

SHERCO SOLAR PROJECTS: DESIGNED TO LAST



A solar panel is a device that converts sunlight into electricity by using photovoltaic (PV) cells. Solar panels are arranged in groups called arrays or systems. A PV system consists of one or more solar panels, an inverter that converts DC electricity to AC electricity, and sometimes other components such as trackers.

The solar panels being installed at Sherco are 89.69 x 44.65 x 1.18 inches on a tracking system that can tilt the panels 60 degrees. The trackers maximize energy production by automatically following the sun's position throughout the day.

The solar panels proposed for the project are made of non-toxic silicon solar cells, which are placed between sheets of glass and held together by a metal frame. Xcel Energy uses EPA-approved "leach testing" to ensure there is no potential for leaching from solar panels into the soil and groundwater.

Weather durability

The Sherco Solar projects use durable materials designed for cold and snowy climates.

- The solar panels are tested for hail resistance by the manufacturer and by third party testing laboratories. Generally, modules with 2.0mm tempered glass can withstand hail up to 45mm in diameter.
- The tracker's software receives information from weather monitoring services to automatically adjust the angle of the panels to the safest position if there is risk of a hailstorm.
- Solar panels being used at Sherco can withstand temperatures from -40°F to 185°F.
- Solar systems in cold climates are installed higher off the ground to avoid drifting snow. The tracker includes snow sensors to avoid tilting too far and damaging the system.
- Solar systems in snowy climates are designed to withstand snow loads. During snow events modules can be stowed at their maximum 60-degree angle to minimize and release snow buildup. The glass panels can be coated to prevent bonding of snow, ice, dirt and debris.
- The black glass panels heat up quickly when the sun shines, melting any remaining snow relatively quickly.

Decommissioning plan

A decommissioning plan was part of the site permit process for the Sherco Solar projects. The plan describes the process for restoring the site after the project ceases to operate so it can be used for agricultural or other land uses.

The decommissioning process will involve:

Removal of structures: This includes solar arrays, transformers, electrical collection systems, and fencing.

Site restoration: Grading and restoration of topsoil will return the land to its original condition or prepare it for future agricultural use.

Waste recycling, reuse and disposal: Materials will be categorized for recycling, reuse, or disposal, with a focus on minimizing environmental impact. Steel, aluminum, copper, and plastic are generally recycled.

The photovoltaic (PV) modules would still have remaining life and could be re-sold, reused on other projects, or recycled. With the rapid increase in solar projects comes rapid improvement in recycling solutions. Many manufacturers recycle their own products and use recovered materials in new PV modules.