

# Solar Energy System Report

A Comprehensive Overview of Your Solar Energy System

**Samet's Project**

**May 4, 2026**

**Prepared For Samet**

**Prepared by Render-a**

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Quote No. 69eb48b6

Valid Until



Dear Samet,

Thank you for considering our solar energy solutions. We are excited to present you with a detailed report on your solar energy system, tailored to meet your specific needs and preferences.

Best regards,

**Render-a**

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905072469664

Kollektif Giriřimcilik Merkezi, İzmir, Turkey





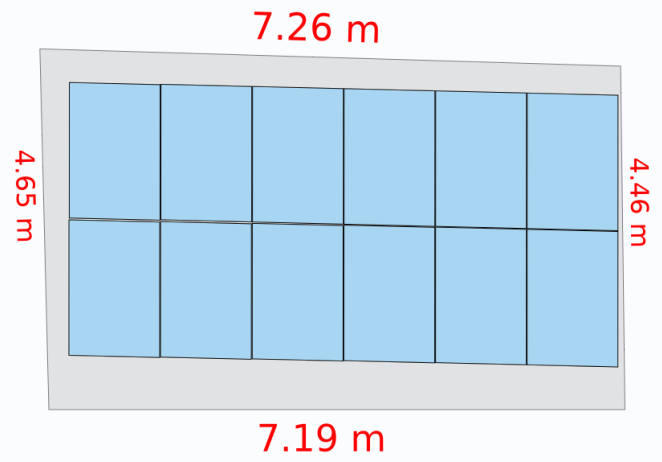
## Recommended System Option for Scenario 1

<b>13.20 kW</b> System Size	<b>30</b> # of Total Panels	<b>18403.72 kWh</b> Expected Annual Production	<b>8644.23 kg</b> CO2 Emission Saving
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### Your Solution

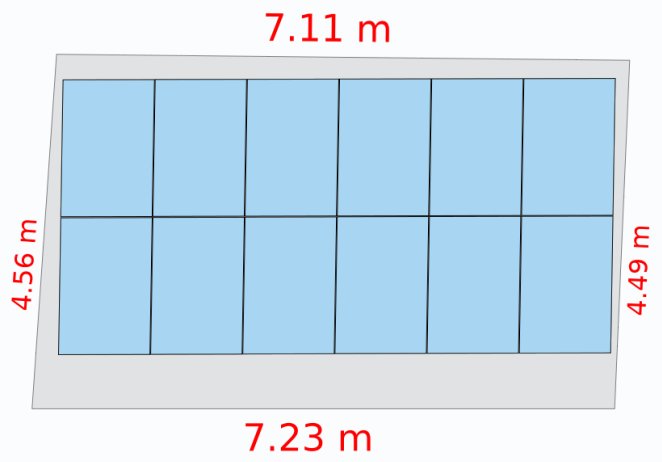
#### Segment 1 32.93 m<sup>2</sup>    Slope 17.60°    Azimuth -110.06°

Array 1   Trina Solar - TSM-440-NEG9R-28	
Panel Count	12
Slope	17.60°
Azimuth	-110.06°
Size	1762 × 1134 mm
Padding	10.00 mm
Tilt Angle	0.00°



#### Segment 2 32.42 m<sup>2</sup>    Slope 16.40°    Azimuth 97.23°

Array 1   Trina Solar - TSM-440-NEG9R-28	
Panel Count	12
Slope	16.40°
Azimuth	97.23°
Size	1762 × 1134 mm
Padding	10.00 mm
Tilt Angle	0.00°





