

KOMPANIA DREJTUESE E PROJEKTIT

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PROJEKT SHKOLLA KOMBETARE AGROBIZNESI 4 KATE, GOLEM ALBANIA

<i>Fuqia e Propozuar</i>	<i>26,55 kWp</i>
<i>Numri i Paneleve</i>	<i>59 x 450 watt</i>
<i>Inverter Solar</i>	<i>10 kW x 2</i>
<i>Struktura e Montimit</i>	<i>Profile Alumini</i>
<i>Materiale Elektrike</i>	<i>Kabell Solar, Konektor, Paneli TU</i>

PERSHKRIMI I PERGJITHSHEM I PROJEKTIT

Data e Propozimit:

06/06/2022

Emri i Klientit:

**SHKOLLA KOMBETARE AGROBIZNESI, 4 KAT”
GOLEM**

Personi Kontaktit:

Adresa:

GOLEM, ALBANIA

Hapësira për impiantin:

Catia e Subjektit

Sipërfaqja (m2):

130,34 m2

Fuqia e instaluar (kWp):

26,55 kWp

Sistem Baterish:

JO

OFERTA E PROPOZUAR

TOTALI ME TVSH : 25.000,00 €

Project: SHKOLLA KOMBETARE

Date: 5/23/2022 3:42:00 PM

Reference: Configuration 2

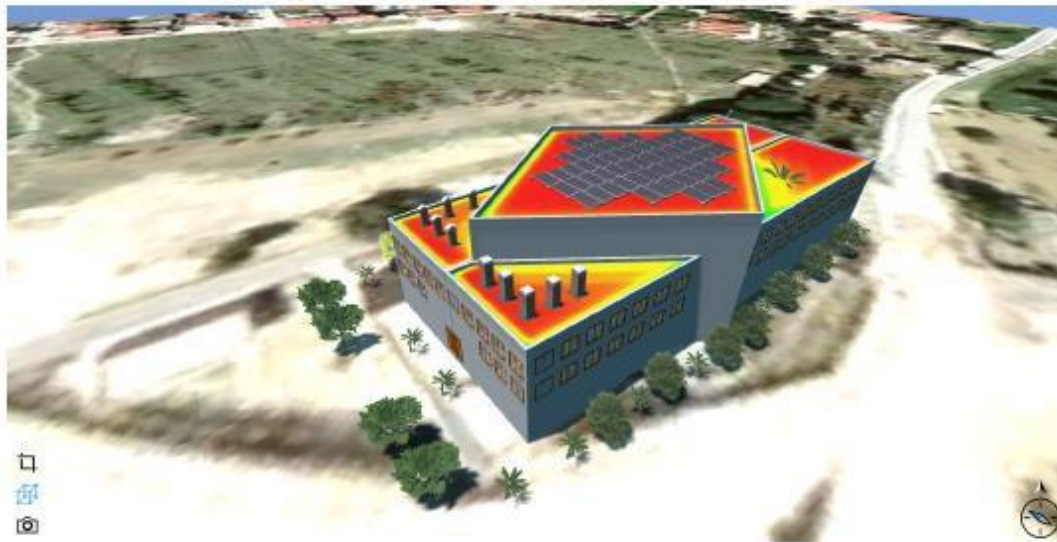
