wide.

There are other alternatives which will be considered. GE has recently introduced their new platform, a 2.5 MW turbine. Vestas, the world's largest manufacturer (which has provided the turbines for two of the largest projects in NB) offers a V90-1.8 MW turbine and will soon be introducing their advanced V112-3 MW wind turbine. As well both Repower and Enercon offer 2 MW wind turbines and both of these companies have received significant orders from the most recent Quebec RFP so they will have local facilities to offer product. Finally there has been a recent development in Nova Scotia where a Korean company has established manufacturing capacity for a manufacturer of 2 MW wind turbines. There may be some opportunity to access some cost effective product offerings from there as well.

Ultimately the project will select the most economic and least risk product. This is a primary activity for Stage 2 work.

4.2.3 Interconnection Alternatives

The wind turbines generate electricity at 690 -1,000 volts nominally. This voltage is increased, using a transformer located inside or near the base of the turbine, to 12,500 – 34,500 Volts depending on the interconnection plan. This voltage, known as the collector or distribution voltage, is used to connect all of the turbines in the wind plant to the substation or to the utility.

Two interconnection alternatives exist for the wind plant; connection to the distribution system or to the transmission system. If the project is small enough, it may be possible to connect the wind plant to NB Power's distribution system. This will require the installation of a medium voltage (12,500 Volts) line to the nearest substation where the connection would occur. This is an attractive option because it eliminates the need for a substation and reduces the project cost. If the utility assessment of the local electrical system concludes the size of the local distribution system is inadequate to accommodate the capacity of the wind plant, interconnection must be made to the nearest transmission line, at either 69,000 or 138,000 volts. The interconnection plan will be another early task in the Stage 2 activities. However it is unlikely that a 15 MW project can connect to the distribution line.

4.2.4 Stage 2 Activities

The following primary activities, in addition to additional secondary activities, will be carried out as part of Stage 2 activities;

- The environmental assessment process will be completed to ensure there are no environmental issues that might impede the project execution.
- Wind turbine suppliers will be engaged to determine if they are interested in proposing turbines for the project and under what conditions they would be made available. As each turbine is evaluated, an iterative analysis will be conducted to optimize the layout of the wind plant using each specific turbine. Project costs will be evaluated for each turbine offered and the financial analysis completed for each alternative to select the most economic turbine for the project.
- Geotechnical assessments of the wind plant will be carried out. This will enable preliminary foundation designs to be completed and the cost of the turbine foundations to be accurately estimated.
- Utility studies on electrical interconnection options will determine where the most practical point of interconnection can be made and the required voltage of interconnection. Following this preliminary substation and interconnection designs can be completed and accurate cost estimates obtained.
- Project logistical issues can be assessed to understand what local infrastructure needs to be adapted to enable the project to be installed.
- Construction cost estimates will be obtained for the assembly and installation of the turbines.
- Potential financing agents will be contacted to discuss financing options
- Additional potential partners will be engaged to explore the level of interest in developing a larger project.

5 Project Cost Estimates

Accurately determining the installed project costs is a critical requirement before proceeding to stage 3 (the execution stage) of a project. There are two reasons for this. First, the cash flow of the project is largely dictated by the debt repayment schedule of the project debt. So it is imperative that the project costs can be accurately estimated so financial performance of the project can be evaluated to ensure it can meet the financial objectives. Secondly, the financing partners will need to commit significant amounts of funding nearly a year before the project is constructed and to commit this investment they must have confidence that the project team can execute the design, procurement and construction of the project for the stated costs before they commit that funding.

Project cost estimates, based on recent quotations and internal historical estimates, within Frontier Power's database, are summarized in Appendix A - Table 2. These budget numbers, drawn from previous larger project experience, offer a Class B cost estimates, generally considered to be within +/- 10%. One of the key deliverables of this Stage 2 work, is to reduce the uncertainty of the cost estimates to obtain a Class A estimate, considered to be within +/- 5% of final costs.

6 Projected Financial Pro Forma with Sensitivities

Note to Reader: *The presentation of the financial statements is made in a non-conventional manner. Typical business plans present financial statements over a three to five year period, and monthly for one to two years. The descriptive line items are usually listed by row and the annual financial numbers listed in columns. In this case, the items are transposed with the descriptors in the columns and the annual financial figures in rows. The reason for this is that, unlike conventional business plans, financial statements for wind projects need to be carried over the entire life of the project to be able to fully assess the financial results. It is not possible to present these results legibly over a 20-25 year project life using conventional presentation format.*

The financial performance of the project is described below. The annual revenues and expenses of the project are described in detail and the financial results of the project, using a conventional means of project viability assessment, computed using the internal rate of return on invested equity.

6.1 Revenue Projections

Project revenue is derived from the Power Purchase Agreement (PPA), to be contracted with NB Power, which pays $100 for each MWh of electricity sold to the grid in 2010. In 2011 and each subsequent year, 70% of the PPA is escalated at the Consumer Price Index (CPI) for the remainder of the project.

Revenue projections are shown in Appendix A - Table 3. Based on the assumed electricity generation of 45,743 MWH/year, annual revenue from the wind plant is estimated to $4,638,340/year escalating with inflation.

The impact of the escalating PPA price, on annual revenue, is significant as shown in Table A-3.

6.2 Expense Projections

The operation of a wind plant differs significantly from other businesses since a wind plant has few employees and few direct expenses related to activities such as marketing or production. But there are ongoing expenses related to the business. Expense projections are shown in Appendix A - Table 4. Expenses are assumed to flow from the following areas:

Turbine O&M Costs will be paid to the party that performs the operation and maintenance work on the wind plant. During the initial years, when the warranty is offered (this may be 2, 5 or possibly 10 years) the manufacturer will provide the operational services for the wind plant. Once the warranty expires, the manufacturer may opt to provide a proposal to continue to offer the turbine service program or an alternate turbine service may be used. There are third party O&M providers in Canada and, in some cases, the project owner may carry out the operation and maintenance program on the turbines using their own resources. O&M costs are assumed to increase with inflation. We have assumed, for the base case analysis, that O&M costs represents 18% of revenue.

Turbine O&M costs represents the greatest uncertainty to smaller projects. On larger projects the O&M costs are generally in the $0.01-$0.02/kWh but for small projects long distances from other operating turbines the costs can be more than double these values. It is not possible to determine these costs until the detailed discussions with turbine manufacturers are underway.

Land Lease will be paid to the land owner on an annual basis. Crown land lease rates are approximately $0.013/kWh but private rates can be nearly double that.

Real Property Taxes will also be paid to the Crown. This has been calculated using best estimates on the utilized technology and references on the Government of NB website.