Segment 5

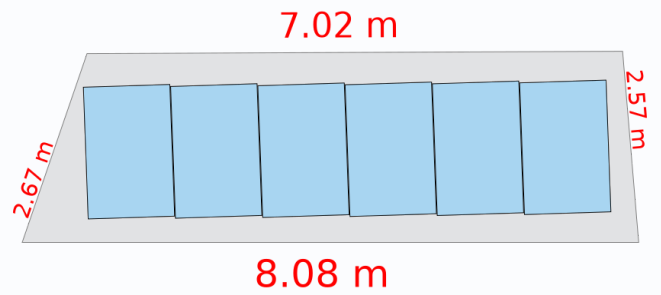
19.19 m<sup>2</sup>

Slope 13.10°

Azimuth -1.55°

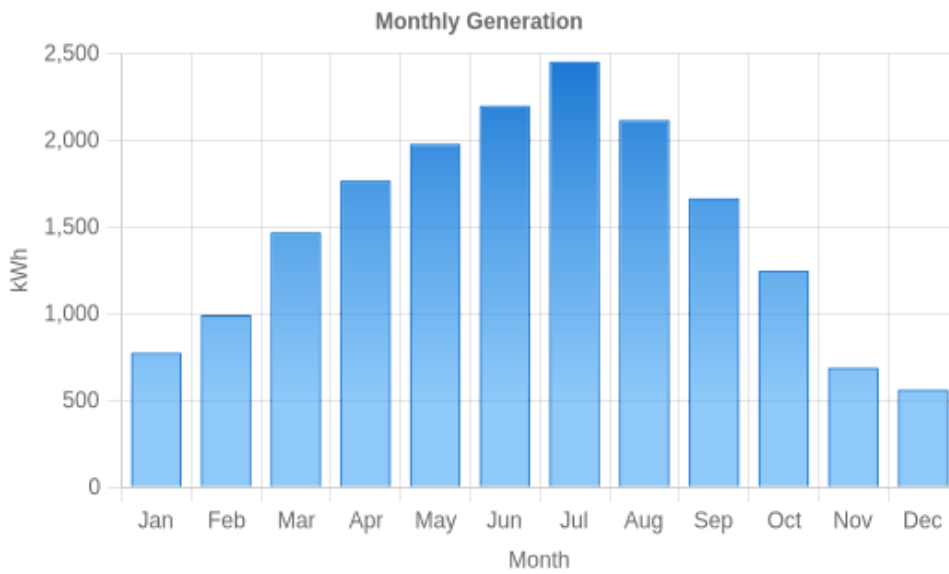
 Array 1 | Trina Solar - TSM-440-NEG9R-28

Panel Count	6
Slope	13.10°
Azimuth	-1.59°
Size	1762 × 1134 mm
Padding	10.00 mm
Tilt Angle	0.00°





## System Performance



### System Assumptions

- Total losses: 14.0%
- Inverter losses: 3.0%
- Shading losses: 0%
- Mismatch losses: 2.0%
- Temperature losses: 1.5%
- PVGIS calculator used for calculations.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Generation (kWh)</b>	774.22	992.09	1469	1767.6	1978.4	2198.2	2452.1	2116.3	1664.8	1247.5	687.45	560.71