Description: IMPIANT FOTOVOLTAIC

Address: 6GXJ+7WG, Golem, Albania

Latitude: 41.2482

Longitude: 19.5322

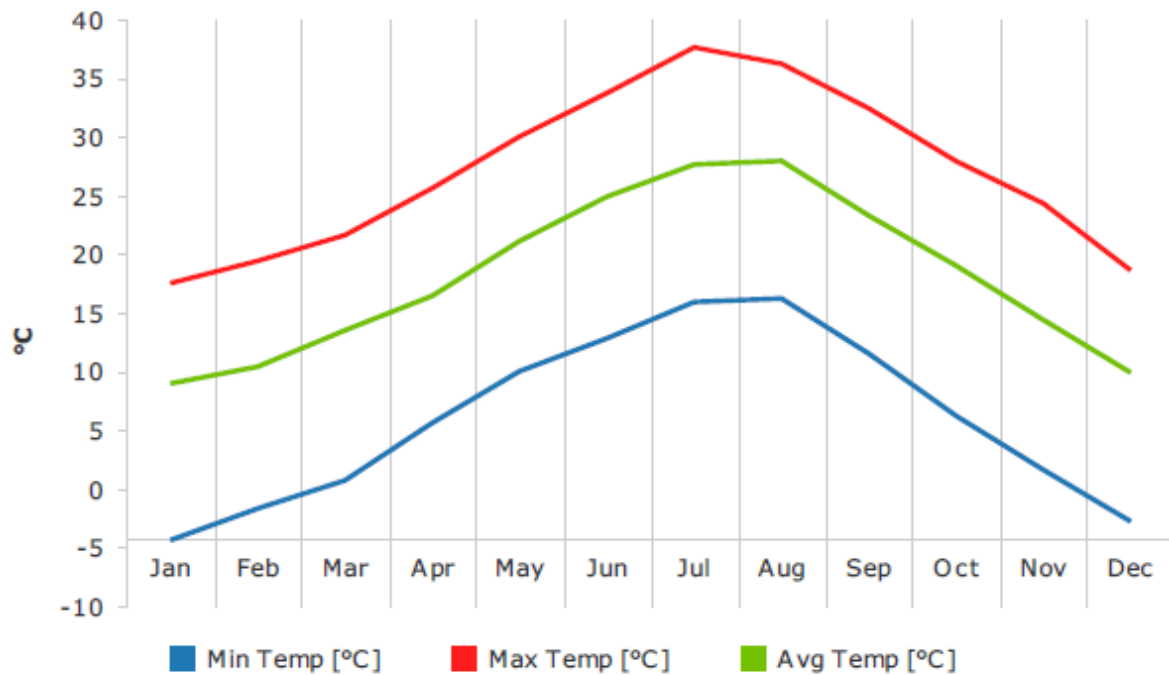
Altitude: 32.28 m



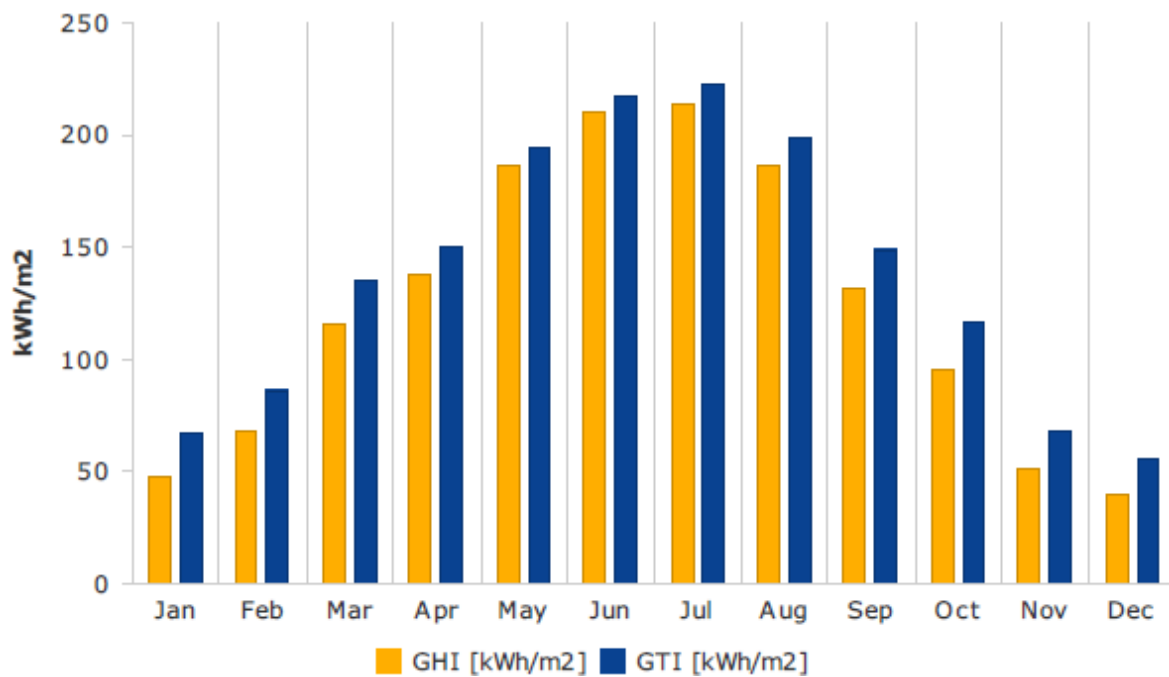
PV plant summary

Surface of PV modules:	130.34 m ²	DC nominal power:	26.55 kWp
AC nominal power:	20.00 kWp	Annual GHI:	1,484.96 kWh/m ²
Annual GTI:	1,660.67 kWh/m ²	Annual energy production:	35.960 MWh
Specific Production:	1,354.41 kWh/kWp	Performance Ratio PR:	84.22 %
Meteo data provider:	Meteonorm	Performance Ratio PR TA:	85.43 %

Weather Data [Meteonorm]



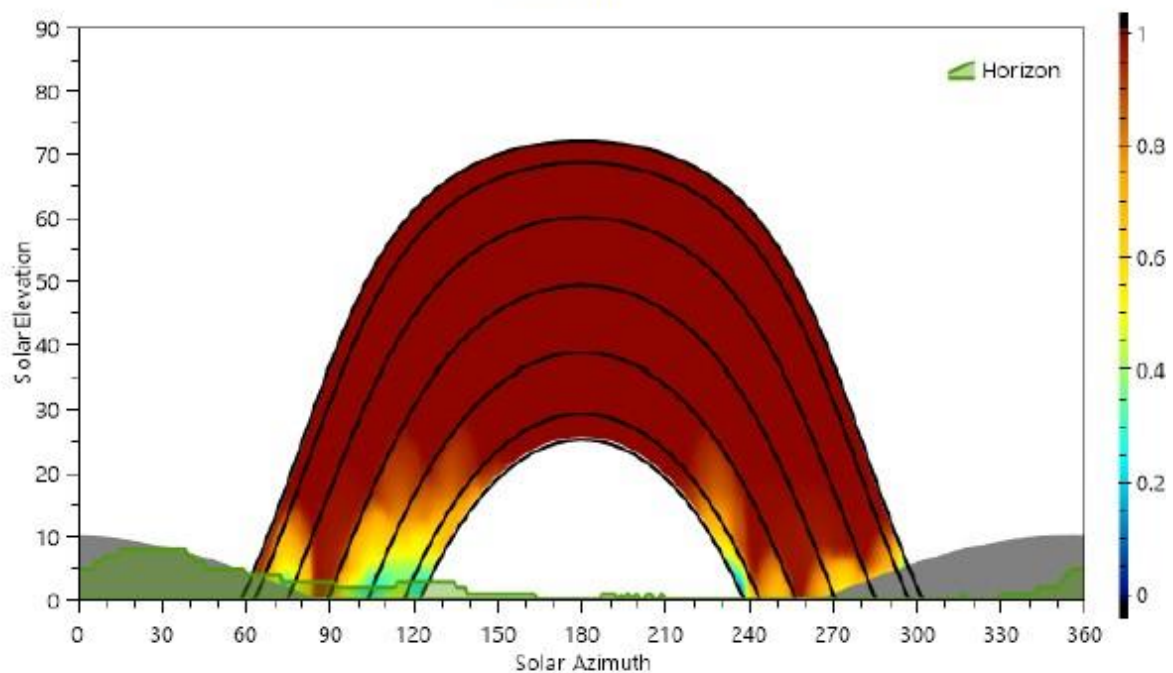
Global Irradiation



PV plant design

PV field:	Slope 1_P1	Installed Power:	26.55 kWp
Slope tilt:	0.00 °	Modules tilt:	10.00 °
Azimuth:	-4.80 °	Operational Temp Range:	-4 / 68 °C
Annual global horizontal irradiation:			1,484.96 kWh/m ²
Annual global tilted irradiation:			1,660.67 kWh/m ²

