

12 May 2025



SMART BATTERY

SolarEdge Home Battery 9.7kWh  
Smart Battery Management

Self Consumption Battery + PV

77%

Bill Savings on Battery Lifetime

£ 3,687



Total Storage Capacity

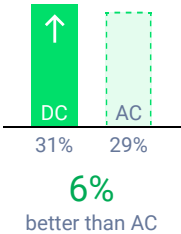
9.7 kWh

Total Battery Power

5 kW

ADVANTAGES  
OF DC COUPLED  
STORAGE OVER  
AC

 Battery Self Consumption



SYSTEM OVERVIEW



16 PV modules



1 Inverter



16 Optimizers



1 Battery

12 May 2025



FINANCIAL OVERVIEW

|              |                             |                     |                            |                |
|--------------|-----------------------------|---------------------|----------------------------|----------------|
| Net Payments | Lifetime Bill Savings (NPV) | System Profit (NPV) | Internal Return Rate (IRR) | Payback Period |
| £ 13,000     | £ 30,588                    | £ 17,588            | 13.01 %                    | 7.4 years      |
|              | £3,687 Savings from Battery |                     |                            |                |

SIMULATION RESULTS

|                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| Installed DC Power                                                                | Max Achieved AC Power                                                             | Annual Solar Energy Production                                                    | Annual CO2 Emission Saved                                                           | Annual Equivalent Trees Planted                                                     |
| 7.28 kWp                                                                          | 6 kW                                                                              | 7,311 kWh                                                                         | 1.41 t                                                                              | 65                                                                                  |

ANNUAL CONSUMPTION AND PRODUCTION RESULTS

Production

7,376 kWh

37%

24%

39%

To Home 2,738 kWh (37%)

To Battery 1,769 kWh (24%)

To Grid 2,865 kWh (39%)

Consumption

5,761 kWh

47%

30%

23%

77% Energy from solar with battery

From Solar 2,738 kWh (47%)

From Battery 1,708 kWh (30%)

From Grid 1,315 kWh (23%)

Battery - Energy Sources

1,769 kWh

From Solar 1,769 kWh (100%)

From Clipped Energy 0.04 kWh (0%)

From Grid 0.00 kWh (0%)

Battery - Energy Destinations

1,769 kWh

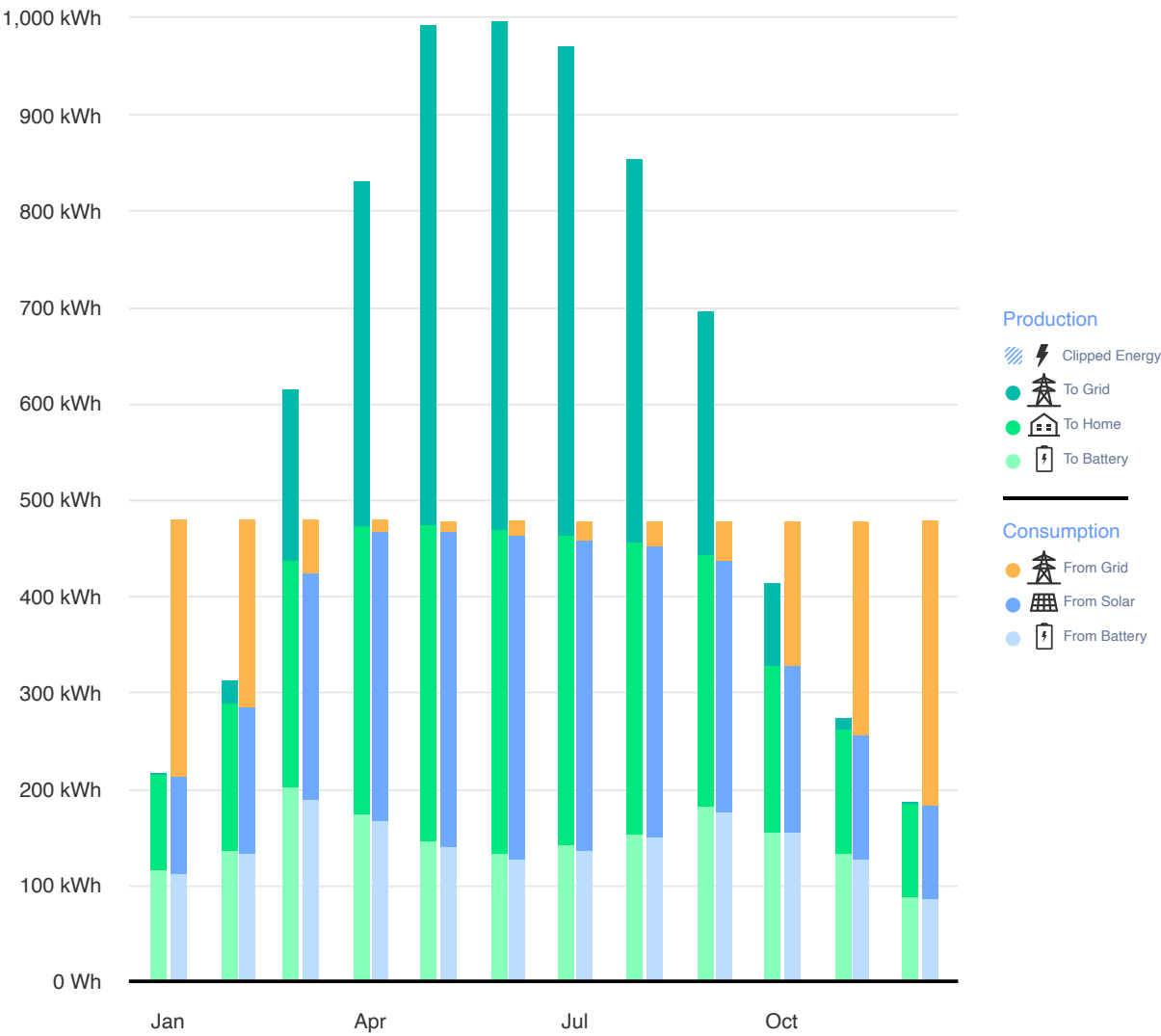
To Home 1,769 kWh (100%)

