REPORT

FEASIBILITY STUDY FOR A PHOTOVOLTAIC POWER PLANT

INVESTOR

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SOLARLINK

WHY SOLAR?

Investing in solar energy is becoming very popular around the world, as more and more people become aware of the importance of preserving our planet and the need to switch to renewable energy sources. Solar power plants represent an excellent way to reduce the use of fossil fuels, as well as environmental pollution, while at the same time enabling electricity savings.

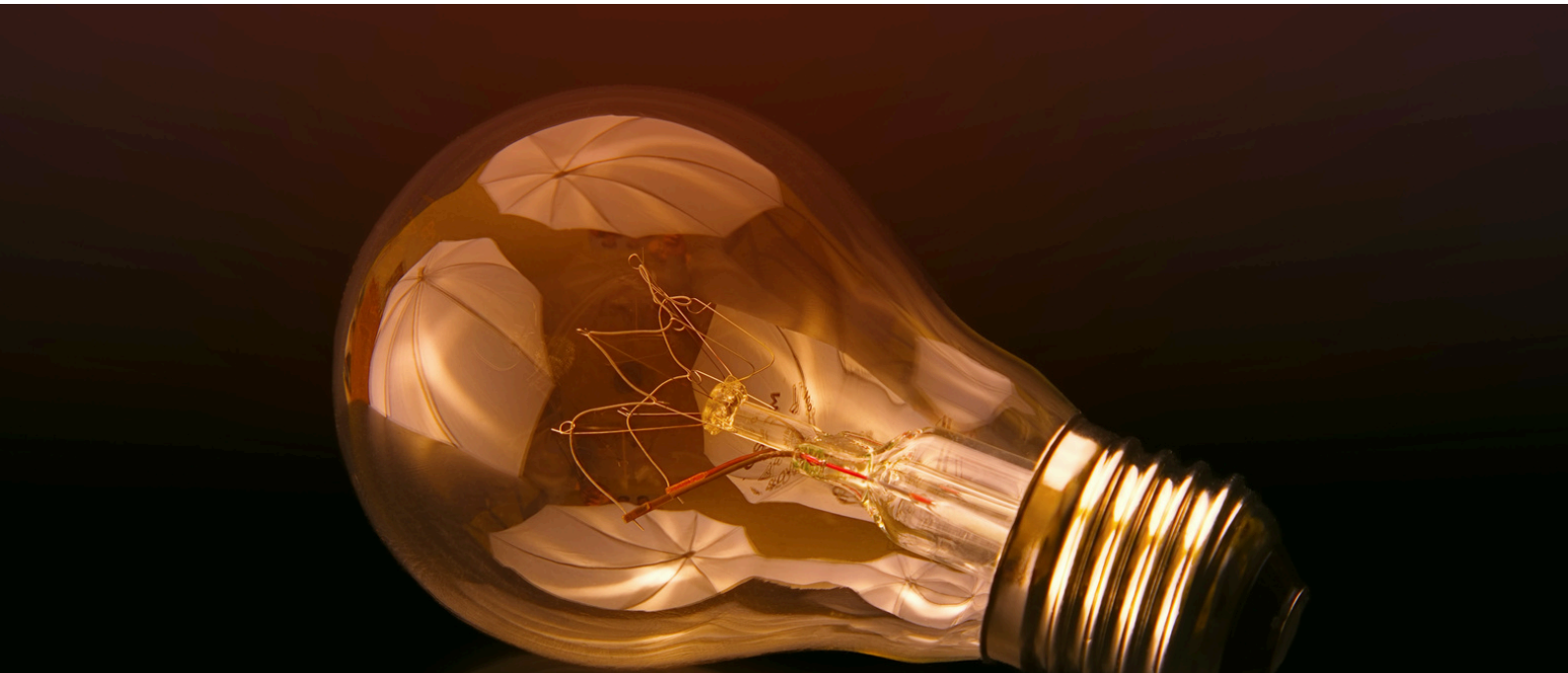
With the help of solar energy, through energy savings, electricity bills are reduced, but it also produces excess electricity that is handed back to the electricity distribution grid, which generates additional income.

Also, investing in solar is profitable because the price of electricity from fossil fuels is expected to rise, while the cost of building solar power plants will decrease.

Solar power plants don't pollute, don't emit harmful gases into the atmosphere and don't consume limited resources such as fossil fuels. On the other hand, they contribute to reducing global warming and promoting sustainable development and energy efficiency.

