

DNR INSTALLS LARGE SOLAR PV ARRAY IN GRAND RAPIDS, PAVES WAY FOR 20% ENERGY SAVINGS



In 2011, Minnesota Governor Mark Dayton issued two Executive Orders, creating a comprehensive energy savings plan for state facilities. It required all state agencies to reduce facilities energy usage by 20 percent by the end of 2015. In Grand Rapids, the Department of Natural Resources (DNR) is leading the way with one of the largest solar energy systems in the state. This week, DNR staff and media were given a tour of the installation of the 105 kW solar array at the Grand Rapids DNR headquarters.

A large block of solar panels, the system supplies about 35 percent of the Grand Rapids facility's electricity.

It uses 256, 410-watt Minnesota-made solar panels which are connected to 18 inverters that change direct current into alternating current usable by the buildings. The system was installed for a cost of \$321,000 but will save the DNR about \$15,000 in electricity costs, generating 150,000 kW per year. The renewable energy generated will avoid about 115 metric tons of carbon emissions each year or be the equivalent to taking about 24 cars off the road.

Aaron Van de Bogart, an electrical engineer with the DNR, was in town from St. Paul this week to explain the specifics about the new polovoltaic system and the renewable energy systems the DNR is putting in place across the state.

Van de Bogart said the DNR's goal in reducing total energy usage by 20 percent is expected to save at least \$4 million and reduce carbon emissions by 20,000 metric tons. This is throughout the DNR's 2,800 buildings, more than 2,600 vehicles and thousands of other fuel consuming devices like outboard motors, chainsaws, generators and more. In the summer months, the DNR operates dozens of campgrounds with remote security lights and campground electrical pedestals which are typically full.

“So reducing consumption by 20 percent is not an easy task,” commented Van de Bogart.

The DNR has a total of 31 renewable energy systems across the state. The economic benefits of these renewable energy systems include a \$70,000 reduction in DNR operating costs and local jobs supported by the manufacturing and installation of these systems. Xcel Energy has been a significant partner in this effort, having funded eight of these systems with a Renewable Development Fund grant.

According to Van de Bogart, the DNR organized local site sustainability teams throughout its properties to focus on ideas for energy efficiency. Over the last two years, the DNR has reduced building energy consumption by 8.5 percent. This has resulted in an annual reduction of DNR operating expenses of \$70,000.

The Grand Rapids solar system is expected to have a payback of about 30 years. It will produce electricity year around and actually works especially well in cold temperatures. When more electricity is produced than is used at the Grand Rapids DNR facility, it is sold back to the grid.

Source: <http://www.cleanenergyresourceteams.org/blog/dnr-installs-large-solar-pv-array-grand-rapids-paves-way-20-energy-savings>