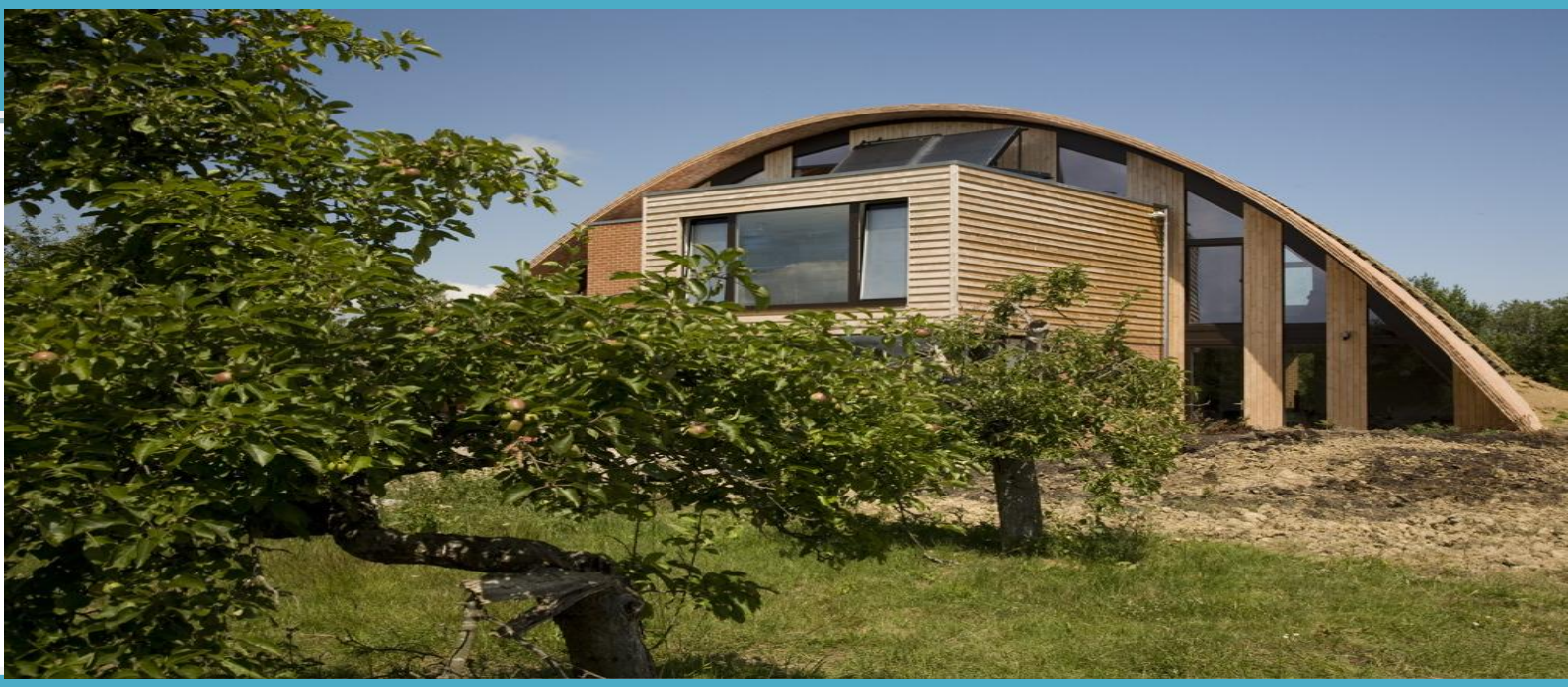