The availability of funds and subsidies to help with incentives to invest in solar contributes to reducing the required initial investment, accelerating the return on investment (ROI) and ensuring the safety and stability of the business.

Investing in solar energy has numerous benefits, not only for individuals and businesses, but also for the entire planet. More and more people are realizing the importance of switching to renewable energy sources and investing in the future. Be among them!

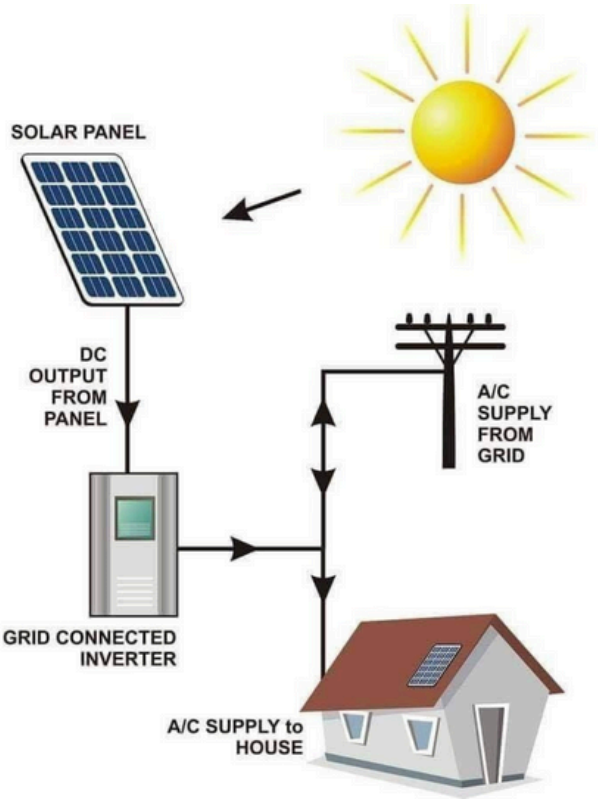


SUMMARY

Power of the PV power plant [kWp]	Annual energy production [kWh]	Annual energy savings [EUR]
3.15	3337	427

CO_2 emissions reduction for 30 years [tons]	Estimated value of the investment [EUR]	Return on investment [years]
78	3780	9.17

EQUIPMENT RECOMMENDATION



PV MODULES

Nominal power [Wp]	Quantity
450	7

INVERTERS

Nominal power [kW]	Quantity
3	1

DC cables lenght : 57 m

Mounting system type - example : K2 SolidRail System

Note: This is an equipment recommendation based on basic calculations. Consultation with an expert to check the adequacy of the equipment is recommended.

GENERAL INFORMATIONS

Input data

Object location (coordinates) : 44.72977943768759, 20.032109152278235

Input data per roof										
Roof number	1	2	3	4	5	6	7	8	9	10
Tilt angle [°]	45									
Azimuth angle [°]	70									
Free surface [m²]	60									

Energy consumption

Jan :	5000 kWh
Feb :	4000 kWh
Mar :	3200 kWh
Apr :	4000 kWh
May :	4600 kWh
June :	700 kWh
July :	5300 kWh
Aug :	5450 kWh
Sept :	7500 kWh
Oct :	7450 kWh
Nov :	3000 kWh
Dec :	6000 kWh

Maximum authorized power : 3 kW

PV module

Nominal power :	450 Wp
Lenght :	2500 mm
Width :	1300 mm

Roof type : 0

Electricity data

Base price of electricity :	100 EUR / MWh
Additional grid fees :	30 %
Total electricity price :	130 EUR / MWh
Selling price of electricity :	92 EUR / MWh

