

COMMERCIAL SOLAR ROOF Singapore



Project data

Project name:	Changi Airport Budget Terminal
Developer:	Changi Airport Group
Location:	Changi, Singapore
Commissioned:	February 2010
Completion time:	12 weeks

Technical data

Rated system power	0.25 MWp
Annual energy yield	approx. 320 MWh
Avoided CO ₂ p.a.	approx. 160 tons*

Modules	First Solar FS275 REC 220
Inverter	SMA SMC11000TL
Construction type	Aluminium structures on metal roof
Tilt angle	3° slope

* Based on typical 0.5 tons CO₂/MWh from gas fired power plants

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"It's great to see Changi Airport using solar PV to reduce its carbon footprint", said Christophe Inglin, Managing Director, Phoenix Solar, Singapore.

Flying high with solar

Changi Airport installed a 250 kWp solar PV system on the roof of its Budget Terminal (BT) as part of its continuing effort to mitigate climate change and make Changi Airport more environmentally friendly.

The PV system is partially funded by the Singapore government under the Clean Energy Research and Test-bedding (CERT) program launched by the Economic Development Board and the Clean Energy Program Office. Changi Airport now enjoys a reduction of at least 320'000 kWh from its annual energy bills.

Changi Airport is Southeast Asia's first commercial airport with a PV power plant, and also the first commercial application of First Solar modules in Singapore. For this project, Phoenix Solar used 127 kWp of First Solar's thin film solar modules and 123 kWp of

REC's polycrystalline solar modules. The modules were installed on the north and south faces of the Budget Terminal roof using Phoenix Solar's Tecto-Sun mounting system. They cover a rooftop area of about 2,500 m².

Phoenix Solar also installed sensors to capture environmental data such as ambient temperature, module temperature and insolation – all of which feed into the National Solar Data Repository as part of Singapore's ongoing research to proliferate best practices and know-how in solar system integration.

A custom designed public display within the Terminal Building shows the amount of energy generated and CO₂ avoided by the PV system. This promotes international awareness about solar PV and Changi Airport's commitment to responsible aviation.

