Case study

Optimizing for IRR with Time of Use and Reducing Installation Costs

terrasmart™

The Challenge

Down south in Victoria, Australia, this project had to be optimized for highest IRR considering time-of-use data. Two product combinations were evaluated, single axis tracker and fixed tilt, both with cSi panels and 2.0MWac inverters.

The site has a nameplate capacity of 90 MWac but the site is also land constrained. The typical approach is to design with high GCR options to allow access between rows in order to capture as much of the 90 MWac limit as possible.

Products	MWac	MWp	DC:AC	GCR	Yield	IRR
Combo 1: cSi SAT	68.00	88.08	1.295	0.60	1736	8.38%
Combo 2: cSi GFT	82.00	114.07	1.391	0.70	1515	7.82%

The Solution

To avoid speculation and find the most cost-effective capacity for the project, the client utilized SIFT (Solar Instant Feasibility Tool) to review all possible iterations for the site, pinpointing the optimal design. SIFT considered all boundary conditions: land constraints, costs, time of use, mechanical limits, electrical layout, target capacity, generation and more.

Time of use data is prioritized, ensuring the array optimizes towards high value days and hours.

The Result

By leveraging SIFT's proprietary algorithms, the client was able to **increase IRR basis points by 42 and reduce installation costs by $2 million.**

ID	Products	MWac	MWp	DC:AC	GCR	Yield	IRR
B1	**Combo 1: cSi SAT**	48.00	57.34	1.194	0.39	1881	8.80%
B2	**Combo 2: cSi GFT**	60.00	84.67	1.411	0.50	1570	8.11%