Investment cost : 1200 EUR / kWp

GENERAL INFORMATIONS

Output data

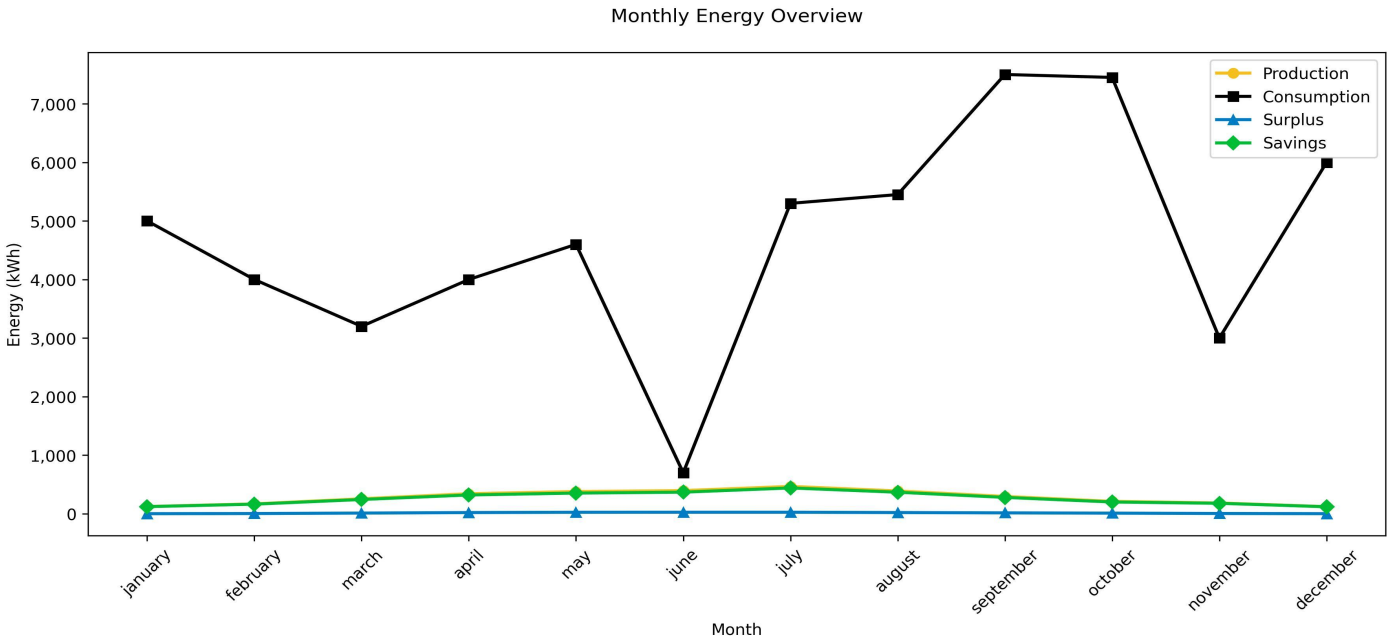
Recommended power of the PV power plant :	3.15 kWp
Maximum power that can be installed on the roofs :	7.2 kWp
Total estimated annual energy production :	3337 kWh
Total used area of the roofs :	26.2 m^2
Annual energy savings in kWh :	3165 kWh
Annual energy savings in % :	5.63 %
Annual energy savings in EUR :	427 EUR
Total energy savings in the exploitation period :	86509 kWh
Annual energy surplus in kWh :	173 kWh
Annual energy surplus in % :	5.18 %
Total energy surplus in the exploitation period :	4724 kWh
CO2 emissions reduction during the exploitation period :	78 tons
Estimated annual maintenance costs :	76 EUR
Estimated value of the investment :	3780 EUR
ROI :	9.2 years

Ouput data per roof - Sorted by optimality for use

Roof number	1	2	3	4	5	6	7	8	9	10
Tilt angle [°]	45									
Azimuth angle [°]	70									
Installed power [kWp]	3.15									
Number of modules	7									
Annual energy production [kWh]	3337									
Used roof area [m^2]	26.2									