Maintenance Reserve is a recommended expense item to invest in a sinking fund to cover large maintenance items that may arise several years into the project. This maintenance reserve is an important line item to reduce long term operating risks and to demonstrate technical due diligence to financing groups. The primary purpose of the sinking fund in the base case analysis is that there is a significant risk on the operating life of the gearbox on this turbine. If a gearless turbine was selected or if the manufacturer was prepared to warrant the gearbox for the life of the turbine, this reserve may be reduced.

Site Operation is a budget item to allow for the part time administrative functions for the wind facility and for such activities as snow removal, electricity and telephone in the site maintenance facility.

Insurance is required to insure the operations of the facility and for equipment failure. The extent of insurance is largely dependant on the warranty offering of the wind turbine supplier.

Imbalance Charges will arise if the project is required to bid into the transmission system and errors in forecasting are assigned as penalties against the project. We have assumed there will be no requirements for forecasting for such a small project and that imbalance costs are zero.

6.3 Cash Flow

Cash Flow projections are shown, for the life of the project, in Appendix A - Table 5.

6.4 Balance Sheet

Balance sheet projections are shown, for the life of the project, in Appendix A - Table 6.

6.5 Income Statement

Income Statement is shown, for the life of the project, in Appendix A - Table 7.

6.6 Financial Returns

There are a number of methods of assessing the financial returns of a wind project. Simple or levelized cost of energy for a project is useful for comparing whether the project is likely to be economic relative to alternate sources or for selecting the most economic configuration for a specific project. However most financial analyses are based on realistic scenarios on which a project may be financed.

For the purpose of this analysis, the Internal Rate of Return, after taxes, computed for the initial equity investment over the normal 20 year life of the project, is considered the reference financial indicator. This is one of the more common indicators of financial viability of a project used by some

developers but there are a number of ways of expressing the viability of a project's investment. It is also computed over a 25 year project life for further comparison. The financial returns are shown, over the life of the project, in Appendix A - Table 8. The 'after-tax'IRR for the project under the current assumptions is 11.04% over 20 years

6.7 Project Summary

A summary of the project inputs are tabulated in Appendix A - Table 1.

6.8 Project Sensitivities

With the assumed project inputs from Table 1, below, a sensitivity evaluation of key project parameters was carried out. The following parameters were varied as described below to evaluate the impact on the after tax IRR on the equity investme

	Base Case	Scenario #1	Scenario #2	Scenario #3	Scenario #4	Scenario #5
Wind Speed	7.5 m/s	7.0 / 8.0	7.5 m/s	7.5 m/s	7.5 m/s	7.5 m/s
Capital Cost	$36,030,042	100%	90% / 110%	100%	100%	100%
Debt/Equity Ratio	70/30	70/30	70/30	80/20 – 60/40	70/30	70/30
Debt Rate	7%	7%	7%	7%	6%/8%	7%
Grants	0	0	0	0	0	$5,000,000
After-tax IRR	9.3%	5.1% / 13.0%	13.4% / 5.6%	10.8% / 8.4%	10.9% / 7.5 %	19.7%
20 Year NPV @ 6%	$13,916,439	$9,928,875 / $17,493,785	$16,304,345 / $11,516,362	$10,486,862 / $17,325,153	$15,461,548 / $12,279,925	$13,916,434

Table 1

With the base case scenario, indications are that the project has marginal returns on the investment. Of course this is a very preliminary calculation since the project costs have not been refined to any degree. It is possible that project costs may be lower and that energy generation may, in fact be higher or lower.

In Scenario #1, the impact that variations in the wind resource would have on IRR are considered. IRR may drop to 5.1% if the average wind speeds are only 7 meters/second and increase to 13.0% if the wind speeds are 8 m/s.

Scenario #2 evaluates the effect that a variation in capital cost has on IRR. Reducing project cost by 10% will increase IRR to 13.0% while a cost overrun of 10% reduces IRR to 5.1%. Stage 2 work will better define this variable.

The impact of financing variation, in Scenario #3, has less impact on the IRR. If the financing institutions insists on 60/40 debt / equity rations or allows the debt to increase to 80/20, the effect on IRR is nominal. The reason for this is that the cost of debt is close to the IRR on the equity under this analysis. Nonetheless the IRR increases with increasing leverage. Interestingly the NPV increases significantly under the reduced debt conditions.

The effect that a changing debt rate has on IRR is shown in Scenario #4. A 6% interest rate increases IRR to 10.9% while 8% debt reduces the IRR to 7.5%

The potential for capital injection from alternate sources has a major impact on the project returns. If a total of $5,000,000 could be raised in the form of grants, the IRR increase to 19.7%. It is not clear what grants might be available for this project but it appears, depending on the outcome of Stage 2 analysis, some form of government grant would be useful to get this project launched.

The sensitivity table shows the significant variations in the financial returns to the equity investment in the project depending on the final project configuration. These changes on return to the equity partner also impact the debt service coverage ratio on the debt financing. Given the impact of financial sensitivities the project presents, it is clear that, if a financial institution was approached for debt financing, reducing the uncertainty of uncompleted studies; notably wind resource and project costs, would be a prerequisite to obtaining debt financing for the project.

7 Anticipated Project Timeline

The anticipated project schedule is shown in Figure 2. It is assumed that the project schedule will be structured to be ready for construction in August 2012. August construction is an ideal time in eastern Canada because it allows a project to commence in the late spring or early summer, avoiding costly winter and spring construction. The schedule would attempt to have the turbines received in late summer for immediate installation. This allows them to be commissioned and brought into service in the late fall just as the seasonal wind speeds are increasing. It typically requires one year for ordering and receiving the long lead turbines and substation components. This will require all prior work and financing to be completed before the summer of 2011.

8 Financing Options

Sources of financing must be found for both equity and debt. Because this is expected to be an early community wind project in a region where project financing for wind projects has no history, work will be required to engage the financing community to determine their level of interest and the conditions under which they would be prepared to finance a project. Utility wind plants have evolved over the last decade where typical debt/ equity ratios have changed from 50%/50% to 60%/40% to 70%/30% in many projects today. This is driven by a number of variables including the experience of the bank, the experience of the developer, the project cash flow and a number of other variables.

