

Introduction

The Colchester-Cumberland Wind Field Inc. (CCWF) has a wind project on a previously clear-cut forest at Spiddle Hill near Tatamagouche in Colchester County. The 0.8 MW wind turbine will generate 2600 MWh per year. The site was selected in 2007, and a 20 year Power Purchase Agreement (PPA) was awarded by NS Power in late 2009. The estimated project cost is \$2.3 million; CCWF management expects the turbine to be installed and in revenue service by July 2011. The project is 100% owned by CCWF.

“Powering my electric vehicle by local wind power is a dream coming true”
David Swan, Spiddle Hill Project Manager



Installation of wind measurement tower in 2007

Vision

CCWF is a local shareholder owned business, intent upon bringing economic benefit and environmental pride to the community and region. The business of the CCWF is to profitably develop wind fields that are sized to the community and provide shareholders with long-term benefits.

Ownership Structure

CCWF is an incorporated company in Nova Scotia that is 100% owned by its shareholders. Its current project is fully owned by the company, and financed at 45% equity and 55% debt. The CCWF has sold shares through the CEDIF ¹ program in 2007, 2010 and 2011. As of March 1, 2011 share sales by CEDIF have been approximately \$1.4 million. The CCWF Board of Directors (Board) has a diverse range of skills: engineers with technical understanding for project implementation, educators who communicate well with the community, individuals with financial skills for equity and debt financing, as well as policy, management, and administrative capabilities.

Planning Process

The CCWF Board sought a location with good wind resources, access to the electricity grid and roads. They negotiated a land lease and then measured the wind resource for more than 2 years using commercial equipment. After models showed technical and financial viability, the Board bid for and successfully negotiated a Power Purchase Agreement with NS Power. The provincial CEDIF program was used to raise equity. Debt financing was secured to complete the capital intensive project. Contracts for site preparation, foundation and power line construction, wind turbine supply and installation were made. Whenever possible, expertise and services were contracted within the community.

¹ The Community Economic Development Investment Fund Program is supported by the Nova Scotia Department of Economic and Rural Development and Tourism, Department of Finance, and the Nova Scotia Securities Commission.
(<http://www.gov.ns.ca/econ/cedif/>)

Project Financing

CCWF's first project cost \$2.3 million, with 45% from shareholder equity and 55% debt financing. The equity portion was raised through two CEDIF periods: the first period (2010) financed basic site preparation, roads and power lines; the second period (2011) and debt financing paid for the foundation and turbine purchase, installation and commissioning. The two CEDIF periods match the "right-sizing" approach of the company. "Right sizing" refers to the CCWF proposing a project for which it could adequately raise capital. The project is expected to have a 9% return on investment, and dividends are projected to begin in year 5.

A project of this type requires a large capital input and has long-term costs which are reasonably predictable. However, equipment failure can cause revenue interruption and significant financial stress. To mitigate this risk, the CCWF is contracting a long term warranty of equipment reliability and performance. Over the 20 year life of the project, the average cost for maintenance, repairs, part replacement, warranty of reliability and performance, communications, liability insurance, leases, administrative, and taxes are expected to be \$104,000 per year.

Benefits and Barriers

CCWF is a new breed of community based company in the developing renewable energy field. There is a willingness to participate in projects that directly benefit the community. The shareholder rate of return is appealing, both before and after CEDIF benefits. The environmental gains of wind versus coal are very attractive to residents.

There are barriers to communities embarking on renewable energy projects: the commitments are long term; financing requires credibility and willing investors; the company board of directors needs to be skilled and committed to the community and project.

Lessons Learned

- CCWF chose a "right size at the right time" approach to utilize both human and financial resources in developing profitable wind energy.
- The process takes time and needs to be managed through participation. Budget and cash flow require constant attention. Suppliers may require payment in foreign currency e.g. Euros. Equipment may not meet CSA and Canadian Electrical Standards
- Residents respond to information; credibility is earned, and the enthusiasm can become contagious in the community.

Further Information

David Stevenson, President and David Swan, Project Manager
1594 HWY 246, Tatamagouche, NS, B0K 1V0
Phone: (902)657-2933 Website: www.ccwf.ca

Project Development

Resource Assessment

2.5 years of continuous data from a 50 meter tower

Technical Design

The process requires technical and financial knowledge, and appropriate suppliers and contractors in all phases

Environmental Assessment

The Spiddle Hill project is rated less than 2 MW, a formal assessment was not required

Grid Connection / Energy Use

1.5 km of 3-phase line to distribution lines with all generated electricity to be used in the local Tatamagouche area

Project Financing

45% equity, 55% debt financing

Land Ownership and Access

Land lease; Right of Way based on NS Power requirements; public and private roads

Community Engagement

Numerous community meetings for information and fundraising purposes

Aboriginal Consultation

A detailed assessment of the NS Power, Nuttby Wind Project overlaps this site

Permits and Approvals

Colchester Co. bylaws, NS Dept of Highways, Navigation Canada and Transportation Canada requirements