

Příloha č. 1:

Výsledek kalkulace výroby elektřiny z FVE o výkonu 50 kWp¹

¹ EUROPEAN COMMISSION. Photovoltaic Geographical Information System [online]. [cit. 2021-5-15]. Dostupné z: <https://ec.europa.eu/jrc/en/pvgis>



Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

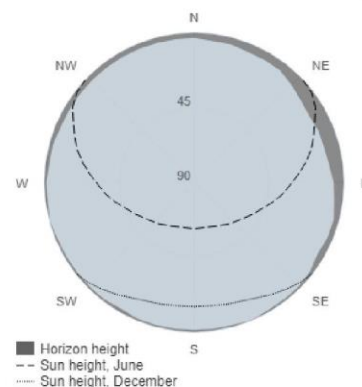
Provided inputs:

Latitude/Longitude: 50.693, 14.018
 Horizon: Calculated
 Database used: PVGIS-SARAH
 PV technology: Crystalline silicon
 PV installed: 49.875 kWp
 System loss: 14 %

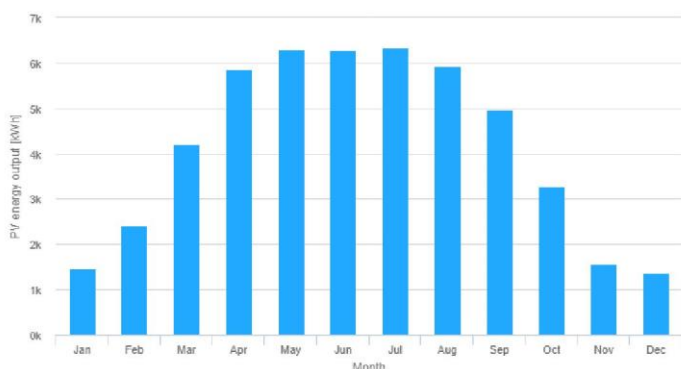
Simulation outputs

Slope angle: 35 °
 Azimuth angle: 0 °
 Yearly PV energy production: 49989.85 kWh
 Yearly in-plane irradiation: 1251.58 kWh/m²
 Year-to-year variability: 2837.97 kWh
 Changes in output due to:
 Angle of incidence: -3.07 %
 Spectral effects: 1.73 %
 Temperature and low irradiance: -5.57 %
 Total loss: -19.92 %

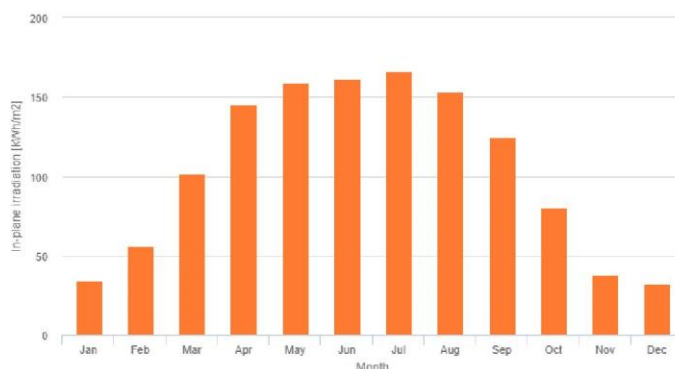
Outline of horizon at chosen location:



Monthly energy output from fix-angle PV system:



Monthly in-plane irradiation for fixed-angle:



Monthly PV energy and solar irradiation

Month	E _m	H(i) _m	SD _m
January	1455.7	34.2	344.0
February	2414.0	56.0	636.4
March	4219.3	101.4	842.5
April	5860.2	145.0	1010.7
May	6303.6	158.7	1004.6
June	6280.4	161.6	498.7
July	6346.2	166.5	672.1
August	5927.8	153.3	765.7
September	4969.4	124.8	815.8
October	3278.2	80.2	906.9
November	1566.9	37.7	405.1
December	1368.4	32.1	334.2

E_m: Average monthly electricity production from the given system [kWh].
 H(i)_m: Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].
 SD_m: Standard deviation of the monthly electricity production due to year-to-year variation [kWh].

