

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



## Overview

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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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