



MMWEC Solar Aggregate



Massachusetts Municipal Wholesale Electric Company

Update: Q1 2019 MMWEC Solar Aggregate



Production - 1,872 SRECs

SREC I: 429+
SREC II: 1,443+



Projects - 162

SREC I: 80
SREC II: 84
Non-Residential: 28
Community: 2



Trading Values 2019

SREC I: Upper \$300s
SREC II: Near \$300

MMWEC Solar Aggregate

The Massachusetts Municipal Wholesale Electric Company (MMWEC) created the MMWEC Solar Aggregate in 2010 to enable Massachusetts municipal utilities and their customers to capture the benefits of the Commonwealth's solar development incentive, which is based upon the production and sale of Solar Renewable Energy Certificates, or SRECs.

One SREC is created each time a solar project, or an aggregation of solar projects, generates 1,000 kilowatt hours of electricity. SRECs produced by projects in the MMWEC Solar Aggregate are sold to entities, typically investor-owned utilities, that have a Renewable Portfolio Standard requirement to either, 1) generate or purchase a specific amount of solar energy, 2) purchase an equivalent amount of SRECs, or 3) make an alternative compliance payment to the Commonwealth.

Revenue generated by the sale of MMWEC Solar Aggregate SRECs I and II is shared with the owners or sponsors of projects in the Aggregate to help offset the costs of project development. Any solar project located in a municipal utility community is eligible to join the MMWEC Solar Aggregate. MMWEC provides assistance in meeting the qualification and registration requirements for projects seeking to sell SRECs. Once a project is qualified and registered, it can join the Aggregate, which handles SREC transactions from start to payout for participants.

Municipal Solar Incentive an Early Success

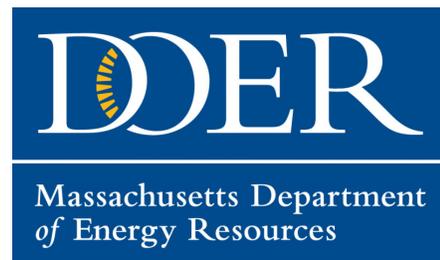
The Municipal Light Plant Solar Rebate Incentive officially launched in May, but the program is already off to a strong start.

The program is a collaboration between the Municipal Electric Association of Massachusetts (MEAM) and the Massachusetts Department of Energy Resources (DOER). Offered to customers of select municipal utilities, the program provides them with an incentive to offset the cost of solar panel installations. Customers are eligible for rebates up to \$1.20 per watt capped at 50% of the total project costs for projects that are 25 kilowatts or less. Additional restrictions rules may apply depending on the municipal light plant (MLP).

MMWEC has 17 members participating in the municipal solar program: Ashburnham, Boylston, Chicopee, Groton, Holden, Ipswich, Mansfield, Marblehead, Paxton, Peabody, Princeton, Shrewsbury, South Hadley, Sterling, Templeton, Wakefield, and West Boylston.

To date, 37 solar installation projects have been approved for the rebate incentive. The projects equate to nearly 300 kilowatts capacity. The rebate total is more than \$346,000 in cost savings for MLP customers in participating territories.