Debt is usually provided by commercial banks or credit unions or, for larger projects, by insurance companies. It is not yet clear whether conventional sources of financing can be found for a project of this size or if alternate financing alternatives need to be developed. The terms of debt financing will dictate the financial structure of the project. Banks will insist that sufficient equity be provided to the project to meet their debt service coverage ratios (DSCR) requirements that banks use as a primary reference. This DSCR will probably be computed using the P(95) value that will be determined during the Stage 2 activity. P(95) is the 95% probability that the projected annual revenues will be exceeded. Because the wind speeds vary from year to year, banks need confidence that the poorest wind year over the operating life of the project will still generate sufficient income to meet the project's debt obligations. It may be that the DSCR for a community wind project (with their attendant reductions in economies of scale) will be higher for early projects, until bankers find their 'comfort zone'. This may require higher levels of equity on the part of the project developer.

Equity for wind projects is usually secured by the project developer, either using internal reserves or by privately placed equity sources. The business case presented herein assumes that banks will be agreeable to negotiate conventional debt ratios but it is quite plausible that a lack of comfort on the part of local banking groups may push the debt/ equity ratios from 70/30 to 60/40 and, potentially, even to 50/50. For this project, the assumed financing ratios will require the equity component to be in the $10-$11 million range. This appears to be an aggressive level of financing for early stage community projects so alternate equity options may need to be explored. As community wind projects become more common and the financing community becomes more familiar with their economic and technical performance, financing constraints should be reduced and debt rates as well as debt/equity ratios should improve for community projects.

The amount and ultimate source of government support will depend largely on the financial requirements of the project, which will be determined in Stage 2 work, and on the priority that government groups have on assisting with the establishment of the community wind concept.

Efforts will be made during the Stage 2 work to engage other groups for potential partnerships to expand the project for the purposes of improving the project economics and to broaden financing options.

9 Project Execution

Because a wind project differs significantly from conventional community businesses, it is important to understand the typical development sequence of a wind project and how it differs from more common business models.

9.1 Stage 1 Investment Requirements & Objectives

Stage 1 activities are underway. These activities include the wind resource assessment and initial environmental assessment activities to ensure there are no major impediments to the execution of the project. Typical costs for Stage 1 activities are in the $75,000-$125,000 range. These investments are considered as higher risk initial start-up investments and are not usually capitalized in the project.

The results of stage 1 work indicate that the wind resource, grid interconnection and environmental considerations indicate this project can be viable if costs, financing and performance benchmarks are achieved.

9.2 Stage 2 Investment Requirements & Objectives

Stage 2 moves a wind project from Stage 1, where the initial indications suggest that a viable wind project may be possible, through to a point where the wind resource, project configuration as well as project costs and cash flows are understood well enough to enable a thorough economic feasibility analysis to be completed. The result of this analysis must be sufficient to allow project financing to be negotiated.

Turbine negotiations lead, fairly early in the analysis, to the selection of a preferred turbine and that turbine is used to optimize the project layout. Both project costs and energy yields are estimated with increased accuracy which enables the economic feasibility of the project to be more accurately assessed.

Stage 2 activities typically cost $200,000-$300,000 with costs higher in the initial project cycles. Logically, once the financing institution and equipment suppliers become more familiar with the type of project and better realize the economic merits of community projects, everything will move more quickly and more economically. In some cases, such as this, this investment is capitalized within an eventual project. In other cases it is considered an early stage investment that is not capitalized.

A critical task for stage 2 of the project is to secure financing for the project. It is at this point that discussions with the potential debt financing partners will have defined the amount of debt that might be obtained for the project and the community will understand what their equity requirements will be. They must start, before the commencement of stage 3 activities, to assemble the equity investment for the project. When Stage 3 commences all financing partners must be committed to move forward with the project.

The purpose of this business plan, in its current form, is to secure funding for this Stage 2 work.

9.3 Stage 3 Investment Requirements & Objectives

Stage 3 involves the execution of the project. Early in Stage 3, the power purchase agreement is finalized which is a critical prerequisite to obtaining financing. Financing is secured which enables the commitments for turbine procurement and the commencement of final design and construction activities. The project management team then takes the project through the design and construction phases and into commercial operation.

9.4 Operation and Governance

Once the turbines have been installed and commissioned in accordance with the manufacturer's specifications, the wind plant will be put into automatic operation for the life of the project. For the initial period of operation, while the turbines are under warranty, operation and maintenance of the wind plant will be carried out by the turbine manufacturer. Following that period, alternate operational arrangement may be made as long as the financing partners are agreeable.

As noted earlier, the project will be organized as an independent company with the Community holding some or all of the shares, depending upon the final financing and organizational constraints to define the final structure. The board of the company will be constituted in a way that fairly represents the interests of the stakeholders. It is anticipated that all groups with a significant investment in the project will be invited to participate in the administration of the company until the investment objectives are met.

10 Next Steps

10.1 Resources required moving forward

Municipalia is ready to commence Stage 2 work. *Note to reader. This assumes proposals are in hand to conduct all of the work required to complete the Stage 2 activities*.

The total amount required to move this project through Stage 2 is estimated to be $200,000 - 400,000.

10.2 Activities and Timelines

The activities described in the attached appendices will be carried out on the schedules indicated with the indicated resources. The anticipated project schedule is shown in Figure 1. It is anticipated that Stage 2 activities can be concluded in early 2011 and financing secured by mid 2011. Project launch is targeted to be mid-2011 with the commencement of design activities and the ordering of critical long delivery items such as the wind turbines and transformer components which have delivery times as long as 12 months.. Project construction is scheduled to commence in the spring of 2012 with the turbine delivery and installation scheduled for Q2-Q3. Commercial operation is scheduled for early Q4, 2012.

11 Conclusion

This business plan's objective, to demonstrate the attractiveness of local investment in community wind projects, is shown by the sensitivity analysis in Table 1 to be achievable under the appropriate circumstances. The New Brunswick Wind Atlas has identified several areas which has one of the better wind resources in the Province. Wind speed measurements currently underway are expected to confirm the most appropriate area and the land will be secured to allow the project to move forward.

