

Photovoltaic and wind power generation in the second half of the year



Overview

All renewable sources combined - wind, solar, hydropower, biomass, and geothermal - generated 27.7% of US electricity from January through June 2025, up from 26.

Photovoltaic and wind power generation in the second half of the year



Photovoltaics and electricity

A photovoltaic (PV) cell, commonly called a solar cell, is a nonmechanical device that converts sunlight directly into electricity. Some PV cells can convert artificial light into electricity. Sunlight is composed

[U.S. developers report half of new electric generating capacity will](#)

Developers added 12 gigawatts (GW) of new utility-scale solar electric generating capacity in the United States during the first half of 2025, and they plan to add another 21 GW in the



What Are Photovoltaics? (2026) , ConsumerAffairs(R)

Photovoltaic technology lets you generate electricity from a renewable source: the sun. Unlike traditional methods of electricity generation, which often rely on fossil fuels, photovoltaics

Photovoltaics , Department of Energy

Photovoltaic (PV) technologies - more commonly known as solar panels - generate power using devices that absorb energy from sunlight and convert it into electrical energy through semiconducting



[Photovoltaic Applications , Photovoltaic Research ,NLR](#)



Solar PV Energy Factsheet

Solar energy can be harnessed two primary ways: photovoltaics (PVs) are semiconductors that generate electricity directly from sunlight, while solar thermal technologies use sunlight to heat water for



[Supply: Renewables grow the most, followed by gas and nuclear](#)

Together, wind and solar PV are projected to surpass fossil-fired power generation in 2025, assuming normal weather conditions in the second half of the year. As a result, the share of low-emissions



As we pursue advanced materials and next-generation technologies, we are enabling PV across a range of applications and locations. Many acres of PV panels can provide utility-scale



Photovoltaics (PV)

Photovoltaic systems work by utilizing solar cells to convert sunlight into electricity. These solar cells are made up of semiconductor materials, such as silicon, that absorb photons from



US Electricity 2025 - Special Report

The United States' shift towards clean electricity continued in 2024, as wind and solar together rose to 17% of total electricity generation, surpassing coal, which dropped to an all-time low

Photovoltaics

Photovoltaic technology has been improving extremely rapidly during the past decade. At this time photovoltaics is the energy source of choice for remote power requirements and for emergency



[How Do Solar Cells Work? Photovoltaic Cells Explained](#)

The conversion of sunlight, made up of particles called photons, into electrical energy by a solar cell is called the "photovoltaic effect" - hence why we refer to solar cells as "photovoltaic", or PV

Solar Photovoltaic: Everything You Should Know

What is a solar photovoltaic (PV) system? A solar PV system is a technology that converts sunlight directly into electricity using the photovoltaic effect.



Photovoltaics

Photovoltaics (PV) is the conversion of light into electricity using semiconducting materials that exhibit the photovoltaic effect, a phenomenon studied in physics, photochemistry, and electrochemistry. The

[Solar and wind reach record 17% of US power generation](#)

Combined generation from wind and utility-scale solar reached a record 17% of the US electricity mix in 2025, a significant jump from less than 1% two decades ago.



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