

JM ECO SOLUTIONS LTD

8,7KW SOLAR SYSTEM

WITH 5,12KWH
BATTERY STORAGE

ADDRESSED TO:

Река Ведена
София 1756
Sofia City

Prepared by Ivan Hadzhiev on 28-ми октомври 2023
Last updated on 28-ми октомври 2023



PROPOSED PANEL LAYOUT

—
Река Ведена,
София
Sofia City 1756

SYSTEM DETAILS

Your custom design

8,7 kW_{DC}

System size (STC)¹

8 439 kWh

Estimated annual
production²

87%

System efficiency³

SOLAR PANEL

20 × 435W Hyundai Energy Solutions HG Series - HiE-S435HG
1899 mm × 1096 mm · Monocrystalline · [Datasheet](#) · [Warranty](#)

INVERTER

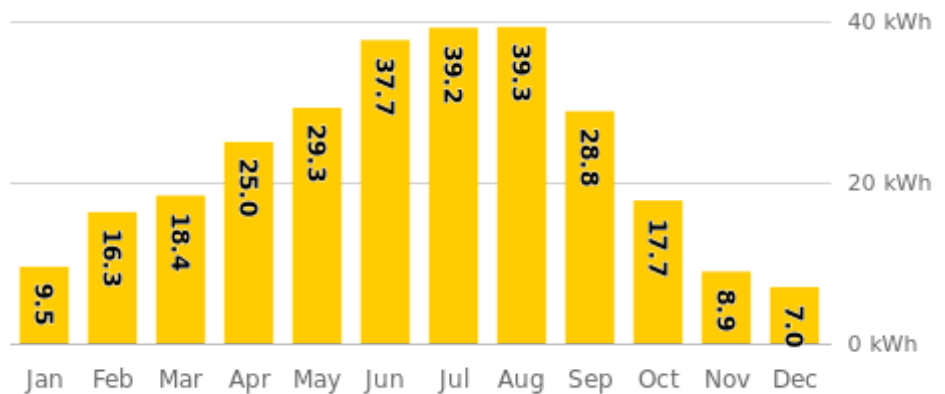
1 × SUNSYNK SUNSYNK-8K-SG05LP1 · 8000W
Single phase · 97,6% max. efficiency · [Datasheet](#) · [Manual](#) · [Warranty](#)

BATTERY STORAGE⁴

1 × Sunsynk SUNSYNK-L5.1
5.12kWh (4.608kWh usable) · Lithium-Ion · [Datasheet](#) · [Manual](#)

DAILY PRODUCTION PER MONTH

How much electricity will
my system generate per
day, on average?



UTILITY COSTS

How much will I save after
installing solar?

BEFORE SOLAR

116,67 лв.
Average monthly bill

1400,00 лв.
Annual bill

WITH SOLAR

37,25 лв. ↓ 68%
First year average

447,04 лв. ↓ 68%
Estimated annual savings 952,96 лв.

SELF-CONSUMPTION

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How much of your solar power will be consumed on-site. More is better.

SOLAR ONLY

21%

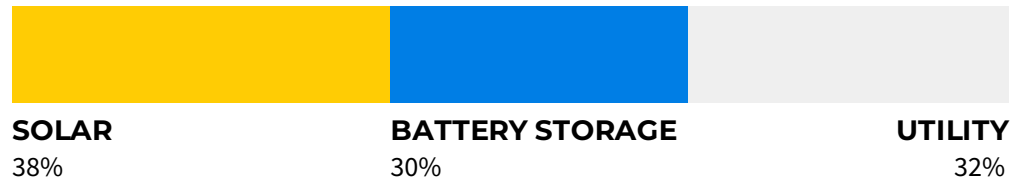
WITH STORAGE

38% ↑18%

ENERGY BALANCE

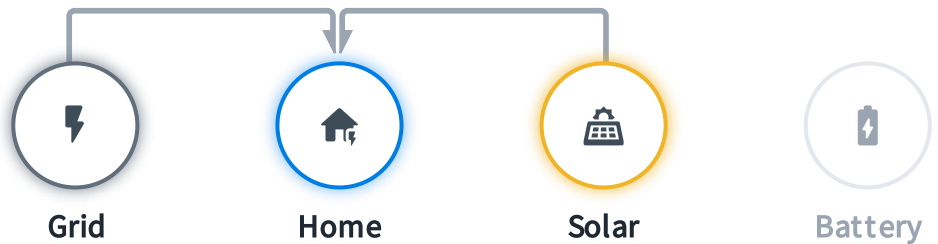
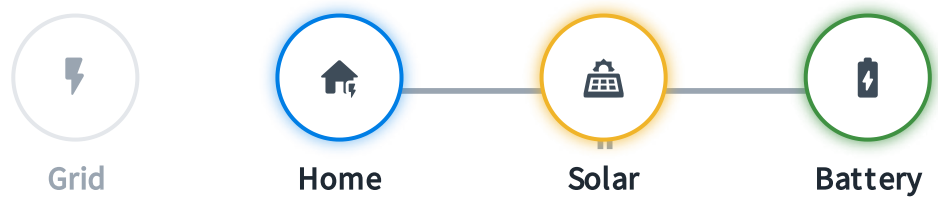
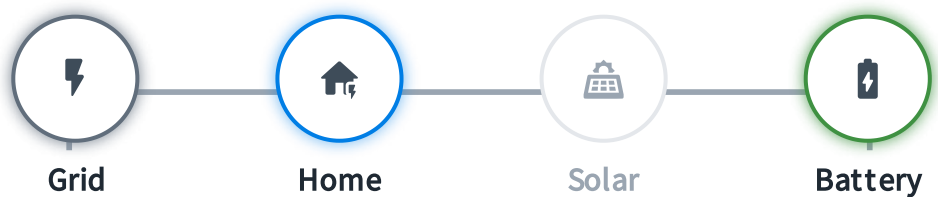
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Where will your power come from?