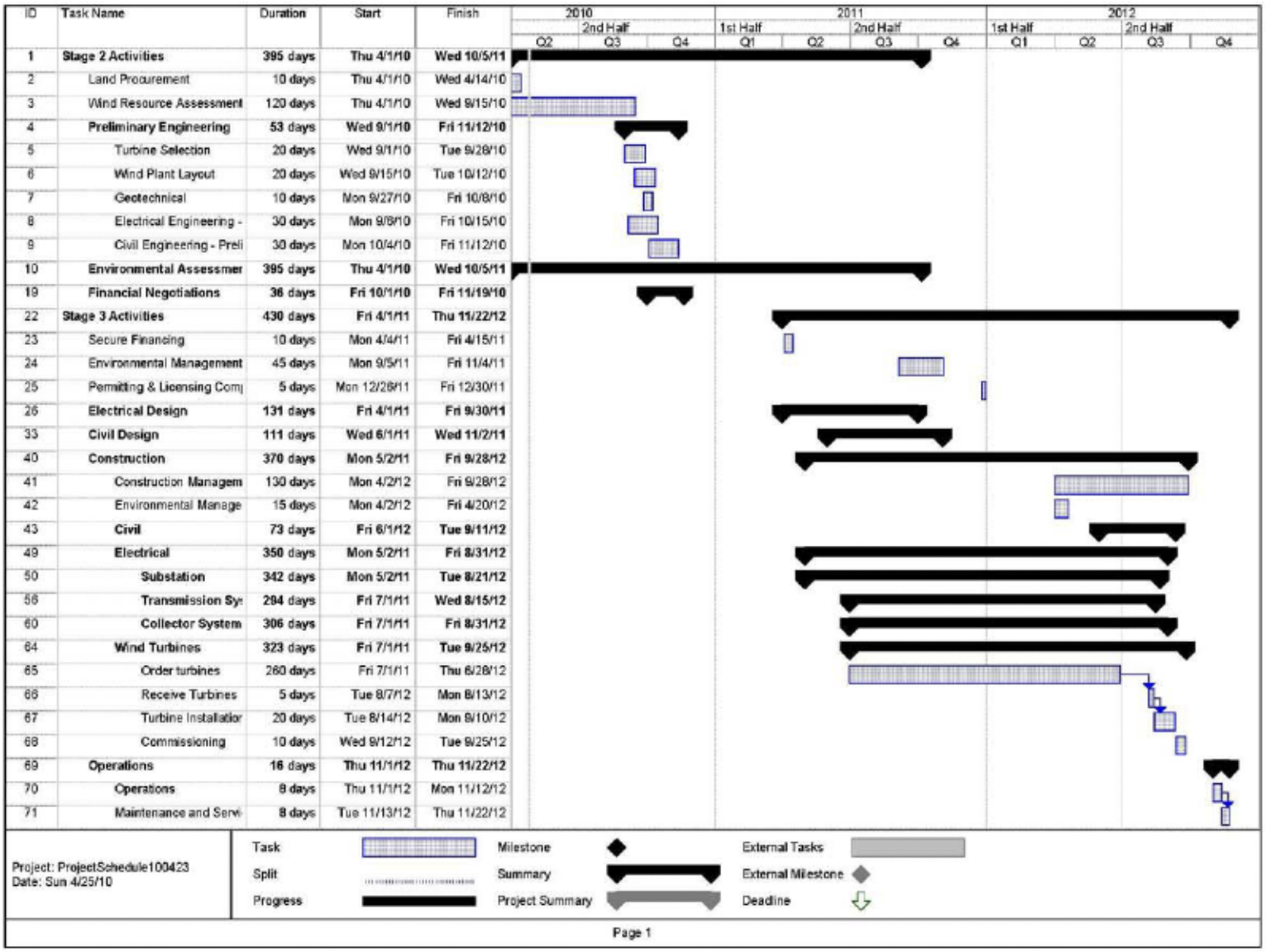

Figure 2

Appendix A
Municipalia Wind Plant Business Plan Financial Statements
August 6, 2010

NB Community Wind - Municipalia

Project Financial Summary		
Turbine Manufacturer		GE
Model		1.5xle
Rated Capacity - kW	kW	1500
Number of turbines		10
Project Capacity - MW	MW	15
Hub Height Average Wind Speed	m/s	7.5
Capacity Factor	%	34.8%
Annual Energy Generation	MWh	45,744
Revenue		
PPA Rate	$/MWh	$101.40
% of PPA fixed	$/MWh	30.0%
% of PPA Escalated	%	70.0%
Escalation Rate	%	2.0%
Green Revenue Rate	$/MWh	$0.00
Expenses		
Turbine O&M Costs	$/yr	$834,919
Land Lease	% Revenue	2.50%
Taxes	$/yr	$100,000
Maintenance Reserve	$/yr	$100,000
Site Operation	$/yr	$50,000
Insurance	$/yr	$72,060
Imbalance Charges	%	0.00%

Sensitivity Parameters - Adjustment to Base Inputs		
Capital Cost Adjustment	%	100%
PPA Adjustment	$/MWh	$0.000
Green Energy Adjustment	$/MWh	$0.000
Green Energy Adjustment	Years	0
AEO_Adjustment	%	100%
Inflation Rate Adjustment	%	0%
Debt Ratio Adjustment	%	0%
Debt Rate Adjustment	%	0.00%
Amortization Period Adjustment	years	0
Reference Parameters		
Reference Year		2011
Inflation Rate	%	2.0%
Amortization Period	years	20
Depreciation period	years	20
Assumed Income Tax Rate		35%

Financing Parameters		
Total Project Cost	0	$36,030,042
External Grant	$	$0
Amortization	years	20
Depreciation period	years	20
% Debt	%	70%
Debt Rate	%	7.00%
% Equity	%	30%
Equity Rate	%	12.00%
LCE 20	$/MWh	$88.75
Debt	$	$25,221,029
Equity	$	$10,809,013

Financial Results		
IRR on equity (20 years)=	**%**	**9.27%**
IRR on equity (25 years)=	**%**	**11.08%**
After Tax NPV (6%, 20 yrs) =	**%**	**$13,916,439**
After Tax NPV (6%, 25 yrs) =	**%**	**$17,662,683**

Table 1

NB Community Wind - Municipalia	
Project Cost Estimates	
06-Aug-10	
Prepared: Carl Brothers, P.Eng.,	
	Estimate
Turbine Selected	1.5xle
Turbine Rating - kW	1500
# of Turbines	10
Total Capacity - MW	15
	Cost Estimates
TURBINES	
Total Installed Turbine Costs - Installed	**$29,520,042**
BALANCE OF PLANT	
Project Design	
Project, Construction & Environmental Management	$275,000
Development, Financing and Legal Fees	$250,000
Wind Resource Assessment	$100,000
Environmental Assessment	$150,000
Geotechnical	
Electrical Design	
Foundation Design	
Road & Crane Pad Design	
Total Project Design	$300,000
Construction	
Surveying	
Site Clearing	
Road Construction	
Crane Pads / Laydown	
Foundations	
Service Building	
Total Civil Construction	$450,000
Substation	
Transmission	
Collector System (Overhead & Underground)	
Collector System (U/G)	
SCADA (Overhead, Underground & terminations)	
SCADA U/G	
Total Electrical Construction	$3,750,000
Insurance ($0.30/$100)	$50,000
Interest During Construction	$650,000
BOP Sub-Total	**$5,975,000**
Contingency	$535,000
Total Project Costs	**$36,030,042**
$/MW	**$2,402,003**
Table 2	

