

ANNUAL PERFORMANCE REPORT

Year 2014

Report number: R12122015080820
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Photovoltaic system: **Demo roof - Wuxi**

1. Site info

Name: **Demo roof - Wuxi**
 Coordinates: **31.570044°, 120.184298°**



2. Photovoltaic system

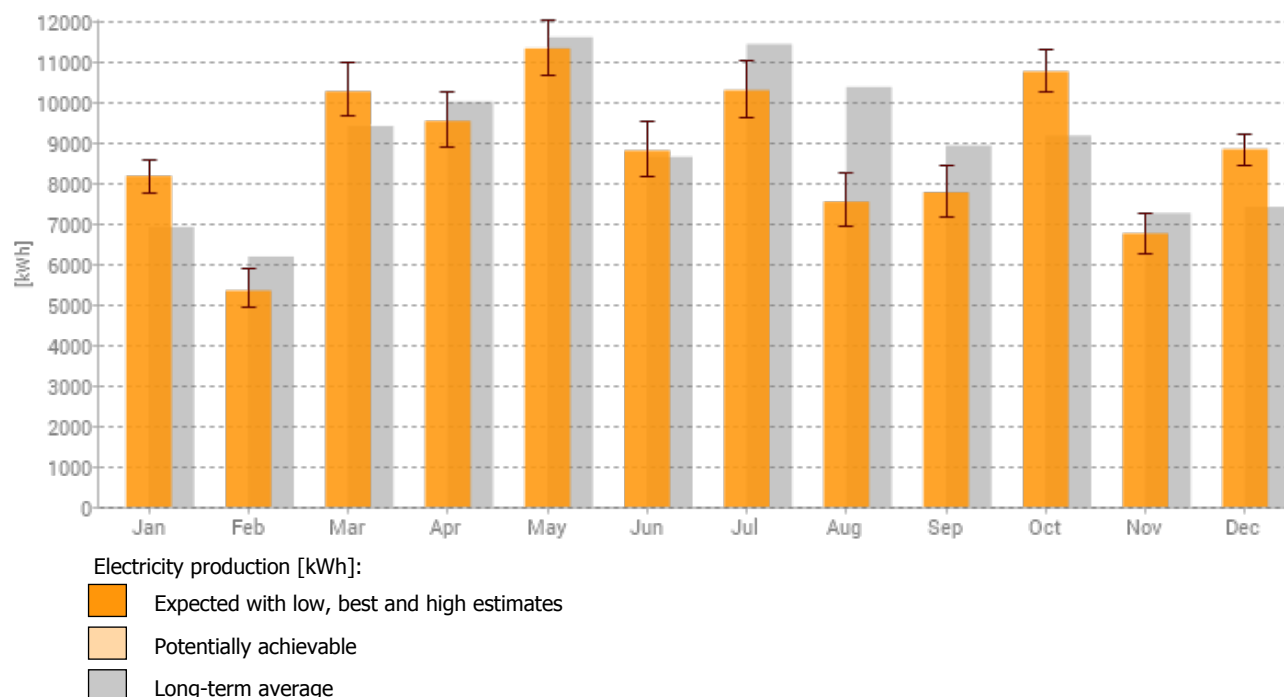
Installed power: **100.00 kWp**
 PV modules: c_Si
 Installation type: **roof mounted**
 Mounting type: **fixed mounting**
 Mounting geometry: **one angle**
 Azimuth / inclination: **163° / 12°**
 User defined inverter: Euro eff.: 96.0%
 User defined DC losses: -
 User defined AC losses: -
 Degradation of PV modules: -
 Analysed period: 01.01.2014 - 31.12.2014
 Out-of-operation days: -
 Expected electricity production: **105288 kWh** (101521 - 109729 kWh)

Location on the map: <http://solargis.info/imaps/#loc=31.570043845895373,120.18429815769196&tl=Google:Satellite&z=14>

3. Summary

Electricity production	Annual value	Minimum production at P(90)
Expected best	105288 kWh	101521 kWh (uncertainty -3.6%)
Potential best (assumed all days in operation)	105288 kWh	101521 kWh (uncertainty -3.6%)
Production lost due to out-of-operation days	0 kWh (0.0%)	-
Long-term average (entire year)	107230 kWh	-
Difference 'potential best - long-term'	-1942 kWh (-1.8%)	-

4. Overview of the year 2014



5. Monthly summary of electricity production

Month	E_{best}	E_{low}	E_{high}	D_{excl}	P_{best}	$E_{best}-P_{best}$	ELT	$P_{best}-ELT$
Jan	8166	7784	8571	0	8166	0	6910	+1256
Feb	5337	4930	5888	0	5337	0	6180	-843
Mar	10254	9676	10996	0	10254	0	9400	+854
Apr	9525	8920	10240	0	9525	0	10000	-475
May	11313	10694	12031	0	11313	0	11590	-277
Jun	8794	8186	9533	0	8794	0	8640	+154
Jul	10281	9637	11029	0	10281	0	11420	-1139
Aug	7533	6941	8242	0	7533	0	10360	-2827
Sep	7766	7179	8428	0	7766	0	8920	-1154
Oct	10744	10253	11300	0	10744	0	9160	+1584
Nov	6749	6278	7286	0	6749	0	7250	-501
Dec	8827	8434	9226	0	8827	0	7400	+1427
Year	105288	101521	109729	0	105288	0	107230	-1942

Columns:

E_{best}	Expected best estimate (for user defined operation days) [kWh]
E_{low}	Expected low estimate (for user defined operation days) [kWh]
E_{high}	Expected high estimate (for user defined operation days) [kWh]
D_{excl}	Number of days set by user as days when PV system was out of operation (days excluded from simulation)
P_{best}	Potential best estimate (assumed all days in operation) [kWh]
$E_{best}-P_{best}$	Production lost due to out-of-operation days [kWh]
ELT	Expected long-term average [kWh]
$P_{best}-ELT$	Comparison of expected potential best against to long-term average [kWh]

6. SolarGIS v1.8 database and software

This report is based on SolarGIS high-resolution weather database operated by GeoModel Solar s.r.o. The PV simulation software is designed to work with 15-minute time series of solar radiation and air temperature to represent the non-linear nature of PV power generation. Global horizontal and direct normal irradiance are calculated from Meteosat MSG satellite data, ECMWF aerosols. Air temperature and water vapour at 2 m is calculated from NOAA NCEP GFS data. Both solar and temperature data are enhanced by high resolution terrain to the spatial resolution of approx. 80 metres. More information can be found at: <http://solargis.info/doc/about-pvspot>.

7. Disclaimer and legal information

Considering the uncertainty of data and calculations, GeoModel Solar s.r.o. cannot take full guarantee of the accuracy of estimates. The maximum possible has been done for the assessment of weather parameters based on the best available data, software and knowledge. GeoModel Solar s.r.o. shall not be liable for any direct, incidental, consequential, indirect or punitive damages arising or alleged to have arisen out of use of the provided report. Service provider: GeoModel Solar s.r.o., Pionierska 15, 83102 Bratislava, Slovakia; Company ID: 45 354 766, VAT Number: SK2022962766; Registration: Business register, District Court Bratislava I, Section Sro, File 62765/B

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8. Contact information

This report has been generated by GeoModel Solar s.r.o.