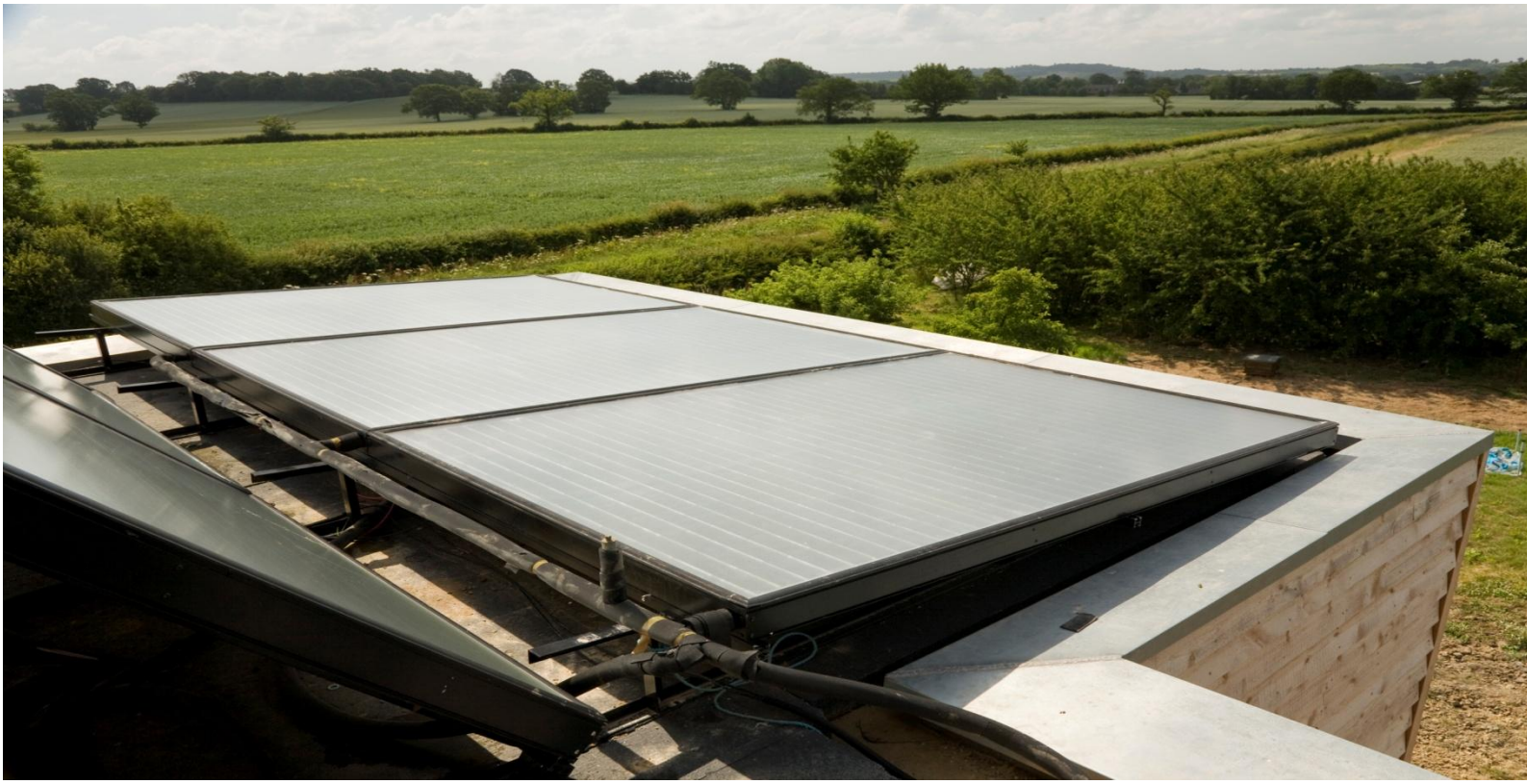
Volther hybrid collectors