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Příloha č. 2:

Výsledek kalkulace výroby elektřiny z FVE o výkonu 100 kWp¹

¹ EUROPEAN COMMISSION. Photovoltaic Geographical Information System [online]. [cit. 2021-5-15]. Dostupné z: <https://ec.europa.eu/jrc/en/pvgis>



Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

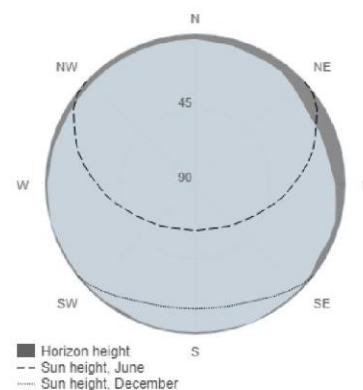
Provided inputs:

Latitude/Longitude: 50.693, 14.018
 Horizon: Calculated
 Database used: PVGIS-SARAH
 PV technology: Crystalline silicon
 PV installed: 100.13 kWp
 System loss: 14 %

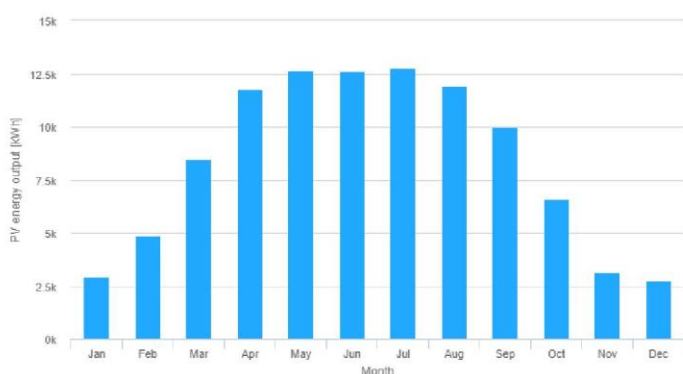
Simulation outputs

Slope angle: 35 °
 Azimuth angle: 0 °
 Yearly PV energy production: 100360.57 kWh
 Yearly in-plane irradiation: 1251.58 kWh/m²
 Year-to-year variability: 5697.56 kWh
 Changes in output due to:
 Angle of incidence: -3.07 %
 Spectral effects: 1.73 %
 Temperature and low irradiance: -5.57 %
 Total loss: -19.92 %

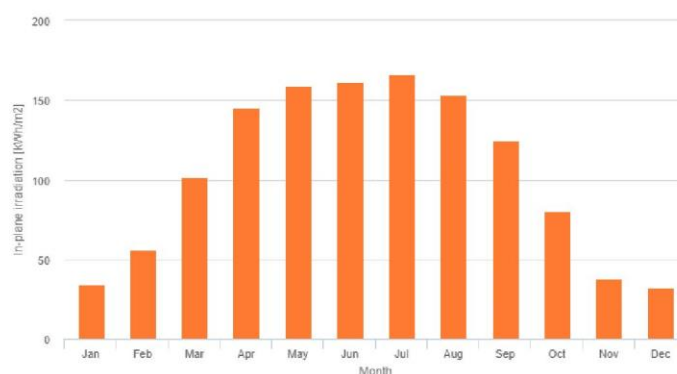
Outline of horizon at chosen location:



Monthly energy output from fix-angle PV system:



Monthly in-plane irradiation for fixed-angle:



Monthly PV energy and solar irradiation

Month	E_m	H(i)_m	SD_m
January	2922.4	34.2	690.6
February	4846.3	56.0	1277.6
March	8470.8	101.4	1691.5
April	11765.0	145.0	2029.0
May	12655.2	158.7	2016.9
June	12608.6	161.6	1001.3
July	12740.7	166.5	1349.3
August	11900.8	153.3	1537.3
September	9976.7	124.8	1637.9
October	6581.4	80.2	1820.8
November	3145.7	37.7	813.4
December	2747.1	32.1	670.9

E_m: Average monthly electricity production from the given system [kWh].
 H(i)_m: Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].
 SD_m: Standard deviation of the monthly electricity production due to year-to-year variation [kWh].