NB Community Wind - Municipalia						
Annual Revenue Generation						
		Annual Energy	Utility PPA	Utility Revenue	Green Revenue	Gross Revenue
	Year	MWH	$/MWh	$	$	$
1	2011	45,744	$101.400	$4,638,442	$0	$4,638,442
2	2012	45,744	$102.820	$4,703,380	$0	$4,703,380
3	2013	45,744	$104.259	$4,769,227	$0	$4,769,227
4	2014	45,744	$105.719	$4,835,996	$0	$4,835,996
5	2015	45,744	$107.199	$4,903,700	$0	$4,903,700
6	2016	45,744	$108.700	$4,972,352	$0	$4,972,352
7	2017	45,744	$110.221	$5,041,965	$0	$5,041,965
8	2018	45,744	$111.764	$5,112,552	$0	$5,112,552
9	2019	45,744	$113.329	$5,184,128	$0	$5,184,128
10	2020	45,744	$114.916	$5,256,706	$0	$5,256,706
11	2021	45,744	$116.525	$5,330,300	$0	$5,330,300
12	2022	45,744	$118.156	$5,404,924	$0	$5,404,924
13	2023	45,744	$119.810	$5,480,593	$0	$5,480,593
14	2024	45,744	$121.487	$5,557,321	$0	$5,557,321
15	2025	45,744	$123.188	$5,635,124	$0	$5,635,124
16	2026	45,744	$124.913	$5,714,016	$0	$5,714,016
17	2027	45,744	$126.662	$5,794,012	$0	$5,794,012
18	2028	45,744	$128.435	$5,875,128	$0	$5,875,128
19	2029	45,744	$130.233	$5,957,380	$0	$5,957,380
20	2030	45,744	$132.056	$6,040,783	$0	$6,040,783
21	2031	45,744	$133.905	$6,125,354	$0	$6,125,354
22	2032	45,744	$135.780	$6,211,109	$0	$6,211,109
23	2033	45,744	$137.681	$6,298,064	$0	$6,298,064
24	2034	45,744	$139.608	$6,386,237	$0	$6,386,237
25	2035	45,744	$141.563	$6,475,645	$0	$6,475,645

Table 3

NB Community Wind - Municipalia

Summary of Expenses Year 1 - 25

Year	Year	Turbine	Other Expenses							Total Expenses
		Turbine O&M Costs	Land Lease	Taxes	Maintenance Reserve	Site Operation	Insurance	Imbalance Charges	Total Other Expenses	
1	2011	$834,919	$115,961	$100,000	$100,000	$50,000	$72,060	$0	$438,021	$1,272,941
2	2012	$851,618	$117,584	$102,000	$102,000	$51,000	$73,501	$0	$446,086	$1,297,704
3	2013	$868,650	$119,231	$104,040	$104,040	$52,020	$74,971	$0	$454,302	$1,322,952
4	2014	$886,023	$120,900	$106,121	$106,121	$53,060	$76,471	$0	$462,673	$1,348,696
5	2015	$903,744	$122,593	$108,243	$108,243	$54,122	$78,000	$0	$471,201	$1,374,944
6	2016	$921,819	$124,309	$110,408	$110,408	$55,204	$79,560	$0	$479,889	$1,401,708
7	2017	$940,255	$126,049	$112,616	$112,616	$56,308	$81,151	$0	$488,741	$1,428,996
8	2018	$959,060	$127,814	$114,869	$114,869	$57,434	$82,774	$0	$497,760	$1,456,820
9	2019	$978,241	$129,603	$117,166	$117,166	$58,583	$84,430	$0	$506,948	$1,485,189
10	2020	$997,806	$131,418	$119,509	$119,509	$59,755	$86,118	$0	$516,309	$1,514,115
11	2021	$1,017,762	$133,257	$121,899	$121,899	$60,950	$87,841	$0	$525,847	$1,543,609
12	2022	$1,038,117	$135,123	$124,337	$124,337	$62,169	$89,598	$0	$535,564	$1,573,682
13	2023	$1,058,880	$137,015	$126,824	$126,824	$63,412	$91,390	$0	$545,465	$1,604,345
14	2024	$1,080,057	$138,933	$129,361	$129,361	$64,680	$93,217	$0	$555,552	$1,635,609
15	2025	$1,101,659	$140,878	$131,948	$131,948	$65,974	$95,082	$0	$565,830	$1,667,488
16	2026	$1,123,692	$142,850	$134,587	$134,587	$67,293	$96,983	$0	$576,301	$1,699,993
17	2027	$1,146,166	$144,850	$137,279	$137,279	$68,639	$98,923	$0	$586,970	$1,733,135
18	2028	$1,169,089	$146,878	$140,024	$140,024	$70,012	$100,902	$0	$597,840	$1,766,929
19	2029	$1,192,471	$148,934	$142,825	$142,825	$71,412	$102,920	$0	$608,916	$1,801,386
20	2030	$1,216,320	$151,020	$145,681	$145,681	$72,841	$104,978	$0	$620,200	$1,836,520
21	2031	$1,240,646	$153,134	$148,595	$148,595	$74,297	$107,077	$0	$631,698	$1,872,345
22	2032	$1,265,459	$155,278	$151,567	$151,567	$75,783	$109,219	$0	$643,413	$1,908,873
23	2033	$1,290,769	$157,452	$154,598	$154,598	$77,299	$111,403	$0	$655,350	$1,946,119
24	2034	$1,316,584	$159,656	$157,690	$157,690	$78,845	$113,631	$0	$667,512	$1,984,096
25	2035	$1,342,916	$161,891	$160,844	$160,844	$80,422	$115,904	$0	$679,905	$2,022,820

