Solar Butter

HISTORIC SIMULATION REPORT

Created by test2 | Account: test2

UK (Glos) | 2025-01-01 to 2025-12-31 | UTC

Flat load profile with 5kWh Battery + winter night charge

Workspace

Site location

UK (Glos) (51.86, -2.25) · UTC

Battery

generic5 (5 kWh)

Inverter

Generic 5 (5 kW)

setpoints: Night charge winter (7 periods)

Solar Arrays

solar (Generic 445W, 8 panels, 3.6 kW)

Load profile

flat load (3,500 kWh/yr)

Tariff

Economy 7- low export

import: 0.12, 0.29 · export: 0.07 · daily standing: 0.60

Summary

Solar Generated	**3,977 kWh**	(**3,977** (utilised) + **0** (clipped))
Load Consumed	**3,500 kWh**	**956 GBP** (cost without solar)
Grid Import	**916 kWh**	**136 GBP**
Grid Export	**1,352 kWh**	**95 GBP**
$ Total benefit from solar & battery		**915 GBP**
$ New electricity bill		**260 GBP** (**136** (import) - **95** (export) + **219** (standing))

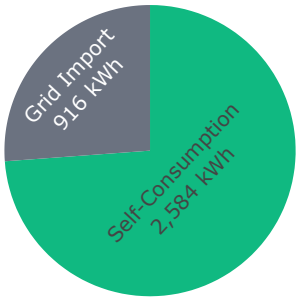
Self-Consumption

Share of load met from PV and batteries vs grid import.