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Příloha č. 3:

Výsledek kalkulace výroby elektřiny z FVE o výkonu 255 kWp¹

¹ EUROPEAN COMMISSION. Photovoltaic Geographical Information System [online]. [cit. 2021-5-15]. Dostupné z: <https://ec.europa.eu/jrc/en/pvgis>



Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

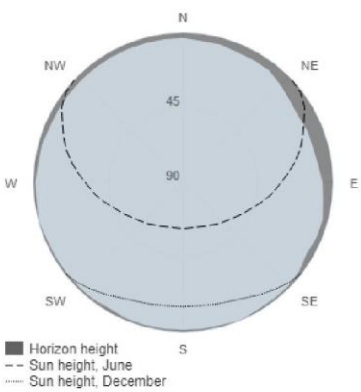
Provided inputs:

Latitude/Longitude: 50.693, 14.018
 Horizon: Calculated
 Database used: PVGIS-SARAH
 PV technology: Crystalline silicon
 PV installed: 255 kWp
 System loss: 14 %

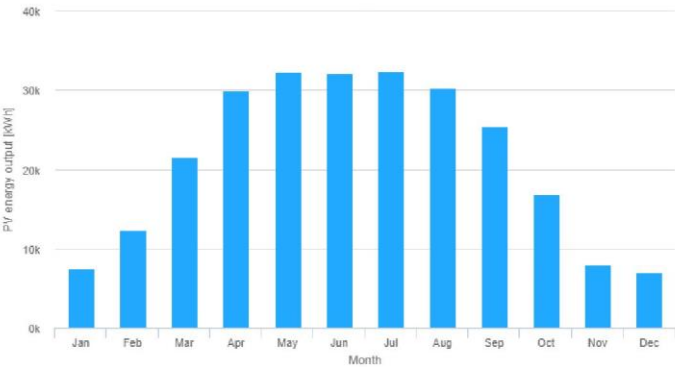
Simulation outputs

Slope angle: 35 °
 Azimuth angle: 0 °
 Yearly PV energy production: 255587.19 kWh
 Yearly in-plane irradiation: 1251.58 kWh/m²
 Year-to-year variability: 14509.91 kWh
 Changes in output due to:
 Angle of incidence: -3.07 %
 Spectral effects: 1.73 %
 Temperature and low irradiance: -5.57 %
 Total loss: -19.92 %

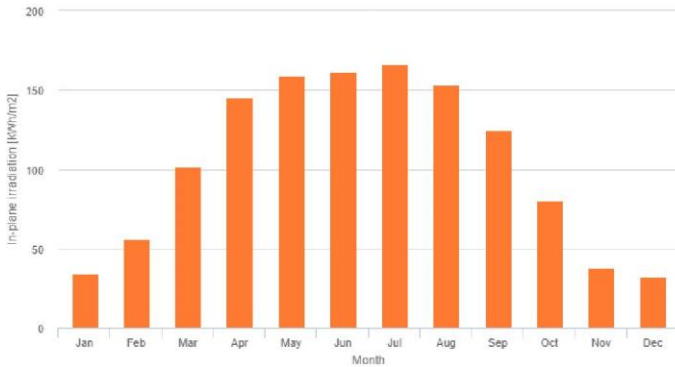
Outline of horizon at chosen location:



Monthly energy output from fix-angle PV system:



Monthly in-plane irradiation for fixed-angle:



Monthly PV energy and solar irradiation

Month	E_m	H(i)_m	SD_m
January	7442.4	34.2	1758.8
February	12342.056.0	3253.6	4307.7
March	21572.4101.4	4307.7	5167.3
April	29961.7145.0	5167.3	5136.4
May	32228.8158.7	5136.4	2549.9
June	32110.2161.6	2549.9	3436.3
July	32446.6166.5	3436.3	3915.0
August	30307.5153.3	3915.0	4171.2
September	25407.5124.8	4171.2	4636.9
October	16760.780.2	4636.9	2071.4
November	8011.1	37.7	2071.4
December	6996.1	32.1	1708.6

E_m: Average monthly electricity production from the given system [kWh].
 H(i)_m: Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].
 SD_m: Standard deviation of the monthly electricity production due to year-to-year variation [kWh].

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