

Trimo EcoSolutions

 **Trimo EcoSolar PV**
Integrated photovoltaic system



Environmentally friendly



Aesthetic



Lightweight



Money-saving



Durable

Trimo EcoSolutions

Trimo EcoSolar PV

Innovative thinking, continuous development and environmental responsibility are the essential elements of Trimo's corporate philosophy. With this in mind, we look to green energy to play a significant role in accomplishing our goals. Electricity generation through environmentally friendly means can be performed using photovoltaics (PV) - a technology that transforms solar light into electricity in a Silicon cell. At Trimo, we have developed the new photovoltaic **Trimo EcoSolar PV** roof panel; an integrated solution consisting of sandwich roof panels, light and flexible photovoltaic modules. **Trimo EcoSolar PV** can be used on commercial, industrial, recreational and many other types of buildings. Special attention is made on providing each customer with a turnkey solar power plant for their specific building. We also have the ability to forecast your annual power generation using our newly developed software as well as make project documentation necessary for connecting your solar power plant to the grid.





Trimo EcoSolar PV

The advantages of an integrated solution

ECOLOGICAL

- reduction of CO₂ emissions
- environmentally friendly power generation

ENERGY

- high energy efficiency in sunny and cloudy weather conditions
- low sensitivity to partial shadowing in terms of energy efficiency
- Highly efficient in higher temperature conditions
- Trimo EcoSolar PV roof panel is installable in the case of non-optimal roof pitch and orientation

ECONOMIC

- subsidized green power generation (feed-in tariff) - shorter payback time of investment
- independence from existing energy sources
- increased market value of new and existing buildings
- power generation in remote locations without access to the grid
- long lifespan
- support and consulting

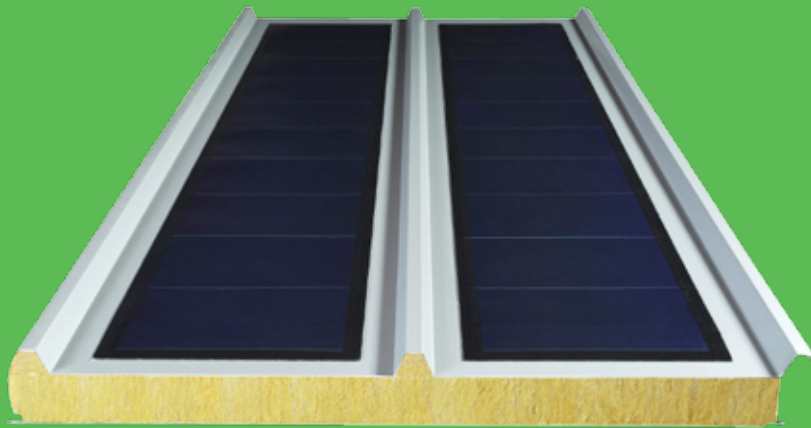
ARCHITECTURAL

- integrated solution with no additional elements spoiling the roof aesthetics
- no additional load bearing structure needed (lower weight loads, without roof penetrations and fewer critical points)
- appropriate for commercial, industrial, recreational and other types of buildings

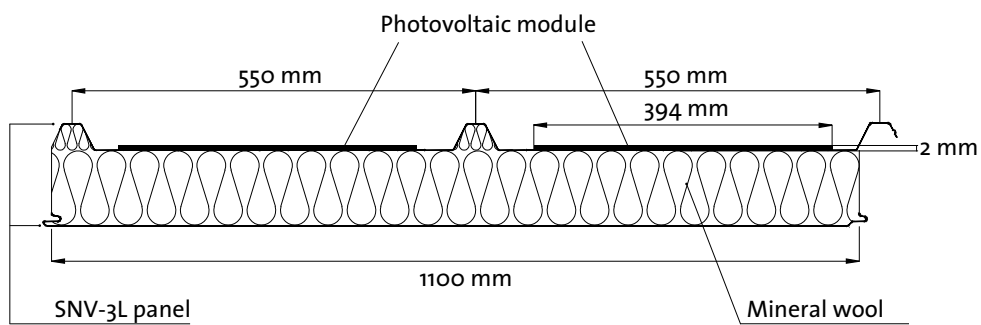


Trimo EcoSolar PV

Trimo EcoSolar PV is made of a SNV-3L sandwich panel adhered to a thin-film photovoltaic module. The modules are placed between the structural trapezoids of the exterior SNV-3L panel (see Picture 1). It is possible to bond two standard types of photovoltaic modules to the SNV-3L sandwich panel.



