With more than 30 years of experience, TÜV Rheinland provides excellent know-how and has the capacity to inspect and certify photovoltaic modules, components and now even entire power plants based on all these evaluation services in Japan and around the world.

For more information, contact TÜV Rheinland Japan Ltd. at Solar Technology Assessment Center, 4-5-24 Chigasaki Higashi, Tsuzuki-ku, Yokohama Japan 224-0033. Tel: (81)-45-271-3508, Fax: (81)-45-271-3525. Customer Service Center info@jpn.tuv.com. East Japan: 045-470-1850, West Japan: 06-6355-5400.
Testing and expert evaluation of PV Power Plants during its whole life-cycle: planning stage, before commissioning and during operation

The Renewable Energies business field of TÜV Rheinland Group offers services for a variety of enterprises such as system integrators, construction companies, plant owners and investors: from site condition evaluation to examinations and evaluations of complete PV-systems in terms of quality, safety, and power capability. With seven PV laboratories in Asia, America and Europe, TÜV Rheinland provides inspection and certification of photovoltaic modules, components and now even entire PV power plants with the benefit of long year evaluation services experienced and provided worldwide. Without doubt, TÜV Rheinland is the ideal partner for your Photovoltaic Power Plant evaluation.

Service Outline

- Energy Yield Prediction Assessment
  In order to give a precise energy yield forecast of the plant’s capacity, an on-site evaluation including shadowing analysis is conducted. Shadows on the module can have a big output decreasing effect on the power a module will generate. An on-site evaluation including a sophisticated shadow analysis is a distinct part of a TÜV Rheinland power generation analysis. On the base of long-term local irradiation data and meteorological conditions, a long-term yield forecast for the power plant’s generation capacity is calculated using different types of simulation and calculation methods, based on parameters such as the plant’s structure, module layout and angle. This investigation report includes exceedance probability on P 90, 75 and 90 result validations.

- Specification Inspection
  We also review system specifications and components for their conformity to the relevant standards; this is aimed at discovering and preventing faults and defects at an early stage. We conduct a construction and management method evaluations based on JIS and IEC standards. We review the data available based on project specifications, plans, product specifications, user manual and other information available on the products and their correct project specifications, plans, product specifications, user manual and other information available on the products and their correct integration and behavior at the entire plant.

- Long-term Reliability Testing and Output Measurements of PV modules at the TÜV Rheinland Test Laboratory
  The output of PV modules has a direct effect on the power generated by the plant. By randomly measuring the modules before they are installed in the plant under construction, it can be confirmed whether the rated values are provided without critical deviations from the expected power. With regular measurements for measured modules, changes in their output over time are traceable. We also provide long-term reliability testing and comparative testing: tests that are important when choosing a module.

- Post-Installation On-Site Inspection of Power Plants
  Post-installation on-site inspections help maintaining the safety, quality and performance of a PV power plant. Defects and non-conformities found during the plant’s safety inspection, IV string performance measurement, thermography (infrared analysis) and installation system inspections are all summarized in report helping owners or investors to rely on their investment with confidence.

- Follow-up Inspections and Yield deviation analysis
  We conduct regular on-site inspections upon request including visual inspections, string measurement and thermographic evaluations. Furthermore, yield deviations and Performance ratio confirmations (PR-checks, expected vs. Real output) can be performed as part of our large service portfolio.