

Case Study: Massachusetts Renewable Energy Trust

Challenge

Massachusetts created one of the nation's first clean energy funds, the Massachusetts Renewable Energy Trust (the "Trust"). The Trust's mandate was to promote clean energy technologies and sustainable markets for electricity generated from renewable sources. The Trust created multiple programs towards these goals, including a Community Wind Collaborative ("CWC") program. The CWC helped multiple towns by offering technical assistance, wind monitoring equipment, data analysis, and competitively secured technical resources. The premise was that communities that actually own local wind turbines are an excellent alternative to traditional developer-led projects. The CWC assisted dozens of communities.

The Trust needed to understand more clearly the options for attracting third party equity and debt financing for community wind power projects. The Trust identified the lack of viable financing structures and interested financing sources as key constraints to the development of community wind projects. The Trust wanted a list of financing options for community wind facilities, taking advantage of a wide variety of ownership and partnership options. In addition, the Trust wanted to have a financial model to compare the financial viability of each financing option. However, the Trust lacked the internal expertise either to gather such information or to create the financial model. The Trust asked Birch Tree Capital for help.

Approach

Birch Tree Capital prepared a memorandum on financing for community wind power projects. The study used a two wind turbine, 3 MW project sponsored directly by a local community. The study identified and compared multiple options for owning such a project, selling the power, and third party financing sources. The financing sources ranged from private equity to official loans. The study illustrated eleven financing scenarios for community wind projects to show the diversity of financing options available for communities undertaking wind power projects.

Birch Tree Capital then created a companion Excel-based financial model for wind projects. The model allows variations in project size and other features, capital costs, and operating assumptions. The model compared three main ownership options (private sector, public sector, and hybrid public/private). For each ownership option, the model assumed a particular financing structure. The model showed the payback periods and rates of return for the town and other project participants of each ownership/financing scenario. The model helped the Trust understand the relative financial impacts and requirements of each ownership/financing scenario. The Trust adopted the model and distributed it to dozens of towns participating in the CWC. The Trust adapted the model and used it to evaluate potential financial benefits for a specific community wind project considered by the Town of Orleans.

Solution

Birch Tree Capital's wind project modeling and financing expertise advanced a state clean energy fund's goals of helping multiple towns considering community-scale wind power projects.