73.8%

Spring: 90.4% Summer: 99.9%

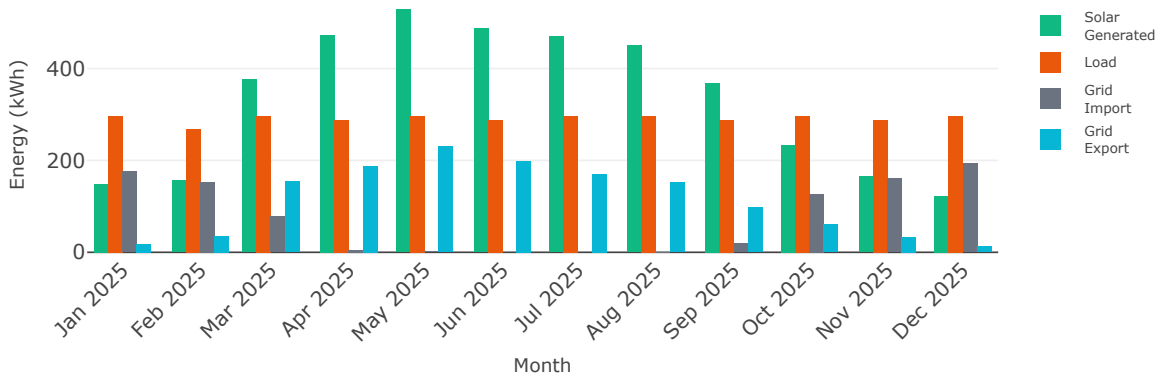
Autumn: 64.7% Winter: 39.5%



Yearly Summary

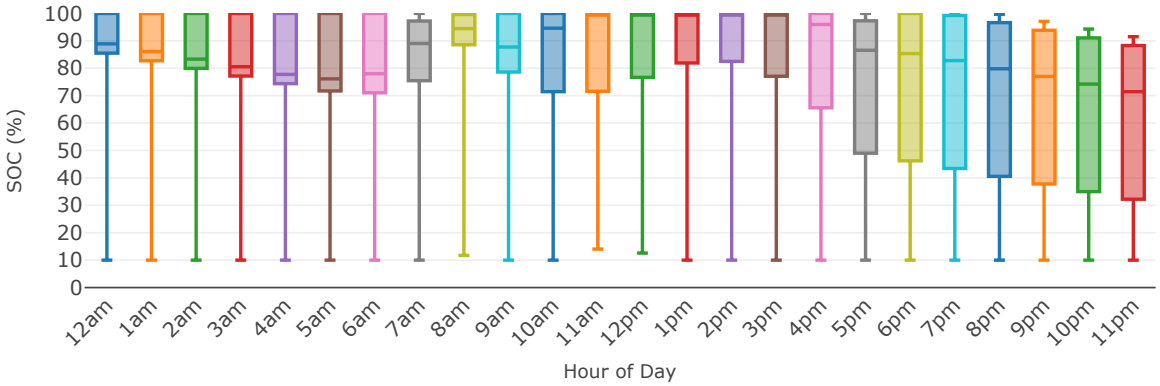
Monthly Energy Totals

Energy flows by month: solar, load, grid import, grid export.



SOC Distribution by Hour

Spread of battery charge levels by hour (box plot).



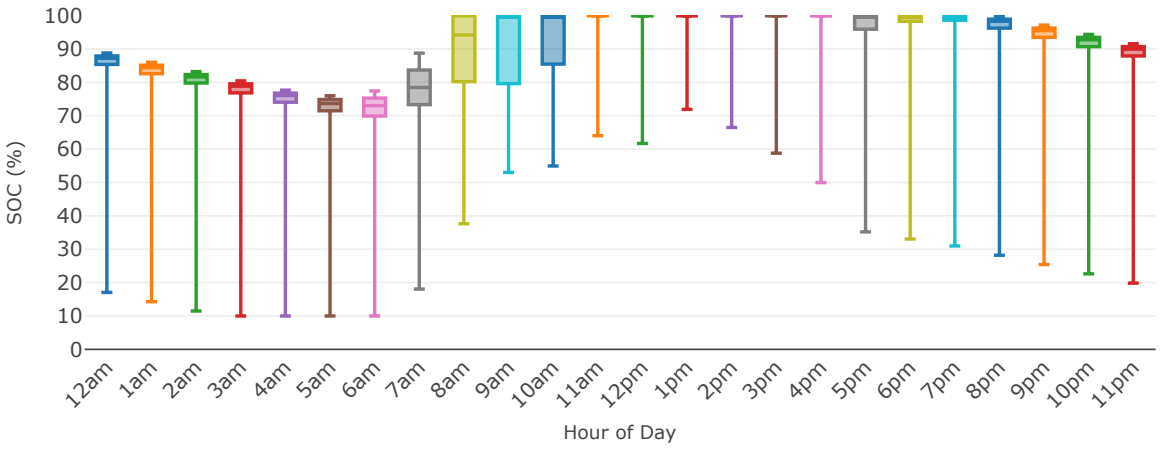
Monthly Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Solar Generated kWh	148	156	376	473	528	488	470	450	368	233	165	122
Load kWh	297	269	297	288	297	288	297	297	288	297	288	297
Grid Import kWh	176	153	78	5	2	0	0	1	19	128	161	193
Grid Export kWh	19	36	154	188	230	198	170	152	98	61	33	12
Average SOC %	69	69	92	83	88	92	88	83	65	80	72	66

