

# Performance of grid-connected PV

## PVGIS-5 estimates of solar electricity generation:

Provided inputs:

Latitude/Longitude: 49.247,16.672
Horizon: Calculated
Database used: PVGIS-SARAH2
PV technology: Crystalline silicon
PV installed: 11.22 kWp

14 %

System loss:

Simulation outputs

Slope angle:

Azimuth angle:

Yearly PV energy production:

Yearly in-plane irradiation:

Year-to-year variability:

Changes in output due to:

21 °

69 °

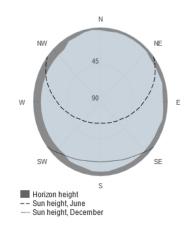
10742.11 kWh

1217.14 kWh/m²

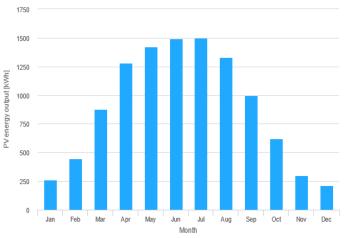
427.29 kWh

Angle of incidence: -3.64 %
Spectral effects: 1.44 %
Temperature and low irradiance: -6.42 %
Total loss: -21.34 %

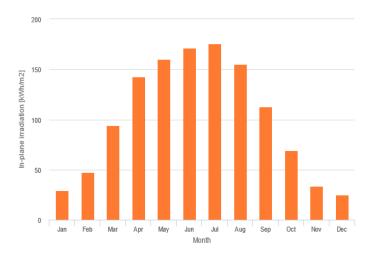
#### Outline of horizon at chosen location:



#### Monthly energy output from fix-angle PV system:



### Monthly in-plane irradiation for fixed-angle:



#### Monthly PV energy and solar irradiation

Month	E_m	H(i)_m	SD_m
January	263.5	29.2	44.4
February	444.4	47.5	94.6
March	875.4	94.3	140.6
April	1281.7	142.5	162.7
May	1421.3	160.4	203.1
June	1491.4	171.6	136.8
July	1501.2	176.0	141.4
August	1330.2	155.0	104.6
September	996.1	112.7	115.7
October	622.1	69.3	109.3
November	299.7	33.9	44.5
December	215.1	24.7	30.4

E\_m: Average monthly electricity production from the defined system [kWh].

 $H(i)_m$ : Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].

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

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