Your challenges
Obtaining accurate information on site suitability for solar power plants is vital for investors and developers. Inaccurate data and evaluation results compromise the reliability of pre-feasibility, feasibility and yield studies, which in turn lowers the likelihood of a successful project. A lack of transparency in evaluating suitable sites for project investments leads to undesirable risks with regard to plant quality, energy generation and the plant’s expected lifetime.

What is site assessment?
Investors need to understand the specific site requirements and conditions that help to optimise a solar power plant’s output. Site assessment involves evaluation of site suitability, solar access, shadowing considerations and other variables.

Why is site assessment important for your business?
Investments in large solar plants require accurate estimation of the site’s suitability in order to ensure the viability of the project. A site estimation protects your investment by assessing geological conditions as well as providing an estimation of yield derived independently from contractors or product suppliers. The measurements performed at a site assessment also increase the accuracy of a yield study.

How can I prepare for site assessment?
Successful site assessments require accurate and comprehensive data including irradiation data; climatic and weather conditions (especially clouds and dust); shadowing (shading angles, shading between rows of modules, other sources like buildings and trees); emissions in the neighbourhood (such as dust emitters); geographical, geological and infrastructural conditions (ground, roads, grids); topographical maps; and aerial photographs of the site.

How can we help you?
TÜV SÜD helps you understand the functional
requirements and constraints a site has to fulfil, thus providing a reliable basis for final site selection and other decision-making. Our experts have the know-how to assess various site characteristics that impact the energy yield, project completion and lifetime of a solar power plant. We review the geotechnical, environmental and climatic conditions in the area and evaluate terrain usability to determine accessibility for grid connection. Our involvement in the project’s conceptual/pre-construction stage ensures reliable and accurate pre-feasibility, yield and financial yield studies.

Our solar power plant site assessment services

- **Measurement of solar access**
  TÜV SÜD’s measurements are based on highly reliable modelling techniques using information on cloud cover, atmospheric water vapour, trace gases and the amount of aerosols in the atmosphere. Solar access and shadowing influence will also be evaluated.

- **Evaluation of influence from surroundings**
  Our experts examine the influence of the area surrounding the solar plant. This includes vegetation; access and entry to the construction site up to unloading, storage or construction; industrial installations; electric transmission and distribution lines accessible for interconnecting to the grid; as well as general topographic suitability.

- **Identification of pollution sources**
  Many factors affect the efficiency of cells in solar panels including climate, fog, rain, snow, altitude and industrial air pollution. We evaluate the specific environment, surrounding industrial installations, infrastructure and other conditions that could require more frequent module cleaning.

- **Assessment of soil suitability**
  We determine the hydro-geological conditions for your solar power plant by assessing the risk of erosion and floods during storms and hazards. Our assessment uses parameters such as morphology, soil conditions and land cover. We perform geotechnical soil studies to find a suitable solution for the foundation of the module support construction.

Your business benefits

- **Understand site requirements and conditions** – to optimise the output and lifetime of your solar power plant.
- **Gain a reliable basis for further project planning** – that can lead to successful installations as well as accurate yield, financial yield and bankability studies.
- **Strengthen your asset value** – with a correct assessment of the project’s economic profitability and yield.
- **Enjoy global support** – through TÜV SÜD’s strong presence and high level of knowledge in global solar markets, backed up by our experts in local areas.

Why choose TÜV SÜD?

TÜV SÜD is widely known as an independent third-party provider of reliable and in-depth knowledge services. We offer world-class expertise that includes in-depth familiarity with international directives and regulations. We combine international presence with immediate, cost-effective premium services at the local level. Our specialists hail from a variety of different engineering disciplines with decades of accumulated experience in more than 200 solar plant projects worldwide. Our broad portfolio of industrial expertise covers all stages of the assets lifecycle including in-depth knowledge of technical, environmental and financial areas.

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:

- (Pre-) Feasibility study
- Yield study
- Bankability study
- Environmental due diligence
- Contract review
- Grid services