Table 4

NB Community Wind - Municipalia										
Summary of Expenses Year 1 - 25										
		Turbine	Other Expenses							
Year	Year	Turbine O&M Costs	Land Lease	Taxes	Maintenance Reserve	Site Operation	Insurance	Imbalance Charges	Total Other Expenses	Total Expenses
1	2011	$834,919	$115,961	$100,000	$100,000	$50,000	$72,060	$0	$438,021	$1,272,941
2	2012	$851,618	$117,584	$102,000	$102,000	$51,000	$73,501	$0	$446,086	$1,297,704
3	2013	$868,650	$119,231	$104,040	$104,040	$52,020	$74,971	$0	$454,302	$1,322,952
4	2014	$886,023	$120,900	$106,121	$106,121	$53,060	$76,471	$0	$462,673	$1,348,696
5	2015	$903,744	$122,593	$108,243	$108,243	$54,122	$78,000	$0	$471,201	$1,374,944
6	2016	$921,819	$124,309	$110,408	$110,408	$55,204	$79,560	$0	$479,889	$1,401,708
7	2017	$940,255	$126,049	$112,616	$112,616	$56,308	$81,151	$0	$488,741	$1,428,996
8	2018	$959,060	$127,814	$114,869	$114,869	$57,434	$82,774	$0	$497,760	$1,456,820
9	2019	$978,241	$129,603	$117,166	$117,166	$58,583	$84,430	$0	$506,948	$1,485,189
10	2020	$997,806	$131,418	$119,509	$119,509	$59,755	$86,118	$0	$516,309	$1,514,115
11	2021	$1,017,762	$133,257	$121,899	$121,899	$60,950	$87,841	$0	$525,847	$1,543,609
12	2022	$1,038,117	$135,123	$124,337	$124,337	$62,169	$89,598	$0	$535,564	$1,573,682
13	2023	$1,058,880	$137,015	$126,824	$126,824	$63,412	$91,390	$0	$545,465	$1,604,345
14	2024	$1,080,057	$138,933	$129,361	$129,361	$64,680	$93,217	$0	$555,552	$1,635,609
15	2025	$1,101,659	$140,878	$131,948	$131,948	$65,974	$95,082	$0	$565,830	$1,667,488
16	2026	$1,123,692	$142,850	$134,587	$134,587	$67,293	$96,983	$0	$576,301	$1,699,993
17	2027	$1,146,166	$144,850	$137,279	$137,279	$68,639	$98,923	$0	$586,970	$1,733,135
18	2028	$1,169,089	$146,878	$140,024	$140,024	$70,012	$100,902	$0	$597,840	$1,766,929
19	2029	$1,192,471	$148,934	$142,825	$142,825	$71,412	$102,920	$0	$608,916	$1,801,386
20	2030	$1,216,320	$151,020	$145,681	$145,681	$72,841	$104,978	$0	$620,200	$1,836,520
21	2031	$1,240,646	$153,134	$148,595	$148,595	$74,297	$107,077	$0	$631,698	$1,872,345
22	2032	$1,265,459	$155,278	$151,567	$151,567	$75,783	$109,219	$0	$643,413	$1,908,873
23	2033	$1,290,769	$157,452	$154,598	$154,598	$77,299	$111,403	$0	$655,350	$1,946,119
24	2034	$1,316,584	$159,656	$157,690	$157,690	$78,845	$113,631	$0	$667,512	$1,984,096
25	2035	$1,342,916	$161,891	$160,844	$160,844	$80,422	$115,904	$0	$679,905	$2,022,820

Table 4

NB Community Wind - Municipalia

Projected Statement of Cash Flows - Years 1 to 25

		Revenues - '000			Expenses - '000					Cash - '000		
		Utility Revenue	Other Revenue	Total Revenues	Turbine O&M	Other Operating Expenese	Loan Payment - Interest	Loan Payment - Principal	Income Tax	Net change in cash	Cash beginning of period	Cash end of period
	Year	$	$	$	$		$	$		$	$	$
1	2011	4,638	-	4,638	835	438	1,727	619	-	1,019		1,019
2	2012	4,703	-	4,703	852	446	1,682	664	-	1,059	1,019	2,078
3	2013	4,769	-	4,769	869	454	1,634	712	-	1,100	2,078	3,178
4	2014	4,836	-	4,836	886	463	1,583	764	-	1,141	3,178	4,319
5	2015	4,904	-	4,904	904	471	1,528	819	-	1,182	4,319	5,501
6	2016	4,972	-	4,972	922	480	1,468	878	-	1,224	5,501	6,725
7	2017	5,042	-	5,042	940	489	1,405	942	-	1,267	6,725	7,992
8	2018	5,113	-	5,113	959	498	1,337	1,010	-	1,309	7,992	9,301
9	2019	5,184	-	5,184	978	507	1,264	1,083	-	1,352	9,301	10,654
10	2020	5,257	-	5,257	998	516	1,186	1,161	-	1,396	10,654	12,050
11	2021	5,330	-	5,330	1,018	526	1,102	1,245	-	1,440	12,050	13,490
12	2022	5,405	-	5,405	1,038	536	1,012	1,335	-	1,485	13,490	14,975
13	2023	5,481	-	5,481	1,059	545	915	1,431	-	1,530	14,975	16,505
14	2024	5,557	-	5,557	1,080	556	812	1,535	-	1,575	16,505	18,080
15	2025	5,635	-	5,635	1,102	566	701	1,646	-	1,621	18,080	19,701
16	2026	5,714	-	5,714	1,124	576	582	1,765	486	1,181	19,701	20,882
17	2027	5,794	-	5,794	1,146	587	454	1,892	873	842	20,882	21,724
18	2028	5,875	-	5,875	1,169	598	318	2,029	1,098	664	21,724	22,388
19	2029	5,957	-	5,957	1,192	609	171	2,176	1,245	565	22,388	22,952
20	2030	6,041	-	6,041	1,216	620	14	1,518	1,354	1,319	22,952	24,271
21	2031	6,125	-	6,125	1,241	632	-	-	1,446	2,807	24,271	27,078
22	2032	6,211	-	6,211	1,265	643	-	-	1,478	2,824	27,078	29,902
23	2033	6,298	-	6,298	1,291	655	-	-	1,501	2,851	29,902	32,753
24	2034	6,386	-	6,386	1,317	668	-	-	1,521	2,882	32,753	35,635
25	2035	6,476	-	6,476	1,343	680	-	-	1,539	2,913	35,635	38,548

