



SHYAM METALIC's COMMITMENT TO GREENING ITS ENVIRONMENTAL FOOTPRINT

Case Study on Fourth Partner Energy's Floating Solar Solution for Shyam Metalics & Energy Power Pvt Ltd, Sambalpur, Odisha

SHYAM METALICS'S 1.2 MWp FLOATING SOLAR UNIT

FOR ITS SAMBALPUR MANUFACTURING FACILITY

Shyam Metals is a prominent player in the metal manufacturing industry whose product portfolio includes iron pellets, sponge iron, billets, thermo-mechanically treated (TMT) bars, structural steel, wire rods, power, ferro alloys, and aluminum. Known for its commitment to sustainable practices and environmental responsibility - the company has made significant strides towards adopting renewable energy sources to power its operations, increase water efficiency, minimize wastewater and maintain zero-effluent discharge in recent years.

Through this floating solar installation Shyam Metals has been able to harness sunlight and convert it into usable energy with minimal environmental impact; while effectively cutting down on its Carbon footprint and saving on electricity costs.





KEY HIGHLIGHTS OF THE PROJECT

Project Capacity: 1.2 MWp	CoD 04-July-2022	Project Location Sambalpur, Odisha
Annual Generation 15,00,000 kWh	Type of Roof Floating Solar	Cost Savings 33% per unit

SHYAM METALIC'S

COMMITMENT TO SUSTAINABILITY

Shyam Metallics is a prominent player in the metal manufacturing industry whose product portfolio includes iron pellets, sponge iron, billets, thermo-mechanically treated (TMT) bars, structural steel, wire rods, power, ferro alloys, and aluminum. Known for its commitment to sustainable practices and environmental responsibility - the company has made significant strides towards adopting renewable energy sources to power its operations, increase water efficiency, minimize wastewater and maintain zero-effluent discharge in recent years.

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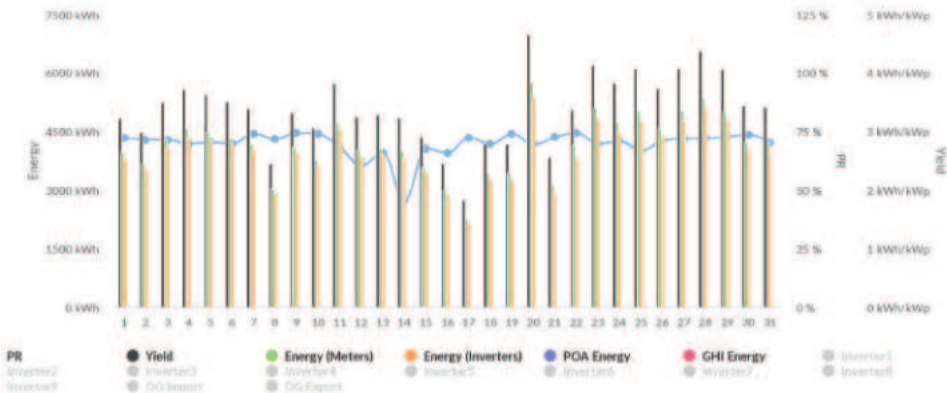


Shyam Metallic's facility saves **₹22 Lakhs** on its annual electricity bills via this Floating Solar unit

SOLAR GENERATION

DATA

March 2023



Cost Savings
₹22 Lakhs

Avg Units/ Day
4,173

Avg PR/ Day:
69.79%

Capacity Utilization Factor
(CUF): 16%

ANNUAL ENVIRONMENTAL IMPACT



1,694 tons
of reduced
CO2 emissions



~ 40 million
litres of Water
conserved



equivalent
to planting
80k Trees

4PEL'S CUSTOMISED SOLUTIONS FOR SHYAM METALICS



01 Innovative installations: 4PEL implemented innovative practices, for this one-of-a-kind floating solar installation using HDPE polymer-based floaters and polycrystalline module technology and building walkways for easy maintenance access. It not only maximizes energy production by up to 20% due to the cooling effect of the water but also helps in conserving water resources by reducing evaporation from the reservoir. The installation also has minimal ecological disruption compared to ground-mounted solar plants, as it does not require land clearance or disrupt natural habitats.

Strategic Procurement: Solar modules contribute 50-60% to the project cost and purchasing them in earlier stages of execution would have tied up a significant amount of capital in inventory, leading to increased costs. By procuring them towards the end of the project, 4PEL was able to optimize cash flow and reduce inventory carrying costs.

Plant Efficiency and Value Engineering: The right materials were chosen to increase plant efficiency while being cost-effective, and its impact on plant generation from any design parameter variation was carefully evaluated. This approach helped to maximize the efficiency and generation capacity of the plant while minimizing costs.

Timing: The installation took place during the COVID-19 pandemic, which presented several challenges such as travel restrictions, workforce availability, and safety protocols. 4PEL adopted multiple protocols and measures to ensure the safety of its workforce and comply with the guidelines set by the local authorities. We also worked with our supply chain partners to ensure timely delivery of equipment and materials, despite the nationwide lockdown.

Liasoning: 4PEL faced liasoning issues during the installation, as Odisha did not have proper regulations for renewable energy (RE) installations on water reservoirs. 4PEL worked closely with the local authorities to understand the regulatory requirements and obtain necessary approvals and permits. We also engaged with industry bodies to advocate for clearer regulations for renewable energy capacities on water reservoirs in Odisha.

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