



Technical Advisory



Suntrace Provides

- Holistic approach by combining meteorological, technical and economical expertise, all under one roof
- Advisory services from initial concept to full realization covering the whole range of PV and CSP applications including hybrid and storage systems
- Sophisticated tools and in-house modelling solutions for performance simulation and techno-economic optimisation
- Comprehensive experience from more than 4 GW of solar power plant credentials in more than 25 countries

Selected Credentials

- Technical Advisor for 2 x 400 MW PV+CSP hybrid plants in Morocco
- Technical Advisor to IFC's Scaling Solar Program for Ethiopia
- Technical due diligence for PV projects with an aggregate capacity of 300 MW in Chile
- CSP expert for evaluation of CSP proposals in Chile for KfW and Ministry of Energy
- Feasibility studies for PV and CSP projects worldwide with an aggregate capacity of more than 3.5 GW
- Lender Engineer for PV projects in India

✓ **Project Specific Engineering**

✓ **Modelling and Simulation**

✓ **Techno-Economic Optimisation**

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Project Specific Engineering

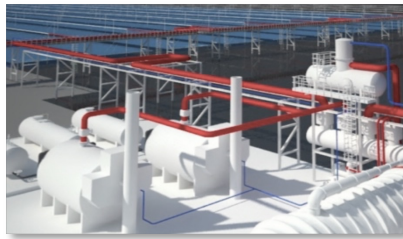
Suntrace offers a holistic approach by combining the required expertise for the meteorological, technical and economical aspects of a solar project, all under one roof. Our team has dedicated itself to move our Clients projects successfully towards realization. Besides the complete solar project development service, we can provide individual support to project specific requirements, including:

- Site assessment
- Solar resource assessment
- Energy yield assessment
- Feasibility study
- Conceptual engineering
- Techno-economic optimisation
- Technical due diligence
- Functional technical specifications
- Tender process and contract negotiation support
- EPC and O&M supervisory



Modelling and Simulation

Suntrace offers sophisticated tools and in-house modelling solutions for PV, CSP and hybrid solar power plant performance simulation. The technology selection, plant configuration, operating strategy and implementation strategy has to be assessed for each project individually, taking into account the specific boundary conditions.



CSP

- Modelling of thermodynamic cycles
- Flexible plant topologies
- Individual operating strategies
- Energy storage and fossil co-firing
- Start-up and shut down procedures
- Transients including warm-up losses

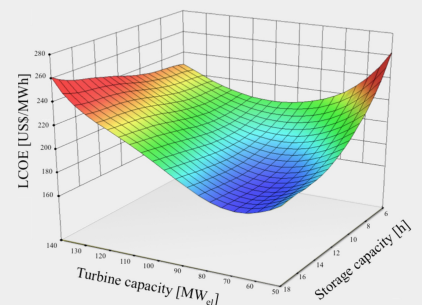
PV

- Electrical and physical system optimisation
- 3D shading scene
- Battery or diesel hybrid
- Technical drawings and single line diagram

Techno-Economic Optimisation

Besides the technical expertise, Suntrace can draw on over 5 bn USD power plant financing experience. For each business case evaluation, we develop a taylor-made financial model, which is crucial to find the optimal plant configuration during the techno-economic optimisation.

- Use of in-house financial model for project finance
- Automated linkage of technical and financial model
- Optimisation towards lowest cost of energy considering hurdle rates for return
- Comprehensive multi-dimensional optimisation of plant parameters with design of experiment methods
- Sensitivity analysis taking into consideration various technical and financial parameters



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