

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 52°24'22" North, 16°55'30" East, Elevation: 81 m a.s.l.,

Nominal power of the PV system: 0.0 kW (crystalline silicon)

Estimated losses due to temperature: 12.2% (using local ambient temperature)

Estimated loss due to angular reflectance effects: 3.0%

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

Combined PV system losses: 26.7%

Fixed system: inclination=36 deg., orientation=-1 deg.				
Month	Ed	Em	Hd	Hm
Jan	0.03	1.07	1.05	32.4
Feb	0.07	1.82	2.03	57.0
Mar	0.10	2.94	3.08	95.6
Apr	0.12	3.74	4.25	128
May	0.15	4.59	5.21	162
Jun	0.13	4.02	4.81	144
Jul	0.14	4.40	5.12	159
Aug	0.13	4.06	4.68	145
Sep	0.10	3.03	3.49	105
Oct	0.08	2.45	2.61	80.9
Nov	0.04	1.21	1.26	37.8
Dec	0.03	0.810	0.79	24.6
Year	0.09	2.85	3.21	97.5
Total for year		34		1170

Vertical axis tracking system inclination=54°				
Month	Ed	Em	Hd	Hm
Jan	0.04	1.25	1.24	38.3
Feb	0.08	2.17	2.46	68.9
Mar	0.11	3.54	3.74	116
Apr	0.16	4.70	5.34	160
May	0.20	6.06	6.81	211
Jun	0.17	5.19	6.12	184
Jul	0.19	5.78	6.66	206
Aug	0.17	5.16	5.91	183
Sep	0.12	3.71	4.28	129
Oct	0.10	2.97	3.19	98.8
Nov	0.05	1.42	1.49	44.7
Dec	0.03	0.946	0.93	28.9
Year	0.12	3.57	4.02	122
Total for year		43		1470

Inclined axis tracking system				
inclination=40°				
Month	Ed	Em	Hd	Hm
Jan	0.04	1.21	1.18	36.7
Feb	0.08	2.15	2.41	67.5
Mar	0.12	3.56	3.75	116
Apr	0.16	4.72	5.38	161
May	0.19	6.02	6.79	210
Jun	0.17	5.07	6.00	180
Jul	0.18	5.70	6.58	204
Aug	0.17	5.16	5.93	184
Sep	0.12	3.74	4.31	129
Oct	0.10	2.96	3.15	97.6
Nov	0.05	1.38	1.44	43.1
Dec	0.03	0.907	0.89	27.5
Year	0.12	3.55	3.99	121
Total for year		43		1460

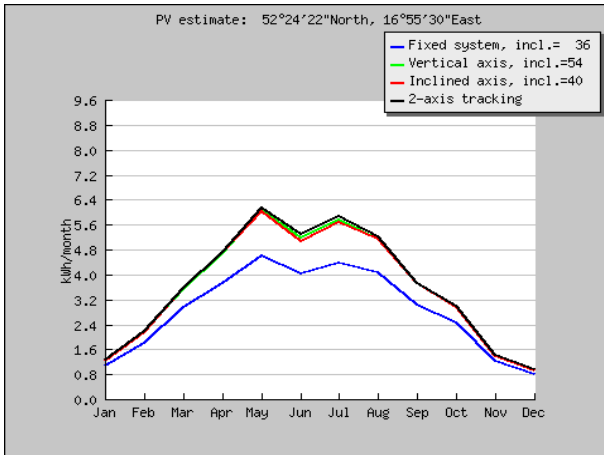
2-axis tracking system				
Month	Ed	Em	Hd	Hm
Jan	0.04	1.27	1.26	39.1
Feb	0.08	2.19	2.50	70.0
Mar	0.12	3.55	3.76	116
Apr	0.16	4.74	5.40	162
May	0.20	6.16	6.95	216
Jun	0.18	5.29	6.29	189
Jul	0.19	5.88	6.82	211
Aug	0.17	5.21	5.99	186
Sep	0.12	3.73	4.31	129
Oct	0.10	3.00	3.23	100
Nov	0.05	1.44	1.52	45.5
Dec	0.03	0.959	0.95	29.6
Year	0.12	3.62	4.09	124
Total for year		43		1490

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

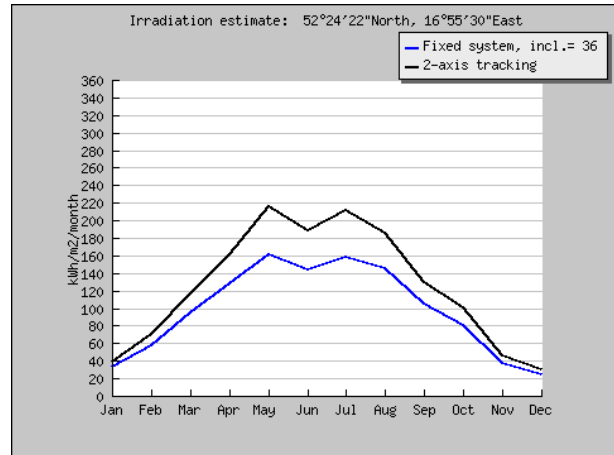
Em: Average monthly electricity production from the given system (kWh)

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

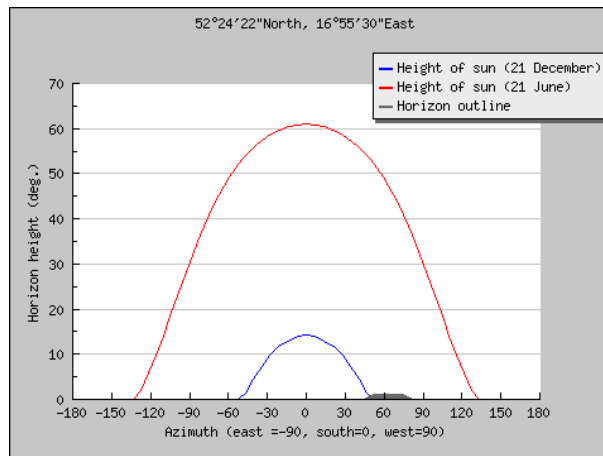
Hm: Average sum of global irradiation per square meter received by the modules of the given system (kWh/m²)



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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