

COMMERCIAL SOLAR ROOF + BIPV FAÇADE Singapore



Project name:	7 & 9 Tampines Grande
Owner/developer:	City Developments Ltd (CDL)
Architect:	Architects 61 Pte Ltd
Building contractor:	Dragages Singapore Pte Ltd / BYME
M&E consultant:	Conteem Engineers Pte Ltd
Location:	Tampines, Singapore
Commissioned:	May 2009

Technical data

Rated system power	101 kWp roof + 6 kWp façade	Modules	STP250 Multi-crystalline, ASI-Opak a-Si thin film BIPV
Annual energy yield	approx. 120,000 kWh	Inverter	SMA SMC7000TL / 10000TL / 11000TL / 7000HV
CO₂-savings p.a.	approx. 60,000 kg*	Construction type	Steel trellis above RC roof Glass façade

* Source: based on typical 0.5 tonnes CO₂/MWh from
gas fired power plants

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CDL earned a Solar Pioneer Award for its solar PV system comprising a rooftop power plant and a BIPV façade.

Award winning eco-office

As part of Singapore's Sustainable Development Blueprint, the Building and Construction Authority (BCA) has set the target for 80 % of existing buildings to achieve at least Green Mark Certified rating by 2030.

City Developments Ltd (CDL) wasted no time in exceeding those benchmarks, by achieving Green Mark Platinum rating on its new Tampines Grande commercial development.

Phoenix Solar played an important role by installing the largest PV system on a commercial building at the time of commissioning.

The project also distinguishes itself with Singapore's first thin film BIPV façade on a commercial building.

Forty customised amorphous silicon BIPV panels form part of the façade cladding, thereby replacing conventional glass that would otherwise have been used.

They match the panel design on the rest of the façades, resulting in an aesthetically consistent design.

The rooftop power plant's 404 multicrystalline modules form an undulating canopy that screens the plumbing and machinery from view and keeps the concrete roof and water tanks cooler by shading them from direct sunlight.

In the main lobby, a prominent LCD screen graphically displays system performance, building awareness for CDL's commitment to high-tech green building design.

