

**Program Highlights**

- Massachusetts has developed an approach that can allow solar electricity systems to be implemented widely on affordable housing.
- Third-party ownership allows nonprofit and public housing projects to benefit from federal solar tax credits.
- Nine affordable housing projects are receiving systems with a total capacity of 1.2 megawatts.
- The program has significantly increased interest in renewable energy on the part of Massachusetts affordable housing developers, owners, and regulators.

## Massachusetts Renewable Energy Trust

### SOLAR ENERGY FOR GREEN AFFORDABLE HOUSING

The Massachusetts Renewable Energy Trust has worked with and provided grant funding to leading affordable housing developers and financiers to help them pioneer third-party ownership of solar energy systems for affordable housing. Nine systems with a total capacity of 1.2 megawatts are being installed at affordable housing projects, reducing their electricity bills. The program is attracting significant interest from other affordable housing developers, owners, and public agencies in the state. Along with Commonwealth Solar—a new state rebate program that doubled the installed megawatts of solar power in Massachusetts in its first year—the green affordable housing initiative is part of an ambitious and comprehensive effort to expand the use of renewable energy across the Commonwealth

#### Rationale for Focusing on Solar for Affordable Housing

It is important for the future of solar energy to show that it can benefit low and moderate-income households, as well as wealthier ones that can afford the high initial cost of an installation. Moreover, because the majority of new rental properties being developed in Massachusetts are part of affordable housing projects, affordable housing represents a large potential market for solar.

Unfortunately, a number of factors present challenges to implementing solar energy in affordable housing. For one thing, nonprofit and public owners of affordable housing cannot take advantage of federal solar tax credits. In addition, the financing process for affordable housing development can be so complex that even the best-intentioned developer can have difficulty figuring out how to make a large photovoltaic solar installation work financially, legally, and logistically as part of a project.



A 92-kilowatt solar system was installed at the Washington Elms affordable housing development in Cambridge. It will provide approximately 30% of the 145-unit facility's electricity.



The 337 resident-owned Mishawum Park Apartments in Charlestown are receiving a 392-kilowatt solar system that will meet 15% of the facility's electricity needs.

### **The Massachusetts Model**

The Massachusetts Renewable Energy Trust's green affordable housing program is pioneering a solar development model that addresses these problems in a way that can be widely replicated. To allow projects to qualify for federal solar tax credits and to avoid overcomplicating the already complex financial transactions involved in affordable housing development, the model relies on third parties to own and install the systems. Then, by aggregating multiple projects into a single package, it is possible to include projects that would normally fall below the size threshold for cost-effective third-party ownership (typically at least 100 kilowatts per project). Although third-party ownership of solar systems is not unique, a focus on affordable housing is.

### **Implementing the Model**

The Trust gave major grants to key players in the Massachusetts affordable housing community to help them implement both renewable energy and energy efficiency. Two of those parties—Boston Community Capital (BCC) and Winn Development (Winn)—worked with the Trust to develop and implement third-party ownership for solar.

BCC is a nonprofit community development financial intermediary that invests in affordable housing. The Trust provided BCC with a \$5 million grant to create a third-party solar ownership model. After researching options available through installers and national third-party renewable investors, BCC decided it would be better to create its own entity, which was a massive legal and technical undertaking. That entity, BCC Solar Energy Advantage, combines equity from an outside investor with the grant funding from the Trust. The owners of the affordable housing projects then enter into power purchase agreements that guarantee them a set rate for the purchase of the solar power for 20 years. BCC Solar Energy Advantage is currently installing systems ranging from 39 kilowatts to 392 kilowatts at 7 Massachusetts projects. The total capacity is one megawatt.

Winn is a for-profit developer, owner, and manager of various building types, including affordable housing. Winn took its cue from BCC and adopted its approach by creating WinnSolar, a subsidiary solely dedicated to third-party ownership of solar. WinnSolar combined \$1 million in grant funding from the Trust with other private capital through WinnDevelopment to install systems on two Massachusetts housing projects that are also being renovated and modernized using highly energy-efficient and green techniques. The systems have a capacity of 205 kilowatts.

### **Judges' Comments**

*The Massachusetts program is an early leader in committing resources to integrate green design and solar energy into affordable multi-family housing. The program recognizes that low-income citizens can benefit from solar power's ability to stabilize monthly electricity costs. The third-party ownership model overcomes barriers to reaching this sector of the housing market.*



### **About the Massachusetts Renewable Energy Trust**

The Massachusetts Renewable Energy Trust seeks to maximize 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. It was established by the Massachusetts legislature in 1998 and is funded by a system benefit charge on ratepayers' electricity bills. In the current fiscal year, the Trust will make more than \$40 million in awards to municipalities, businesses, homeowners, and project developers.

### **For more information**

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