Horizon



Modules

Manufacturer:	Munchen	Model:	MSMD450M6-72
Module number:	59	Maximum Power:	450 Wp
Cell type:	Mono PERC	Cells number:	144
Short-circuit current I _{sc} :	11.61	Open Circuit Voltage V _{oc} :	49.20
Maximum Power Current I _{mp} :	10.87	Maximum Power Voltage V _{mp} :	41.40

Other losses

Cable losses:	1.0 %	Mismatch losses:	1.0 %
Transformer losses:	0.0 %	LID losses:	1.5 %
Inverter MPPT efficiency:	0.1 %	Soiling losses:	1.0 %

Inverter 1


Model	SUN2000-10KTL
AC nominal power	10 kW
Rated voltage	600 V
Number of MPPT channel	2
Total modules number	29
Installed DC power STC	13.05 kW

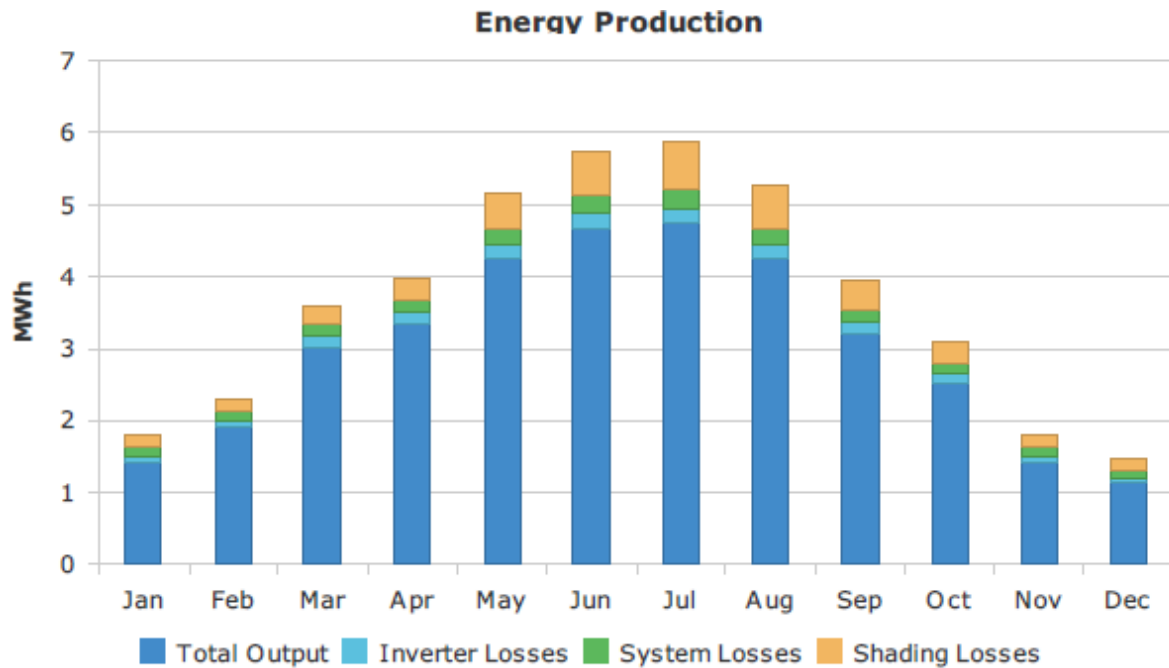
	MPPT 1	MPPT 2
PV field	Slope 1	Slope 1
Modules per string	14	15
Number of strings in parallel	1	1
Total modules number	14	15
Installed STC power MPPT [kW]	6.3	6.75
Power limit MPPT [kW]	5	5
PPV(inst),MPPTi/PMMPTMAX	1.26	1.35
PPV(inst)/PACR	130.50%	
PPV(inst)/PACMAX	118.64%	
Maximum inverter input voltage	1100	1100
Activation voltage	200	200
Operating range MPPT at maximum power	140 - 980	140 - 980
Voc_Max String open circuit @Min.Temp	750.36	803.96
Voc_Min String open circuit @Max.Temp	599.35	642.16
Vmp_Max Voltage mp string @Min.Temp	631.40	676.50
Vmp_Min Voltage mp string @Max.Temp	504.33	540.35
DC Max Isc current	15	15
DC Isc current @Max.Temp	11.86	11.86
Max Imp current	11	11
Max Imp current @Max.Temp	11.10	11.10

Inverter 2



Model	SUN2000-10KTL
AC nominal power	10 kW
Rated voltage	600 V
Number of MPPT channel	2
Total modules number	30
Installed DC power STC	13.5 kW

	MPPT 1	MPPT 2
PV field	Slope 1	Slope 1
Modules per string	15	15
Number of strings in parallel	1	1
Total modules number	15	15
Installed STC power MPPT [kW]	6.75	6.75
Power limit MPPT [kW]	5	5
PPV(inst),MPPTi/PMMPTMAX	1.35	1.35
PPV(inst)/PACR	135.00%	
PPV(inst)/PACMAX	122.73%	
Maximum inverter input voltage	1100	1100
Activation voltage	200	200
Operating range MPPT at maximum power	140 - 980	140 - 980
Voc_Max String open circuit @Min.Temp	803.96	803.96
Voc_Min String open circuit @Max.Temp	642.16	642.16
Vmp_Max Voltage mp string @Min.Temp	676.50	676.50
Vmp_Min Voltage mp string @Max.Temp	540.35	540.35
DC Max Isc current	15	15
DC Isc current @Max.Temp	11.86	11.86
Max Imp current	11	11
Max Imp current @Max.Temp	11.10	11.10



