Technology: Hybrid solar PV (PVT)

What?

PVT panels are a combination of photovoltaic panels and thermal panels, with the thermal panels located on the back of the PV panel.

Why?

The efficiency of a PV panel increases with decreasing temperatures. By using a thermal collector underneath the PV panel, the temperature of the PV panel is lowered, resulting in a higher electrical efficiency on the one hand, and in the availability of hot water on the other hand. This water can be buffered into a tank for later use.

Cost

PVT panels are more expensive than PV panels.

- Unit price (uninstalled): 1800 €/kWp – 2000 €/kWp.
- Unit price for thermal panel: 250 – 300 €.

Where?

PVT panels are typically installed on roofs and preferably oriented to the south.

Manufacturers:

- Fototherm (AL series, with PV panels from Aleo) [1]
- Fototherm (CS series) [1]
- CGA Technologies [2]
- Climapac (ianus hybride)
- …

Things to consider

There are in general two types of PVT panels. The first one is the integrated panel, in which PV panel and thermal panel are offered as one product, giving one guarantee and one price. The other one is the possibility to connect a thermal panel to any PV panel of choice. The advantage is that higher electrical outputs may be reached, but the disadvantage is that it may give uncertainties with respect to guarantees.

Want to learn more?

[1] http://www.fototherm.com/en/

[2] www.cgatech.it