Summer Monthly Summary

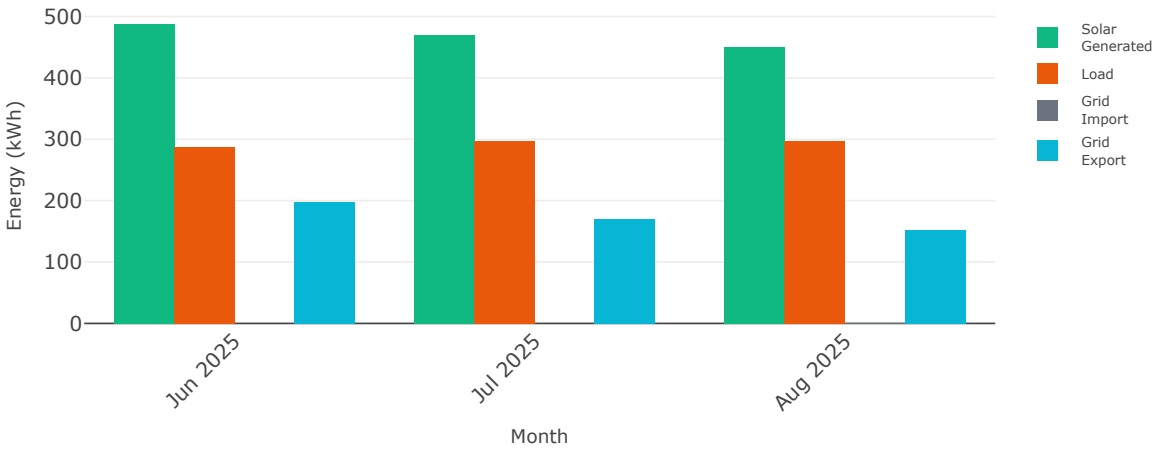
Summer SOC Distribution by Hour

Spread of battery charge levels by hour for June, July, August.



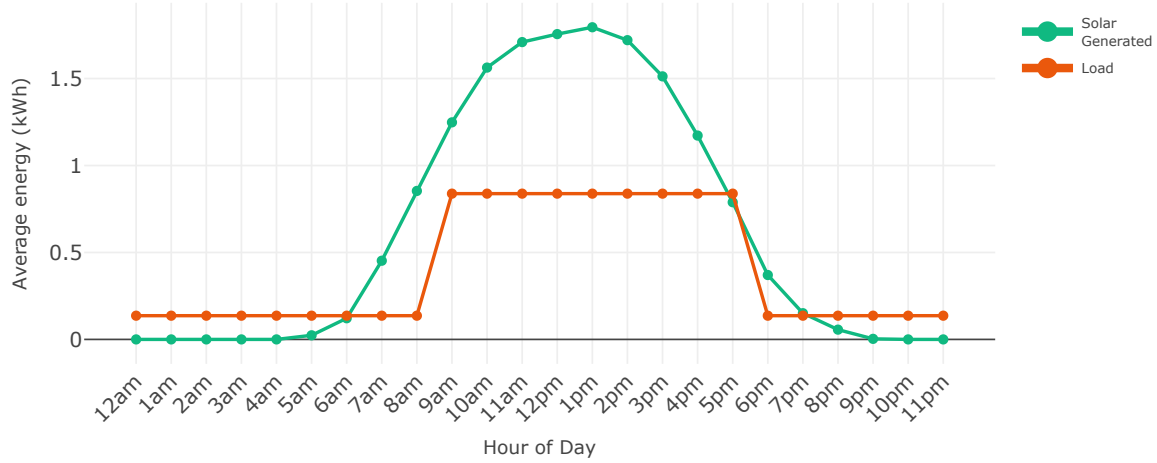
Summer Energy Totals by Month

Energy flows for June, July, August: solar, load, grid import, grid export.



Summer Hourly Average Energy

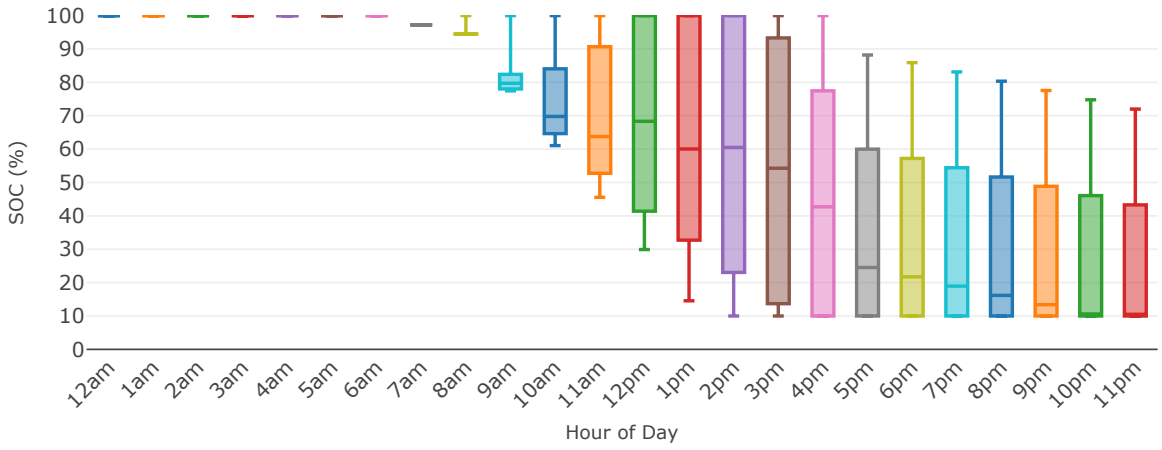
Average hourly solar generation vs load for that season's months.