CASE STUDIES



Case studies of Volther hybrid collector



Crossway

Crossway roject Description

Integrated PVT system designed with pellet boiler for top up heat, MVHR (Heat recovery ventilation) for thermal recovery and heat distribution and PCM buffer storage to store excess thermal energy. Crossway is a Grand Designs project - officially Kent's first Zero-Carbon House and Newform Energy's first major undertaking.

SES PVT panels producing:

System size 27m2 2.95kW (pk)

Annual output electrical 3,408kWh
Annual output thermal 12,064kWh

System Outputs (with losses):

Electrical 2,873kWh/annum
Thermal 9,627kWh/annum

Buffer Storage:

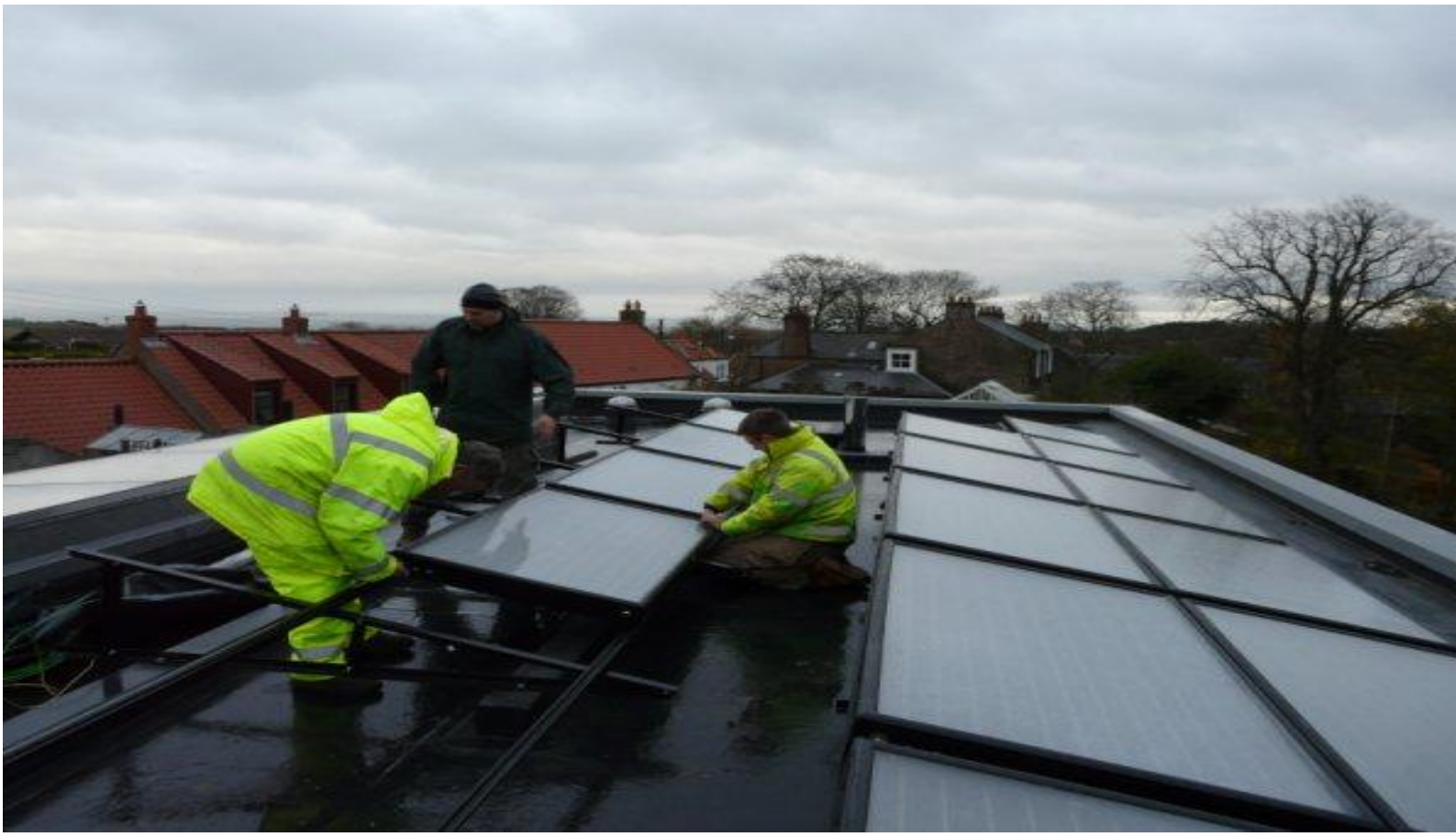
400lt solar tank + salt PCM store.

