

PHOTOVOLTAIC SOLAR PANELS

Photovoltaic (PV) solar panels are designed to absorb as much incoming sunlight as possible. As light passes through the front surface of a solar panel, it is trapped in the panel's solar cells and converted to electricity.

Did you know that there are over 2 million solar panel installations in the United States. Chances are, you live near a solar panel installation and didn't even realize it: solar panel installations fit easily into their surrounding environment and often go unnoticed.

REFLECTION AND GLARE

The glass surface of modern solar panels can include an anti-reflective coating, similar to that used on optical equipment (camera lenses), as well as texturing to minimize any loss of incoming light. Studies have shown that PV solar panels reflect as little as 2% of incoming light and are less reflective than water or window glass.

In the past, solar panel glare had primarily been a concern only for the aviation industry. However, recent studies have proven that solar panels pose minimal threat to pilots. In fact, there are numerous solar panel installations near U.S. airports, and there has never been a documented case of an accident due to solar panel glare. Hindawi Publishing Corporation, in conjunction with International Scholarly Research Notices, conducted an experiment that measured the potential glare that an aircraft pilot could experience as a result of ground-mount solar panels. Their findings concluded that "the potential for hazardous glare from flat-plate PV systems is similar to that of smooth water and not expected to be a hazard to air navigation."



RESPONSIBLE SITING AND PLANNING

National Grid Renewables works hard to ensure our solar facilities are built to the highest of standards. By working with expert construction and technology partners, we are able to design facility locations and solar panel arrays to ensure no reflective glare issues or safety concerns. National Grid Renewables develops each solar site with the approved Federal Aviation Administration (FAA) and Sandia Labs solar glare hazard analysis tool, which identifies and mitigates solar glint and glare.

SOURCES

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