

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 47°41'2" North, 17°38'6" East, Elevation: 122 m a.s.l.,

Nominal power of the PV system: 0.5 kW (crystalline silicon)

Estimated losses due to temperature: 8.6% (using local ambient temperature)

Estimated loss due to angular reflectance effects: 2.8%

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

Combined PV system losses: 23.6%

Fixed system: inclination=35 deg., orientation=0 deg. (Optimum at given orientation)				
Month	Ed	Em	Hd	Hm
Jan	0.60	18.7	1.51	46.9
Feb	0.93	26.0	2.39	66.8
Mar	1.32	41.1	3.54	110
Apr	1.74	52.3	4.85	146
May	1.87	57.9	5.36	166
Jun	1.94	58.1	5.63	169
Jul	2.04	63.4	5.97	185
Aug	1.85	57.5	5.39	167
Sep	1.64	49.3	4.63	139
Oct	1.21	37.5	3.28	102
Nov	0.68	20.5	1.77	53.2
Dec	0.45	13.8	1.12	34.7
Year	1.36	41.3	3.79	115
Total for year		496		1380

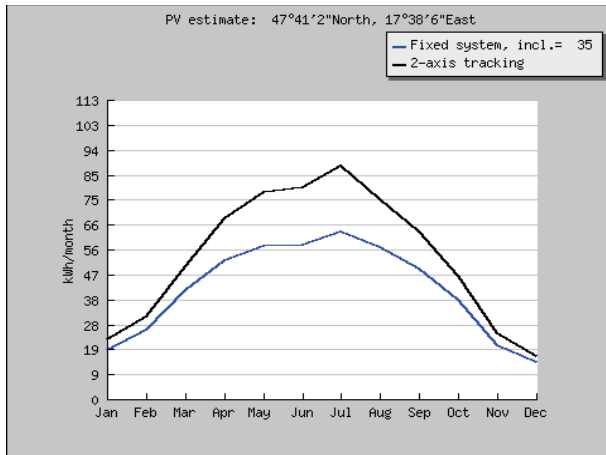
2-axis tracking system				
Month	Ed	Em	Hd	Hm
Jan	0.72	22.4	1.82	56.3
Feb	1.11	31.1	2.86	80.2
Mar	1.62	50.3	4.33	134
Apr	2.27	68.1	6.26	188
May	2.52	78.1	7.14	221
Jun	2.66	79.8	7.62	229
Jul	2.83	87.8	8.16	253
Aug	2.43	75.5	6.99	217
Sep	2.10	63.1	5.89	177
Oct	1.50	46.5	4.07	126
Nov	0.82	24.6	2.14	64.1
Dec	0.52	16.2	1.32	40.8
Year	1.76	53.6	4.89	149
Total for year		643		1790

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

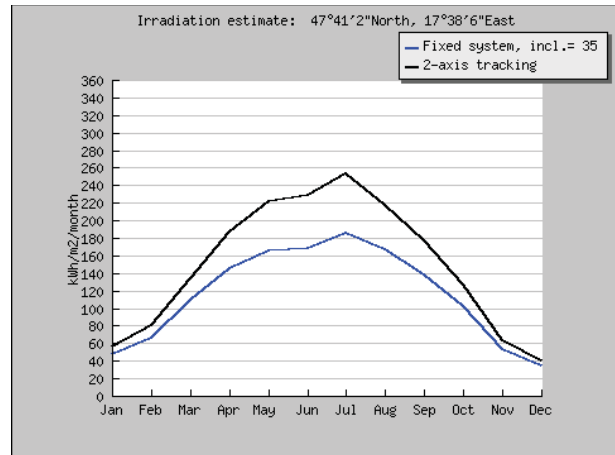
Em: Average monthly electricity production from the given system (kWh)

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

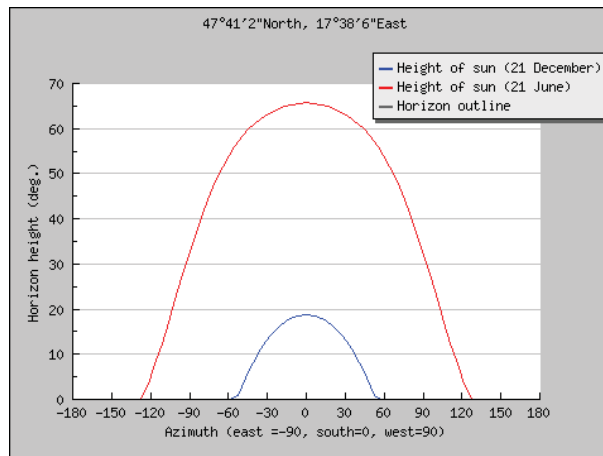
Hm: Average sum of global irradiation per square meter received by the modules of the given system (kWh/m2)



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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