Evo Aqua Pellet Boiler uses:

22kg of pellets/annum

NED Air MVHR Unit:

32W fan power on normal setting. Heat recovery efficiency



Sunnybank

Sunnybank Project desciription

Integrated PVT solution with a Genvex Combi 185 EC MVHR/Air Water Heat Pump and an 1850lt buffer cylinder.

The project is situated in Scotland on the borders and is the first to use the new Volther Hybrid PowerTherm PVT panels.

PowerTherm PVT panels:

System size 31.4m2 3.41kW (pk)

Annual output electrical 3,751kWh
Annual output thermal 13,289kWh

System Outputs (with losses)

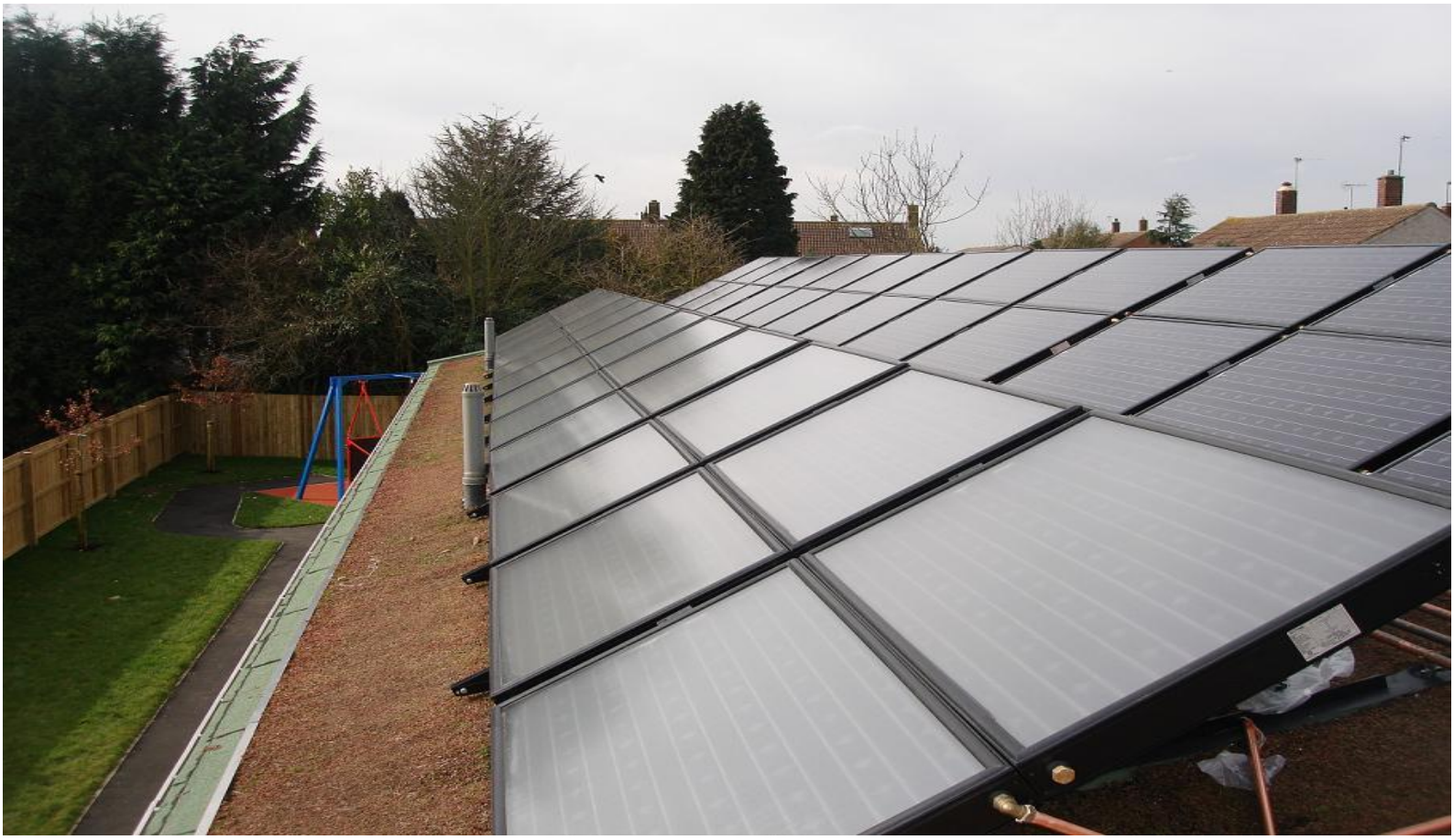
Electrical 3,162kWh/annum
Thermal 10,946kWh/annum