To Grid 0.00 kWh (0%)

12 May 2025



ESTIMATED MONTHLY ENERGY



Total Clipped Energy PV only: 0.06%

12 May 2025



ESTIMATED BILL SAVINGS YEAR 1

| Annual              |                            |                              |                             |
|---------------------|----------------------------|------------------------------|-----------------------------|
| Current Annual Bill | Annual Bill with SolarEdge | Net Bill Annual Savings      | Bill Offset                 |
| £ 1,613.08          | £ -61.46                   | £ 1,674.54                   | 103.81 %                    |
|                     |                            | £199.77 Savings from Battery | 12.38% Savings from Battery |

Estimated Net Lifetime Bill Savings

£ 30,588

£3,687 Savings from Battery

Utility Provider: UK provider | Utility Rate: Octopus (0.28 £/kWh)

Export Rate: 15p export (0.15 £/kWh)

12 May 2025



DETAILED FINANCIAL ANALYSIS

|                     |                            |                               |                                 |                             |
|---------------------|----------------------------|-------------------------------|---------------------------------|-----------------------------|
| System Price        | Maintenance Cost (NPV)     | Returns from Incentives (NPV) | Net Payments                    | Lifetime Bill Savings (NPV) |
| £ 13,000            | £ N/A                      | £ N/A                         | £ 13,000                        | £ 30,588                    |
| System Profit (NPV) | Internal Return Rate (IRR) | Return Of Investment (ROI)    | Levelized Cost Of Energy (LCOE) | Payback Period              |
| £ 17,588            | 13.01 %                    | 135.29 %                      | £/kWh 0.12                      | 7.4 years                   |



YEARLY CASH FLOW

| # Year | System Price | Net Bill Savings | Annual Cash Flow | Cumulative Cash Flow |
|--------|--------------|------------------|------------------|----------------------|
| 0      | £ -13,000.00 | £ 0.00           | £ -13,000.00     | £ -13,000.00         |
| 1      |              | £ 1,674.54       | £ 1,674.54       | £ -11,325.46         |

12 May 2025



YEARLY CASH FLOW (CONTINUED)

| # Year | System Price | Net Bill Savings | Annual Cash Flow | Cumulative Cash Flow |
|--------|--------------|------------------|------------------|----------------------|
| 2      |              | £ 1,702.83       | £ 1,702.83       | £ -9,622.63          |
| 3      |              | £ 1,731.40       | £ 1,731.40       | £ -7,891.24          |
| 4      |              | £ 1,760.75       | £ 1,760.75       | £ -6,130.49          |
| 5      |              | £ 1,790.65       | £ 1,790.65       | £ -4,339.84          |
| 6      |              | £ 1,821.03       | £ 1,821.03       | £ -2,518.81          |
| 7      |              | £ 1,851.90       | £ 1,851.90       | £ -666.91            |
| 8      |              | £ 1,883.30       | £ 1,883.30       | £ 1,216.40           |
| 9      |              | £ 1,915.31       | £ 1,915.31       | £ 3,131.70           |
| 10     |              | £ 1,947.79       | £ 1,947.79       | £ 5,079.49           |
| 11     |              | £ 1,980.83       | £ 1,980.83       | £ 7,060.32           |
| 12     |              | £ 2,014.43       | £ 2,014.43       | £ 9,074.75           |
| 13     |              | £ 2,048.45       | £ 2,048.45       | £ 11,123.20          |
| 14     |              | £ 2,083.24       | £ 2,083.24       | £ 13,206.44          |
| 15     |              | £ 2,118.57       | £ 2,118.57       | £ 15,325.01          |
| 16     |              | £ 2,154.45       | £ 2,154.45       | £ 17,479.46          |
| 17     |              | £ 2,190.74       | £ 2,190.74       | £ 19,670.20          |
| 18     |              | £ 2,227.83       | £ 2,227.83       | £ 21,898.03          |
| 19     |              | £ 2,265.57       | £ 2,265.57       | £ 24,163.61          |
| 20     |              | £ 2,303.95       | £ 2,303.95       | £ 26,467.55          |
| Total: |              | £ 39,467.55      | £ 26,467.55      |                      |

