

## Determine how to manage retired solar panels

A statewide study will determine how to keep de-commissioned solar panels out of landfills and recycle valuable materials.

### Challenge

As Minnesota's clean energy economy grows to meet the demand for carbon-free power, we anticipate a significant increase in the number of solar energy systems. Minnesota currently has nearly four million solar panels in operation and is expected to install millions more in the coming decades. The state must be ready with an end-of-life disposal plan to manage solar panels once they are no longer used.

While solar panels are warranted for 25 to 30 years, damaged and defective panels are already coming out of service and some owners are choosing to upgrade their panels before the end of their expected life. Minnesota has a goal to divert waste from landfills. Solar panels contain valuable materials and embedded energy that can be recycled into future renewable energy equipment, and they may also contain toxic components that must be managed properly. There are county and local government concerns for end-of-life management in the absence of a statewide program.



### Proposal

The Governor recommends \$420,000 in FY2024 from the General Fund for the development of a report that will identify options for the collection, reuse, and recycling of solar energy equipment. This report will outline options to recycle solar panels and installation components, ensuring that they are convenient and accessible throughout the state, recover 100% of discarded components, and maximize the recovery of materials and value. Data summarized in the report, which will be completed by a third-party contractor, will be used to establish recommendations for an end-of-life management program and funding mechanism.

### Why it's important

Minnesota's Climate Action Framework calls for aggressively increasing the energy transition away from fossil fuels and solar power is one of the most environmentally friendly methods of generating power. But the full benefits of solar power cannot be realized if retired panels are sent to landfills and the valuable, recoverable materials are lost. By weight, more than 80% of a typical solar panel is glass and aluminum — both common and easy to recycle. Managing other waste streams in Minnesota, such as electronic waste, has demonstrated that it is important to develop a comprehensive recycling program that keeps recoverable materials out of landfills.

For local governments that must decide whether to approve solar installations, it is critical to have confidence that decommissioning solar installations will be funded by the owner or through another program so that the burden will not fall on taxpayers.

## For more information

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