Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 47°29'36" North, 19°1'26" East, Elevation: 145 m a.s.l., 1123 Budapest, XII., Alkotás utca 44.
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 50.0 kW (crystalline silicon)
Estimated losses due to temperature and low irradiance: 8.5% (using local ambient temperature)
Estimated loss due to angular reflectance effects: 3.4%
Other losses (cables, inverter etc.): 14.0%
Combined PV system losses: 24.0%

	Fixed system: inclination=15 deg., orientation=45 deg.			
Month	**Ed**	**Em**	**Hd**	**Hm**
Jan	46.20	1430	1.13	35.1
Feb	81.20	2270	1.98	55.3
Mar	140.00	4330	3.50	109
Apr	190.00	5690	4.93	148
May	210.00	6510	5.65	175
Jun	214.00	6410	5.84	175
Jul	218.00	6740	5.99	186
Aug	197.00	6120	5.38	167
Sep	148.00	4430	3.89	117
Oct	108.00	3350	2.76	85.6
Nov	55.40	1660	1.39	41.8
Dec	35.00	1090	0.87	26.9
Year	137.00	4170	3.62	110
Total for year		50000		1320

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)

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 47°29'24" North, 19°1'26" East, Elevation: 139 m a.s.l., 1123 Budapest XII., Csörsz utca 2.
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 50.0 kW (crystalline silicon)
Estimated losses due to temperature and low irradiance: 8.5% (using local ambient temperature)
Estimated loss due to angular reflectance effects: 3.4%
Other losses (cables, inverter etc.): 14.0%
Combined PV system losses: 24.0%

	Fixed system: inclination=15 deg., orientation=45 deg.			
Month	**Ed**	**Em**	**Hd**	**Hm**
Jan	46.00	1420	1.13	34.9
Feb	81.00	2270	1.97	55.2
Mar	140.00	4330	3.50	109
Apr	190.00	5690	4.93	148
May	210.00	6500	5.64	175
Jun	214.00	6410	5.83	175
Jul	217.00	6740	5.99	186
Aug	197.00	6110	5.38	167
Sep	148.00	4430	3.89	117
Oct	108.00	3340	2.76	85.6
Nov	55.00	1650	1.39	41.6
Dec	34.80	1080	0.86	26.8
Year	137.00	4160	3.62	110
Total for year		50000		1320

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)

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 47°29'58" North, 19°0'20" East, Elevation: 235 m a.s.l., 1125 Budapest XII., Diana utca 35.
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 50.0 kW (crystalline silicon)
Estimated losses due to temperature and low irradiance: 8.2% (using local ambient temperature)
Estimated loss due to angular reflectance effects: 3.2%
Other losses (cables, inverter etc.): 14.0%
Combined PV system losses: 23.5%

	Fixed system: inclination=15 deg., orientation=-2 deg.			
Month	**Ed**	**Em**	**Hd**	**Hm**
Jan	51.30	1590	1.24	38.5
Feb	90.20	2530	2.18	60.9
Mar	155.00	4800	3.87	120
Apr	206.00	6180	5.34	160
May	227.00	7020	6.08	188
Jun	230.00	6900	6.25	187
Jul	233.00	7210	6.37	197
Aug	213.00	6620	5.79	180
Sep	163.00	4890	4.27	128
Oct	120.00	3720	3.05	94.4
Nov	61.30	1840	1.53	45.8
Dec	38.90	1210	0.95	29.5
Year	149.00	4540	3.92	119
Total for year		54500		1430

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)

Performance of Grid-connected PV

PVGIS estimates of solar electricity generation

Location: 47°34'53" North, 19°3'52" East, Elevation: 105 m a.s.l., 1039 Budapest III., Királyok útja 65.
Solar radiation database used: PVGIS-CMSAF

Nominal power of the PV system: 30.0 kW (crystalline silicon)
Estimated losses due to temperature and low irradiance: 8.5% (using local ambient temperature)
Estimated loss due to angular reflectance effects: 3.3%
Other losses (cables, inverter etc.): 14.0%
Combined PV system losses: 23.9%

	Fixed system: inclination=15 deg., orientation=6 deg.			
Month	**Ed**	**Em**	**Hd**	**Hm**
Jan	31.50	975	1.26	39.1
Feb	54.10	1510	2.18	61.0
Mar	92.80	2880	3.88	120
Apr	123.00	3700	5.35	161
May	134.00	4170	6.04	187
Jun	136.00	4070	6.19	186
Jul	137.00	4260	6.32	196
Aug	127.00	3920	5.77	179
Sep	96.90	2910	4.26	128
Oct	71.40	2210	3.04	94.1
Nov	37.40	1120	1.55	46.5
Dec	23.80	739	0.97	30.0
Year	89.00	2710	3.91	119
Total for year		32500		1430

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)