



Regione Autonoma Valle d'Aosta
Agenzia Regionale per la Protezione dell'Ambiente
Région Autonome Vallée d'Aoste
Agence Régionale pour la Protection de l'Environnement

Impostazione di un progetto di impianto fotovoltaico con PVGis

individuazione dell'edificio

https://re.jrc.ec.europa.eu/pvg_tools/en/

File Modifica Visualizza Cronologia Segnalibri Strumenti Aiuto

JRC Photovoltaic Geographical

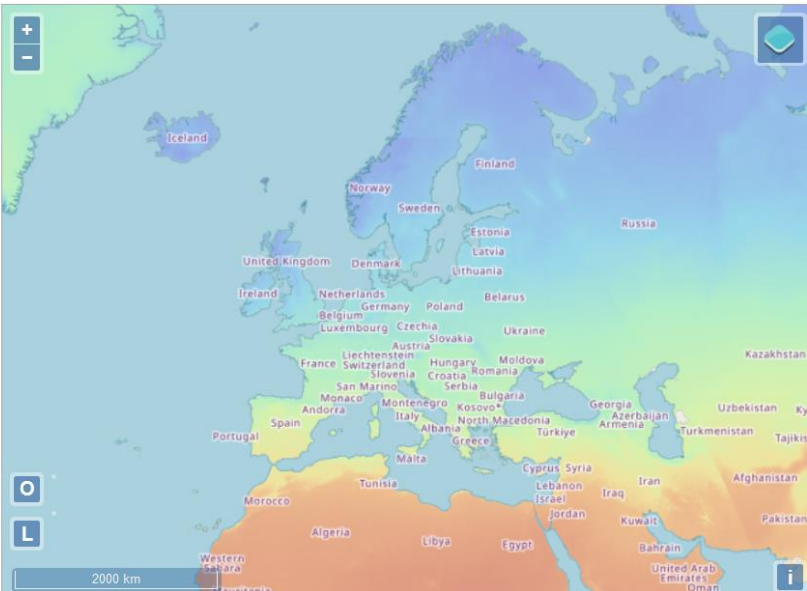
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https://re.jrc.ec.europa.eu/pvg_tools/en/

European Commission

European Commission > EU Science Hub > PVGIS > Interactive tools

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Address: Lat/Lon:

Cursor:

Selected: Select location!

Elevation (m):

PVGIS ver. 5.2

Use terrain shadows:

☒ Calculated horizon

☐ Upload horizon file Nessun file selezionato.

GRID CONNECTED

TRACKING PV

OFF-GRID

MONTHLY DATA

DAILY DATA

HOURLY DATA

TIME

PERFORMANCE OF GRID-CONNECTED PV

Solar radiation database*

PV technology*

Installed peak PV power [kWp]*

System loss [%]*

Fixed mounting options

Mounting position*

Slope [°]* ☐ Optimize slope

Azimuth [°]* ☐ Optimize slope and azimuth

☐ PV electricity price

PV system cost (your currency)

Interest [%/year]

Lifetime [years]

https://re.jrc.ec.europa.eu/pvg_tools/en/#MR

6°C Preval. nuvol.