Table 5

NB Community Wind - Municipalia

Proforma Balance Sheet

December 31, 2012 through 2037

	Assets					Liabilities and Shareholders' Equity							
						Current Liabilities					Shareholders' Equity		
Year	Cash	Accounts Receivable	Capital Equipment	Accumulated depreciation	Total Assets	Accounts payable	Income taxes payable	Current portion of long-term debt	Total Current Liabilities	Long-term debt	Capital stock	Retained earnings (deficit)	Total
2011	$ 1,019,041	$ -	$ 36,030,042	$ (1,801,502)	$ 35,247,580	$ -	$ -	$ 664,150	$ 664,150	$ 23,937,504	$ 10,809,013	$ (163,086)	$ 35,247,580
2012	$ 2,078,256	$ -	$ 36,030,042	$ (3,603,004)	$ 34,505,294	$ -	$ -	$ 712,161	$ 712,161	$ 23,225,343	$ 10,809,013	$ (241,223)	$ 34,505,294
2013	$ 3,178,071	$ -	$ 36,030,042	$ (5,404,506)	$ 33,803,606	$ -	$ -	$ 763,643	$ 763,643	$ 22,461,700	$ 10,809,013	$ (230,750)	$ 33,803,606
2014	$ 4,318,911	$ -	$ 36,030,042	$ (7,206,008)	$ 33,142,944	$ -	$ -	$ 818,847	$ 818,847	$ 21,642,853	$ 10,809,013	$ (127,768)	$ 33,142,944
2015	$ 5,501,206	$ -	$ 36,030,042	$ (9,007,510)	$ 32,523,737	$ -	$ -	$ 878,042	$ 878,042	$ 20,764,811	$ 10,809,013	$ 71,872	$ 32,523,737
2016	$ 6,725,390	$ -	$ 36,030,042	$ (10,809,013)	$ 31,946,419	$ -	$ -	$ 941,515	$ 941,515	$ 19,823,295	$ 10,809,013	$ 372,596	$ 31,946,419
2017	$ 7,991,898	$ -	$ 36,030,042	$ (12,610,515)	$ 31,411,425	$ -	$ -	$ 1,009,578	$ 1,009,578	$ 18,813,718	$ 10,809,013	$ 779,118	$ 31,411,425
2018	$ 9,301,171	$ -	$ 36,030,042	$ (14,412,017)	$ 30,919,196	$ -	$ -	$ 1,082,560	$ 1,082,560	$ 17,731,157	$ 10,809,013	$ 1,296,466	$ 30,919,196
2019	$ 10,653,649	$ -	$ 36,030,042	$ (16,213,519)	$ 30,470,172	$ -	$ -	$ 1,160,819	$ 1,160,819	$ 16,570,339	$ 10,809,013	$ 1,930,002	$ 30,470,172
2020	$ 12,049,779	$ -	$ 36,030,042	$ (18,015,021)	$ 30,064,800	$ -	$ -	$ 1,244,734	$ 1,244,734	$ 15,325,605	$ 10,809,013	$ 2,685,449	$ 30,064,800
2021	$ 13,490,010	$ -	$ 36,030,042	$ (19,816,523)	$ 29,703,528	$ -	$ -	$ 1,334,716	$ 1,334,716	$ 13,990,889	$ 10,809,013	$ 3,568,911	$ 29,703,528
2022	$ 14,974,792	$ -	$ 36,030,042	$ (21,618,025)	$ 29,386,808	$ -	$ -	$ 1,431,203	$ 1,431,203	$ 12,559,686	$ 10,809,013	$ 4,586,907	$ 29,386,808
2023	$ 16,504,579	$ -	$ 36,030,042	$ (23,419,527)	$ 29,115,094	$ -	$ -	$ 1,534,665	$ 1,534,665	$ 11,025,021	$ 10,809,013	$ 5,746,396	$ 29,115,094
2024	$ 18,079,831	$ -	$ 36,030,042	$ (25,221,029)	$ 28,888,843	$ -	$ -	$ 1,645,606	$ 1,645,606	$ 9,379,415	$ 10,809,013	$ 7,054,810	$ 28,888,843
2025	$ 19,701,006	$ -	$ 36,030,042	$ (27,022,531)	$ 28,708,517	$ -	$ 486	$ 1,764,567	$ 1,765,053	$ 7,614,849	$ 10,809,013	$ 8,033,701	$ 28,222,615
2026	$ 20,882,181	$ -	$ 36,030,042	$ (28,824,033)	$ 28,088,189	$ -	$ 872,752	$ 1,892,127	$ 2,764,880	$ 5,722,722	$ 10,809,013	$ 8,791,575	$ 28,088,189
2027	$ 21,723,844	$ -	$ 36,030,042	$ (30,625,535)	$ 27,128,351	$ -	$ 1,098,044	$ 2,028,909	$ 3,126,953	$ 3,693,812	$ 10,809,013	$ 9,498,573	$ 27,128,351
2028	$ 22,387,539	$ -	$ 36,030,042	$ (32,427,038)	$ 25,990,543	$ -	$ 1,244,604	$ 2,175,579	$ 3,420,183	$ 1,518,233	$ 10,809,013	$ 10,243,115	$ 25,990,543
2029	$ 22,952,469	$ -	$ 36,030,042	$ (34,228,540)	$ 24,753,971	$ -	$ 1,353,728	$ 1,518,233	$ 2,871,961	$ -	$ 10,809,013	$ 11,072,998	$ 24,753,971
2030	$ 24,271,162	$ -	$ 36,030,042	$ (36,030,042)	$ 24,271,162	$ -	$ 1,446,198	$ -	$ 1,446,198	$ -	$ 10,809,013	$ 12,015,952	$ 24,271,162
2031	$ 27,077,974	$ -	$ 36,030,042	$ (36,030,042)	$ 27,077,974	$ -	$ 1,478,288	$ -	$ 1,478,288	$ -	$ 10,809,013	$ 14,790,673	$ 27,077,974
2032	$ 29,901,922	$ -	$ 36,030,042	$ (36,030,042)	$ 29,901,922	$ -	$ 1,500,650	$ -	$ 1,500,650	$ -	$ 10,809,013	$ 17,592,259	$ 29,901,922
2033	$ 32,753,218	$ -	$ 36,030,042	$ (36,030,042)	$ 32,753,218	$ -	$ 1,520,615	$ -	$ 1,520,615	$ -	$ 10,809,013	$ 20,423,591	$ 32,753,218
2034	$ 35,634,744	$ -	$ 36,030,042	$ (36,030,042)	$ 35,634,744	$ -	$ 1,539,466	$ -	$ 1,539,466	$ -	$ 10,809,013	$ 23,286,266	$ 35,634,744
2035	$ 38,548,103	$ -	$ 36,030,042	$ (36,030,042)	$ 38,548,103	$ -	$ 1,557,847	$ -	$ 1,557,847	$ -	$ 10,809,013	$ 26,181,243	$ 38,548,103