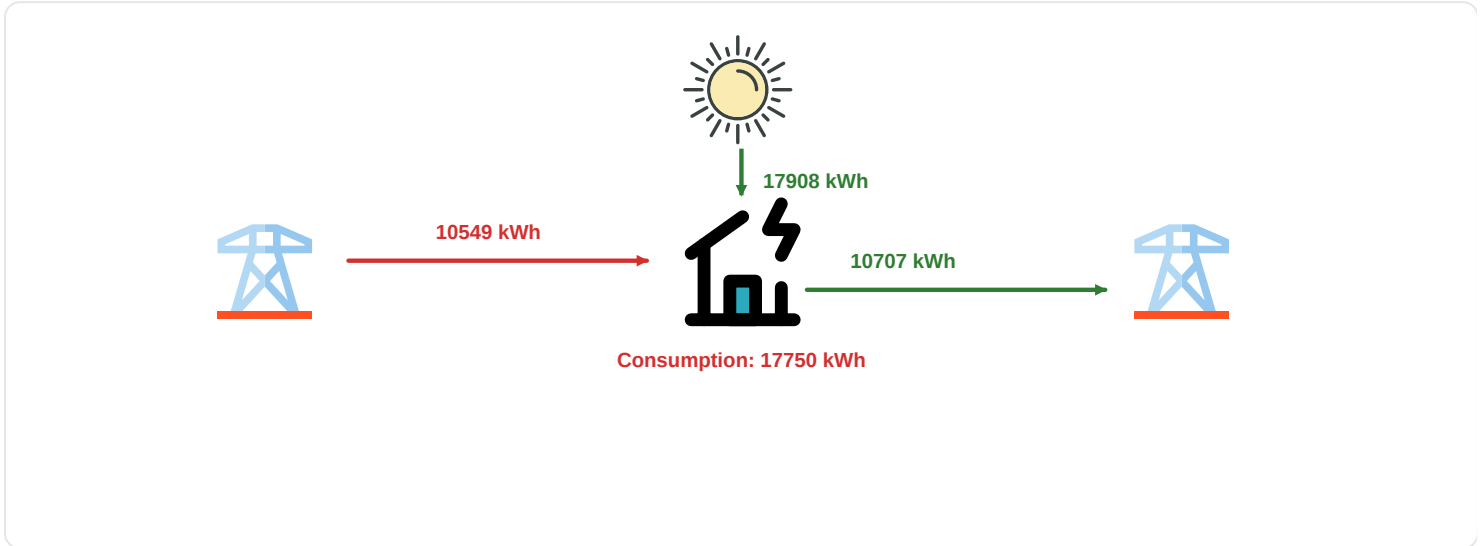
### A. Performance calculations

Installed capacity of PV system - kWp (stc)	13.20	kWp
kWh/kWp (Kk)	1356.70	kWh/kWp
Estimated annual output (kWp × Kk × SF)	17908.38	kWh

