Technology: Building integrated PV panels

What?

Building integrated PV panels are panels that are fully integrated into a building. They can be installed at the facade of the building, but also into the roof. The PV panels convert sun rays into energy. The electricity generated is used either to meet the building's own needs or is fed into the electricity grid.

Why?

Solar panel facades have been designed for application in buildings of a high architectural standard that comply with increasingly stricter environmental regulations. The fully-glazed facades, both functionally and visually integrated, generate electricity directly from the sun. The systems enable power to be produced even in areas with no direct sun rays since the technology can also utilise sun rays in cloudy weather. In snowy areas and next to water, the system increases output from reflected rays.

The facade has been pre-designed and delivery includes all the components and supplies required at the site. Also the cabling system has been pre-designed. On-site installation is both fast and easy.


Integrated solar panel in facade (left) [1] and on roof (right) [2]

Cost

Building integrated PV panels are typically more expensive than non-integrated panels, and their price depends on the type of PV panel (used material) and on the amount of panels (prices drop typically for bigger surfaces). One should also take into account that the installation cost can be higher compared to conventional PV panels.

Where?

Solar panel facades are perfectly suited for office and commercial constructions, but can also be used for residential buildings. The system does not limit choice of base materials or type of building and the facade can be installed in new-build and renovation construction and on different bases.

Manufacturers:

- Exasun
- Ruukki

Want to learn more?

[1] https://en.wikipedia.org/wiki/Building-integrated_photovoltaics

[2] http://www.ecofriend.com/future-perfect-building-integrated-photovoltaic-systems.html

[3] http://www1.ruukki.com/

[4] http://exasun.com/