

Project Leaflet

500 kWp grid-connected large commercial single roof installation for Bayside Mall in Table View, Cape Town.



A 500 kWp solar photovoltaic (PV) plant was designed, supplied and constructed by Sustainable Power SolutionsTM (Pty) Ltd. (SPS) at Bayside Mall, corner of West Coast and Blaauwberg Roads, Tableview. Commissioned on 30 January 2015 for the owners and operators of Bayside Mall, Acucap Properties Limited, the solar PV power plant will form part of their 'We're Going Green' campaign, alongside other initiatives such as harvested rain-water, and waste to energy, to provide a truly green shopper experience.

The electricity generated by the solar plant will feed into the shopping centre's electricity grid during the day and be used by all the tenants and shoppers throughout the Mall. At night the plant will go into stand-by mode.

The solar modules (2 000 in total), cover 3 300 m² of the roof area of the Mall, and are connected to grid inverters which convert the generated Direct Current (DC) from the solar modules into a grid-compatible Alternating Current (AC). The outputs of the inverters are combined and fed into the shopping centre's Distribution network/infrastructure. The solar plant will offset approximately 5% of Bayside Mall's

electricity consumption per annum, and being a first pilot for the owners can be expanded at a later stage.

The solar PV plant is only active when the utility provider is supplying electricity, i.e. it is complementary to the grid. The plant switches off during a power outage. The inverters have built-in safety mechanisms to ensure optimal and safe operation of the plant.

The solar PV plant operates completely autonomously and requires no intervention by the owner. The system will be monitored by a Synaptic Monitoring System with a weather station, therefore allowing ongoing performance monitoring.

The solar PV plant requires minimal maintenance, and Bayside Mall's solar modules will be cleaned regularly during the year to ensure optimal production in a salt-air environment close to the sea and amongst a high marine-bird population.

The long term performance capability of solar modules will ensure that the plant still generates close to 90% of its original power after 25 years.

BAY SIDE SHOPPING MALL: 500 kWp SOLAR PV PLANT FAST FACTS

Solar PV plant size		500 kWp	COMPARITIVE STATISTICS	
Roof Area Utilised	Approx. 3 300 m ²		<p>With 2 100 kWh (Units of Electricity) you can:</p> <p>Supply a day's worth of electricity to 150 average households</p> <p>Operate 4 000 fridges for 24 hours</p> <p>Run 850 washing cycles of a washing machine</p> <p>Travel 10 000 km in an electric car</p>	
Construction start date	November 2014			
Commissioning date	30 January 2015			
Number of PV modules	2000			
Size of each PV module	250 Wp			
Average 1st year plant specific yield	1550 kWh/kWp/annum			
Expected 1st year production	775 000 kWh (Units of energy)			
Expected 1st year CO2 emission reduction	767 tonnes			
Average daily production	2100 kWh (Units of energy)			

