

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 46°15'25" North, 20°8'16" East, Elevation: 79 m a.s.l.,

Nominal power of the PV system: 21.0 kW (crystalline silicon)

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

Estimated loss due to angular reflectance effects: 2.8%

Other losses (cables, inverter etc.): 2.0%

Combined PV system losses: 13.3%

Fixed system: inclination=35 deg., orientation=-1 deg.				
Month	Ed	Em	Hd	Hm
Jan	34.60	1070	1.72	53.4
Feb	53.00	1480	2.69	75.4
Mar	71.20	2210	3.76	116
Apr	86.60	2600	4.75	143
May	95.50	2960	5.41	168
Jun	97.40	2920	5.60	168
Jul	103.00	3190	5.94	184
Aug	100.00	3100	5.75	178
Sep	87.70	2630	4.86	146
Oct	69.80	2160	3.76	116
Nov	39.60	1190	2.04	61.1
Dec	28.00	867	1.39	43.2
Year	72.30	2200	3.98	121
Total for year		26400		1450

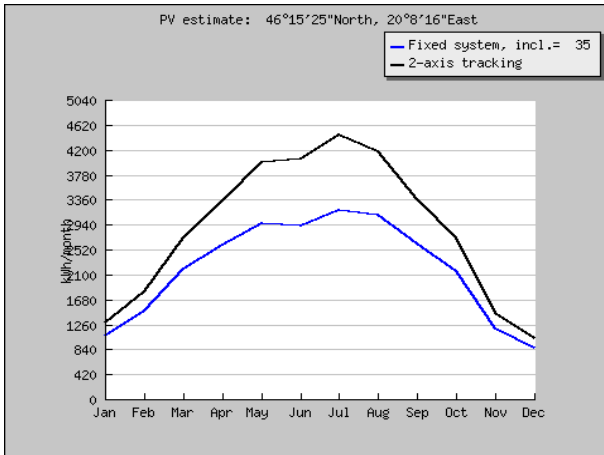
2-axis tracking system				
Month	Ed	Em	Hd	Hm
Jan	41.40	1280	2.09	64.8
Feb	64.50	1810	3.30	92.3
Mar	88.00	2730	4.64	144
Apr	112.00	3350	6.08	182
May	129.00	4000	7.22	224
Jun	135.00	4040	7.65	229
Jul	144.00	4450	8.19	254
Aug	135.00	4180	7.67	238
Sep	112.00	3360	6.18	185
Oct	88.00	2730	4.74	147
Nov	48.10	1440	2.49	74.6
Dec	33.20	1030	1.67	51.6
Year	94.30	2870	5.17	157
Total for year		34400		1890

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

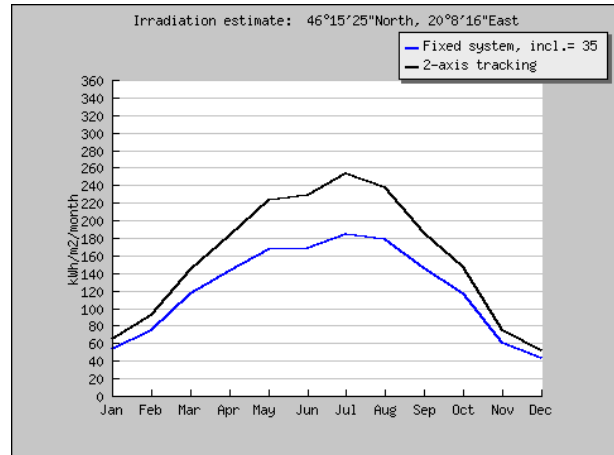
Em: Average monthly electricity production from the given system (kWh)

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

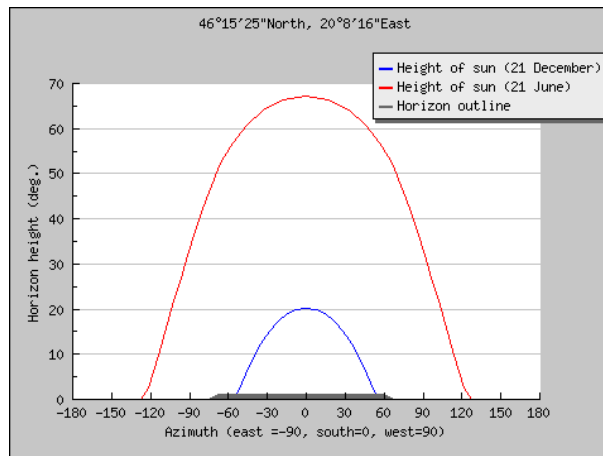
Hm: Average sum of global irradiation per square meter received by the modules of the given system (kWh/m2)



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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