

# CLEAN ENERGY IS TAKING OFF

By Rebecca Walker, Massachusetts Technology Collaborative Staff

**Clean energy is taking off in Massachusetts.** The Renewable Energy Trust of the Massachusetts Technology Collaborative (MTC) is working with communities, businesses, non-profit organizations, and citizens to develop clean energy solutions for our Commonwealth, through programs like the ones below. For more information about these or other MTC programs, visit [www.masstech.org](http://www.masstech.org).

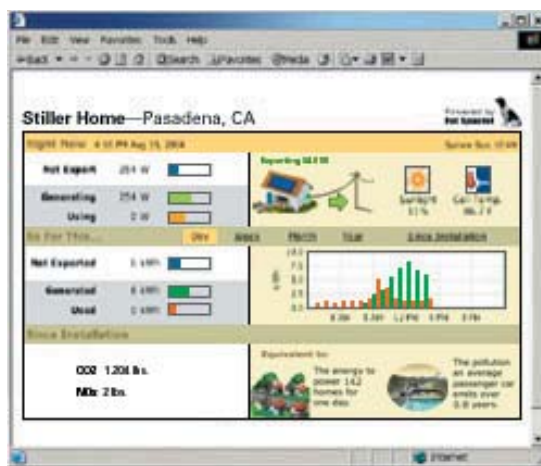
Rebates of up to \$50,000 are available to homeowners, businesses, and public for the installation of pre-approved renewable energy systems of 10 kW or less. So far this program, called the Small Renewables Initiative, is supporting the installation of over 230 projects. Another program, the Large Onsite Renewables Initiative is providing grants for renewable energy installations greater than 10 kW. Since the 2005 launch of the program, 19 projects have been funded.

MTC recently approved \$14.8 million of new grants to support the creation of new green, affordable housing across the Commonwealth. Cape Light Compact and five other organizations were selected to receive the grants. They will incorporate high-performance design and renewable energy technologies to build healthier, more affordable, energy-efficient homes for Massachusetts residents.

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## 21 PANELS FOR 21 TOWNS

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able to log onto the website and view their school's live PV electric information as well as other schools and PV electric buildings in our region. Along with this information students will see the amount of solar energy produced, how much energy is returned to the energy grid, historical production data (week, month and year) and how much greenhouse gases (CO<sub>2</sub> and NO<sub>2</sub>)



are avoided. Additionally, the system will automatically send each month's data read to the Massachusetts Technology Collaborative for documentation.

We look forward to working with Fat Spaniel Technologies through our chosen contractor for the Solarize Our Schools project, KW Management.

*Energy Monitoring Interface from Fat Spaniel Technologies (photo by Fat Spaniel)*



# CAPE LIGHT COMPACT GREEN NEWSLETTER

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## 21 PV SYSTEMS FOR 21 TOWNS

By Debbie Fitton, Cape Light Compact Staff

*Congratulations!*

Due to your efforts and continued support in Cape Light Compact's Green Power Supply Choice Program and Massachusetts Technology Collaborative's Clean Energy Choice Program, our goal of placing a photovoltaic electric system on a school or public building in each Cape Light Compact town has been achieved! The buildings are listed on the right below.

Cape Light Compact is pleased to announce that KW Management, of Nashua New Hampshire will be installing the 21 2.2 kW PV electric and Fat Spaniel Data Acquisition

Systems on town schools or public buildings throughout the summer. All installations are scheduled to be up and running by the end of November.

Fat Spaniel Technologies is a company which specializes in Data Acquisition Systems (DAS) and has been a pioneer in the DAS education field. Their systems are well known throughout the country and are used by the NEED Project's Schools Going Solar Program in California.

The Fat Spaniel DAS will record and display data from the PV electric system at the 19 schools and 2 public buildings via the internet. Students (young and old alike) will be *Continued on other side*



## PV MODULES ARE HOT & COLD

By Kevin Galligan, Cape Light Compact Staff

Photovoltaic modules produce DC (direct current) electricity when exposed to light. Modules produce voltage even when not connected to an electrical circuit or load. Modules produce nearly full voltage when exposed to as little as 5% of full sunlight. So when working around "hot" wiring always use insulated tools and rubber gloves with modules in sunlight. PV modules have no on/off switch. Electricity production can be stopped by removing them from sunlight or fully covering their front surface with cardboard or completely opaque material.

Modules can produce higher output than the rated specifications. Industry standard ratings are set at operating conditions of 1000 watts/m<sup>2</sup> and 25° C (77° F). Reflection from snow or water can increase sunlight intensity and boost current and power output. In addition, colder temperatures can substantially increase voltage and power. These range of temperatures specific to the climate area of the system installation are taken into consideration when sizing the configuration of PV modules with the selected inverter through a "string sizing" chart. Now that's cool.



Installations will be at:

- Aquinnah Fire Station
- Barnstable High School
- Bourne Middle School
- Stony Brook Elementary
- Chatham Middle School
- Chilmark School
- Wixon Middle School
- Eastham Elementary
- Edgartown Elementary
- Morse Pond School
- Harwich Elementary
- Mashpee High School
- Oak Bluffs School
- Orleans Elementary
- Provincetown High School
- Forestdale School
- Tisbury School
- Truro Central School
- Wellfleet Elementary
- West Tisbury Library
- Mattacheese Middle School

Sources: [www.evergreensolar.com](http://www.evergreensolar.com) (Evergreen Solar based in Marlboro, MA) and [www.solren.com](http://www.solren.com) (Solectria Renewables based in Lawrence, MA) are the equipment manufacturers of the modules and inverters installed as part of the Cape Light Compact Solarize our Schools initiative.

Image of Evergreen Solar's Spruce Line™ Photovoltaic Moduels (Photo by Evergreen Solar)