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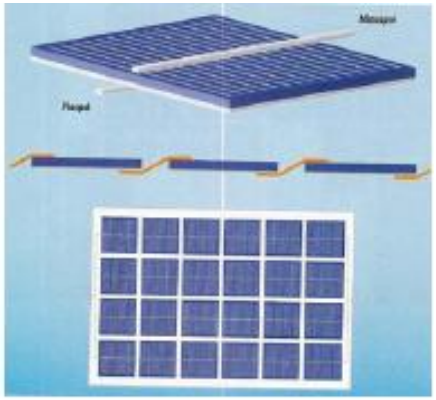
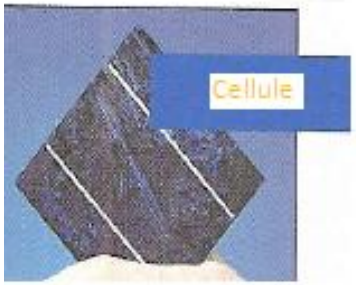
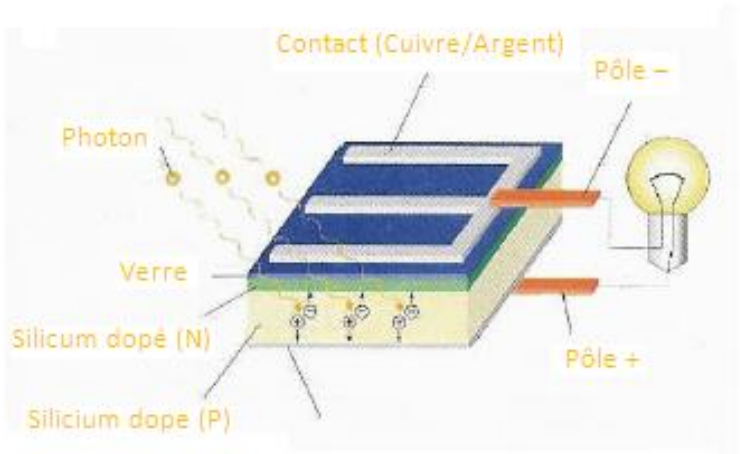
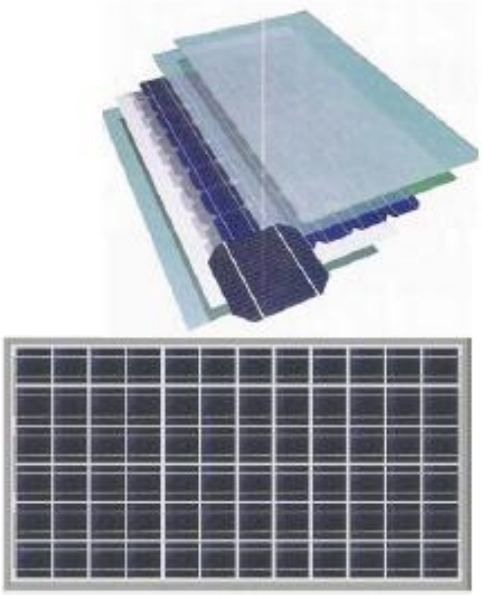
Présentation - Batibouw
06/03/2008

WHAT IS A (1st GENERATION) PV MODULE ?

