



Make the most of the sun. Go Hybrid. By Solimpeks.

## Hybrid PV-Thermal Case Study 1: Killara

### About the Project

Based in Killara, NSW, this 2kW system was the first accredited Hybrid PV-Thermal solar install in Australia, and the first install globally using our 200W Hybrid panels. We used the site as a test and reference point in Australia, using best of breed components and also some quite sophisticated monitoring equipment. We have subsequently been asked by the home owner to install another 2kW on the site.

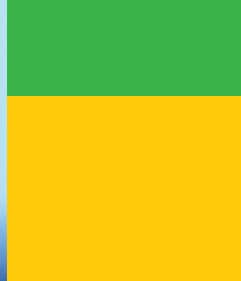
### Project objectives

- Create a reference point for Hybrid PV-Thermal in Australia
- Obtain PV & Thermal performance results
- Learn installation lessons

### System Details

- 2kW Hybrid PV-Thermal 'PV + Pool Heating' residential application
- 10 x Solimpeks PowerVolt 200W solar collectors
- 1 x SolarEdge SE3000 Grid Connect Inverter
- 10 x SolarEdge OP250 Optimisers
- Wilo ZRS Solar Pump
- Resol DeltaSol BS/4 Solar Controller





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## Hybrid PV-Thermal Case Study 2: Sunny Bank

### About the Project

This is a UK project completed by our UK agent, Newform Energy.

Sunny Bank was the Winner of the Grand Designs House of the year award 2011. This impressive Passivhaus building located in the Scottish borders, is powered by 18 x PowerTherm panels, 4 x 250W Sanyo HIT PV panels with a Nibe Exhaust Air Heat Pump and wood burner

This being one of the first projects Newform Energy were engaged has proved a valuable learning experience in the design and delivery of Hybrid PV-Thermal systems.

### System Details

- 2.4kW Solimpeks PowerTherm
- 1kW SANYO HIT PV
- Steca 2000+ Inverter and Slave Inverter
- Nibe Exhaust Air Heat Pump
- Resol BS Plus controller



WINNER  
**GRAND  
DESIGNS  
AWARDS 2011**



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## Hybrid PV-Thermal Case Study 3: Crossway

### About the Project

This is a UK project completed by our UK agent, Newform Energy.

Crossway, a Grand Designs project, was the first in the UK to use Hybrid PV-Thermal and has officially been named as Kent's first Zero-Carbon house!

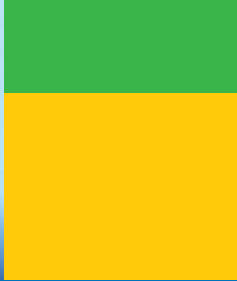
We are particularly pleased with this project as it contained a number of world firsts.

The project includes a 750lt thermal store filled with PCM (phase change materials) which helps buffer the thermal energy for long periods. The PVT panels are supported by an 11kW wood pellet boiler for times when the sun doesn't shine!

### System Details

- 2.85kW Prototype Solimpeks Hybrid panels
- 1 x Sunny Boy 1200 Inverter
- 2 x Steca 500 Inverter
- 2 x Steca 300 Inverter
- 11kW Evo Aqua wood pellet boiler
- 750lt PCM filled thermal store
- MVHR
- Resol MX Controller





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## Hybrid PV-Thermal Case Study 4: Walthamstow Fire Station

### About The Project

This is a UK project completed by our UK agent, Newform Energy.

This ambitious project is probably the world's most carbon efficient fire station. With 24kW of PowerTherm deployed and tied into 16 x 90 meter boreholes and 2 x 25kW heat pumps, this project takes the concept of the hybrid solar solution to a whole new level.

The boreholes have been designed to dump up to 100kW of thermal energy from the Hybrid PV-Thermal, meaning that when the building is up to temperature the panels can be sufficiently cooled to maximise on the electrical generation. All that thermal energy being fed into the ground ensures that winter time operation of the heat pumps is at the highest possible COP.

### System Details

- 24kW Solimpeks PowerTherm
- 3 x Aurora Inverter
- 1 x Fronius Inverter
- 2 x 25kW Daikin Heat Pumps
- 1 x 600lt thermal store
- 1 x 300lt thermal store
- 1 x 150kW gasketed plate heat exchanger
- 1 x auto fill unit
- 1 x Emergency heat dump fan coil unit

