



Add value.
Inspire trust.

PV plant certification

Provide assurance of the quality, safety and performance of PV plants from the onset.

Your challenges

Photovoltaic (PV) power plant operators and investors may face operational failure risks such as planning errors and installation defects. It is important to prevent these risks at the early phases of a solar project. During the planning stage, operators and investors have to ensure that the PV plant connects with the grid and adheres to safety standards. For investors to be guaranteed assurance of their investment, a PV system should achieve its expected lifetime and deliver performance according to design specifications. In the case of an insured event, investors need to have the appropriate technical documentation to avoid unnecessary costs and delays.

What is PV plant certification?

PV plant certification involves testing and certification procedures to ensure the quality, safety and performance of the plant as a whole as well as its components. This begins with a visual inspection by TÜV SÜD's experts to establish that the plant is built according to its documentation, continuing through a

review of PV component quality and concluding with performance ratio analysis at the commissioning or operation phase.

Why is PV plant certification important for your business?

Your PV plant requires a premium level of certification and quality assurance at the system level in order to achieve bankability and differentiation. PV plant certification indicates that there are no installation faults, offers assurance of investment through verification of energy yield assessments and provides your business partners with a reliable basis for future decision making. The qualification of PV components in terms of quality, safety and durability also helps minimise safety risks during PV plant operation.

How can we help you?

TÜV SÜD supports crucial decision making in the planning phase through shadowing measurement, energy yield calculation and on-site inspections. We test component functionality, evaluate PV plant

quality and verify the fulfilment of technical and safety standards.

Our PV plant certification services

TÜV SÜD provides Certification Level I for PV plants in the dissemination phase and Certification Level II for PV plants in production.

Final acceptance test

Our experts verify the completeness of handover documentation in line with system documentation requirements (IEC 62446 Clause 4) and initial or periodic plant verification of an installed system (IEC 62446 Clause 5).

Structural assessment

We assess the solar mounting structure according to the Eurocodes (European design standards) as well as EN 1090-2 or EN 1090-3. Furthermore, we perform a visual inspection of mounting structures and their foundation.

Remote monitoring data analysis

We evaluate and determine the reliable functioning and maximum yield of a PV plant. Our data evaluation ensures high performance, low downtime and fault detection in the plant, including early warning notifications of potential faults. This solution offers secure data evaluation throughout the plant's lifetime.

Performance acceptance test / Performance ratio assessment test

TÜV SÜD analyses the performance ratio parameter according to IEC 61724 as well as the yield production parameter by comparing theoretical and real output power production.

Your business benefits

- **Safeguard your investment** – through certification of your assets using modern inspection technology.
- **Minimise risk and gain certainty** – by identifying problems with your PV plant at an early stage, reducing the risk of installation faults and grid incompatibility.

- **Strengthen your asset value** – with a correct assessment of the project's performance and yield by a globally renowned third-party service provider.
- **Gain a competitive edge** – with an experienced expert partner in the field of PV plant certification.
- **Enjoy global support** – through TÜV SÜD's strong presence and high level of knowledge in global PV markets, backed by our experts in local areas.
- **Ensure efficient system operation** – with a certification process that is able to indicate and localise potential deficiencies through overall detailed assessment.

Why choose TÜV SÜD?

TÜV SÜD is widely known as an independent third-party solutions provider that produces impartial and reliable reports on PV plants. We offer world-class expertise with in-depth familiarity of international directives and regulations. Our extensive global network enables us to provide immediate and cost-effective support with premium TÜV SÜD quality in most markets. Our specialists come from a variety of different engineering disciplines, with decades of accumulated experience in more than 200 PV plant projects worldwide. As one of the world's most respected Certification Bodies, we offer comprehensive national and international testing and certifications for PV products and PV systems, such as: IEC 62108, IEC 61215, IEC 61646, IEC 61730, IEC 62109, IEC 61724, IEC 62446, EN1090 and IEC 61850.

Related services

TÜV SÜD provides the following related services:

- Site assessment
- Grid interoperability / grid compliance
- Yield study
- Diagnosis of malfunction
- Technical due diligence
- PV plant inspection
- Performance ratio assessment

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