Your challenges
Following the construction of a photovoltaic (PV) power plant, engineering, procurement and construction contractors must ensure that the installation meets performance and availability levels stipulated in the contract. The owners and operators need accurate and trustworthy information about the plant’s performance to set cash flow models and maximise performance/financial yield. This information ensures the plant meets or exceeds its potential and that the maintenance company they work with delivers on the agreed quality commitments.

Stakeholders must also avoid the possibility of inaccurate data from meteorological sensors due to incorrect placement, inclined position, lack of calibration, high uncertainty or an inappropriate sampling interval. This is important because inaccurate data can make a PV power plant appear to have a good performance ratio even when it operates poorly.

What is performance ratio assessment?
Performance ratio assessment takes into consideration real meteorological inputs like solar radiation, temperature and environmental factors (snow, dust, ice) that affect a PV power plant. Reduced power production due to failures or maintenance is also factored into the assessment.

Why is performance ratio assessment important for your business?
Performance ratio assessment indicates the accurate production of your PV power plant and shows how energy efficient and reliable the plant is. The assessment enables you to determine the real potential of your PV power plant and find hidden system failures in order to obtain relevant information and maximise energy/financial yield. Assessing the performance ratio allows you to compare the energy output of your plant with that of other installations or monitor the status of your plant over a prolonged period.
How can we help you?
TÜV SÜD’s experts carry out direct and independent calculations to analyse the production of PV power plants. We also help to assess the meteorological data and geographical conditions of your PV power plant location.

Our services

- **Performance ratio assessment**
  TÜV SÜD compares simulated production and the value measured on the plant’s electrometer. Ideally, both values should match. Based on this comparison, we can determine if the PV power plant performs according to expectations or if the monitoring system is not working correctly.

- **Site assessment**
  Our experts perform a site assessment that includes measuring solar access, evaluating influence from surroundings, identifying pollution sources and assessing soil suitability.

- **Energy yield assessment**
  TÜV SÜD offers abridged expert assessment using standard PV components and system-related energy yield reduction factors. Our detailed expert assessment covers investment decisions and bankability. We provide a review of the energy yield from existing PV plants as well as root cause analyses in case of reduced energy yields.

Your business benefits

- **Invest with confidence** – by obtaining a realistic assessment of your PV power plant’s real production value and production efficiency to maximise the predictability of returns on investment.

- **Save money and ensure reliability** – by identifying problems in your PV power plant to avoid future energy/financial losses.

- **Enjoy global support** – through TÜV SÜD’s strong international presence and high level of knowledge in global PV markets, backed up by our experts’ local presence.

Why choose TÜV SÜD?
With over 145 years of experience, TÜV SÜD provides solutions that are backed by best-practice cases and real-world scenarios. As an impartial third-party technical service provider with a worldwide reputation for independence, we provide clients with objective, reliable and realistic expert reports for critical decision-making. We assess each project objectively and with absolute expertise, ensuring you obtain unfiltered information.

TÜV SÜD has a portfolio of services throughout the PV power plant lifecycle. This gives us extensive knowledge of critical components and structures, typical defects and other aspects affecting efficient performance in a wide range of PV installations. Our specialists come from a variety of different engineering disciplines, with decades of accumulated experience in international public, private and joint-sector projects.

Choose certainty. Add value.
TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 800 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

**Related services**

TÜV SÜD provides the following related services:

- Site assessment for solar power plants
- Yield studies for PV power plants
- PV plant certification
- PV monitoring system certification