

A-Core Container

Solar panels cadmium telluride power generation in one year



**2MW / 5MWh
Customizable**



Overview

What is cadmium telluride (CdTe) photovoltaic (PV)?

The United States is the leader in cadmium telluride (CdTe) photovoltaic (PV) manufacturing, and NREL has been at the forefront of research and development in this area. PV solar cells based on CdTe represent the largest segment of commercial thin-film module production worldwide.

What is the cadmium telluride PV perspective paper?

SETO released the Cadmium Telluride PV Perspective Paper in January 2025, outlining the state of CdTe PV technology and SETO's priorities to reduce costs, address materials availability, and support the scale-up of CdTe within the domestic utility-scale PV market. A large-scale solar array in Colorado with CdTe modules.

What is cadmium selenium tellurium (CdSeTe)?

In modern cells, cadmium selenium tellurium (CdSeTe) is often used in conjunction with CdTe to improve light absorption. Learn more about how solar cells work. CdTe solar cells are the second most common photovoltaic (PV) technology after crystalline silicon, representing 21% of the U.S. market and 4% of the global market in 2022.

What are the advantages of cadmium telluride (CdTe) thin film solar cells?

1. Introduction Cadmium Telluride (CdTe) thin film solar cells have many advantages, including a low-temperature coefficient ($-0.25\%/^{\circ}\text{C}$), excellent performance under weak light conditions, high absorption coefficient (105 cm^{-1}), and stability in high-temperature environments.

How are cadmium telluride modules manufactured?

The manufacturing process for cadmium telluride modules can be split into 4 main steps: Cadmium and tellurium are byproducts of mining operations for zinc and copper, respectively. The waste from these mining processes have so

far produced more than enough Cd and Te, so no extra mining is needed.

What are PV solar cells based on CdTe?

PV solar cells based on CdTe represent the largest segment of commercial thin-film module production worldwide. Recent improvements have matched the efficiency of multicrystalline silicon while maintaining cost leadership.

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