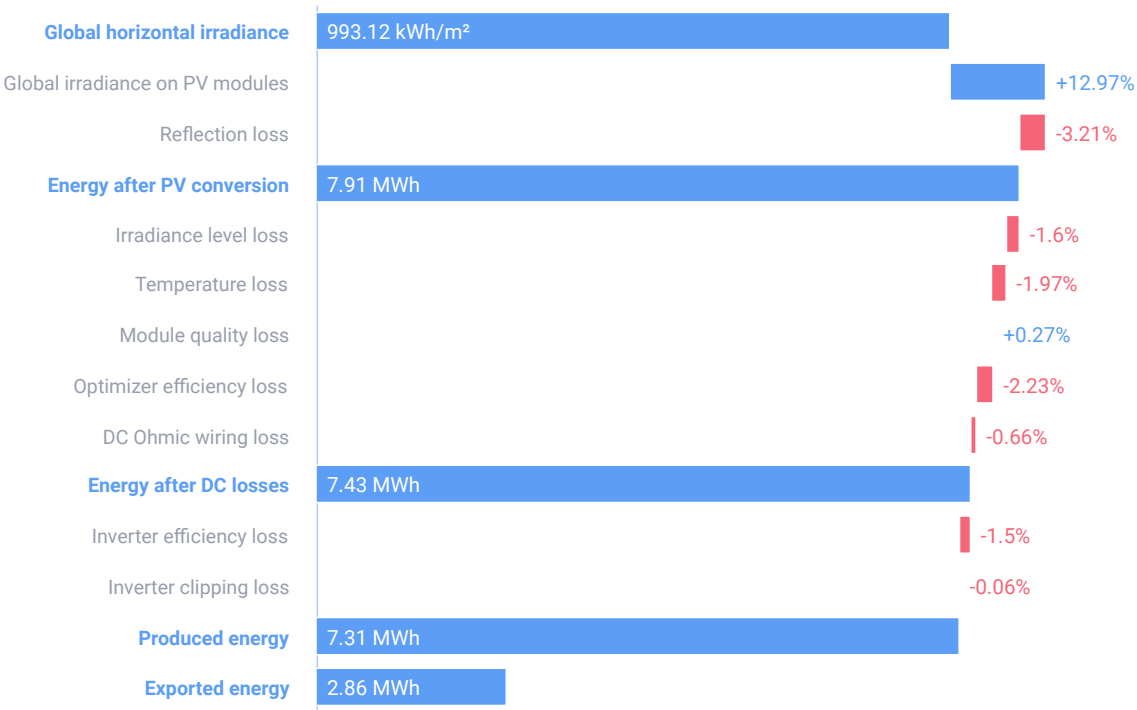
12 May 2025



ELECTRICAL DESIGN

| Inverters & Storage                                                                                                                                                                                                                                                    | Strings per inverter                                                                          | Optimizers per string                                                                      | PV modules per string                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <div> 1 xSE6000H Home Wave<br/>7.09kW   118% Oversizing<br/> 1 x SolarEdge Home Battery 9.7kWh</div> |  2 x strings |  8 x S440 |  8 |

SYSTEM LOSS DIAGRAM



12 May 2025



SIMULATION PARAMETERS

 LOCATION & GRID

|                     |                              |
|---------------------|------------------------------|
| Time zone           | BST (London)                 |
| Weather station     | Nottingham Wxctr (7 km away) |
| Station altitude    | 117 m                        |
| Station data source | Meteonorm 8.2                |
| Grid                | 400V L-L, 230V L-N           |

 LOSS FACTORS

|                                                  |         |
|--------------------------------------------------|---------|
| Near shading                                     | Enabled |
| Albedo                                           | 0.20    |
| Bi-Facial Albedo                                 | 0.30    |
| Soiling/Snow                                     | 0%      |
| Incidence angle modifier (IAM), ASHRAE b0 param. | 0.05    |
| Thermal loss factor $U_c$ (const) Flush mount    | 20      |
| Thermal loss factor $U_c$ (const) Tilted         | 29      |
| LID loss factor                                  | 0%      |
| System unavailability                            | 0%      |