

# Photovoltaic panel patent technology achievements



## Overview

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The European Patent Office's latest technology insight report highlights developments in photovoltaics over the past five decades. Photovoltaic inventions have increased more than 17-fold over a 30-year period. It plays a vital role in today's economy and enables cleaner and renewable energy production, reduces the dependence on fossil fuels and contributes to global efforts to combat climate . Aided by patent protection, this centuries-long technological innovation has steadily improved solar energy conversion efficiency while lowering volume production costs. That history is also littered with the names of some of the foremost scientists and engineers to walk this earth.

## Photovoltaic panel patent technology achievements

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### 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

[Inventions for photovoltaics increased more than seventeen-fold in](#)

This report offers valuable insights for both public and private sector decision-makers, drawing on the latest patent data and the combined expertise of the EPO and the European



[Photovoltaic inventions have increased more than 17-fold over a 30](#)

According to the EPO's Patent and Technology Observatory, PV technology innovations have grown more than 17-fold over the last three decades.

### Solar and Energy Storage , NV Energy

Adding renewable energy to your home or business is a big decision, but one that will reduce your energy bill and carbon footprint. Let us help make the process of connecting your system easy to



[A review of solar photovoltaic technologies: developments, challenges](#)



## 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



## Photovoltaic Research , NLR

Our cutting-edge research focuses on boosting solar cell conversion efficiencies; lowering the cost of solar cells, modules, and systems; and improving the reliability of PV components and



## Photovoltaics (PV)

Solar photovoltaic (PV) technology has emerged as a key renewable energy solution, yet its widespread adoption faces several technical and economic challenges.



## A History of the Solar Cell, in Patents

Aided by patent protection, this centuries-long technological innovation has steadily improved solar energy conversion efficiency while lowering volume production costs. That history is



## [Advances in solar photovoltaics: Technology review and patent trends](#)

Most patents were filed by companies and related to thin-film and crystalline-silicon cells as well as panel encapsulation and supporting structures. The analysis reviews the quantity, quality

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



[Solar Energy Company in Las Vegas, Nevada, Las Vegas Solar Energy](#)

PV Solar Systems + Energy Storage: Our photovoltaic (PV) solar systems convert sunlight into electricity. Paired with energy storage, these systems offer reliable backup power, keeping your

[Photovoltaic inventions increased seventeen-fold in three decades](#)

The European Patent Office's Observatory on Patents and Technology says innovation in PV has grown more than seventeen-fold over the last three decades. The office's technology insight



[Inventions for photovoltaics increased more than seventeen-fold in](#)

The latest technology insight report from the EPO's Observatory on Patents and Technology reveals that innovation in photovoltaics has experienced significant growth over the last

**Photovoltaic panel patent technology achievements**

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of generators for the direct conversion of light energy





### **A Brief History of Solar Panels**

In 1894, American inventor Melvin Severy received patents 527,377 for an "Apparatus for mounting and operating thermopiles" and 527,379 for an "Apparatus for generating electricity by solar"

### **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

### [European Patent Office: Inventions for Photovoltaics Increased More](#)

This report offers valuable insights for both public and private sector decision-makers, drawing on the latest patent data and the combined expertise of the EPO and the European Innovation Council



### **EPO Technology Insight Report: Advances in Photovoltaics**

The European Patent Office's latest technology insight report highlights developments in photovoltaics over the past five decades. It

tracks patenting activity across more than 30

## 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



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