

## Performance of Grid-connected PV

### PVGIS estimates of solar electricity generation

Location: 8°22'41" North, 11°41'22" West, Elevation: 218 m a.s.l.,  
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 5.0 kW (crystalline silicon)

Estimated losses due to temperature and low irradiance: 14.1% (using local ambient temperature)

Estimated loss due to angular reflectance effects: 2.8%

Other losses (cables, inverter etc.): 14.0%

Combined PV system losses: 28.2%

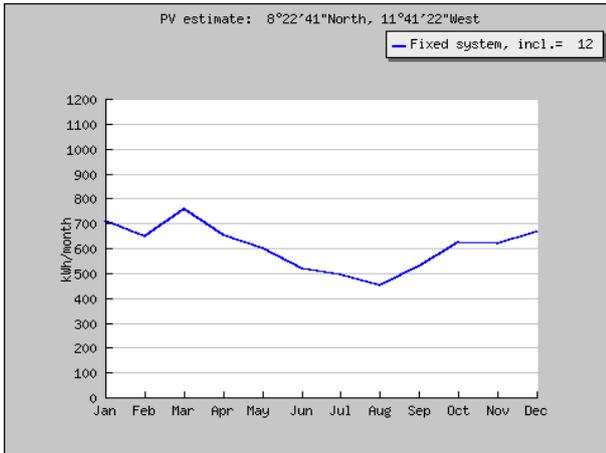
Fixed system: inclination=12 deg., orientation=9 deg.				
Month	Ed	Em	Hd	Hm
Jan	23.00	712	6.52	202
Feb	23.20	649	6.64	186
Mar	24.50	760	7.00	217
Apr	21.80	655	6.14	184
May	19.40	602	5.39	167
Jun	17.30	520	4.76	143
Jul	15.90	493	4.36	135
Aug	14.60	453	4.03	125
Sep	17.60	529	4.87	146
Oct	20.10	623	5.57	173
Nov	20.60	617	5.73	172
Dec	21.50	666	6.01	186
Year	19.90	607	5.58	170
Total for year		7280		2040

Ed: Average daily electricity production from the given system (kWh)

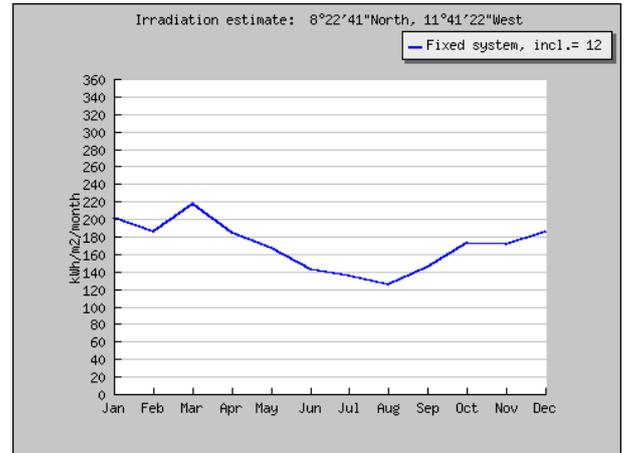
Em: Average monthly electricity production from the given system (kWh)

Hd: Average daily sum of global irradiation per square meter received by the modules of the given system (kWh/m<sup>2</sup>)

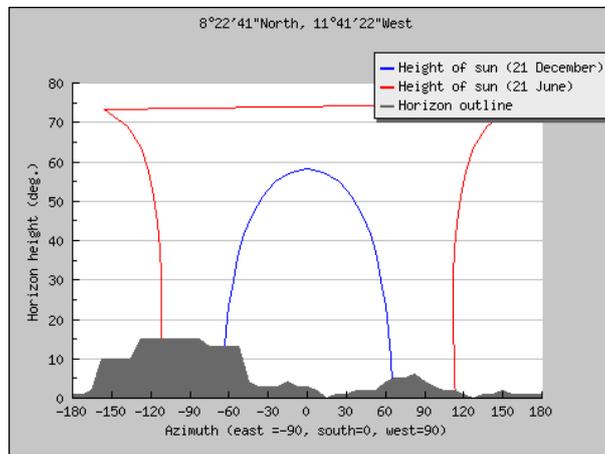
Hm: Average sum of global irradiation per square meter received by the modules of the given system (kWh/m<sup>2</sup>)



Monthly energy output from fixed-angle PV system



Monthly in-plane irradiation for fixed angle



Outline of horizon with sun path for winter and summer solstice

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<http://re.jrc.ec.europa.eu/pvgis/>

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