Winter Monthly Summary

Winter SOC Distribution by Hour

Spread of battery charge levels by hour for December, January, February.

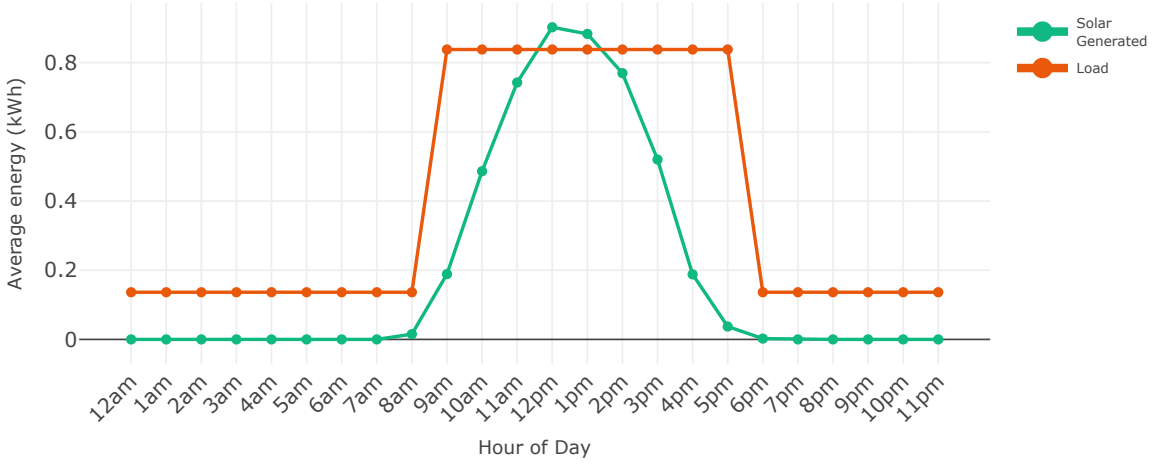


Winter Energy Totals by Month

Energy flows for December, January, February: solar, load, grid import, grid export.

Winter Hourly Average Energy

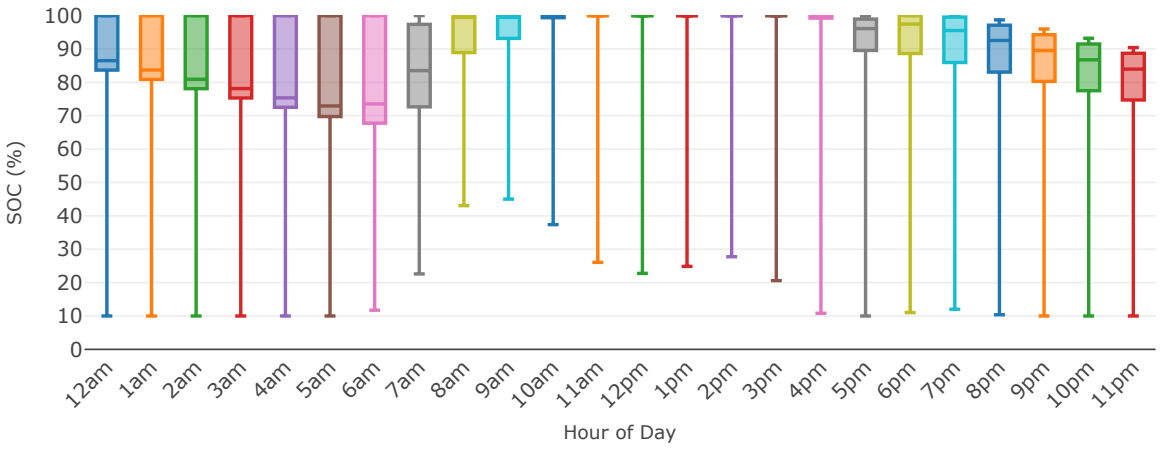
Average hourly solar generation vs load for that season's months.