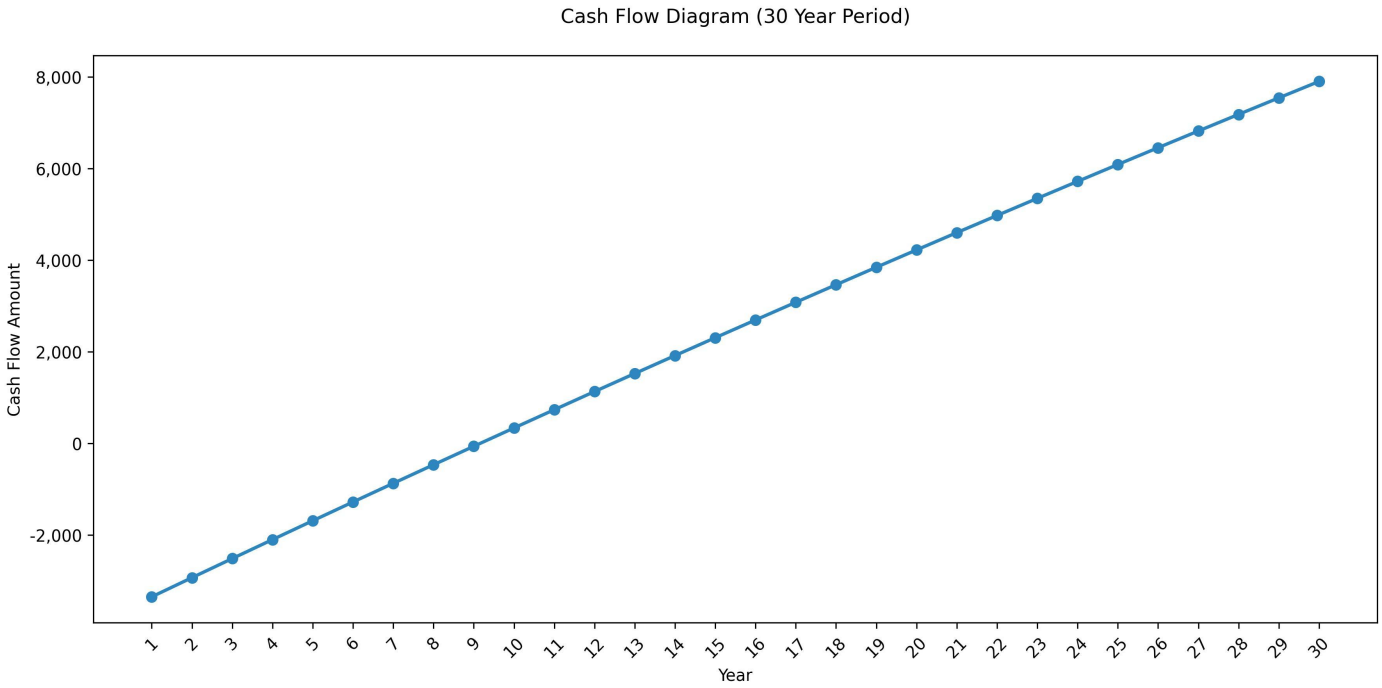
MONTHLY ENERGY DATA

	Energy consumption	Energy production	Energy surplus	Energy savings
Jan :	5000 kWh	124 kWh	2 kWh	122 kWh
Feb :	4000 kWh	169 kWh	4 kWh	164 kWh
Mar :	3200 kWh	256 kWh	12 kWh	244 kWh
Apr :	4000 kWh	342 kWh	21 kWh	321 kWh
May :	4600 kWh	379 kWh	26 kWh	354 kWh
June :	700 kWh	395 kWh	26 kWh	369 kWh
July :	5300 kWh	468 kWh	26 kWh	441 kWh
Aug :	5450 kWh	389 kWh	21 kWh	368 kWh
Sept :	7500 kWh	296 kWh	16 kWh	280 kWh
Oct :	7450 kWh	212 kWh	11 kWh	201 kWh
Nov :	3000 kWh	184 kWh	5 kWh	179 kWh
Dec :	6000 kWh	122 kWh	2 kWh	120 kWh



The graph shows the diagram of the estimated electricity production from the solar power plant on a monthly basis during the year, as well as the energy consumption, surplus and savings.

FINANCIAL DATA



The cash-flow diagram shows the inflows and outflows of money during the operational period of the power plant with annual maintenance costs included.

Year	Status	Year	Status
2025 :	-3353 EUR	2040 :	2692 EUR
2026 :	-2934 EUR	2041 :	3078 EUR
2027 :	-2517 EUR	2042 :	3461 EUR
2028 :	-2103 EUR	2043 :	3843 EUR
2029 :	-1691 EUR	2044 :	4222 EUR
2030 :	-1282 EUR	2045 :	4599 EUR
2031 :	-874 EUR	2046 :	4974 EUR
2032 :	-469 EUR	2047 :	5347 EUR
2033 :	-66 EUR	2048 :	5718 EUR
2034 :	334 EUR	2049 :	6087 EUR
2035 :	733 EUR	2050 :	6453 EUR
2036 :	1129 EUR	2051 :	6818 EUR
2037 :	1523 EUR	2052 :	7181 EUR
2038 :	1915 EUR	2053 :	7542 EUR
2039 :	2305 EUR	2054 :	7901 EUR