Thermal Storage:

185lt Integrated solar tank (integral to the Genvex Unit) together with a 1,850lt thermal store.

Genvex Combi 185 EC MVHR / Air to Water heat pump / cylinder

The Combi is a combined heat recovery ventilation appliance. It is equipped with high efficient supply and extract air fans, together with a counter-flow heat exchanger with an efficiency of up to 95%. The air source heat pump heats the supply air and domestic hot water, prioritising the hot water. The hot water cylinder can as an option be connected to a second heat source, e.g. solar panels. The unit is delivered with a F5 supply and extract air filter and Optima 310 control.



Chetwode

Project description: Commercial Hybrid PVT installation

The largest Hybrid PVT installation in the UK to date and the first to use the new Vother PowerVolt panels. The installation has a combination of PowerTherm and PowerVolt, making this installation a world first by using both types of Hybrid collector.

The heat from the system is being used for the building with excess heat being vented through a 30kW fan assisted heat dump.

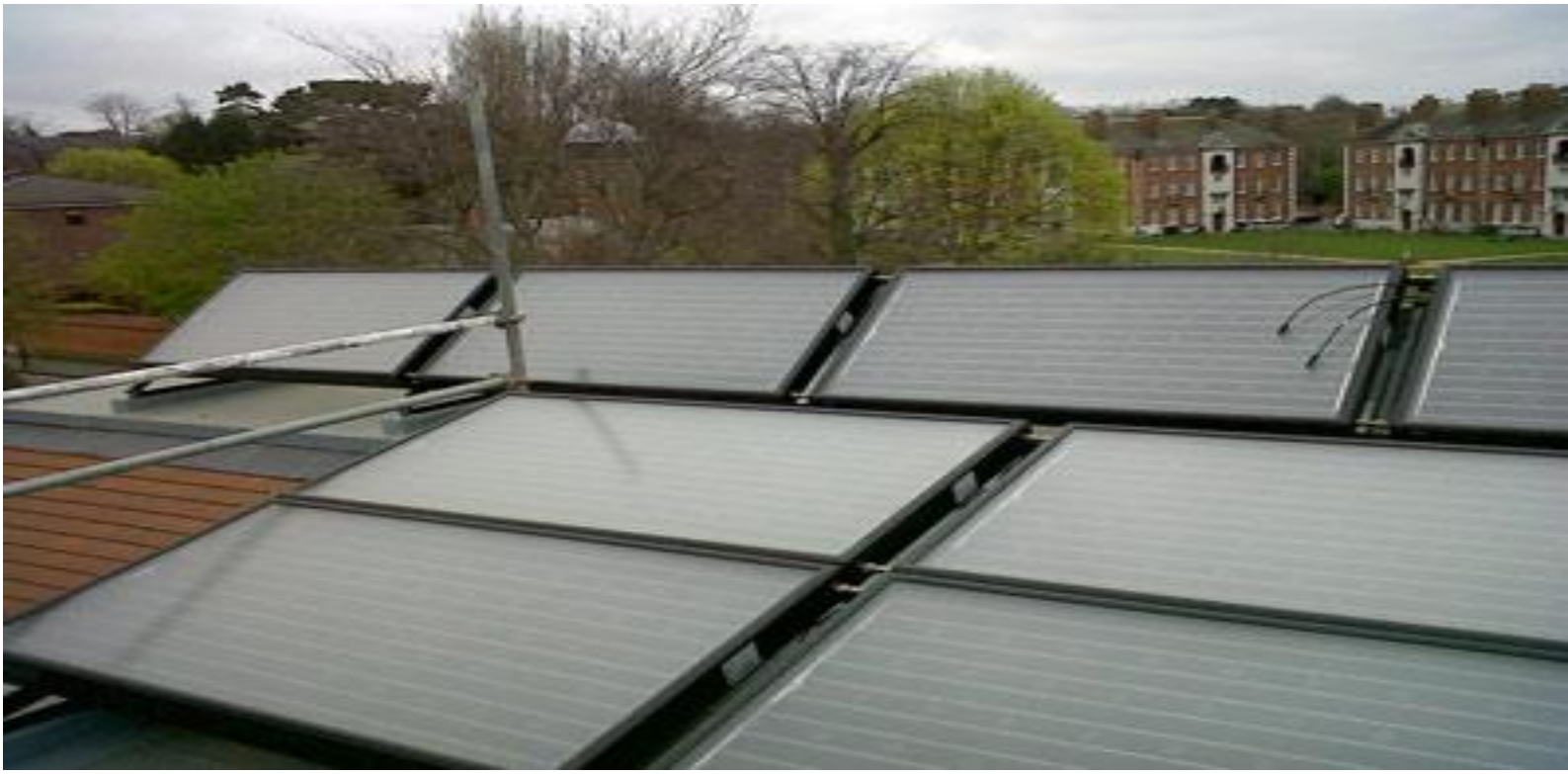
Panel Type: Hybrid PVT	24 x PowerVolt 175/460 (unglazed) 24 x PowerTherm 155/680 (glazed)
Array size	68.52m^2
Peak Electrical	7.92kW
Peak Thermal	27.38kW
System Design Temperature	60°C

Panel Outputs

Electrical 9,216kWh/annum
Thermal 19,801kWh/annum

System Outputs (with losses)

Electrical 7,988kWh/annum
Thermal 13,821kWh/annum



St Marys Road

St Marys- Installation completed

Project description: Volther PowerTherm PVT installation.

The use of PVT for this project was in order to conform with the Merton rule which insists any new building being built in the borough produces a % of its energy from onsite generation.

Merton Council's acceptance of the technology for this application sets a precedent in the UK.