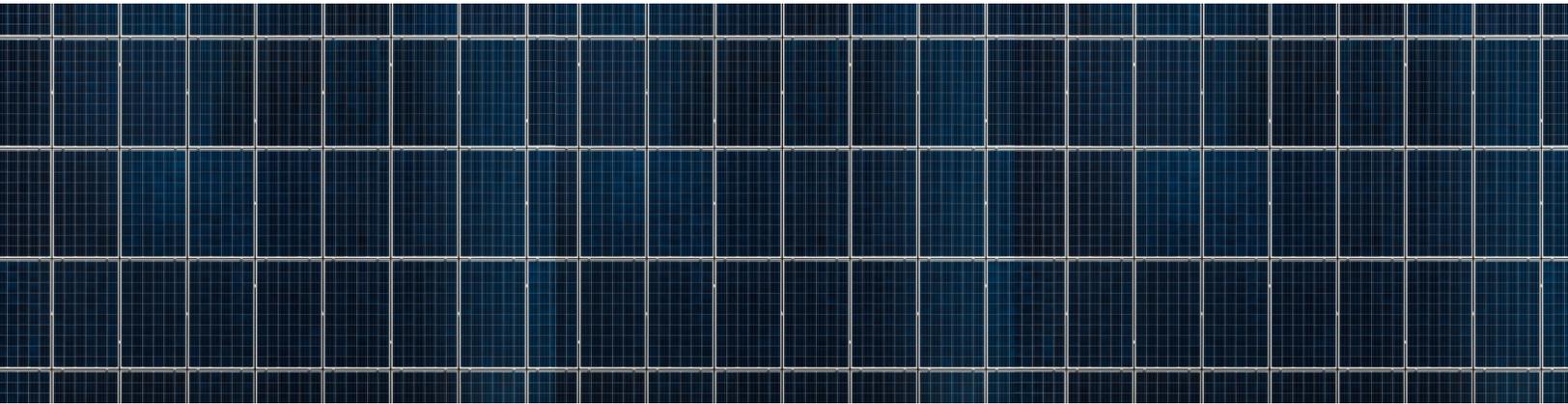
While a significant amount of rebates have already been approved, customers considering solar installations still have time to apply for a potential rebate. For more information and to apply, visit www.mmwec.org. Applications can be submitted through March 30, 2020 or until funds are exhausted.





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Tennessee Airport Goes Fully Solar Powered

The Chattanooga Metropolitan Airport in Tennessee is officially the first airport in the country to run solely on solar power after completing installation of its 12-acre, 2.64 megawatt solar farm this August.



The farm was a work in progress for nearly a decade. Construction began nine years ago and was completed in three separate phases, costing \$10 million, which was primarily funded by the Federal Aviation Administration. The array was constructed on land already owned by the airport that wasn't useable for aviation purposes. The farm uses onsite batteries to supplement power at night and is expected to continue to generate enough electricity for the airport's total energy needs for 30-40 years.

Chattanooga Metropolitan hopes to be a trendsetter. Vice President of Planning and Development John Naylor said workers from nearly 50 different airports across the globe have visited the site or inquired about the solar installation in recent years. The airport follows in the footsteps of Cochin International Airport in India, which became the world's first fully-solar airport in 2015 and now contains more than 46,000 solar panels.

Source: <https://e360.yale.edu/digest/chattanooga-become-first-us-airport-to-run-entirely-on-solar>

Cooling Down Solar Energy to Increase Efficiency

As much as two thirds of the energy consumed in the U.S. annually is wasted as heat, but scientists at the University of Utah are working on a solution.

Solar installations generate heat, but that heat is not used and it reduces the efficiency of the panels' power output and long term performance. Heat is also often generated and wasted with appliance usage. However, University of Utah scientists are working on a breakthrough device that utilizes that heat.

In a recently published paper in "Nature Technology," the scientists describe a small, 5x5mm chip composed of two silicon wafers. When the chip is held in a vacuum, half of the chip is heated and half is cooled, allowing it to generate electricity from the heat flux. The difficulty lies in the construction. In order for the chip to work, the two surfaces have to be placed less than 1000 nanometers apart, or roughly one thousandth the thickness of a human hair, without touching.

If successfully built, the chip could channel the heat generated from appliance usage back into it, increasing battery life by as much as 50%. It would also be able to do the same for solar installations, boosting the system's output by converting heat from sunlight into electricity, which would lengthen the life of the installations and prevent excessive degradation by keeping their temperatures lower.



Source: <https://www.pv-magazine.com/2019/07/12/waste-heat-is-not-cool-say-us-scientists/> Image: Ellen Forsyth/Flickr