**BATTERY PERFORMANCE⁴**

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How will you make the most of your battery storage?

MORNING**AFTERNOON****NIGHT**



20 YEAR FINANCIAL SUMMARY

NET PRESENT VALUE OF INVESTMENT⁵

7745,47 ЛВ.



The Net Present Value (NPV) is the **present day value** of all future cash inflows minus the outflows. Since money is worth more in the present day than in the future, all future cashflows need to be discounted by inflation. A positive NPV indicates a good investment.

DISCOUNTED PAYBACK PERIOD⁵

15–16 YEARS



Similarly, the Discounted Payback Period also accounts for all discounted future cashflows. The resulting period will typically be longer than a "simple payback period" calculation.

TOTAL RETURN ON INVESTMENT⁵

39%



The Return on Investment (ROI) is another measure of the efficiency of your solar investment. Imagine you invested 100,00 ЛВ. today and received 300,00 ЛВ. in return. The ROI would be 200%.

RATE OF RETURN ON CASH INVESTED⁵

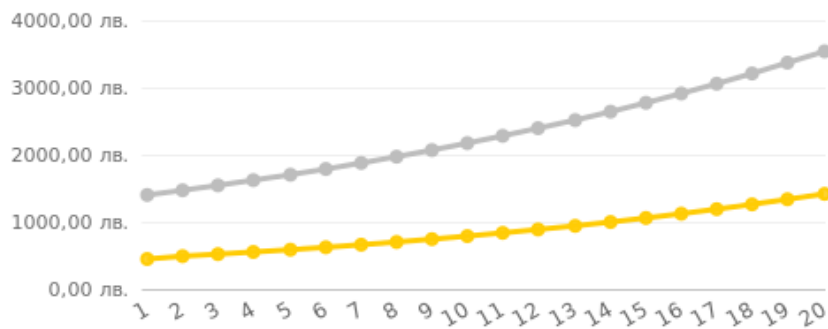
3,9%



The Rate of Return on Cash Invested (or Internal Rate of Return) is the annual compounded rate of return that the cash flows bring based upon the net cash invested in the year of installation. Think of it as the interest rate that a term deposit would need to provide to match the returns on your solar investment.

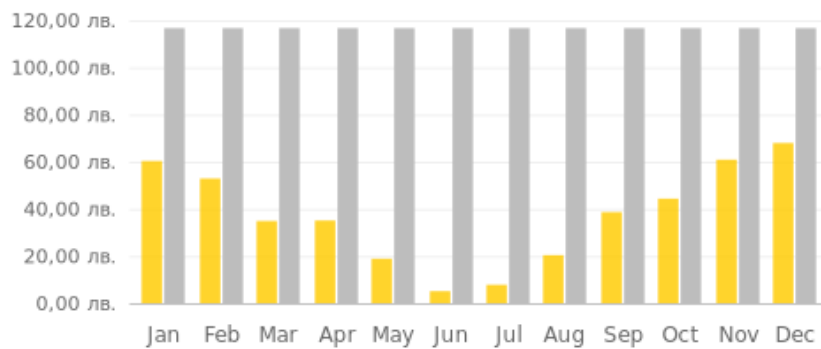
FINANCIAL ANALYSIS

Your historical electricity bills were used to help size your solar system. Based upon the system size suggested, the expected electricity bill savings over a 20 year period are provided below. In addition, the first-year electricity bill savings you can expect are provided together with a chart of the monthly solar system output you can expect.



ANNUAL BILL⁵

- Electricity bill without solar
- Electricity bill with solar



MONTHLY ELECTRICITY BILL COMPARISON⁵

- Electricity bill without solar
- Electricity bill with solar

ENVIRONMENTAL ANALYSIS

Your solar system will generate significant environmental benefits. These come primarily from avoided power plant emissions.



