

GRID CONNECTED RESIDENTIAL Singapore



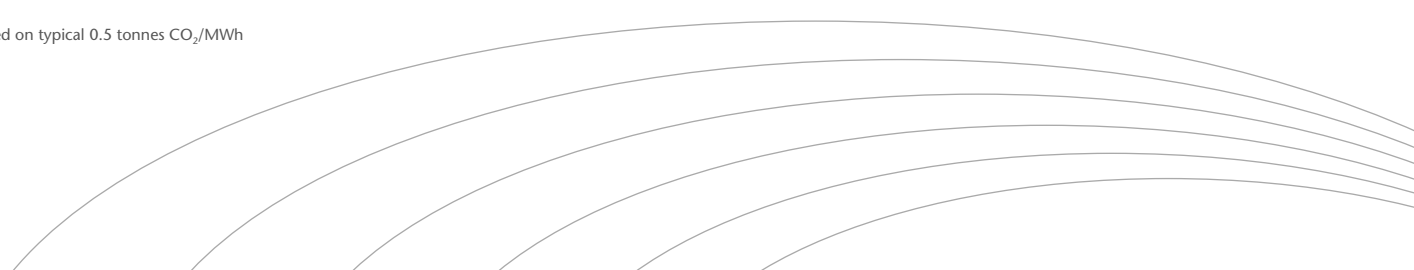
Project type:	2½ storey Semi-detached
Location:	District 15, East Singapore
Commissioned:	June 2008

Technical data

Rated system power	8'580 Wp
Annual energy yield	approx. 10'800 kWh
Avoided CO₂ p.a.	approx. 5'600 kg*
Modules	PHX90 MicroMorph thin-film modules MA-100T2 amorphous thin-film modules
Inverter	SMA

Construction type	Roof installation, 6.5° and 19° tilt angles
Architect	Art & Architecture Collaborative
Main contractors	MCL Construction & Engineering Pte Ltd
M&E consultant	Portwood & Associates
Roofer	Soleil Pte Ltd

Based on typical 0.5 tonnes CO₂/MWh



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Singapore's first modern Zero Energy Home (ZEH)

"Phoenix Solar helped us to prove the feasibility of a zero-energy home without compromising on comfort, using today's readily-available technology."

Using solar energy to create a zero energy home (ZEH)

This 1960s semi-detached house was converted into a modern zero-energy home by reducing solar heat gain, improving ventilation and adding a rooftop solar photovoltaic system.

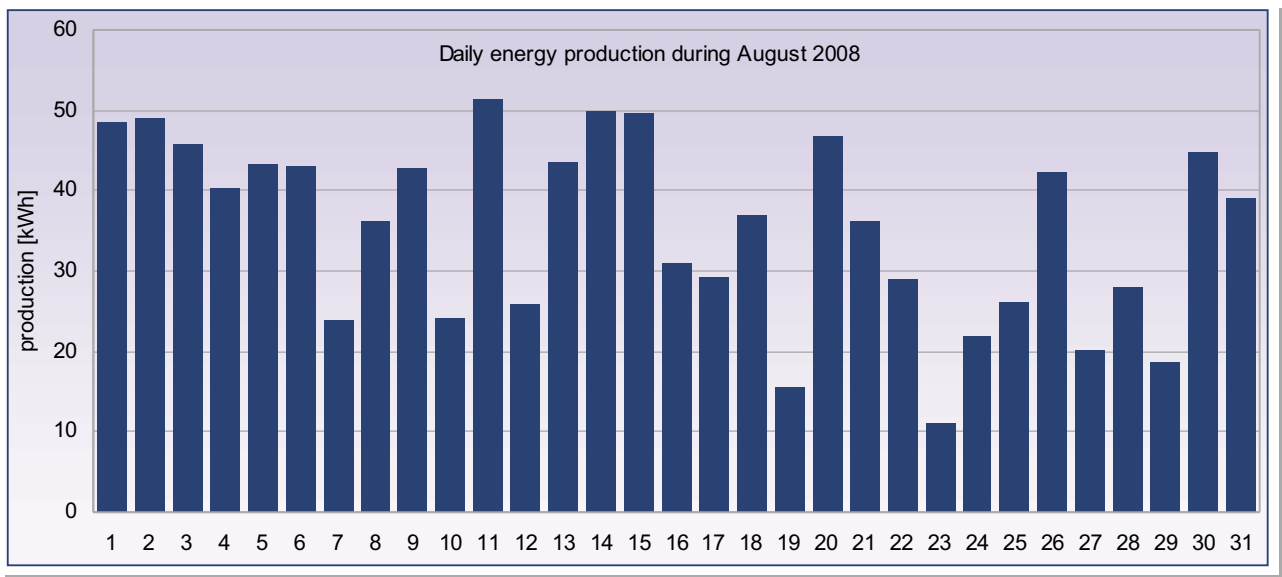
Designed to generate around 900kWh per month on average, the solar photovoltaic system is more than adequate to meet the electricity needs of the six-person household.

"Phoenix Solar's calculations were conservative, and the system has been performing better than anticipated", reports the happy owner. "Our ZEH generates more than we consume, so our electricity bills now show a minus sign!"

The ZEH is grid connected, so it does not need any batteries to store the solar electricity. During the day, solar electricity generated over and above the house's self-consumption will feed back to PowerGrid, while at night the ZEH draws power from the grid, just like any other house.

Phoenix Solar proposed rigid thin film modules, which they installed on a Kalzip metal roof. Since the mounting system does not penetrate the roof, its waterproofing is never compromised.

Another benefit of this approach is that the attic rooms remain very cool because the solar modules keep the roof shielded from direct sunshine.



Last revised 09/2008

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