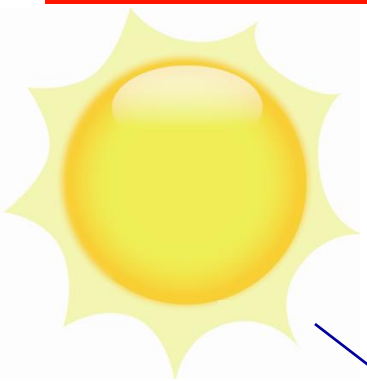


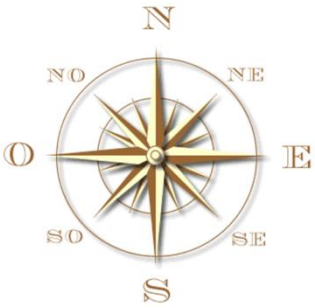






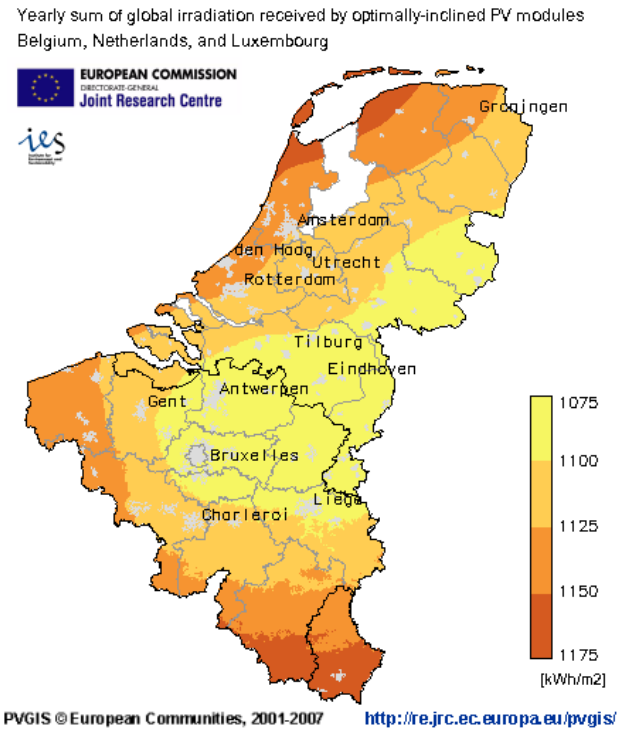
PRESENTATION OF A GRID-CONNECTED PV SYSTEM

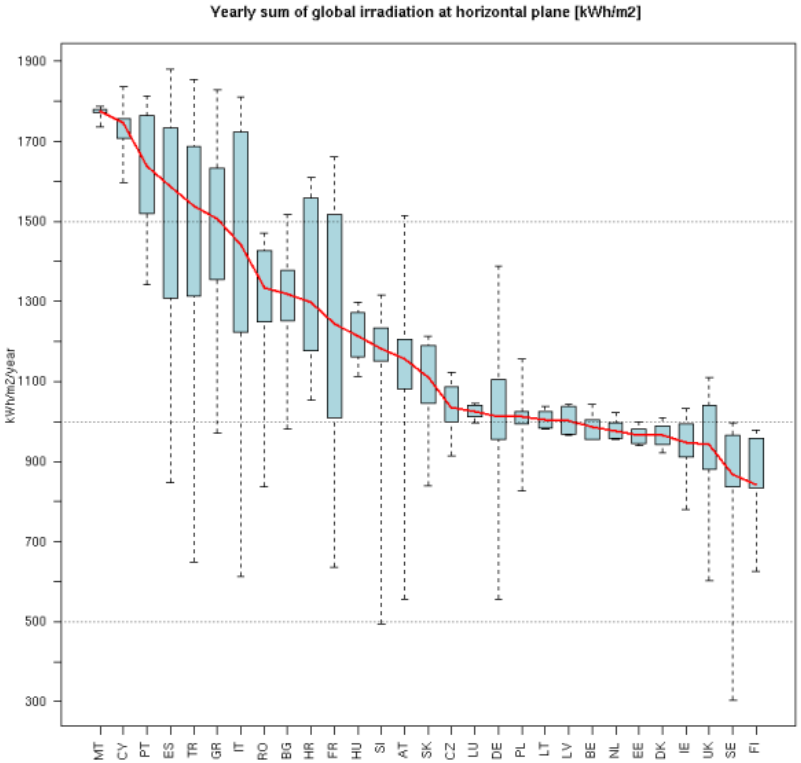




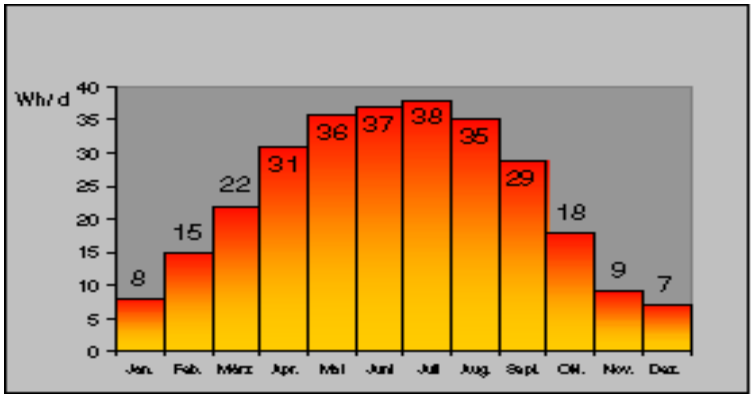
SOLAR ENERGY

- Between 950 & 1100 kWh/year per m2 in Belgium (ground)
- Between 1075 & 1175 kWh/year per m2 in Belgium (oriented South, 35° angle)
- Belgium receives 30000 TWh/year, which represents:
  - 2 600 000 000 TEP
  - 400 x the final consumption of energy in Belgium
  - The annual production of 1300 nuclear power plants
- Solar radiation varies throughout the year, and throughout the day





European Communities 1995-1996: http://re.jrc.ec.europa.eu/pvgis/



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PRESENTATION OF PV COMPONENTS

Photovoltaic Solar Modules

- Different technologies
- Different dimensions
- Different nominal power (Wp)

