

Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

Provided inputs: Latitude/Longitude: 37.841, 27.832

Horizon: Calculated
Database used: PVGIS-SARAH
PV technology: Crystalline silicon

PV installed: 10 kWp System loss: 14 % Simulation outputs

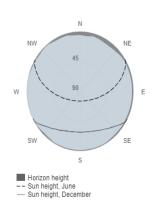
Slope angle: 35° Azimuth angle: 0°

Yearly PV energy production: 15984.44 kWh
Yearly in-plane irradiation: 2119.33 kWh/m²
Year-to-year variability: 371.04 kWh

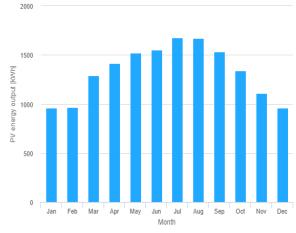
Changes in output due to:

Angle of incidence: -2.53 %
Spectral effects: 0.45 %
Temperature and low irradiance: -10.43 %
Total loss: -24.58 %

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 | 961.2 | 116.9 | 121.0 |
| February | 967.5 | 120.2 | 138.1 |
| March | 1287.4 | 163.6 | 103.2 |
| April | 1414.1 | 185.4 | 110.5 |
| May | 1522.1 | 205.3 | 84.4 |
| June | 1550.0 | 214.8 | 63.6 |
| July | 1673.0 | 235.7 | 14.6 |
| August | 1671.4 | 235.2 | 33.8 |
| September | 1529.9 | 208.8 | 80.3 |
| October | 1337.8 | 175.9 | 105.6 |
| November | 1108.6 | 139.5 | 127.6 |
| December | 961.5 | 118 0 | 173 2 |

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].

The European Commission maintains this website to enhance public access to information about its initiatives and European Union policies in general. Our goal is to keep this information timely and accurate. It errors are brought to our attention, we write to correct them. However, the Commission accepts no responsibility or liability whatsoever with regard to the information this site.

It is our goal to minimise disruption caused by technical errors. However, some data or information on this site may have been created or structured inlies or formats that are not error-free and we cannot guarantee that our service will not be interrupted or otherwise affected by such problems. The Commission accepts no responsibility with regard to such problems incurred as a

For more information, please visit https://ec.europa.eu/info/legal-notice_er

PVGIS ©European Union, 2001-2022. Reproduction is authorised, provided the source is acknowledged, save where otherwise stated.