Picture 1: Trimo EcoSolar PV roof panel



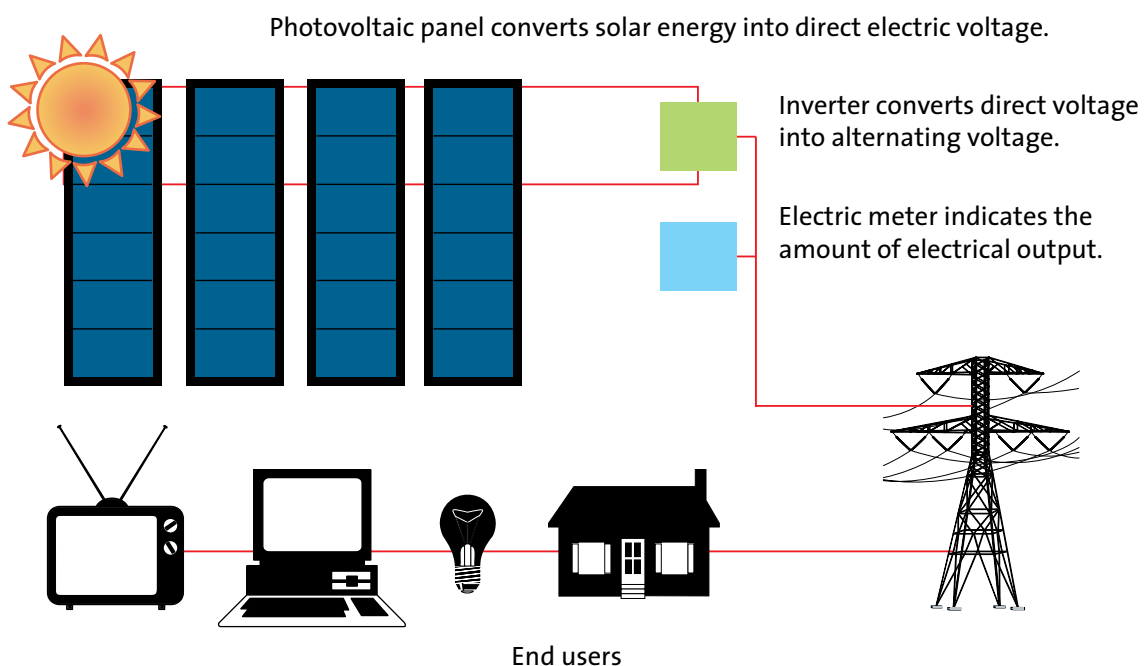


Complete solution

Interconnecting photovoltaic cells forms a photovoltaic module. Linking together photovoltaic modules forms a solar power plant (see Picture 2), creating the possibility of connecting to the public grid. Since electricity generated by solar power plant is highly subsidized, it enables you to greatly increase your return on investment.¹ With the lifespan of solar power plant substantially longer than the payback time of the investment, you can harvest higher profits for the most part of its lifespan.

Trimo can provide the complete turn-key solar power plant solution for your building. Our many services include handling of electrical project documentation, connection to the public grid and electric measurements. The whole system is supported by a Trimo warranty.

Picture 2: Understanding Solar Power Generation



¹ Trimo assumes no responsibility or liability on the actual monetary results as subsidies vary by project and/or region.