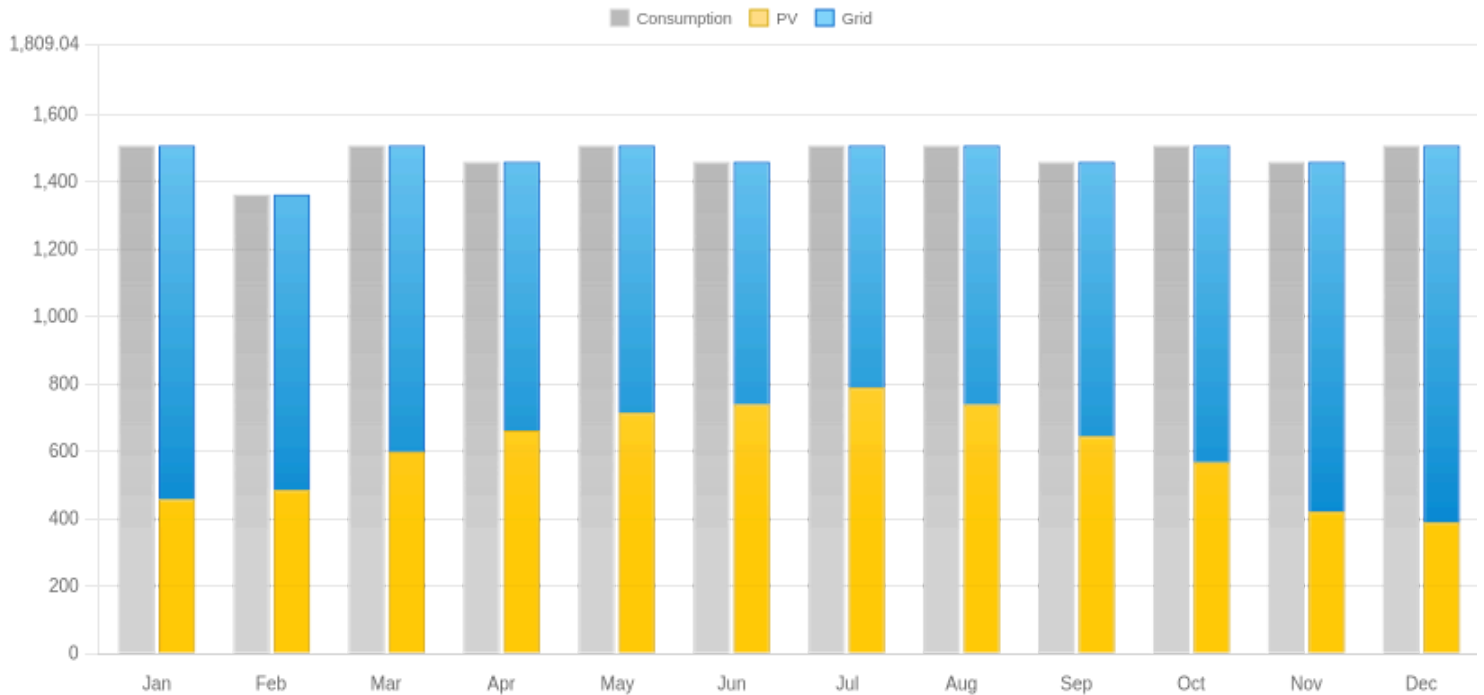


# Energy Flow

## Yearly Energy Flow Diagram



## Coverage of Consumption



Total consumption	Total production	Total grid
<b>17750.00</b> kWh	<b>17908.38</b> kWh	<b>10549.32</b> kWh



