

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 42°13'27" North, 24°37'31" East, Elevation: 185 m a.s.l.,
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 1.0 kW (crystalline silicon)

Estimated losses due to temperature and low irradiance: 9.0% (using local ambient temperature)

Estimated loss due to angular reflectance effects: 2.7%

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

Combined PV system losses: 23.8%

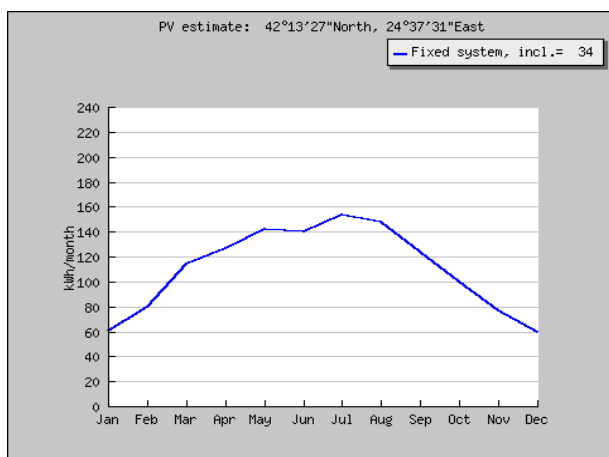
Fixed system: inclination=34 deg., orientation=-2 deg.				
Month	Ed	Em	Hd	Hm
Jan	1.95	60.5	2.37	73.5
Feb	2.83	79.3	3.46	97.0
Mar	3.70	115	4.64	144
Apr	4.21	126	5.48	164
May	4.57	142	6.12	190
Jun	4.67	140	6.43	193
Jul	4.94	153	6.81	211
Aug	4.77	148	6.66	207
Sep	4.12	124	5.61	168
Oct	3.22	99.9	4.17	129
Nov	2.55	76.6	3.16	94.9
Dec	1.92	59.5	2.31	71.7
Year	3.63	110	4.77	145
Total for year		1320		1740

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

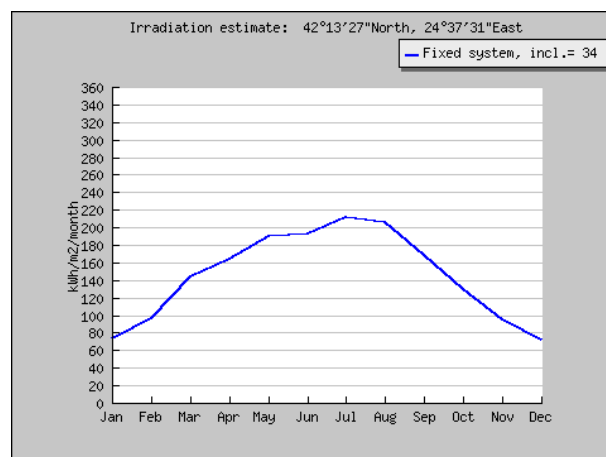
Em: Average monthly electricity production from the given system (kWh)

Hd: Average daily sum of global irradiation per square meter received by the modules of the given system (kWh/m2)

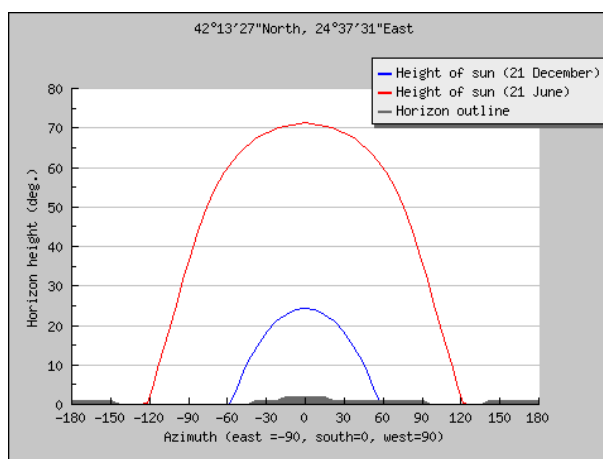
Hm: Average sum of global irradiation per square meter received by the modules of the given system (kWh/m2)



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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