Main simulation data

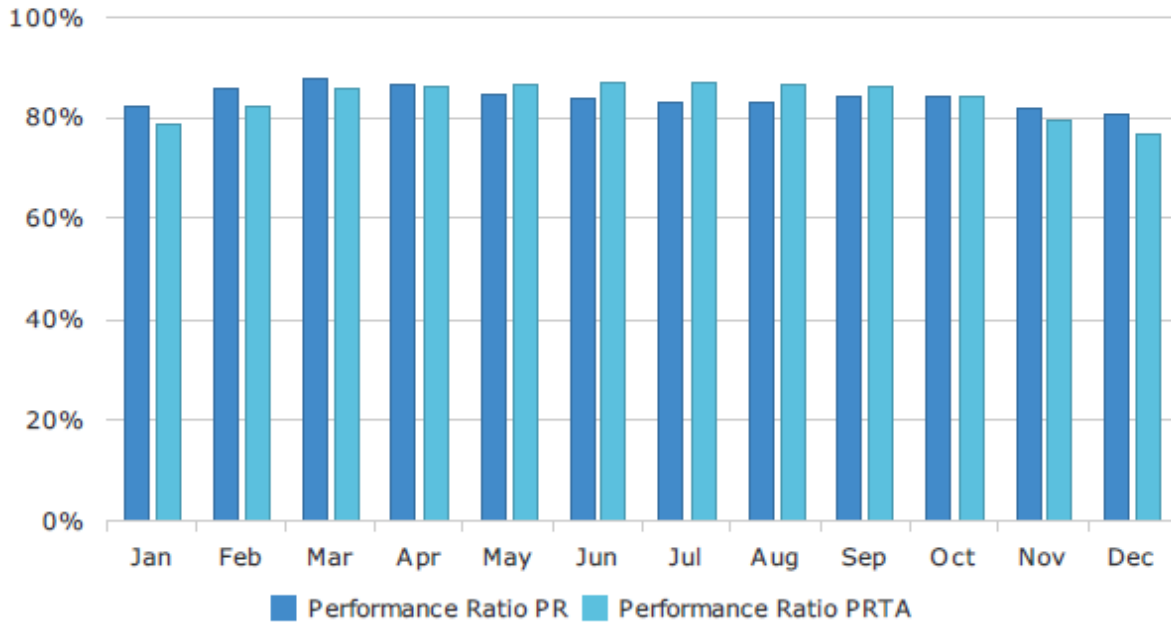
Month	Ta °C	EPOA MWh	EShading MWh	EEff MWh	EGrid MWh
January	6.87	1.79	1.61	1.49	1.43
February	8.21	2.30	2.12	2.00	1.91
March	11.61	3.57	3.34	3.17	3.03
April	14.76	3.99	3.69	3.51	3.35
May	19.32	5.16	4.68	4.45	4.26
June	23.29	5.74	5.14	4.89	4.67
July	25.81	5.87	5.21	4.95	4.73
August	25.81	5.29	4.67	4.44	4.25
September	21.09	3.95	3.55	3.38	3.23
October	16.87	3.10	2.80	2.65	2.53
November	12.29	1.80	1.61	1.50	1.43
December	7.78	1.46	1.30	1.20	1.14
Annual Yield	193.72	44.02	39.73	37.64	35.96

Ta: Average temperature **EPOA:** Global tilt plane production

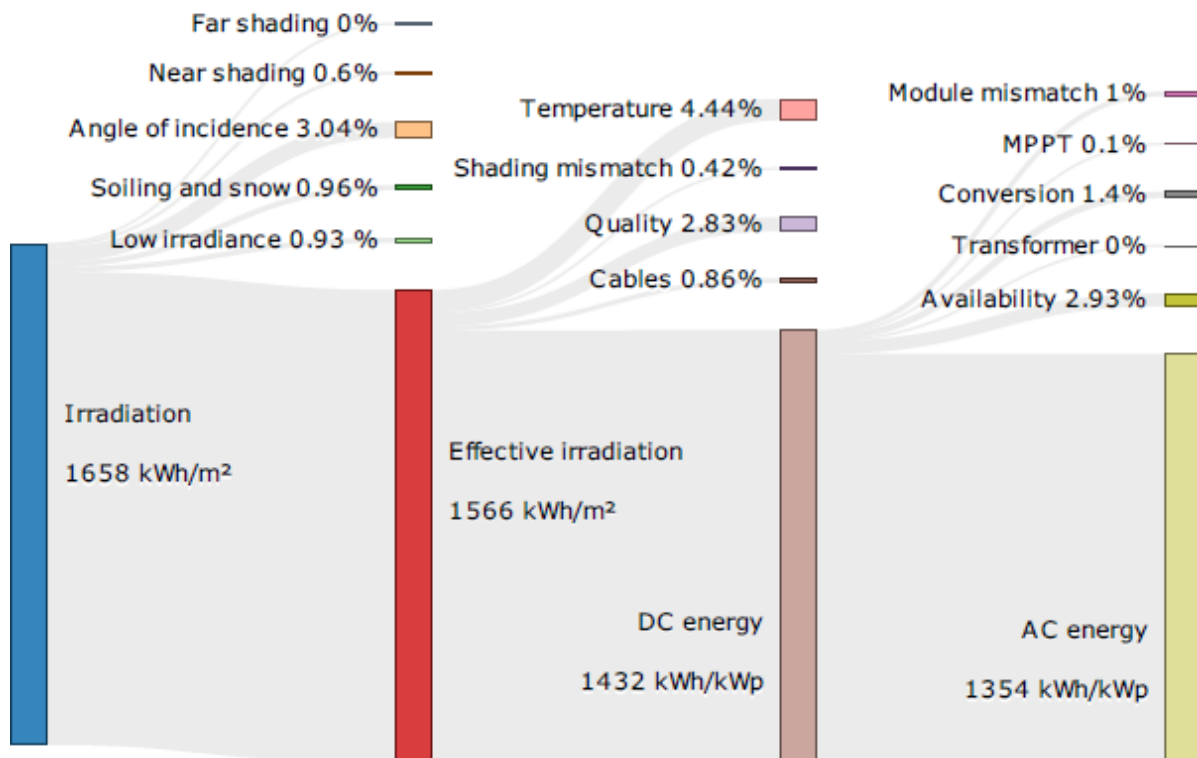
EShading: Global tilt plane with shading losses **EGrid:** Global grid injected energy

