SUNTECH

Case Study

IKEA MFLU Rooftop Project

PROJECT OVERIVEW

Project Name: IKEA MFLU project
Location: Marsden Park, Sydney, Australia
System Size: 384kW
Type of Solar Panel: STP320-24/Vem
Panel Quantity: 1,200 pieces
Owner: IKEA

BENEFITS

With a total of 1,200 Suntech high-efficiency polycrystalline PV modules were installed in the project. The roof system provides about 552,113.03kwh of electricity per year to IKEA Marsden Park MFLU, equivalent to a reduction in greenhouse gas emissions of about 489.3 tons per year.

Suntech provides IKEA with integrated energy solutions

Suntech , as a famous solar photovoltaic manufacturer in the world, Supplied 384kW polycrystalline solar modules to IKEA Marsden Park MFLU and optimize the system design. IKEA is a transnational company that designs and sells ready-to-assemble furniture, kitchen appliances and homeware. They have been the world's largest furniture retailer since 2008. The IKEA distribution centre (IKEA Marsden Park MFLU) houses a fully automated storage and retrieval system which is 11,000sqm in area and 35m high and consists of 9 automatic cranes and an extensive conveyor system which sorts, shelves and retrieves 66,000 pallets 24 hours a day. This distribution centre will improve IKEA's efficiency, lower supply chain related costs and equip IKEA with the capacity for new phases of growth with the introduction of more streamlined online shopping options.

Special installation, Power maximization

The 384kW system is designed to face the orientation of the ridgeline of the roof (i.e. 10° NE) to capture maximum solar insolation throughout the year. The modules are installed in portrait and tilted at 10° to the roof with 3m inter-row spacing between the rows to provide

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a balanced energy performance and optimization of the available roof space. Clearance around rooftop vents and obstructions are considered to reduce shading, and walkways running North-South and East-West through the array are included for ease of maintenance and access.

Taking into consideration the shading of the Southern low bay roof by the high bay area, only half the southern roof will be used to avoid shading on any part of the array between 9am-4pm throughout the year. The southern roof is fully utilised (within shading constraints) in order to reduce the overall cabling losses from the array to the inverter. All rooftop solar cables will be double-insulated and installed in UV protected ducts. All cables on the roof and within the building will be installed on cable trays.