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## Berkeley Lab and the Clean Energy Group

# CASE STUDIES OF STATE SUPPORT FOR RENEWABLE ENERGY

## Massachusetts' Solar-to-Market Initiative: Using a Collaborative Approach to Create PV Programs

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### CASE SUMMARY

#### *Case Description*

The Massachusetts Technology Collaborative (MTC) has created a novel collaboration with the photovoltaics (PV) industry in the state that has resulted in a new industry group and a consensus set of PV programs. MTC has committed \$10 million toward the programs. The process could be an effective model to reduce differences within any renewable energy industry and to produce a consensus set of programs that fit the mission of the clean energy fund.

#### *Innovative Features*

The situation facing MTC in late 1999 was problematic for both the fund and the PV industry. MTC had not yet developed a PV program, and the organization's strategic direction did not identify PV development as a near-term programmatic objective. Yet various PV proponents had submitted a significant number of unsolicited requests to the Trust for funding assistance. The proposed solution was a collaboration with the following innovative elements:

- MTC provided funding to establish the professionally managed Solar Energy Business Association of New England (SEBANE).
- MTC also provided funding to enable SEBANE to participate in the Solar-to-Market Initiative (SMI) (see below), as well as regulatory proceedings that affect solar and other distributed generation technologies.
- MTC established the Solar-to-Market Initiative (SMI) as a collaborative effort of MTC, SEBANE, and other interested parties to develop a set of programs designed to expand the production and use of solar technologies.
- After completing a "state-of-the-industry" report, SEBANE, its consultants, and MTC staff engaged in a year-long collaborative effort (funded by MTC) to develop a set of joint SMI program recommendations.
- SMI programs are divided into two areas: PV installations and PV business development. This consensus package would not have been produced without

MTC funding to bring in consultants to assist in managing the process and in drafting collaborative program designs.

### **Results**

The collaboration has resulted in a \$10 million package of consensus PV programs that were approved by the MTC Board in March 2002. Several of the programs have been translated into solicitation documents that were released

in early April 2002. The result is a set of programs that supports both PV installations and the development of the PV industry through loans and other program offerings. The conflicting demands of the industry have been addressed through a functioning trade organization that has minimized those conflicts and become a productive collaborative ally of the fund.

## **CASE STUDY DETAILS**

### ***No PV Programs in Place at Outset of Fund***

The Renewable Energy Trust (the Trust) is a renewable energy fund created in 1998 by Massachusetts' restructuring law and administered by MTC. The Trust is funded by a system-benefits charge that will generate about \$200 million in the first five years of restructuring. The fund can support various renewable energy technologies and natural gas-fired fuel cells.

Due to a protracted legal challenge, MTC had not established any specific programs to support individual renewable technologies in its first two years of existence. In other words, no competitive solicitations were issued (see separate case study for a discussion of the merits of competitive solicitations vs. unsolicited proposals). Without any clearly defined programs to illustrate the nature of support for specific technologies that MTC would consider, MTC was inundated with unsolicited proposals for funding. In particular, scores of individuals, companies, and institutions requested MTC funding for projects that in total came to over \$100 million. The unsolicited proposals included requests for project subsidies, public education, and assistance. Many of these proposals sought financial support for projects involving PV.

### ***Collaborative Industry Proposal – SEBANE and the Solar-to-Market Initiative***

Instead of designing PV programs on its own, MTC proposed an alternative: a funded, collaborative approach to bring the industry together with MTC to develop programs with

a proposed commitment of approximately \$10 million. Through initial informal discussions, MTC and leaders in the PV industry agreed on what they needed for any negotiation to succeed:

- A single industry “spokesperson” who could negotiate on behalf of disparate industry interests and who would be responsible for resolving industry disputes over program design and funding in collaboration with MTC. This industry group, the Solar Energy Business Association of New England (SEBANE), was committed MTC funding to participate in the program design process.
- A set of basic principles that would control program design.
- A commitment of significant MTC funding (\$10 million) to provide sufficient incentive for serious negotiations.
- A process for negotiation with milestones and deadlines, which included hiring a consultant (the Peregrine Energy Group) to manage the association and the design process with MTC.

MTC and PV industry leaders memorialized these principles in a Memorandum of Understanding (MOU) that established the Solar-to-Market Initiative (SMI). The MOU contained the following program design principles:

- Promote a better understanding of the benefits and costs of solar technologies

- among residential, commercial, and industrial consumers in Massachusetts;
- Demonstrate a well-defined path leading to the commercial success of PV in Massachusetts, in which consumers will eventually be willing to pay the full cost of system installation and maintenance;
  - Demonstrate the commercial feasibility of incorporating solar-generated electricity as part of a blended green power product for sale in Massachusetts;
  - Demonstrate the commercial potential for creating a market for solar renewable energy credits as a result of the state's Renewable Portfolio Standard;
  - Expand the use of solar technologies in grid-independent applications that are currently cost-effective in Massachusetts and elsewhere; and
  - Lower the cost of solar electric power production in Massachusetts through innovations in both products and processes.