TREES PLANTED EQUIVALENT

—
153 trees per year⁶



AVOIDED EQUIVALENT FUEL

—
2549 litres of petrol
per year⁶



AVOIDED COAL BURNT

—
2896 kg of coal per
year⁶

QUOTE

To
Address

–
Река Ведена, София
Sofia City 1756

From JM ecosolutions LTD

Description	Quantity	Price	Total
8.7kW solar system with 5.12kWh battery storage			
Hyundai Energy Solutions HG Series HiE-S435HG (435W)	20	253,80 лв.	5076,00 лв.
SUNSYNK HYBRID INVERTER SUNSYNK-8K-SG 05LP1 (8kW)	1	3744,00 лв.	3744,00 лв.
Sunsynk SUNSYNK-L5.1 (5.12kWh / 4.61kWh usable)	1	(incl.)	
Balance of system		(incl.)	
Network pre-approval		(incl.)	
Installation & labour	1	4000,00 лв.	4000,00 лв.
Cabling, fixings	1	1000,00 лв.	1000,00 лв.
Grounding install	1	660,00 лв.	660,00 лв.
Grounding certification	1	500,00 лв.	500,00 лв.
Battery 5.12kW	1	4688,00 лв.	4688,00 лв.
Battery cables	1	164,00 лв.	164,00 лв.
		Subtotal incl. VAT	19832,00 лв.
		Included VAT	0,00 лв.
		Total incl. VAT	19832,00 лв.

ACCEPTANCE

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Please sign and return to JM eco solutions LTD. Be sure to keep a copy for your own records. A 10% (1983,20 лв.) deposit is required to initiate the process. Final payments are to be made upon full completion of installation.

PAYMENT

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BANK ACCOUNT

Account no.:

Ivan Hadzhiev

CLIENT NAME



CLIENT SIGNATURE

SIGNED: 2023/10/28 11:34



ASSUMED VALUES

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**DC ARRAY
POWER**

8,7kW

Azimuth measured clockwise from North

TILT AZIMUTH

22° 180°

SYSTEM EFFICIENCY³

87%

AC SYSTEM SIZE

7,57kW

EXPORT LIMIT

0kW

QUARTERLY ELECTRICITY BILLS

350,00 лв. (Autumn)

UTILITY RATE INFLATION

5% per annum

SELF-CONSUMPTION RATE

38,47%

DAILY SUPPLY CHARGE

0,00 лв.

CURRENT ELECTRICITY PRICE

0,30 лв.

FEED-IN TARIFF

0,06 лв.

SYSTEM LIFETIME

20 year

INFLATION RATE

2,11% per annum

EFFECTIVE INTEREST RATE

0,83% per annum

PV DEGRADATION

Hyundai Energy Solutions HG Series

HiE-S435HG

98% for the first year

-0,55% per year to year 25

NOMINAL STORAGE CAPACITY

5,12kWh

**MAXIMUM DEPTH OF
DISCHARGE**

90%

POWER

2,56kW

ROUND TRIP EFFICIENCY

95%

ASSUMPTIONS AND DISCLAIMER

- ¹ The Standard Test Condition rating (STC) assumes a standard set of optimal operating conditions (25°C cell temperature, 1000 W/m² and an air mass of 1.5). The STC rating is most often used by manufacturers to classify the power output of PV modules. To calculate the system's energy production for any future year, the expected degradation in system performance is included (See "PV degradation", in table below).
 - ² Energy Output is calculated based on historical solar irradiance at the given location. A typical meteorological year is selected using statistical methods. Factors including panel tilt, orientation (azimuth), and system efficiency are taken into account.
 - ³ System efficiency is estimated to account for losses caused by a variety of factors. These factors include intermittent shading, cable losses, dirt, scheduled downtime, manufacturer tolerances, inverter efficiency for DC to AC (this does not affect off-grid DC only systems), battery round trip efficiency, and other factors.
 - ⁴ Battery storage devices may not always provide Back-up, Grid Islanding or Uninterruptible Power Supply (UPS) capabilities.
 - ⁵ Utility electricity price inflation is adjusted based on the given location.
 - ⁶ United States Environmental Protection Agency. 2017. Greenhouse Gases Equivalencies Calculator - Calculations and References. [ONLINE] Available at: <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#kilowatt>.
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Note The system design may change based on a detailed site audit. Estimated savings are based on past electrical usage and utility rates provided by the customer where applicable. Actual system production and savings will vary based on final system design, configuration, utility rates, applicable subsidies and your energy usage post-solar installation. Utility rates, charges and fee structures imposed by your utility are not affected by this proposal and are subject to change in the future at the discretion of your utility. The production calculations in this report are based on historical climate data for the site location and represent typical estimates of future solar production.

WARRANTY

Product	Type	Standard warranty	Downloads
Hyundai Energy Solutions HG Series HiE-S435HG 435W	Solar panel	25 years product, 25 years performance	Warranty file
SUNSYNK SUNSYNK-8K-SG05LP1 8000W	Inverter	5 years + 5 years for battery combo	Warranty file