

Empirical Data from Italy: Tiger Neo 3.0 Delivers 2.04% Higher Average Power Generation Gain than TBC Modules

Recently, based on the third-party testing, inspection and certification organization, TÜV SÜD Germany, the data analysis of the demonstration project in Basilicata, southern Italy, shows that JinkoSolar's N-Type TOPCon technology Tiger Neo3.0 module has an average power generation gain of 2.04% higher than that of the TBC module.

Project Overview

The European PV market accounts for 15-20% of the global PV market demand, ranking as the second largest PV market in the world. Therefore, the project is located in Basilicata area (40.42 ° N, 16.16 ° E) in southern Italy, which has both Mediterranean climate characteristics and typical European power plant environmental parameters, with an average annual irradiation of 1,800kWh/m², extreme temperatures exceeding 45 ° C in summer, and significant fluctuations in humidity in winter, which can effectively validate the long-term reliability of the modules under the composite stress of high temperatures, high humidity and fluctuations in irradiation. Long-term reliability.

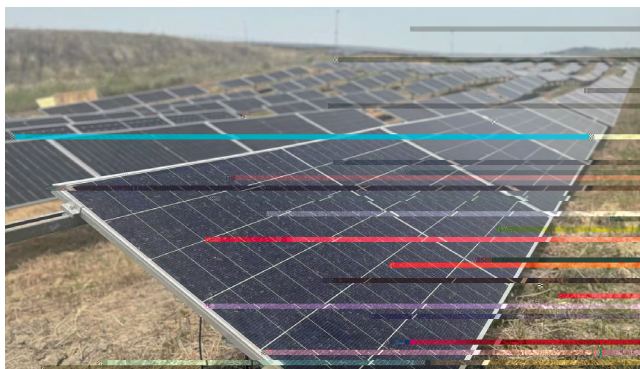
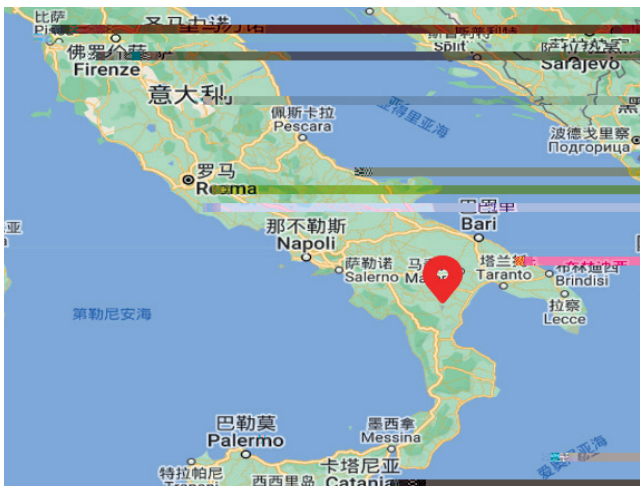


Figure 1: Project Picture

Module Details

Two different types of modules were installed for this test: JinkoSolar's TOPCon technology-based Tiger Neo 3.0 modules and TBC-type modules from other manufacturers. Each string consisted of 16 bifacial modules, with the comparative power station installed at an angle of 33 ° on grassland, and the bottom of the modules positioned 1 meter above the ground. The aim was to gain a deeper understanding of the

application performance of these two types of modules in different typical climates and to assist customers in selecting the right power station modules.

Cell Technology	Module Power	Module Size	Module type
Tiger Neo 3.0	605W	2278x1134mm	Bifacial Dual-Glass
TBC	610W	2278x1134mm	Bifacial Dual-Glass

Testing Conditions

During the testing process, monitoring equipment comprehensively collected a range of key data, including DC voltage, DC current, DC power, DC power generation, module temperature, radiation intensity, total irradiance, ambient temperature, relative humidity, wind speed, wind direction, and atmospheric pressure.

Module Operation Data Results

The data shows that during the testing period from July to November 2024, the average daily power generation of Tiger Neo 3.0 modules was 4.21 kWh/kW, while that of TBC modules was 4.13 kWh/kW, resulting in a power generation gain of 2.04%. This outcome fully demonstrates the significant advantages of JinkoSolar's TOPCon technology-based Tiger Neo 3.0 modules in efficient power generation.

Month	Tiger Neo 3.0 Per-Watt Daily Generation (kWh/kW)	Conventional TBC Module (kWh/kW)	Per-Watt Gain
July	4.75	4.64	2.37%
August	4.52	4.42	2.26%
September	3.98	3.92	1.53%
October	3.94	3.88	1.55%
November	3.86	3.77	2.39%
Total(Jul-Nov)	4.21	4.13	2.04%

Thanks to the Tiger Neo 3.0 module equipped with and using the self-developed complete set of N-type HOT 4.0 cell technology, the bifacial rate has been increased by more than 5%, the temperature coefficient has been further optimized, and the module has demonstrated excellent high-temperature power generation performance, low irradiation power generation performance and comprehensive environmental reliability. This demonstration not only verifies the climate adaptability of N-Type TOPCon technology, but also provides data support for global PV system design.

