

0°

0 °

296.06 kWh

9.68 kWh

1034.55 kWh/m<sup>2</sup>

# Performance of grid-connected PV

## PVGIS-5 estimates of solar electricity generation:

#### Provided inputs:

System loss:

Latitude/Longitude: 51.747, -1.267
Horizon: Calculated
Database used: PVGIS-SARAH
PV technology: Crystalline silicon
PV installed: 0.36 kWp

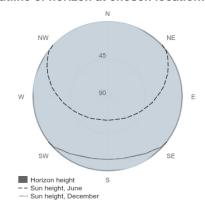
14 %

## Simulation outputs

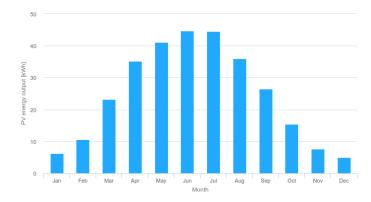
Slope angle:
Azimuth angle:
Yearly PV energy production:
Yearly in-plane irradiation:
Year-to-year variability:
Changes in output due to:

Angle of incidence: -4.73 %
Spectral effects: 1.67 %
Temperature and low irradiance: -4.57 %
Total loss: -20.51 %

### 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_I
January	6.2	23.6	0.7
February	10.6	37.6	1.5
March	23.2	78.4	3.5
April	35.2	119.5	4.6
May	41.2	141.4	3.2
June	44.6	155.1	5.0
July	44.6	157.2	4.2
August	36.0	126.0	3.8
September	26.4	92.2	2.2
October	15.4	54.8	1.3
November	7.7	28.9	1.1
December	4 Q	10.8	0.6

E\_m: Average monthly electricity production from the given 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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