EEff: Global tilt plane production with system losses

Performance Ratio PR



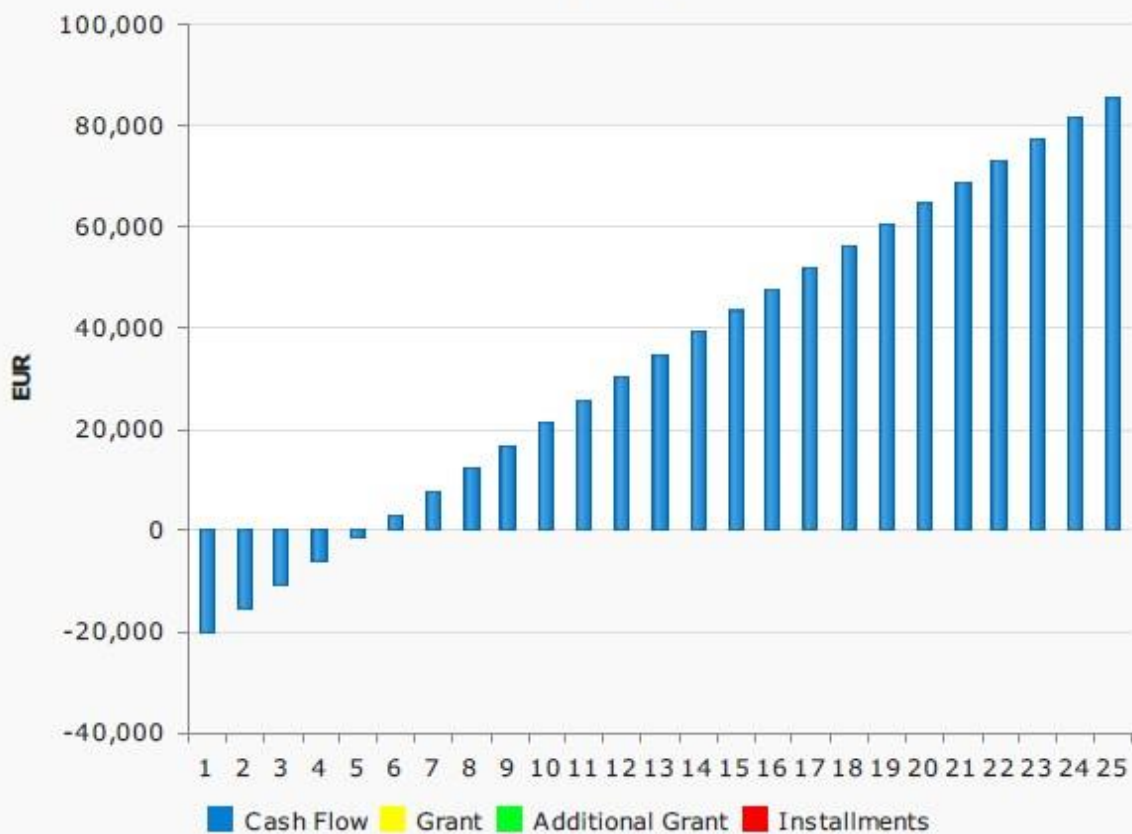
Annual loss diagram



Return of investment

Analysis period of ROI	25 Years	Total investment	EUR 25,000,00
Battery cost	EUR 0	Degradation of battery	0% per year
Grant amount	EUR 0	Credit period	10 Years
Annual inflation rate	1%	Monthly interest rate	1%
Electricity purchase price	0.14 EUR/kWh	Feed-in tariff	0 EUR/kWh
Feed-in tariff duration	0 Years	Feed-in revenue	0.14 EUR/kWh
Total Revenue	EUR 85,569	Yearly return rate	5.1%

