GOVERNMENT BUYER

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Green Lighting Shines For City

Eneref Institute examines how solar light poles are becoming a fixture as cities learn how to benefit from renewable energy

Municipalities are making things a little greener by using solar power to illuminate town halls. The town of Orange, Massachusetts was one of 38 municipalities to receive a grant from the state to explore renewable energy options, and they were so pleased with the results that they have just put in an order for another new streetlight to highlight the flagpole outside their fire station.

According to Richard Kwiatkowski, Orange Town Administrator of 10 years, the lights were installed not only to improve the town's aesthetic, but also to trim energy use.

"We're really trying to reduce our expenses," says wiatkowski.

With funding from the Massachusetts Renewable Energy Trust, solar power is providing lighting where access to conventional power lines is prohibitive. By illuminating public property, the fixtures were able to showcase the capabilities of solar technology and show the community what's available in the solar market. Frank Romano, assistant to the deputy executive director of the Massachusetts Technology Collaborative, the longtime steward of the Trust, is delighted by the public response, saying "(people) would walk by and see this monument that was never lit and all of a sudden it's lit and there are no ground wires... it's free energy."

PARTNERSHIP DEVELOPED

The lights were provided by SolarOne Solutions. The labour was provided by volunteers from the Massachusetts International Brotherhood of Electrical Workers (IBEW). In some places, the grant was the impetus to use solar technology more frequently, which was the original hope of the Massachusetts Renewable Energy Trust.

"People were absolutely thrilled about the lights," says Romano. Each SolarOne lighting system is powered by a photovoltaic panel and battery pack that powers two landscape light fixtures. The system is controlled by SolarOne's proprietary SO-Bright Technology, which controls the solar panel and LED lamp operation with maximum efficiency, intelligently adapting to the changing seasons and weather patterns, to ensure that the flags and monuments will never be left in the dark, even in the darkest days of winter storms and during extended cloudy periods.

Municipalities had to follow precise guidelines in order to secure funds, such as providing detailed specifications of the proposed illumination area. The systems are primarily lighting flags and monuments, paying tribute to war veterans' service across the state from Barnstable on the Cape to West Stockbridge on the New York Border.

The Massachusetts Renewable Energy Trust awarded the grants to showcase and promote clean renewable solar energy while assisting municipal beautification efforts "on a first come first served basis." Romano said.

SolarOne Solutions offers LED lighting powered by photovoltaic cells instead of electricity.

The 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. The Massachusetts Clean Energy Center has since taken over the responsibilities that were Mass Tech's initially.

"I commend the International Brotherhood of Electrical Workers Local 223 and SolarOne Solutions for partnering to bring this innovative solar lighting program to cities and towns around the Commonwealth," Energy and Environmental Affairs secretary Ian Bowles said. "By building local awareness about the importance of solar energy, this program is one more way we are expanding the reach of renewable power in Massachusetts."

Though provided by the Massachusetts Renewable Energy Trust, the solar fixtures are owned by the local municipalities. SolarOne shipped the fixtures with a sign stating that they were made possible by a grant from the Mass Tech Collaborative and that the labour is donated by local IBEW.

"The grant program is really a model for how clean technology can integrate rapidly into the nation's infrastructure." says Moneer Azzam, president of SolarOne Solutions.

SIGNIFICANT GREEN BENEFITS

The Trust sponsored the program because it offers significant benefits to help foster Massachusetts into the new green economy.

While giving professional electricians with the IBEW experience in new technologies, such as LED lighting and solar electric power, the program also builds awareness at the municipal level about energy efficiency measures and alternative power sources. "Our hope was to expose communities to what solar can do," says Rontano.

The fixtures employ round strings of small LEDs, providing an attractive, uniform light.

The LEDs themselves are housed inside a high quality commercial-grade Bronzelite Landscape Lighting fixture. One of two types of lamps is used in each system. Wide beam flood lamps are used to illuminate signs and monuments at close distances, while spot lamps are used to illuminate flags 20 to 40 feet tall. The long-lasting LED lights significantly reduce maintenance, and perform well in cold temperatures.

The International Brotherhood of Electrical Workers, Locals 1, 96, 103 and 223 provided not only their labour, at no charge, but also their considerable expertise in "best practices" for commercial-grade installations.

In some instances, the grant provided Lighting fixtures to illuminate veteran's memorials. The town of Winthrop elected to illuminate a sitting area on a bluff that overlooks the Atlantic Ocean.

"People have reported back to me to say 'absolutely, that was the way to go.'" Says Romano. "They like it and it works."

And town administrator Richard Kwiatkowski would agree. The streetlights not only showed respect to the flag, but also reduced the cost of electricity for the town. "Right now, when you're constantly trying to figure out how to save money, any way you can reduce expenses is only going to help."