

## Costs, Savings & Value for District Customers

- \$2.56M installed cost funded by ARRA
- \$70K from avoided electricity costs and Renewable Energy Credits (REC) sales (3% of total electricity cost)



## Technical Details

- 412,298 kWh estimated annual electricity production
- 337.26 kW capacity (DC Solar Photovoltaic Array)
- 1,606 Solar 210 watt panels
- Solectria Renewables 300 kW Inverter
- Proudly supporting local businesses and products made in Massachusetts, USA



## ARRA Renewable Energy Projects Statewide

In addition to the completion of the District 337 kW Solar Photovoltaic Project, a total of 25 renewable energy projects were also constructed using this ARRA funding, totaling over 8,850 kilowatts of power. The projects cover the entire state and includes 18 solar photovoltaic arrays, three wind turbines, two combined heat and power systems and two hydroelectric projects.



## Nexamp, Project Contractor

As a leading solar independent power producer, Nexamp develops, builds, owns, and operates distributed and utility-scale solar projects. Nexamp delivers integrated solutions – from project development and financing through construction and asset management – to ensure that its clients and partners maximize the value of their solar energy investments. Since the completion of the solar project, Nexamp and the UBWPAD have expanded their relationship by partnering on up to 4 MW of net metering credit agreements – securing further long-term energy cost reductions for the District while supporting other local renewable energy projects.



## CDM Smith, Project Designer

Founded in 1947, CDM Smith is a privately held, employee-owned corporation specializing in water, the environment, transportation, energy and facilities with the capacity to deliver comprehensive services to public and private clients worldwide.



**Upper Blackstone Water Pollution Abatement District**  
Serving District Members: *Auburn, Cherry Valley Sewer District, Holden, Millbury, Rutland, West Boylston and Worcester and portions of Oxford, Paxton, Shrewsbury and Sutton*

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# Solar Photovoltaic Installation Commissioning Ceremony

Upper Blackstone  
Water Pollution Abatement District

Thank you for joining us  
as we recognize the completion of the  
UBWPAD 337 kW Solar Photovoltaic  
Project and 25 renewable energy  
projects statewide

Wednesday, November 7, 2012  
10 A.M.



UBWPAD  
50 Route 20  
Millbury, Massachusetts



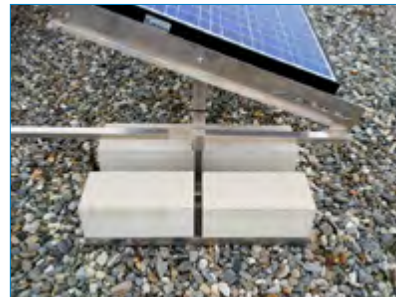


## Bringing Solar Power to the District

In December 2007, the Massachusetts Department of Environmental Protection (MassDEP) approached and asked the Upper Blackstone Water Pollution Abatement District (District) to participate in an Energy Management Pilot program. The program, launched by the Executive Office of Energy & Environmental Affairs (EOEEA) and MassDEP, targeted seven water and seven wastewater treatment facilities across the Commonwealth with the intent of reducing greenhouse gas emissions and energy used at treatment facilities. The pilot program report identified the feasibility of installing ground mounted solar photovoltaic (PV) array on unused land at the District to help power the facility.

As part of the American Recovery and Reinvestment Act (ARRA) of 2009, the State Revolving Fund program was looking for shovel-ready "green" projects. The Energy Management Pilot projects were perfectly positioned to begin turnkey construction immediately, and the District awarded \$2.56 million to install a solar PV system.

The MassDEP, EOEEA, Massachusetts Department of Energy Resource (MA DOER), CDM Smith and Navigant worked together to prepare a bid package for the project, and in January 2010, the contract was awarded to Nexamp. After finalizing the design and securing permits, the abandoned trickling filters on the site were demolished and filled with material suitable for supporting the panels. Gravel was laid over the entire site to allow for stormwater drainage and provide a vegetative barrier. Next, 1,606 solar panels were installed on PanelClaw ballasted ground mounts and connected with a Solectra Renewables inverter and combiner boxes.



In August 2012, the 337 kW system was approved for interconnection and generation by National Grid and DOER and began feeding electricity to the grid.

The system produced 38,211 kWh of electricity in the first month of operation, offsetting \$5,070 of the District's electricity costs through net metering. The system is expected to save \$70,000 annually in avoided electricity costs and REC sales. This project demonstrates the District's commitment to renewable energy and reduction of greenhouse gases as over the project's lifetime, 9,070 MWh of renewable energy will be produced and 6,411 short tons of greenhouse gas emissions will be reduced.



Solar Live Link  
[www.solrenview.com](http://www.solrenview.com)

**SOLECTRIA RENEWABLES**

REPORT FOR: MASS UPPER BLACKSTONE  
 161,000 kWh  
 1,100

SYSTEM SIZE: 337 kW  
 PRODUCTION PERIOD: Sep 1 to Sep 30, 2012

PRODUCTION PERIOD	NO. OF DAYS	NEXT SCHEDULED UPDATE
Sep 1 to Sep 30	29	Nov 01, 2012

**STATEMENT SUMMARY**

Updated Reading	Sep 30, 2012	25868.4 kWh
Previous Reading	Aug 21, 2012	0.0 kWh
29-day AC Energy Produced		25868.4 kWh
Dollar Per kWh	X	\$ 0.16
Revenue		\$5138.24

**PRODUCTION HISTORY**

Month	kWh
Sep 2012	25868.4
Aug 2012	0.0
Jul 2012	0.0
Jun 2012	0.0
May 2012	0.0
Apr 2012	0.0
Mar 2012	0.0
Feb 2012	0.0
Jan 2012	0.0
Dec 2011	0.0
Nov 2011	0.0
Oct 2011	0.0
Sep 2011	0.0
Aug 2011	0.0
Jul 2011	0.0
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