Introduction

The Eskasoni First Nation, located along the Bras d'Or Lake in Cape Breton, is our largest Mi'kmaq community with a population of over 3800. As part of its commitment to the environment, energy independence and economic development, the Band Council installed a 50kW wind turbine in 2004. Power from the wind turbine is used in the Band Council office and excess energy is distributed to Nova Scotia Power's distribution grid. The turbine was installed on Canada Day in 2004; it was the first net-metered wind turbine installation of its size in Nova Scotia. It continues to reduce power costs at the Band Council office and demonstrates the community's commitment to renewable energy.

Picture 1 50kW Wind Turbine, Eskasoni First Nation, NS
Courtesy of Atlantic Orient Canada Inc.

Vision

This 2004 turbine installation is a highly visible indicator of Eskasoni's commitment to wind power. The Eskasoni Band Council sees community energy as a means of increasing their energy independence. Another project objective was to help local tradespeople learn how to install a wind turbine; the company installing the turbine worked closely with Eskasoni skilled trades to help to build this capacity. As part of its commitment to the environment and economic development, the community continues to pursue wind energy through the Eskasoni Band Council. Indeed they have collected wind speed data and completed other necessary work with the intention of installing larger turbines.

> *"Not only will it provide an environmentally progressive source of electricity for own community, but it will also result in the direct transfer of knowledge and skills to Eskasoni."*
> Former Chief Blair Francis of the Eskasoni First Nation, 2004

Ownership Structure

Two years prior to the installation of the 50kW turbine, the Eskasoni Band Council initiated a program of wind testing and site prospecting locally which led to the formation of Eskasoni Power & Energy, a community agency tasked to explore and pursue such opportunities. The Band Council retains control of the turbine and is pursuing other opportunities via their Eskasoni Wind Energy Project.

Planning Process

The Eskasoni Band Council had been investigating wind potential in their community for several years prior to the installation of this turbine. This includes several years of wind resource data and assessment of sites. They developed capital costs and financial viability for their proposal to Nova Scotia Power in 2004. Under their agreement with Nova Scotia Power, Eskasoni provided turbine site development, construction and operation of the project with strategic advice and technical expertise from Nova Scotia Power. The Band Council was also supported in the technical aspects by Atlantic Orient Canada Inc., the engineering firm supplying the turbine.

Project Financing

Funding was available to assist with the construction of a meteorological tower on the hilltop within Eskasoni through Indian and Northern Affairs Canada to record wind data as part of a two year wind resource assessment. Following successful application to Nova Scotia Power, the Eskasoni First Nation and Nova Scotia Power developed a joint working agreement to pursue the project. Nova Scotia Power acted as the strategic commercial partner and provided technical expertise and direct investment. To continue with the Eskasoni Wind Energy Project, the Eskasoni Band Council has been able to secure funding for ongoing feasibility assessment by utilizing the First Nations Infrastructure Fund.

Benefits and Barriers

The Eskasoni First Nation is pursuing wind development for energy independence and economic development, as well as reducing greenhouse gas reductions. The 50kW wind turbine was installed in 2004 under the former net metering program meaning that the excess energy after usage in the band council office is distributed to Nova Scotia Power; however, there is no rebate. The new net metering program would reimburse at market rates. With the COMFIT program, the COMFIT tariff specific to small wind power projects will allow a reasonable rate of return on investment as determined by the Utility and Review Board process. This will help remove a financial barrier to developing micro wind energy.

Lessons Learned

Many lessons can be learned from the Eskasoni 50kW wind turbine project and ongoing efforts by the Eskasoni Wind Energy Project:

- Community energy is achievable at various scales;
- Existing initiatives often increase community motivation to continue with ongoing planning and implementation of community energy projects;
- External support is key to starting a community energy project; and
- Financial viability is necessary to any project – large or small.

Further Information

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Project Development

Resource Assessment
Two years of wind resource assessment at the future site.

Technical Design
Technical support from the turbine manufacturer and Nova Scotia Power.

Environmental Assessment
Sites were screened from an environmental perspective. No formal environmental assessment was required.

Grid Connection / Energy Use
Energy is used at the band council office and the excess energy is supplied to the distribution grid.

Project Financing
Participation of Indian and Northern Affairs Canada and Nova Scotia Power.

Land Ownership and Access
The project is located on Eskasoni First Nation lands.

Community Engagement
The community was consulted as part of preparing the proposal for the existing installation. Ongoing planning of wind energy projects has involved community meetings and information sharing.

Permits and Approvals
No specific permits or approval were required for this project. Future wind projects greater than 2MW will require a provincial environmental assessment.