Monocrystalline
(1st Generation)

Polycrystalline
(1st Generation)

Amorphous
Silicium
(2nd Generation)

CIS
(2nd Generation)

- Different 'efficiency' (Wp per m2)
- Different production expectations (expected kWh per Wp)
- Different prices

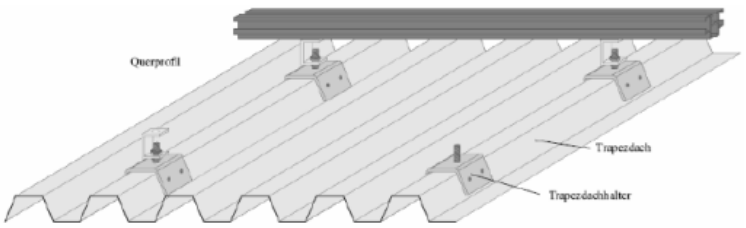
PRESENTATION OF PV COMPONENTS

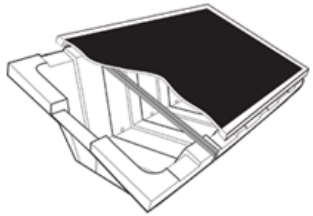
Inverters

- Different brands (efficiency, prices, compatibility with different PV modules)
- Conformity with international norms (VDE126-1-1)
- Follow-up of the PV production on server or web, alerts, etc.

Mounting structure

- Roof structure and resistance
- Types of mounting : surimposed, intregrated, flat roof/ground, suntracker





EXAMPLE OF A PV PROJECT

Introduction

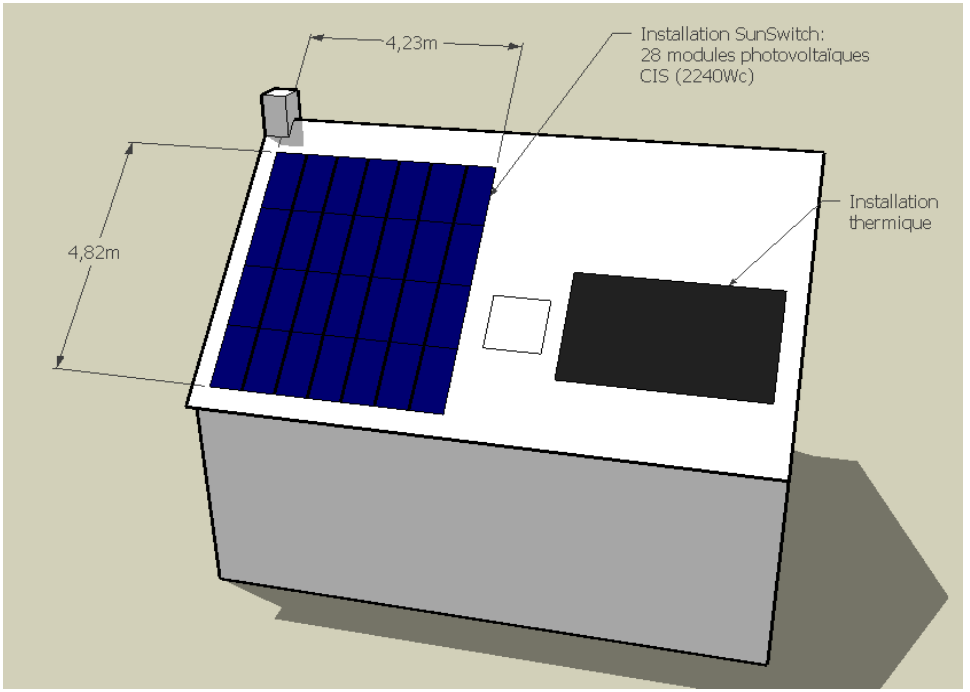
- PV installation on building < 5 years (21%)
- Orientation ESE - 45°
- (other project: solar boiler)
- Consumption: 2600 kWh/year
- Electrical network (external): 3 x 400V + N
- Roof: standard structure
- Low risk of shadows (except chimney)

- Objective: around 2000 kWh per year
- Panels fixed above the roof

EXAMPLE OF A PV PROJECT

Proposition

- CIS installation
- 28 modules 80Wc → 2240 Wc
- Surface 20m2
- Expected production 1950 kWh/year (ESE – 45°)
- Investment 17335,96 EUR (21% VAT included)



Financial return

- Fiscal subsidy (federal): 3340 EUR
- Regional subsidy: 3467 EUR (20%, max 3500 EUR in Wallonia)
- Annual return with green certificates: minimum 880 EUR (min 65 EUR resell price)
- Annual return in spared electricity: 330 EUR (0,17 EUR/kWh)
- ROI 7,5 years

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