Spring Monthly Summary

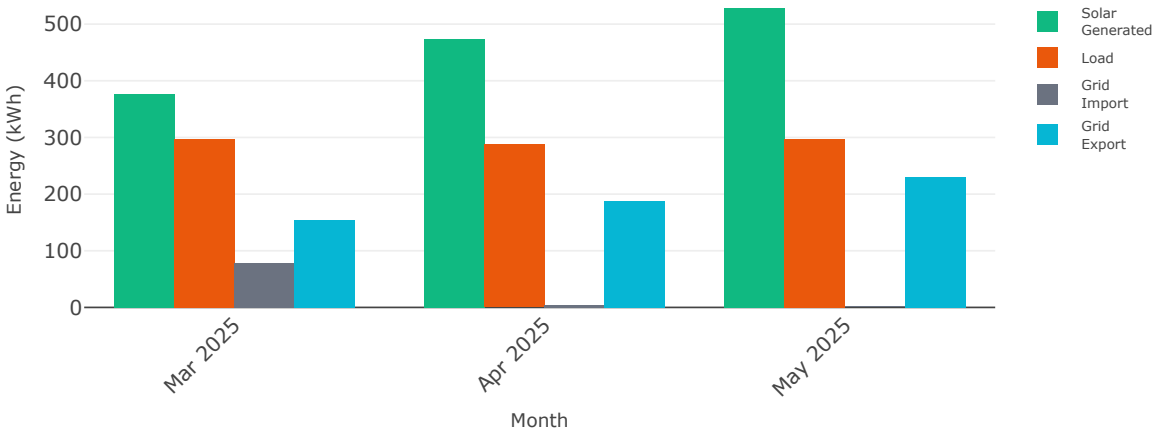
Spring SOC Distribution by Hour

Spread of battery charge levels by hour for March, April, May.



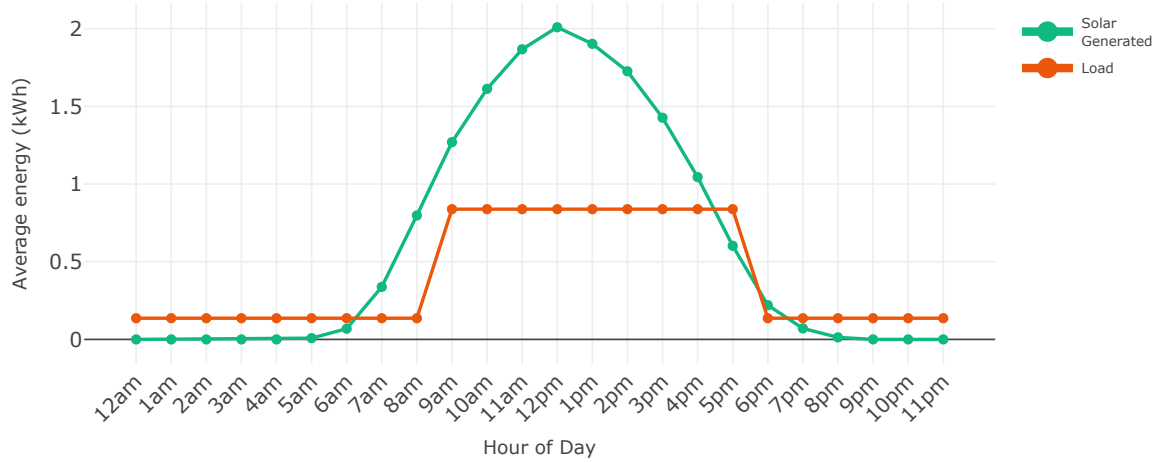
Spring Energy Totals by Month

Energy flows for March, April, May: solar, load, grid import, grid export.