#### ***SMI Program Design***

One of the first activities undertaken by MTC and SEBANE was to develop a summary report of the status of the PV industry in Massachusetts, including a discussion of the successes and failures of past PV support programs. Using the knowledge from that report, the collaborative designed programs that fall into two main areas: PV installations and PV business development.

#### PV Installation Programs:

- **Clustered Installation Program:** Financial incentives for the purchase and installation of PV systems in geographically concentrated areas within Massachusetts (see separate case study on buy-down programs for a brief description of this program).
- **Open Installation Program:** Financial incentives for the purchase and installation of PV systems throughout Massachusetts, with specific funding set asides for existing residential buildings, existing commercial buildings, and new construction.

- **Production Tracking System Administrator:** To track the production of PV systems installed under the SMI.

#### PV Business Development Programs:

- **PV Industry Loan Fund:** Debt financing for PV companies based or doing business in Massachusetts.
- **PV Training Needs Assessment:** Assessment of the training needs of PV installers, code officials, and utilities.

The program concepts were outlined in a series of 1- to 2-page descriptions. These descriptions served as the blueprint for the detailed program design work that followed.

#### ***Detailed Programs Approved and Solicitations Developed for Funding***

Once the detailed program designs were complete, the programs were presented to the MTC Board, which approved them in March 2002. The solicitation documents for the first programs were posted on the MTC web site in early April. During the program design process, the collaborative decided to stagger the implementation of the installation programs: the clustered installation program would start first, followed approximately 6 months later by the open installation program. The business development loan program was introduced in mid June.

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**INFORMATION SOURCES**

SMI Memorandum of Understanding

SMI PV Background Report (Oct. 11, 2001)

Solar to Market Initiative Clustered PV  
Installations Grants:  
*Solicitation:*  
[www.mtpc.org/massrenew/pvcluster.pdf](http://www.mtpc.org/massrenew/pvcluster.pdf)  
*Bidder's Conference Presentation:*  
[www.mtpc.org/massrenew/pvclusterbc523.pdf](http://www.mtpc.org/massrenew/pvclusterbc523.pdf)

Solar to Market Initiative Needs Assessment for  
Training and Certification Requirements Within  
the Photovoltaic Industry:  
*Solicitation:*  
[www.mtpc.org/massrenew/pv5tena.pdf](http://www.mtpc.org/massrenew/pv5tena.pdf)  
*Bidder's Conference Q&A:*  
[www.mtpc.org/massrenew/2002GP02bqr.pdf](http://www.mtpc.org/massrenew/2002GP02bqr.pdf)

Solar to Market Initiative Production Tracking  
System Administration Services:  
*Solicitation:*  
[www.mtpc.org/massrenew/pv03pts.pdf](http://www.mtpc.org/massrenew/pv03pts.pdf)  
*Bidder's Conference Q&A:*  
[www.mtpc.org/massrenew/2002GP01v3.pdf](http://www.mtpc.org/massrenew/2002GP01v3.pdf)

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### ABOUT THIS CASE STUDY SERIES

A number of U.S. states have recently established clean energy funds to support renewable and clean forms of electricity production. This represents a new trend towards aggressive state support for clean energy, but few efforts have been made to report and share the early experiences of these funds.

This paper is part of a series of clean energy fund case studies prepared by Lawrence Berkeley National Laboratory and the Clean Energy Group, under the auspices of the Clean Energy Funds Network. The primary purpose of this case study series is to report on the innovative programs and administrative practices of state (and some international) clean energy funds, to highlight additional sources of information, and to identify contacts. Our hope is that these brief case studies will be useful for clean energy funds and other stakeholders that are interested in learning about the pioneering renewable energy efforts of newly established clean energy funds.

Twenty-one total case studies have now been completed. Additional case studies will be distributed in the future. For copies of all of the case studies, see:

<http://eetd.lbl.gov/ea/ems/cases/> or <http://www.cleanenergyfunds.org/>

### ABOUT THE CLEAN ENERGY FUNDS NETWORK

The Clean Energy Funds Network (CEFN) is a foundation-funded, non-profit initiative to support the state clean energy funds. CEFN collects and disseminates information and analysis, conducts original research, and helps to coordinate activities of the state funds. The main purpose of CEFN is to help states increase the quality and quantity of clean energy investments and to expand the clean energy market. The Clean Energy Group manages CEFN, while Berkeley Lab provides CEFN analytic support.

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