## Cash Flow

You Save  
**TRY 1,287,167**

for 30 years of system lifetime

Break-even  
**8 years**

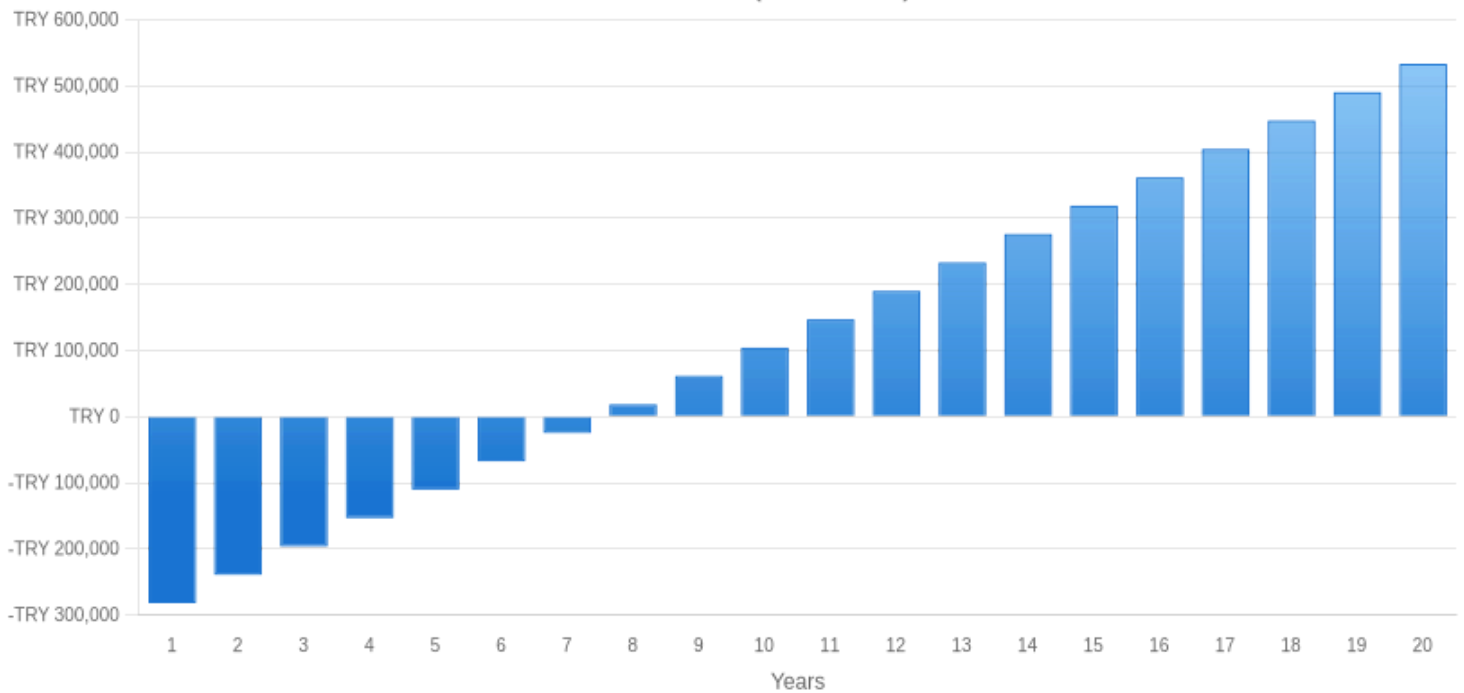
Your investment pays itself

Bill reduction  
**TRY 2,442**

Your electricity bill is reduced (monthly)

### Accrued Cash Flow (Cash Balance)

Accrued Cash Flow (Cash Balance)



### Summary Table

Month	Solar generation (kWh)	Grid import before PV (kWh)	Grid import after PV (kWh)	PV coverage	Grid export (kWh)	Export earning	Bill before PV	Bill after PV	Estimated savings
Jan	774.22	1507.5	1050.9	30%	317.58	TRY 403	TRY 6,136	TRY 4,277	TRY 2,262
Feb	992.09	1361.6	877.25	36%	507.7	TRY 645	TRY 5,542	TRY 3,570	TRY 2,616
Mar	1469	1507.5	909.09	40%	870.51	TRY 1,106	TRY 6,136	TRY 3,700	TRY 3,541
Apr	1767.6	1458.9	797.18	45%	1105.9	TRY 1,405	TRY 5,938	TRY 3,245	TRY 4,098
May	1978.4	1507.5	793.94	47%	1264.8	TRY 1,606	TRY 6,136	TRY 3,231	TRY 4,511
Jun	2198.2	1458.9	720.11	51%	1459.4	TRY 1,853	TRY 5,938	TRY 2,931	TRY 4,860
Jul	2452.1	1507.5	718.85	52%	1663.5	TRY 2,113	TRY 6,136	TRY 2,926	TRY 5,323
Aug	2116.3	1507.5	768.9	49%	1377.6	TRY 1,750	TRY 6,136	TRY 3,129	TRY 4,756
Sep	1664.8	1458.9	815.06	44%	1021	TRY 1,297	TRY 5,938	TRY 3,317	TRY 3,917
Oct	1247.5	1507.5	940.3	38%	680.27	TRY 864	TRY 6,136	TRY 3,827	TRY 3,173
Nov	687.45	1458.9	1038.3	29%	266.89	TRY 339	TRY 5,938	TRY 4,226	TRY 2,051
Dec	560.71	1507.5	1119.4	26%	172.55	TRY 219	TRY 6,136	TRY 4,556	TRY 1,799
<b>Total</b>	<b>17908</b>	<b>17750</b>	<b>10549</b>	<b>41%</b>	<b>10707</b>	<b>TRY 13,599</b>	<b>TRY 72,243</b>	<b>TRY 42,936</b>	<b>TRY 42,906</b>



## Environmental Benefits

Solar energy is a clean and renewable source of energy that can significantly reduce carbon emissions and contribute to a sustainable future.

### Each Year



**8644.23 kg**

CO2 Emission Reduction



**412**

Equivalent Trees Planted



**2**

Equivalent Cars Off the Road



**6**

Equivalent Homes Powered

### Over System Lifetime



**259327 kg**

CO2 Emission Reduction



**12349**

Equivalent Trees Planted



**57**

Equivalent Cars Off the Road



**158**

Equivalent Homes Powered

#### Disclaimer

The calculated values in this report are based on assumptions. Actual conditions may vary, and no liability is accepted.