Table 6

NB Community Wind - Municipalia

Proforma Income Statement

Years ending December 31, 2012 through 2036

		Revenues ('000)			Expenses ('000)				Earnings ('000)			
		Utility Revenue	Other Revenue	Total Revenues	Operating expenses	Interest payment	Amortization	Total expenses	Net Earnings before tax	Income Taxes	Net Earnings after tax	Retained earnings
	Year	$	$	$	$	$	$	$	$	$	$	$
1	2011	4,638	-	4,638	1,273	1,727	1,802	4,802	-163	0	-163	-163
2	2012	4,703	-	4,703	1,298	1,682	1,802	4,782	-78	0	-78	-241
3	2013	4,769	-	4,769	1,323	1,634	1,802	4,759	10	0	10	-231
4	2014	4,836	-	4,836	1,349	1,583	1,802	4,733	103	0	103	-128
5	2015	4,904	-	4,904	1,375	1,528	1,802	4,704	200	0	200	72
6	2016	4,972	-	4,972	1,402	1,468	1,802	4,672	301	0	301	373
7	2017	5,042	-	5,042	1,429	1,405	1,802	4,635	407	0	407	779
8	2018	5,113	-	5,113	1,457	1,337	1,802	4,595	517	0	517	1,296
9	2019	5,184	-	5,184	1,485	1,264	1,802	4,551	634	0	634	1,930
10	2020	5,257	-	5,257	1,514	1,186	1,802	4,501	755	0	755	2,685
11	2021	5,330	-	5,330	1,544	1,102	1,802	4,447	883	0	883	3,569
12	2022	5,405	-	5,405	1,574	1,012	1,802	4,387	1,018	0	1,018	4,587
13	2023	5,481	-	5,481	1,604	915	1,802	4,321	1,159	0	1,159	5,746
14	2024	5,557	-	5,557	1,636	812	1,802	4,249	1,308	0	1,308	7,055
15	2025	5,635	-	5,635	1,667	701	1,802	4,170	1,465	-486	979	8,034
16	2026	5,714	-	5,714	1,700	582	1,802	4,083	1,631	-873	758	8,792
17	2027	5,794	-	5,794	1,733	454	1,802	3,989	1,805	-1,098	707	9,499
18	2028	5,875	-	5,875	1,767	318	1,802	3,886	1,989	-1,245	745	10,243
19	2029	5,957	-	5,957	1,801	171	1,802	3,774	2,184	-1,354	830	11,073
20	2030	6,041	-	6,041	1,837	14	1,802	3,652	2,389	-1,446	943	12,016
21	2031	6,125	-	6,125	1,872	-	0	1,872	4,253	-1,478	2,775	14,791
22	2032	6,211	-	6,211	1,909	-	0	1,909	4,302	-1,501	2,802	17,592
23	2033	6,298	-	6,298	1,946	-	0	1,946	4,352	-1,521	2,831	20,424
24	2034	6,386	-	6,386	1,984	-	0	1,984	4,402	-1,539	2,863	23,286
25	2035	6,476	-	6,476	2,023	-	0	2,023	4,453	-1,558	2,895	26,181

Table 7

NB Community Wind - Municipalia

Internal Rate of Return Analysis

				Revenues			Expenses			
	Year	Annual Energy	Utility PPA	Utility Revenue	Other Revenue	Total Revenue	Loan Payment	Operating expenses	Cash for distribution	
		Energy	PPA						Pre-Tax	Post-Tax
		MWH	$/kWh	$		$	$	$		
									-$10,809,013	-$10,809,013
1	2011	45744	$101.400	$4,638,442	$0	$4,638,442	$2,346,460	$1,272,941	$1,019,041	1,019,041
2	2012	45744	$102.820	$4,703,380	$0	$4,703,380	$2,346,460	$1,297,704	$1,059,216	1,059,216
3	2013	45744	$104.259	$4,769,227	$0	$4,769,227	$2,346,460	$1,322,952	$1,099,814	1,099,814
4	2014	45744	$105.719	$4,835,996	$0	$4,835,996	$2,346,460	$1,348,696	$1,140,840	1,140,840
5	2015	45744	$107.199	$4,903,700	$0	$4,903,700	$2,346,460	$1,374,944	$1,182,295	1,182,295
6	2016	45744	$108.700	$4,972,352	$0	$4,972,352	$2,346,460	$1,401,708	$1,224,184	1,224,184
7	2017	45744	$110.221	$5,041,965	$0	$5,041,965	$2,346,460	$1,428,996	$1,266,508	1,266,508
8	2018	45744	$111.764	$5,112,552	$0	$5,112,552	$2,346,460	$1,456,820	$1,309,272	1,309,272
9	2019	45744	$113.329	$5,184,128	$0	$5,184,128	$2,346,460	$1,485,189	$1,352,479	1,352,479
10	2020	45744	$114.916	$5,256,706	$0	$5,256,706	$2,346,460	$1,514,115	$1,396,130	1,396,130
11	2021	45744	$116.525	$5,330,300	$0	$5,330,300	$2,346,460	$1,543,609	$1,440,230	1,440,230
12	2022	45744	$118.156	$5,404,924	$0	$5,404,924	$2,346,460	$1,573,682	$1,484,782	1,484,782
13	2023	45744	$119.810	$5,480,593	$0	$5,480,593	$2,346,460	$1,604,345	$1,529,788	1,529,788
14	2024	45744	$121.487	$5,557,321	$0	$5,557,321	$2,346,460	$1,635,609	$1,575,251	1,575,251
15	2025	45744	$123.188	$5,635,124	$0	$5,635,124	$2,346,460	$1,667,488	$1,621,175	1,621,175
16	2026	45744	$124.913	$5,714,016	$0	$5,714,016	$2,346,460	$1,699,993	$1,667,563	1,181,175
17	2027	45744	$126.662	$5,794,012	$0	$5,794,012	$2,346,460	$1,733,135	$1,714,416	841,664
18	2028	45744	$128.435	$5,875,128	$0	$5,875,128	$2,346,460	$1,766,929	$1,761,739	663,695
19	2029	45744	$130.233	$5,957,380	$0	$5,957,380	$2,346,460	$1,801,386	$1,809,533	564,929
20	2030	45744	$132.056	$6,040,783	$0	$6,040,783	$1,531,841	$1,836,520	$2,672,422	1,318,694
21	2031	45744	$133.905	$6,125,354	$0	$6,125,354	$0	$1,872,345	$4,253,009	2,806,811
22	2032	45744	$135.780	$6,211,109	$0	$6,211,109	$0	$1,908,873	$4,302,236	2,823,948
23	2033	45744	$137.681	$6,298,064	$0	$6,298,064	$0	$1,946,119	$4,351,946	2,851,296
24	2034	45744	$139.608	$6,386,237	$0	$6,386,237	$0	$1,984,096	$4,402,141	2,881,526
25	2035	45744	$141.563	$6,475,645	$0	$6,475,645	$0	$2,022,820	$4,452,825	2,913,358
						IRR on equity (20 years)=			**10.39%**	**9.27%**
						IRR on equity (25 years)=			**12.41%**	**11.08%**

Table 8