

# Performance of grid-connected PV

# PVGIS-5 estimates of solar electricity generation:

## Provided inputs:

Latitude/Longitude: 43.157, 3.047
Horizon: Calculated
Database used: PVGIS-SARAH
PV technology: Crystalline silicon

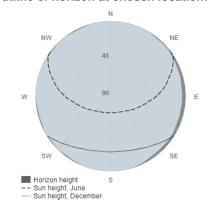
PV installed: 3 kWp System loss: 2 %

## Simulation outputs

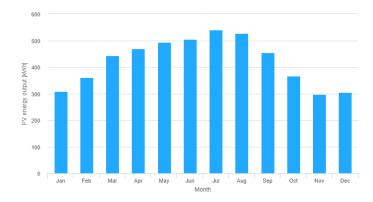
Slope angle: 38 (opt) °
Azimuth angle: 1 (opt) °
Yearly PV energy production: 5070 kWh
Yearly in-plane irradiation: 1850 kWh/m²
Year to year variability: 261.00 %
Changes in output due to:

Angle of incidence: -2.6 %
Spectral effects: 1 %
Temperature and low irradiance: -5.2 %
Total loss: -8.6 %

#### Outline of horizon at chosen location:



# Monthly energy output from fix-angle PV system:



# Monthly in-plane irradiation for fixed-angle:



## Monthly PV energy and solar irradiation

Month	Em	Hm	SDm
January	309	105	67.7
February	360	124	65.4
March	443	157	52.1
April	469	171	49.1
May	494	183	38.4
June	505	192	35.7
July	540	208	25.6
August	528	202	29.7
September	455	170	42.1
October	367	133	49.9
November	298	103	68
December	305	103	38.3

Em: Average monthly electricity production from the given system [kWh].

Hm: Average monthly sum of global irradiation per square meter received by the modules of the given system [ $kWh/m^2$ ].

SDm: Standard deviation of the monthly electricity production due to year-to-year variation [kWh].

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