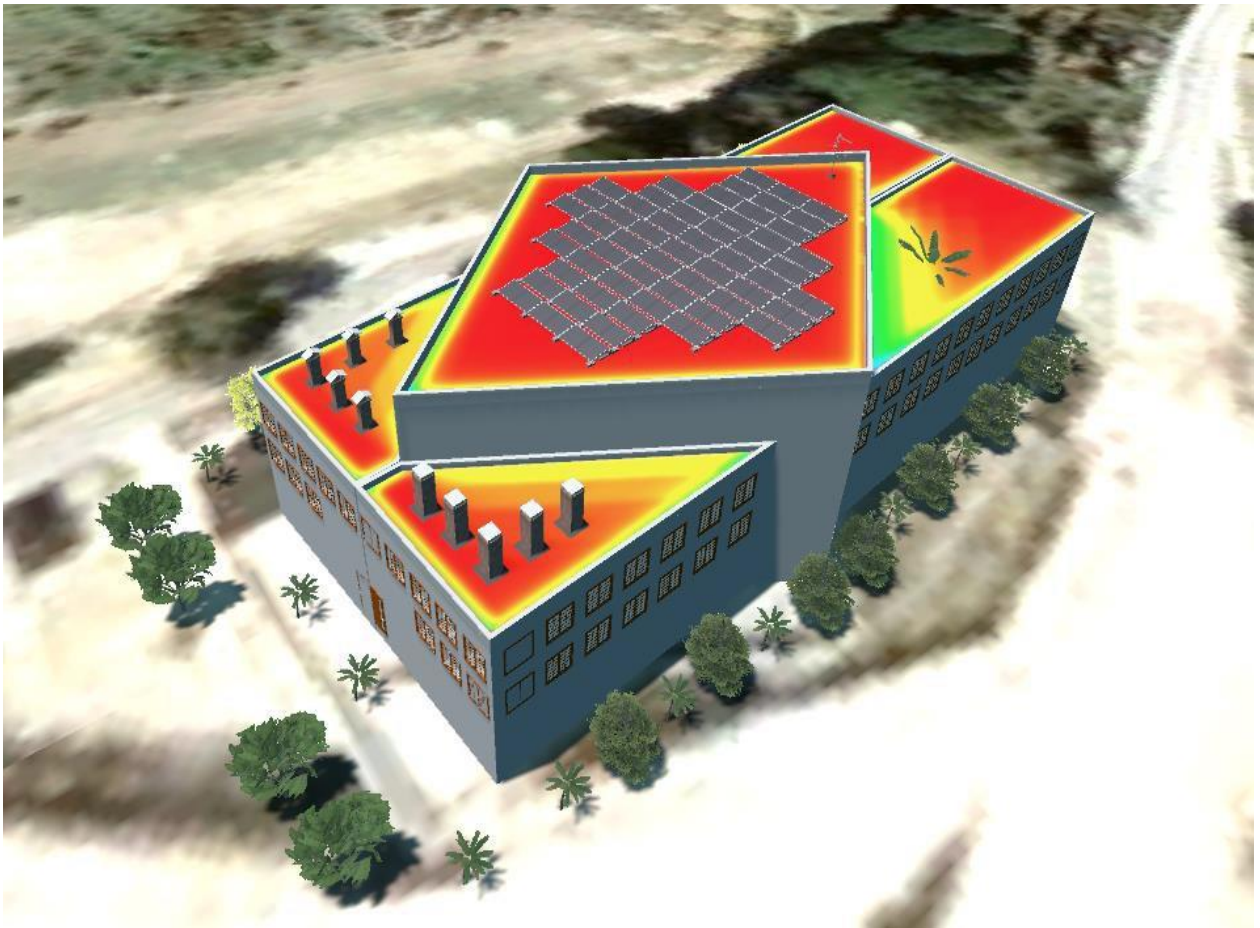
Effective savings

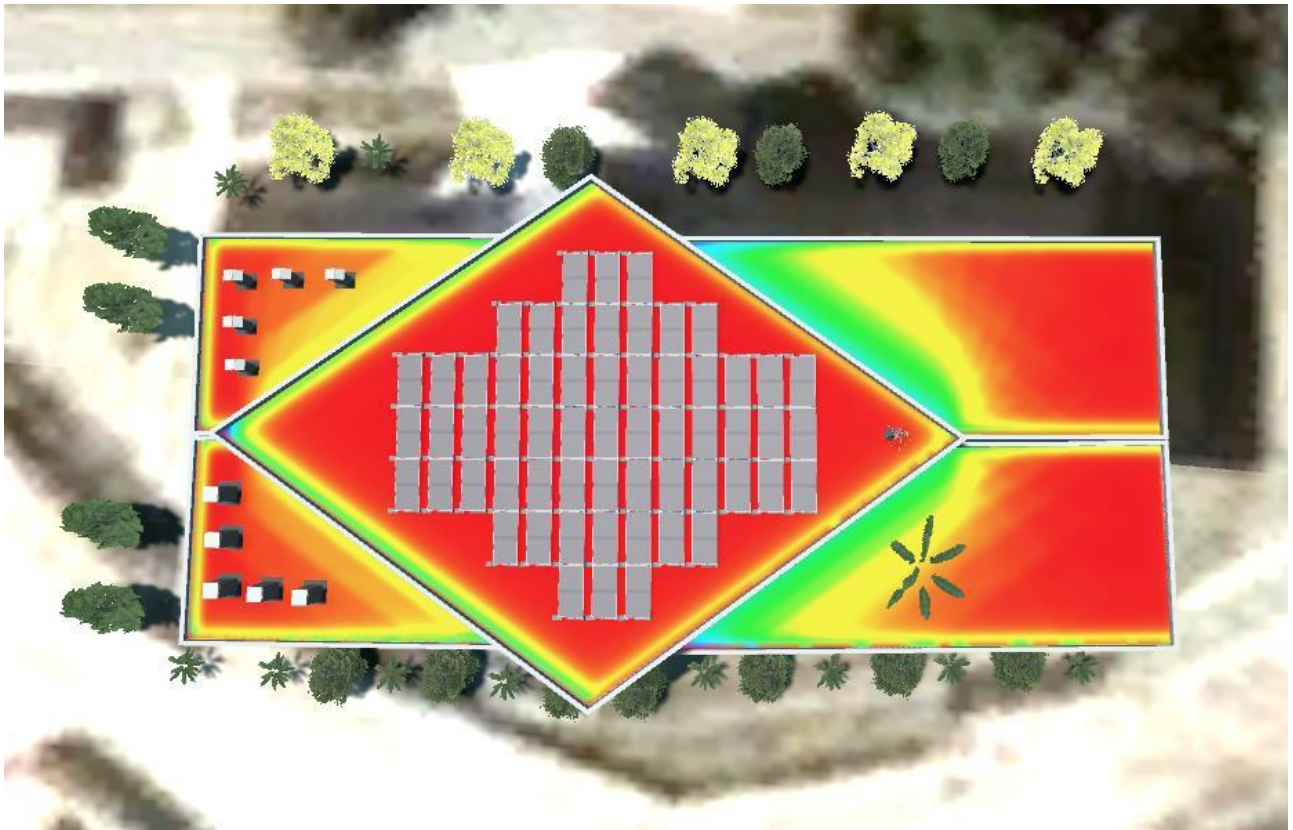


