

Solar Power Energizes Lowell Landfill Site

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LOWELL – Lowell has resurrected a section of its closed and capped landfill as a solar installation that will provide power for the city. The 1.5-megawatt solar array, which went live in January, is part of Lowell's growing attempt to leverage green innovations to build on its industrial legacy.

Once known for its inventions in the textile industry, Lowell is seeking to revitalize local business and build a reputation for sustainability, said Jim Walker, director of solar-grid tie at Ameresco. In 2011, Lowell won a state 'Lead by Example' award for its environmental initiatives.

Walker said the new solar installation, which is part of a large-scale clean energy contract between the city and Ameresco, will help the city pay its electricity bills without having to make hard decisions about cutting back community services.

The clean energy project includes energy efficiency improvements at over 40 city-owned buildings. The contract includes weatherizing buildings and installing up-to-date boilers, windows and light fixtures.

Although some community solar installations allow local residents to buy renewable energy, this installation will belong solely to the city and does not offer this option.

The Lowell solar installation is part of a wave of renewable energy installations on landfills in Massachusetts, according to the website of the Massachusetts Department of Environmental Protection (DEP). So far, 46 renewable energy projects of this type have received permits.

This effort puts Massachusetts at the national forefront of landfill-sited solar power. New Jersey has a utility-run program that sites solar power on former industrial sites.

Why is siting solar power on landfills a good idea? These projects produce a three-way win/win, said Sarah Weinstein, deputy assistant commissioner of the Bureau of Waste Prevention at the DEP. They provide renewable energy, motivate municipalities to cap landfills and reduce polluted runoff, and create constructive uses for environmentally damaged land. Climate change reduction could be considered a fourth win.

"We try to encourage people to put land that is environmentally damaged into reuse," Weinstein said. "We have a number of landfills across the state that are inactive. Once they're capped, you no longer have rainwater percolating through the waste – and stormwater is controlled."

Solar-friendly policies have helped to drive this initiative forward. Weinstein and Walker both said the Massachusetts net metering law, which requires utilities to pay local solar power producers for providing energy to the grid, helps these projects succeed. Also, they said solar renewable energy credits (SRECs) have created incentives for utilities to buy a certain amount of renewable energy.

"The prospect of generating some revenue is one of the things that's making New Bedford look at a hazardous waste landfill," Weinstein said. "We don't have an application yet."

The nation's first solar installation that is located on a Superfund site is now being built in Billerica, said John Carrigan, section chief of the Solid Waste Program Section of the DEP's Northeast Regional Office.

“There are two other issues,” Weinstein said. “One is to get financing. Towns work that out in various ways. It’s usually a power purchase agreement and a lease of the top of the landfill to the solar developers. The second hurdle the towns face is working with their utilities to get permission to connect power to the grid. That has taken a long time.”