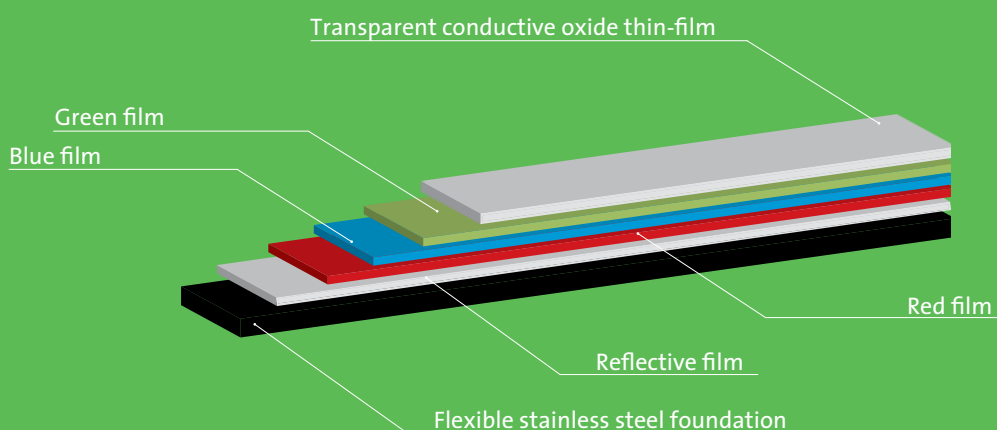


PHOTOVOLTAIC MODULE



Photovoltaic module converts solar energy directly into electrical energy utilizing “Triple junction” technology, whereby each solar cell consist of thin-film semiconductors stacked atop one another. Each of these cells then absorbs a portion of solar radiation spectre.

Picture 3: Profile of photovoltaic module



ELECTRICAL SPECIFICATION OF PV MODULE

Electrical specification of PV module (PVL-68 and PVL-136)

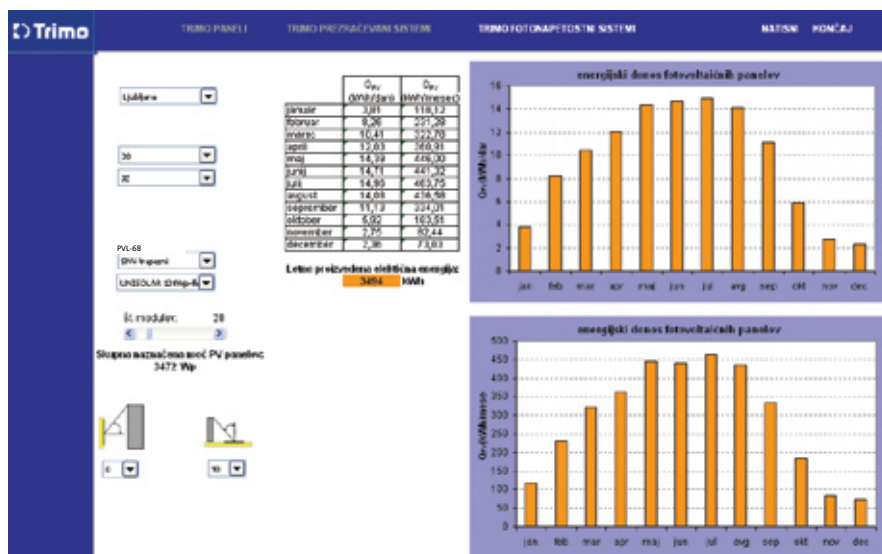
UniSolar PV module	PVL-136	PVL-68
Length	5486	2849
Width	394	394
Rated power	136	68
Maximum power voltage V_{MPP} (V)	33,0	16,5
Maximum power current I_{MPP} (A)	4,1	4,1
Voltage of open clamps V_{OC} (V)	46,2	21,1
Short-circuit current I_{SC} (A)	5,1	5,1

Trimo Expert PV

Trimo has developed its own proprietary software programme to assist our clients by forecasting power generation for each month. Each calculation takes into account:

- ☀ solar power station location
- ☀ roof pitch
- ☀ cardinal points
- ☀ number of PV modules
- ☀ shadowing by neighbouring buildings or eventual roofing

Software forecasting power generation



Ecological and economic advantages of solar energy



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