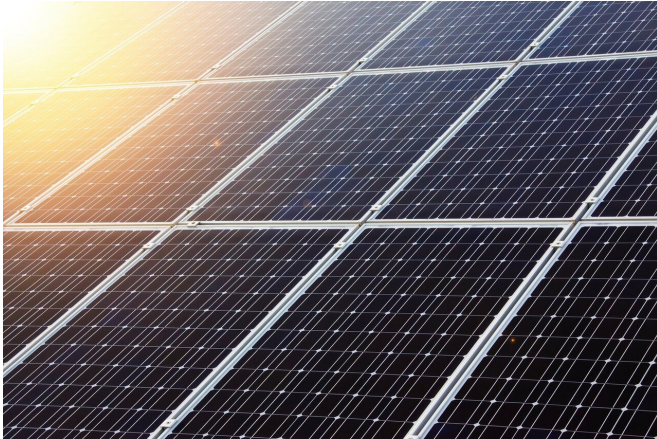


Minnesota grants will prioritize EV charging solar panels

12 December 2020, by Frank Jossie Of Energy News Network



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The next group of electric vehicle charging station grants from Minnesota's Volkswagen emissions-cheating settlement will prioritize projects that incorporate solar panels or other sources of local clean energy.

The Minnesota Pollution Control Agency has already awarded grants from the settlement to install nearly 50 Level 2 and fast-charging stations on major state highways. For the next round, the agency will spend \$170,000 on 22 Level 2 charging stations.

This time, the criteria for judging applications will reward developers who add [solar panels](#) or source [renewable power](#) from another local source.

"As part of these installations, we would like to encourage [renewable energy](#) to reduce our dependency on fossil fuels," said Rebecca Place, the agency's electric [vehicle](#) coordinator. "We're trying to incentivize using renewable energy—we're trying to see if (developers) do decide to add solar and whether they will pair it together with charging stations."

Applicants will receive up to 35 points (out of 100 total) for offsetting 10% to 50% of the chargers' capacity with solar. Applicants will receive fewer points for purchasing renewable energy from utility or community solar programs instead of installing their own solar.

Other changes this round include adding points for building chargers in neighborhoods with [poor air quality](#) and health issues or by installing more powerful Level 2 chargers.

Applications are due Feb. 8, 2021.

One potential hitch for developers is that the grants will not include additional funding to cover the cost of solar panels. The state pays for 80% of the cost of public Level 2 charging—up to \$7,500—and 60% for workforce charging installations. Developers must apply to install at least two Level 2 dual-port stations.

Public electric vehicle charging is currently a tough market. The pandemic has left many Americans driving significantly less. Adoption of electric vehicles has been slow, and most car owners charge at home rather than paying to use public stations.

In a survey of 1,500 electric vehicle drivers, the data software developer FleetCarma found 86% of respondents said they primarily charge at home. They cited convenience and the lower cost. A third of respondents said they would not own an electric vehicle if they could not charge at home.

Still, public charging stations are a key piece of states' electric vehicle strategies, wanting drivers to see enough chargers to feel comfortable buying an electric vehicle without worrying about an empty battery when away from home.

An average public [charger](#) in Minnesota gets roughly one use a day, though in busier spots along

interstates they are used multiple times per day, Place said. "They're definitely not sitting there not being used," she said.

Solar does offer potential financial benefits for the grid, and in particular for utilities, said David Shaffer, executive director of the Minnesota Solar Energy Industries Association. "Reducing capacity needs through on-site PV (solar) might make sense in certain spots even without extra money because the alternative might be system upgrades due to added demand," he said.

The Great Plains Institute recently released a report on pairing fast chargers with [solar energy](#). The report identified several benefits, including reducing or removing utility demand charges and reducing or eliminating capacity and overload problems on distribution grids.

Synchronizing solar and vehicle charging by using smart chargers works best at workplaces, where cars often stay parked for several hours during the day. Brian Ross, the report's author, joked that the major finding was that the sun shines during the day, "but it is obvious that you want solar with EV charging when they're both happening."

But the solar pairing does not work as well when a driver pulls in for a charge while shopping at a grocery store or grabbing a cup of coffee, he said. Instead, EV-solar's advantage comes when cars will be stationary for long periods, such as workplaces, downtown ramps or park-and-ride lots, Ross said.

A [solar array](#) above a parking stall can fully charge a car on a sunny day, he said. A larger-scale project with more than one array above a parking stall makes more sense, allowing multiple cars to charge at once.

Great Plains Institute managed a synchronized pilot at its Minneapolis office this summer. A 30-kilowatt solar installation on its roof fed electricity to three chargers. Despite being a small solar project, "it was more than enough to provide power for those three chargers when the sun was shining," he said.

Ross said the lack of solar funding in the state

program should not matter because installations pay for themselves in power production. The grants should attract more organizations who may not have thought about adding solar. "What this is doing is encouraging people to take a second look at solar who probably ought to be looking at solar anyway," he said.

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APA citation: Minnesota grants will prioritize EV charging solar panels (2020, December 12) retrieved 29 June 2022 from <https://techxplore.com/news/2020-12-minnesota-grants-prioritize-ev-solar.html>

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