



# Independent design & engineering services

## Drive your PV plant design

### When & how we can help

OST provides design and engineering services throughout the PV plant project lifecycle:

- Project conceptualisation
- Financial close
- Bidding process
- Construction
- Operation & maintenance

Our expertise covers the complete range of design and engineering needs:

- Preliminary design / review
- Basic design / review
- Detailed design / review
- Consultancy support during construction and operation

### The benefits of enlisting independent design engineering.

The principal concern of owners and lenders is to ensure business success. When investing in the solar PV solar industry, the importance of the design is often underestimated and typically left in the hands of the EPC as part of the turnkey contract scope.

The key to project success is to begin with a well-prepared design and for the different stages of the project to then be driven by those with solid expertise. With this premise in mind, we can achieve the following benefits:

Quality PV plant design

- Appropriate technology selection
- Cost effective design
- Higher PV plant performance
- Efficient construction focussed design

Solid expertise

- Prevention and detection of issues
- Reduction of undue delays
- Diligent technical assistance

Reduced project risks

Secured investment

## Our typical services include:

- Due diligence
- Technical advisory
- Construction monitoring
- Project management
- Performance optimisation
- Analysis
- Feasibility
- Technical component reviews
- Planning
- Environmental & social services
- Commercial advisory
- Asset management
- Energy management

As part of the Owner's Engineer role, the independent engineering goal is to assure project quality, cost-effectiveness and PV plant performance that is in-line with or above market standards, this being a key determining factor for project success.

### Know-how and expertise

Thanks to our extensive experience as a global engineering consultancy company for the renewable energy market, OST has valuable know-how concerning the design and review of entire PV plant technical projects. The client will benefit from a multi-disciplinary team of senior engineers (Electrical, Civil & Structural, Mechanical, SCADA and Security) with expertise in utility-scale PV plants.

### Engineering services

The design of a PV plant typically goes through three key phases: Preliminary Design (PD), Basic Design (BD) and Detailed Design (DD). The design experiences changes and modifications during the various phases of the project lifecycle due to technical and economical optimisation, strategic decisions, construction time constraints, legal issues, etc.

OST provides design & engineering services throughout the whole project lifecycle, with experience in regulations and their application in most of the key solar regions.

Project phase	Engineering service	Purposes	Business / Client
Conceptualisation	Preliminary Design (PD) Preliminary Design-Review (PD-R)	<ul style="list-style-type: none"> <li>• Feasibility studies / Yield assessment</li> <li>• Environmental Impact Assessment (EIA)</li> <li>• Grid connection offer</li> <li>• Analysis of different technology scenarios</li> </ul>	Owner's Engineer
Financial close / bidding process	Basic Design (BD) Basic Design-Review (BD-R)	<ul style="list-style-type: none"> <li>• Definition of a BD for bidding process</li> <li>• Review of a BD provided by others</li> </ul>	Owner's Engineer
Pre-construction	Detailed Design-Review (DD-R)	<ul style="list-style-type: none"> <li>• Review of the DD provided by the EPC prior to the start of the construction phase</li> </ul>	Owner's Engineer
	Detailed Design (DD)	<ul style="list-style-type: none"> <li>• Package issued for construction</li> </ul>	EPC Contractor
Construction & commissioning	Remote & local consultancy engineering services	<ul style="list-style-type: none"> <li>• Guidance and assistance on design or construction-related queries and technical issues</li> </ul>	Owner's Engineer

### Customised engineering solutions

OST, as a technical consultancy, also provides its clients with customised engineering consulting services in all project areas, such as:

- Electrical (LV, MV, HV, substations, OHL, Grid Connections, Power System studies, earthing)
- Civil & Structural (roads, buildings, drainage, grading, trenching, foundations)
- Mechanical (mounting structure calculation and reviews, cabins, cable trays)
- SCADA (architectures, weather stations, PV plant controller, interface with Utilities)
- PV plant surveillance systems (CCTV, intrusion detection, access control systems)

We encourage our clients to ensure that the "dough" is well-prepared prior to baking and to leave the cooking process in the hands of "experienced chefs". OST provides engineering and consultancy services to reduce risk, optimise performance and enhance capability, giving our customers the confidence to build successful operations.