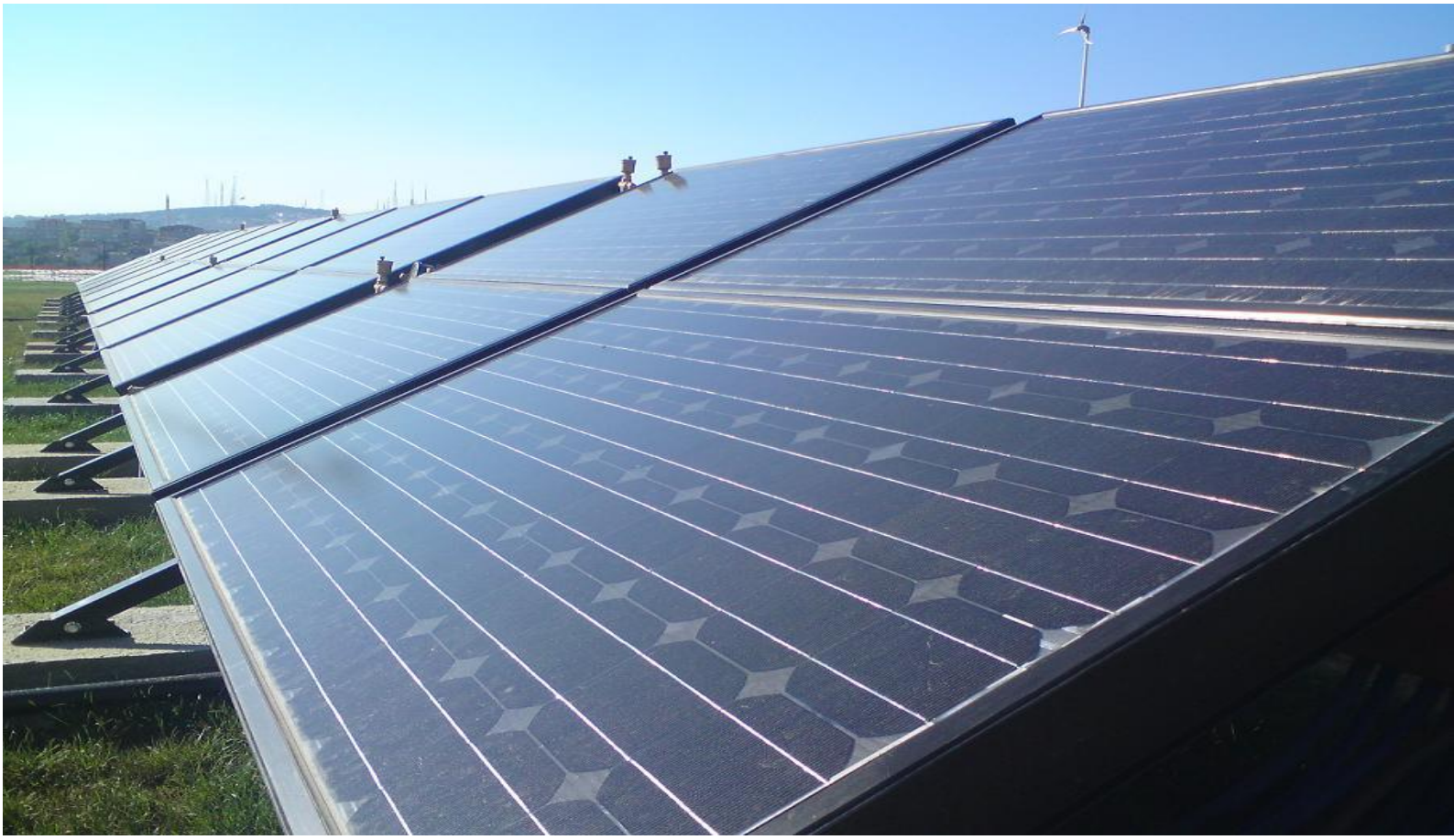
PowerTherm PVT panels:

System size 21.35m2 2.3kW (pk)

Annual output electrical 2,988kWh
Annual output thermal 8,897kWh

System Outputs (with losses)

Electrical 2,242kWh/annum
Thermal 7,100kWh/annum



Istanbul

Commercial Hybrid Project- in Istanbul

Project description: Volther PowerTherm PVT installation for Varyap.