Spring Hourly Average Energy

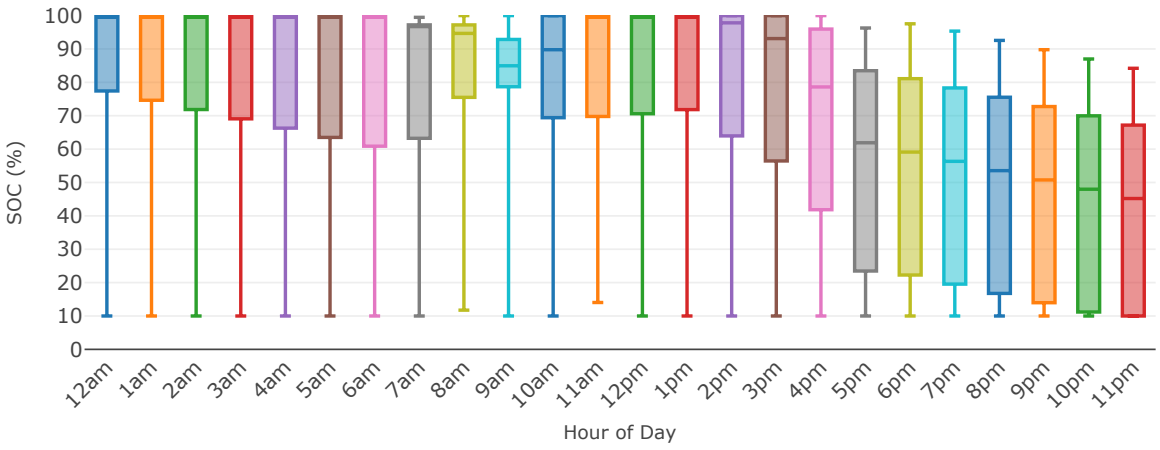
Average hourly solar generation vs load for that season's months.



Autumn Monthly Summary

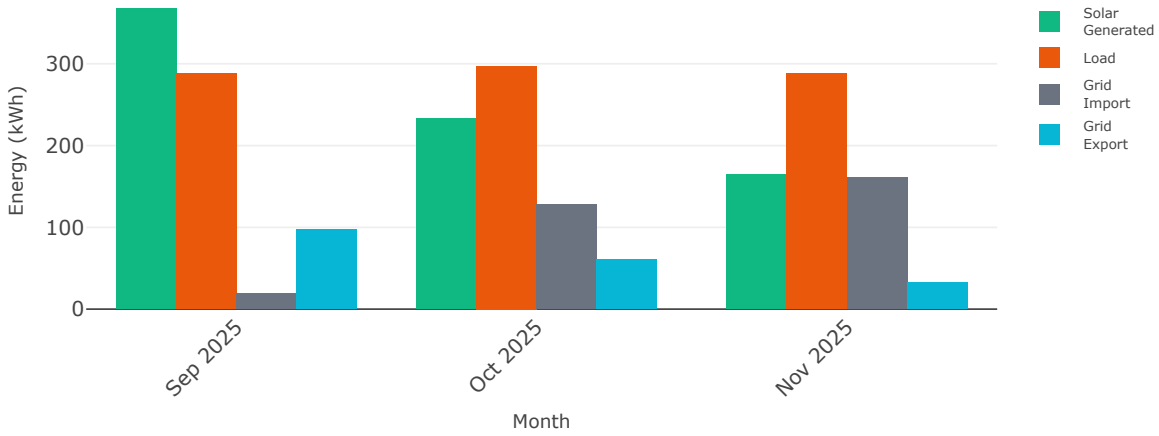
Autumn SOC Distribution by Hour

Spread of battery charge levels by hour for September, October, November.



Autumn Energy Totals by Month

Energy flows for September, October, November: solar, load, grid import, grid export.



Autumn Hourly Average Energy

Average hourly solar generation vs load for that season's months.