

## Massachusetts Renewable Energy Trust

### Challenge

The Massachusetts Technology Collaborative (the “MTC”) manages the state’s clean energy fund, the Renewable Energy Trust (the “Trust”). The Trust seeks environmental and economic benefits for the Commonwealth’s citizens by pioneering and promoting clean energy technologies and fostering the emergence of sustainable markets for electricity generated from renewable sources. The Trust manages multiple programs towards these goals, including a Community Wind Collaborative (“CWC”) program. Created in 2003 as a statewide initiative, the CWC is helping cities and towns tap into clean wind power. The CWC offers qualified communities technical assistance, wind monitoring equipment, data analysis, and competitively secured technical resources. The CWC’s premise is that initiatives in which the communities actually own local wind turbines are an excellent alternative to traditional developer-initiated approaches. To date, the CWC has assisted more than 40 communities.

As part of the roll-out of the program in 2004, the Trust needed to understand more clearly the options for attracting third party equity and debt financing for community wind power projects. The MTC had identified the lack of viable financing structures and interested financing sources as key constraints to the development of community wind projects. The MTC wanted a comprehensive list of financing options for community wind facilities, taking advantage of a wide variety of ownership and partnership options. In addition, the MTC wanted to have a financial model to compare the financial viability of each financing option. However, the MTC lacked the internal expertise either to gather such information or to create the financial model. The MTC asked Birch Tree Capital for help.

### Approach

Birch Tree Capital met with MTC staff to frame their needs and then prepared a memorandum on financing for community wind power projects. The study used a two wind turbine, 3 MW project template sponsored directly by the local community. The study identified and compared multiple options for owning such projects, selling the power, and third party financing sources. The financing sources ranged from private equity to official loans. The study then used such options to illustrate 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 compares three main ownership options (private sector, public sector, and hybrid public/private). For each ownership option, the model assumes a particular financing structure. The model shows the impact on the payback periods and rates of return for the town and other project participants of each ownership/financing scenario. The overall goal was to help the MTC understand the relative financial impacts and requirements of each ownership/financing scenario. The MTC adopted the model and distributed it to dozens of towns participating in the CWC. In addition, the MTC adapted the model to evaluate a community wind project considered for the Town of Orleans and has used it as the basis for negotiating community financial benefits with that town.

### Solution

Birch Tree Capital used its wind project modeling and financing expertise to assist a state clean energy fund in helping multiple towns considering community-scale wind power projects.