Cerca

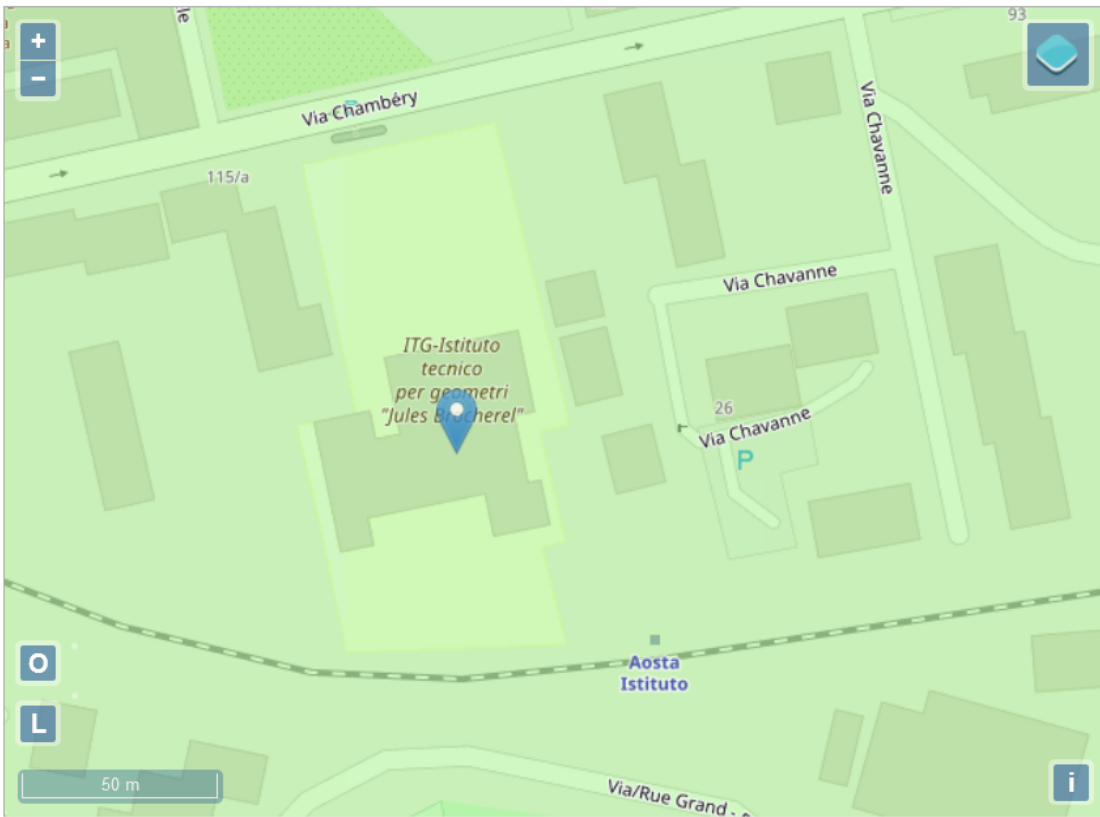
11:16 02/12/2022

individuazione dell'edificio


PHOTOVOLTAIC GEOGRAPHICAL INFORMATION SYSTEM

European Commission > EU Science Hub > PVGIS > Interactive tools

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Cursor: 45.732, 7.306
Selected: 45.732, 7.306
 Elevation (m): 572
 PVGIS ver. 5.2

Use terrain shadows:
☒ Calculated horizon
☐ Upload horizon file
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Sfoglia... Nessun file selezionato.

GRID CONNECTED

TRACKING PV
 OFF-GRID
 MONTHLY DATA
 DAILY DATA
 HOURLY DATA
 TMY

PERFORMANCE OF GRID-CONNECTED PV

Solar radiation database* PVGIS-SARAH2

PV technology* Crystalline silicon

Installed peak PV power [kWp]* 1

System loss [%]* 14

Fixed mounting options

Mounting position* Roof added / Building integrated

Slope [°]* 22

Azimuth [°]* 0

☐ PV electricity price

PV system cost (your currency)

Interest [%/year]

Lifetime [years]

Address: Eg.Ispra, Italy [Go!](#)

Lat/Lon: 45.732 7.306 [Go!](#)

[Visualize results](#)
[Download CSV](#)
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Individuazione dell'impianto ipotizzato

Caratteristiche:

taglia domestica = **3 kW**

a tetto, inclinato di **22°**

falda del tetto orientata a sud (azimuth=**0°**)



orografia

Database meteo climatico

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JRC Photovoltaic Geographical L'Istituzione Scolastica di Istruzi

https://re.jrc.ec.europa.eu/pvg_tools/en/ 160%

Cursor:
Selected: 45.665, 7.690
Elevation (m): 378
PVGIS ver. 5.2

Use terrain shadows:
☒ Calculated horizon
☐ Upload horizon file
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[Download CSV](#) [Download JSON](#)
Sfoglia... Nessun file selezionato.