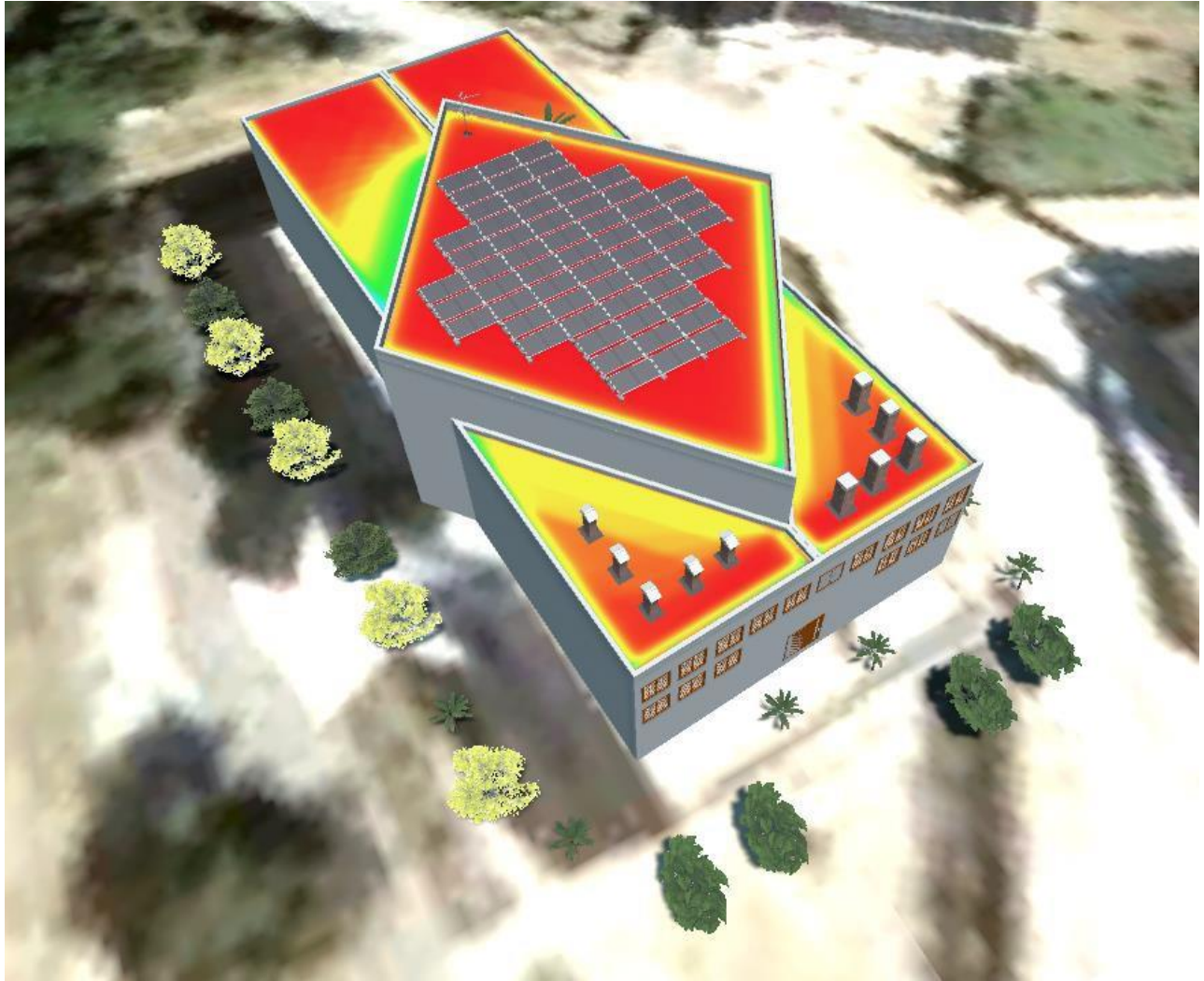


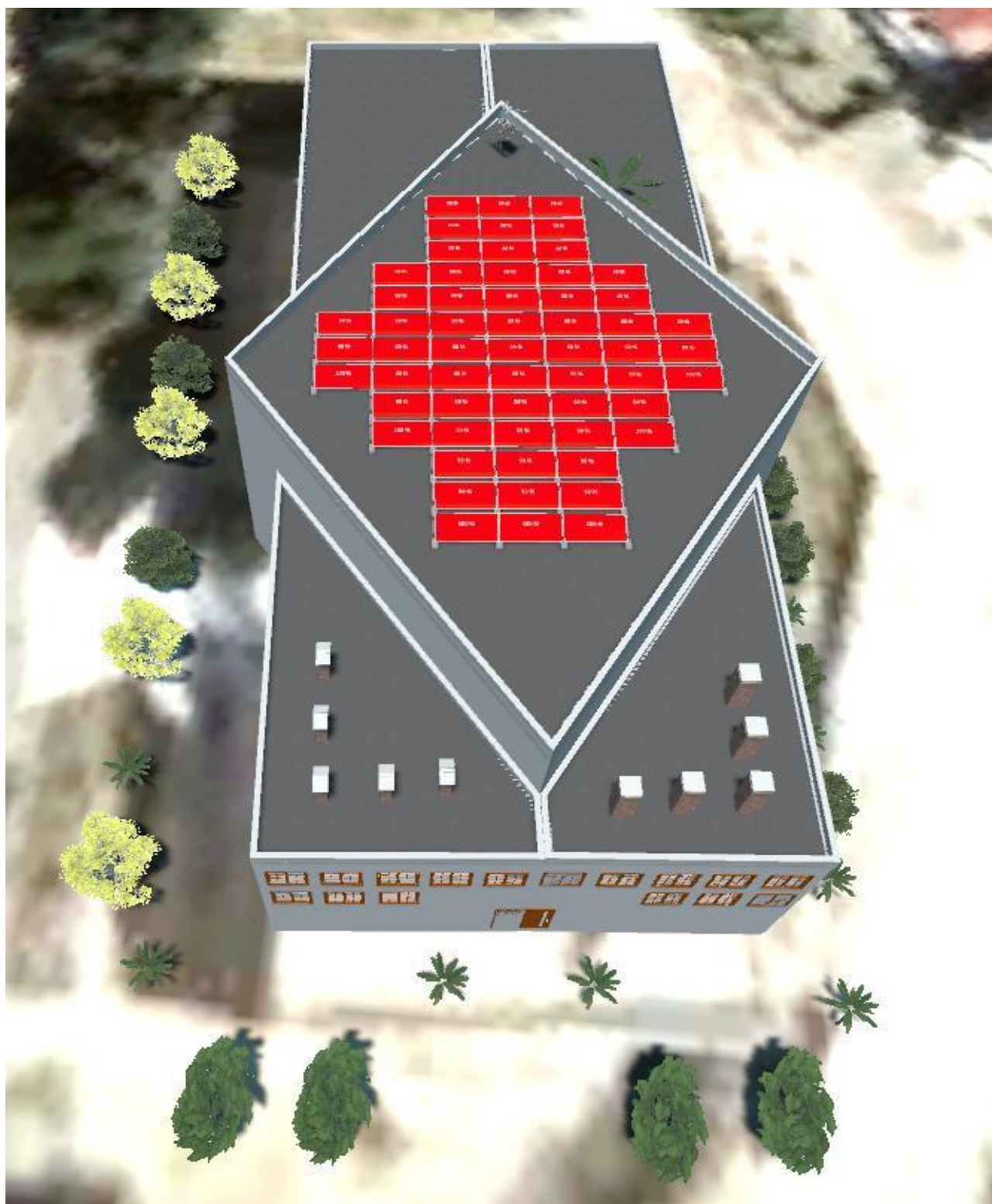
Your Partner For Solar Energy

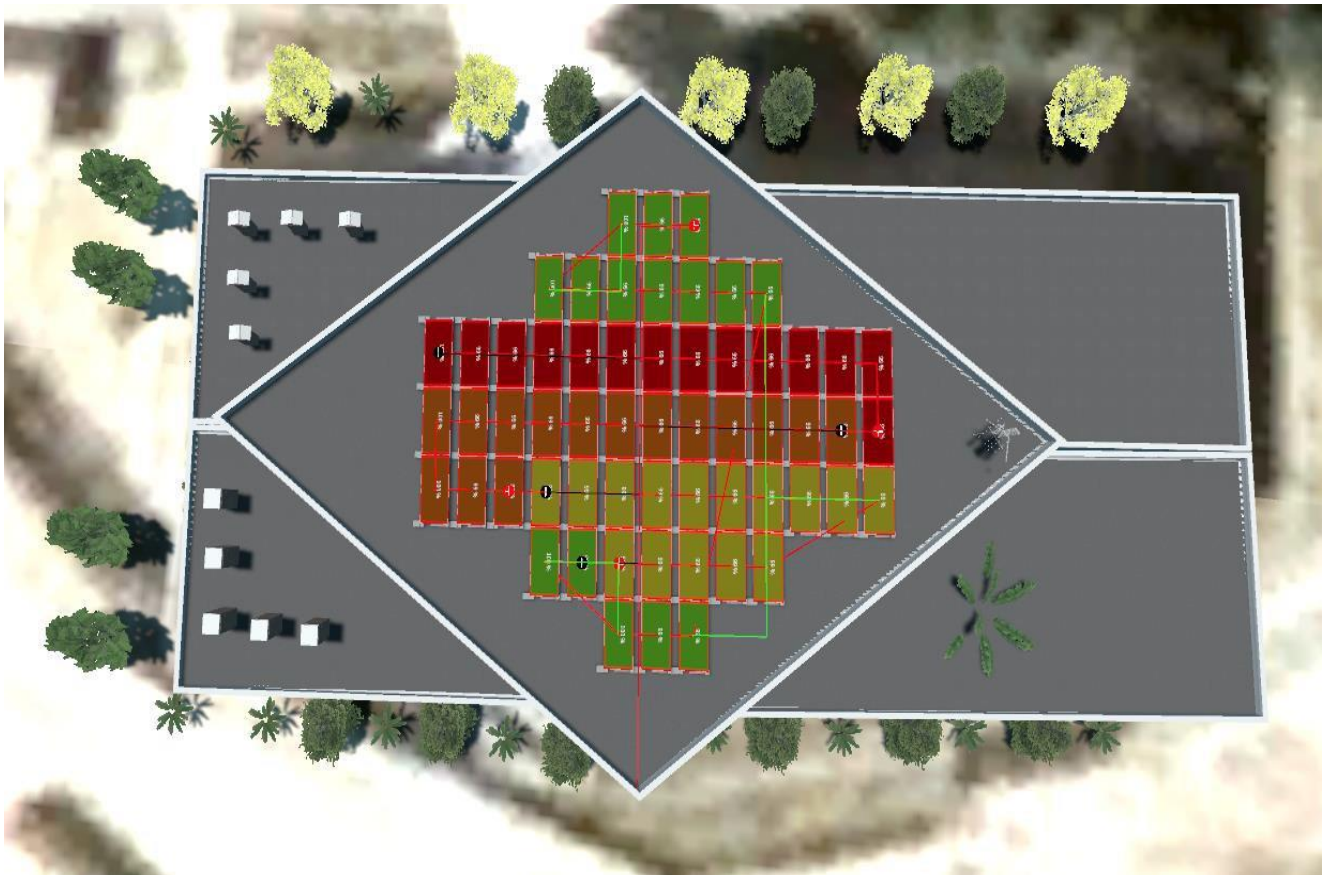
PAMJE NE 3D TE IMPIANTIT FOTOVOLTAIK











PROGREEN SOLUTIONS SH.P.K

Administrator
ENEJA METUSHI

