

**SolarInnovate Energy Solutions**

# **EK Technology Photovoltaic Bifacial Modules**



## Overview

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What is bifacial solar photovoltaics (PV)?

Bifacial solar photovoltaics (PV) is a promising mature technology that increases the production of electricity per square meter of PV module through the use of light absorption from the albedo.

What are bifacial PV modules?

Because of the sleek aesthetic appearance and competitive price, bifacial PV modules are being installed for residential and commercial applications. Bifacial PV modules are also integrated into emerging applications such as floating PV systems, agro-photovoltaic systems, and building integrated photovoltaic systems.

How bifacial photovoltaic cell and module technologies are growing?

Bifacial photovoltaic cell and module technologies are rapidly increasing their market shares. The International Technology Roadmap for Photovoltaic (ITRPV) 2019 Results notes that as of 2020 bifacial cells account for about 20% of the total world PV cell market. By 2030, it is predicted that this share will increase to 70%.

Can bifacial modules boost energy yield of PV power plants?

Depending on the installation parameters, bifacial modules can boost the energy yield of PV power plants by 5% to 25% when compared to monofacial modules with a slightly higher cost . Projected bifacial cell technology market .

What is the optical-electrical-thermal model for the bifacial PV module?

Gu et al. developed a comprehensive optical-electrical-thermal model for the bifacial PV module, in which the optical model calculates the global irradiances of the tilted front and rear surfaces, the thermal model accounts for cell temperature, and the electrical model calculates power output.

Are bifacial PV modules degraded?

Degradation due to potential differences has been seen in bifacial PV modules based on different types of bifacial solar cells: n-type , and p-type , . The frame, glass, encapsulant, and other module packaging components can play an im-portant role in the extent of PID of PV modules.

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### Optimization and performance of bifacial solar modules: A ...

Feb 15, 2018 · It is still difficult to translate these location- and configuration-specific conclusions to a general optimized performance of this technology. In this paper, we present a global study ...

### A comprehensive review and outlook of bifacial photovoltaic ...

Nov 1, 2020 · Bifacial photovoltaic (bPV) technology is regarded as a promising alternative, as it can generate more power than conventional mono-facial PV (mPV) technology by absorbing ...



### Dominance of PV, the shift to bifacial back contact c-Si technology

3 days ago · Dominance of PV and the shift to bifacial back contact c-Si technology in the next solar decade By Dr. Radovan Kopecek and Dr. Joris Libal August 22, 2025 Manufacturing, ...

## Bifacial Photovoltaics: Technology, applications and economics

Jul 3, 2024 · Bifacial modules can be applied for large PV plants as well as for residential (flat white roof) and more specific BIPV (facade) applications and can also open up new PV ...



## Bifacial photovoltaic module performance in correlation to ...

Jan 1, 2025 · With increasing market share of bifacial modules it is increasingly important to evaluate the module's behavior under various real outdoor conditions. In this study bifacial ...

## A systematic literature review of the bifacial photovoltaic module ...

Aug 12, 2024 · Bifacial photovoltaic (PV) technology has received much interest, with the International Technology Roadmap for Photovoltaic (ITRPV) projecting a market share of 85% ...



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