GRID CONNECTED

TRACKING PV
OFF-GRID
MONTHLY DATA
DAILY DATA
HOURLY DATA
TMY

PERFORMANCE OF GRID-CONNECTED PV

Solar radiation database* PVGIS-SARAH2
PV technology* Crystalline silicon
Installed peak PV power [kWp]* 1
System loss [%]* 14

Fixed mounting options
Mounting position* Free-standing
Slope [°]* 35
Azimuth [°]* 0

☐ **PV electricity price**
PV system cost (your currency)
Interest [%/year]

☐ Optimize slope
☐ Optimize slope and azimuth

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L'Istituzione Scolastica di Istruzione

posizionamento

tecnologia-potenza

160%

https://re.jrc.ec.europa.eu/pvg_tools/en/

Cursor:

Selected:45.665, 7.690

Elevation (m):378

PVGIS ver.5.2

Use terrain shadows:

☒ Calculated horizon

☐ Upload horizon file

Switch to version 5.1

Download CSV

Download JSON

Sfoglia...Nessun file selezionato.

GRID CONNECTED

TRACKING PV

OFF-GRID

MONTHLY DATA

DAILY DATA

HOURLY DATA

TMY

PERFORMANCE OF GRID-CONNECTED PV

Solar radiation database*

PV technology*

Installed peak PV power [kWp]*

System loss [%]*

Fixed mounting options

Mounting position*

Slope [°]*22

Azimuth [°]*36

☐ PV electricity price

Roof added / Building integrated

☐ Optimize slope

☐ Optimize slope and azimuth

PV system cost (your currency)

Interest [%/year]

PVGIS-SARAH2

Crystalline silicon

10

14

7°C

Soleggiato

Cerca

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02/12/2022

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GRID CONNECTED

TRACKING PV

OFF-GRID

MONTHLY DATA

DAILY DATA

HOURLY DATA

TMY

☀️

PERFORMANCE OF GRID-CONNECTED PV?

Solar radiation database*

PV technology*

Installed peak PV power [kWp]*

System loss [%]*

Fixed mounting options

Mounting position*

Slope [°]*

Azimuth [°]*

☐ PV electricity price

PV system cost (your currency)

Interest [%/year]

Lifetime [years]