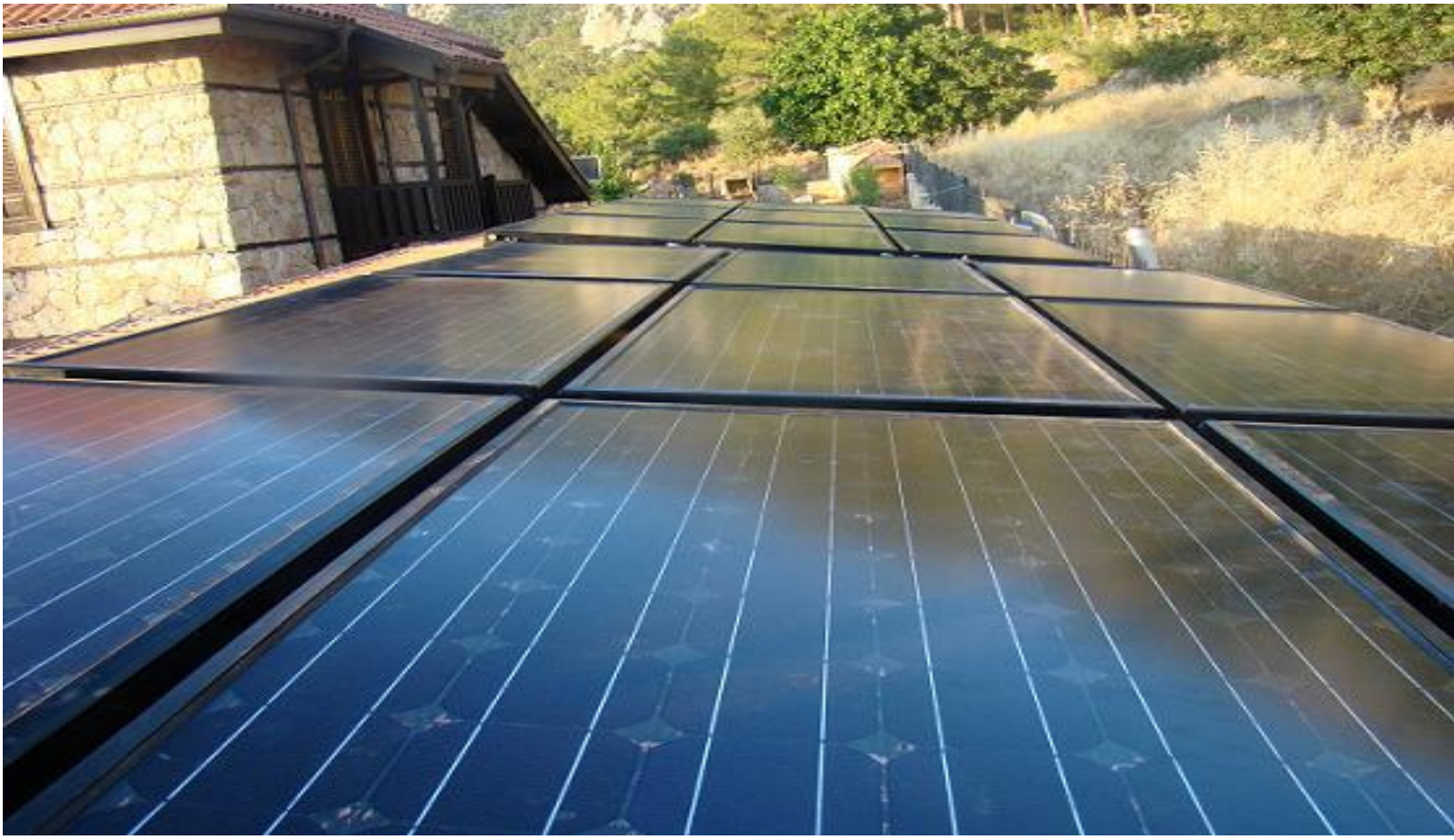
The use of PVT for this project was in order to demonstration with the Varyap rule which insists any new building being built in the borough produces a % of its energy from onsite generation.

Varyap accceptance of the technology for this application sets a precedent in the Turkey.

PowerVolt PVT panels:

System size 25.35m2 3.3kW (pk)

Annual output electrical 3,988kWh
Annual output thermal 9,992kWh



Antalya Kumluca

Kumluca Project Desciription

Integrated PVT system designed with pellet boiler for top up heat, MVHR (Heat recovery ventilation) for thermal recovery and heat distribution and PCM buffer storage to store excess thermal energy. Kumluca is a first hybrid project in the Turkey.

SES PVT panels producing:

System size 27m2 3.55kW (pk)

Annual output electrical 3,808 kWh
Annual output thermal 14,064kWh

System Outputs (with losses):

Electrical 2,473kWh/annum
Thermal 9,324kWh/annum

Buffer Storage:

400lt solar tank + salt PCM store.