

30°

0 °

9797.71 kWh

441.37 kWh

-3.21 %

1.75 %

-5.38 %

-19.86 %

0.071 per kWh

1222.58 kWh/m<sup>2</sup>

# Performance of grid-connected PV

## PVGIS-5 estimates of solar electricity generation:

**Provided inputs:** Latitude/Longitude: 53.544,10.010

Horizon: Calculated

Database used: PVGIS-SARAH2
PV technology: Crystalline silicon
PV installed: 10 kWp

14 %

System loss:

Simulation outputs

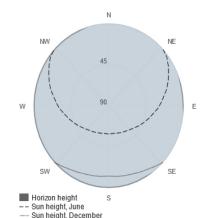
Slope angle:
Azimuth angle:
Yearly PV energy production:
Yearly in-plane irradiation:
Year-to-year variability:

Changes in output due to:

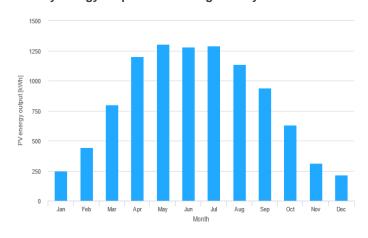
Angle of incidence:
Spectral effects:
Temperature and low irradiance:
Total loss:

PV electricity cost [per kWh]:

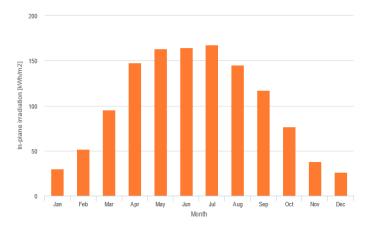
#### Outline of horizon at chosen location:



### 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_n
January	249.7	29.8	26.4
February	442.2	51.9	116.2
March	798.6	95.3	143.7
April	1199.4	147.7	201.7
May	1303.0	163.3	192.9
June	1282.1	164.2	96.1
July	1291.7	167.4	188.3
August	1133.5	145.3	106.3
September	939.7	117.0	104.0
October	629.8	76.8	117.8
November	312.5	37.8	49.3
December	215.3	26.0	<b>323</b>

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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