PVGIS-SARAH2

Crystalline silicon

10

14

Roof added / Building integrated

☐ Optimize slope

☐ Optimize slope and azimuth

👁️ Visualize results

📄 csv

📄 json

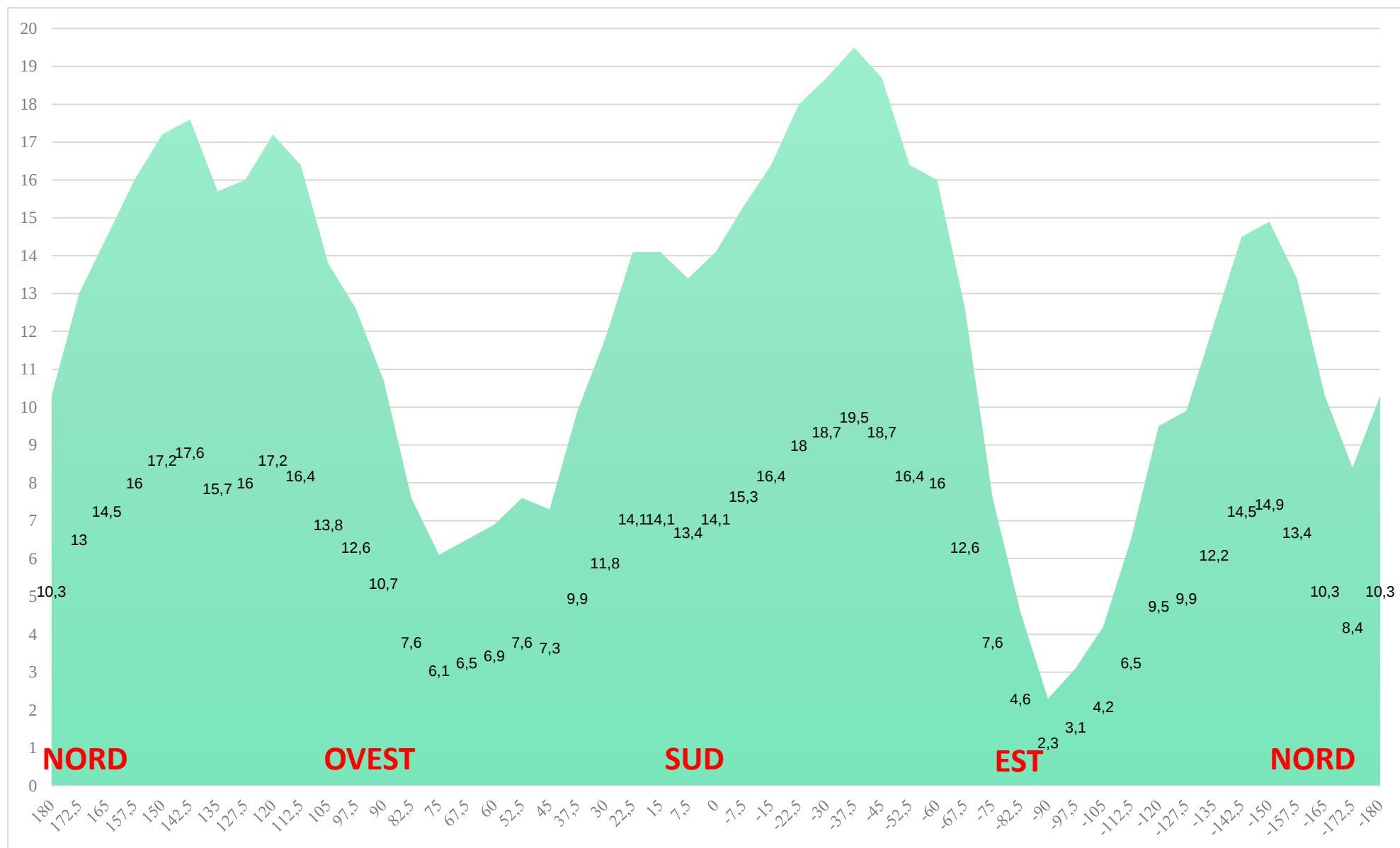
7°C

Soleggiato

🪟🔍 Cerca🗂️💬🌐📄📧🏠🔒🔗🔥🛡️📄📄📄

12:1302/12/2022🔔

orografia – orizzonte solare



PERFORMANCE OF GRID-CONNECTED PV: RESULTS

[PV output](#)[Radiation](#)[Info](#)[PDF](#)

Summary



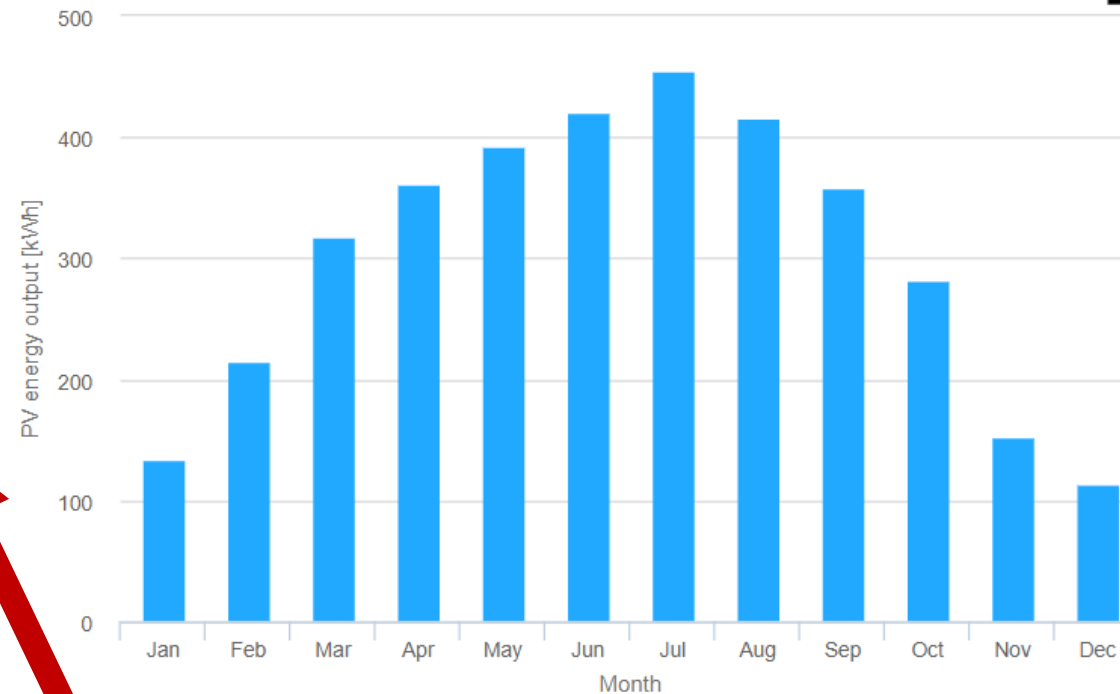
Provided inputs:

Location [Lat/Lon]:	45.733,7.310
Horizon:	Calculated
Database used:	PVGIS-SARAH2
PV technology:	Crystalline silicon
PV installed [kWp]:	3
System loss [%]:	14

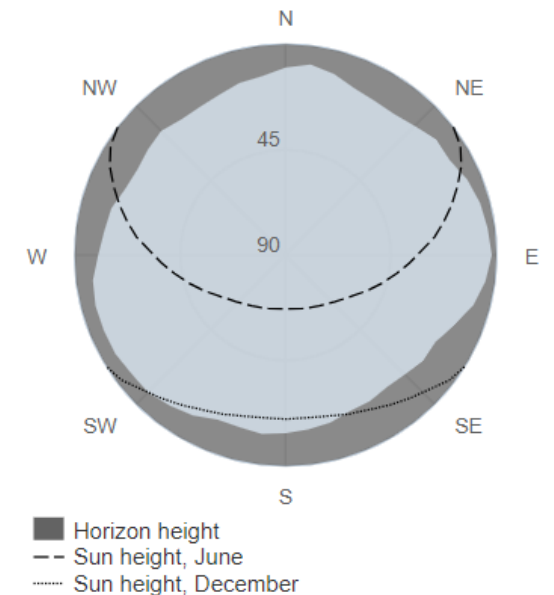
Simulation outputs:

Slope angle [°]:	22
Azimuth angle [°]:	0
Yearly PV energy production [kWh]:	3618.33
Yearly in-plane irradiation [kWh/m ²]:	1537.12
Year-to-year variability [kWh]:	172.11
Changes in output due to:	
Angle of incidence [%]:	-3.01
Spectral effects [%]:	0.93
Temperature and low irradiance [%]:	-6.8
Total loss [%]:	-21.53

Monthly energy output from fix-angle PV system



Outline of horizon



Energia ottenibile in un anno

Visualizzazione risultati

Premendo «visualize results» e in seguito «csv» si ottiene un file che si può aprire con excel e che fornisce una serie di dati, incluse le produzioni mese per mese visualizzate nel grafico a barre precedente.

Dati in tabella:

E_d produzione media giornaliera, in kWh/giorno;

E_m produzione media mensile, in kWh/mese;

H(i)_d irradiazione globale media per unità di superficie, in kWh/mq/giorno;

H(i)_m irradiazione globale media per unità di superficie, in kWh/mq/mese;

SD_m deviazione standard per la produzione mensile dovuta alle variazioni annuali.

Elaborazione dei risultati

mese	E_d kWh/giorno	E_m kWh/mese	H(i)_d kWh/mq/giorno	H(i)_m kWh/mq/mese
gennaio	4,32	134,04	1,72	53,19
febbraio	7,62	213,49	3,05	85,53
marzo	10,16	315,00	4,16	128,83
aprile	11,93	357,77	5,02	150,75
maggio	12,50	387,64	5,38	166,83
giugno	13,81	414,24	6,16	184,88
luglio	14,44	447,64	6,54	202,86
agosto	13,18	408,53	5,94	184,20
settembre	11,77	353,15	5,17	155,02
ottobre	8,98	278,42	3,78	117,15
novembre	5,09	152,77	2,07	62,23
dicembre	3,67	113,91	1,47	45,65
totale annuo	---	3576,60	---	1537,12
media annua	9,79	---	4,21	---

E_d: Average daily energy production from the given system (kWh/d)

E_m: Average monthly energy production from the given system (kWh/mo)

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

H(i)_m: Average monthly sum of global irradiation per square meter received by the modules of the given system (kWh/m²/mo)