

# Morning/ evening peak load with 10 kWh battery + winter night charge

## Workspace

**Site location**

UK (Glos) (51.86, -2.25) · UTC

**Battery**

Generic 10kWh (10 kWh)

**Inverter**

Generic 5 (5 kW)

setpoints: Night charge winter (7 periods)

**Solar Arrays**

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

**Load profile**

Morning/ evening load (3,500 kWh/yr)

**Tariff**

Economy 7  
import: 0.12, 0.29 · export: 0.12 · daily standing: 0.60

## Summary

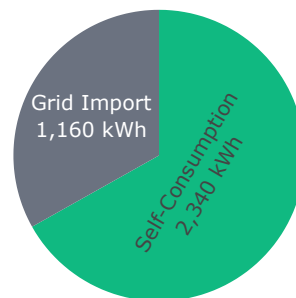
 Solar Generated	<b>3,977 kWh</b>	(3,977 (utilised) + 0 (clipped))
 Load Consumed	<b>3,500 kWh</b>	<b>935 GBP</b> (cost without solar)
 Grid Import	<b>1,160 kWh</b>	<b>141 GBP</b>
 Grid Export	<b>1,554 kWh</b>	<b>187 GBP</b>
<b>\$ Total benefit from solar &amp; battery</b>	<b>981 GBP</b>	
<b>\$ New electricity bill</b>	<b>173 GBP</b> (141 (import) - 187 (export) + 219 (standing))	

## Self-Consumption

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

# 66.9%

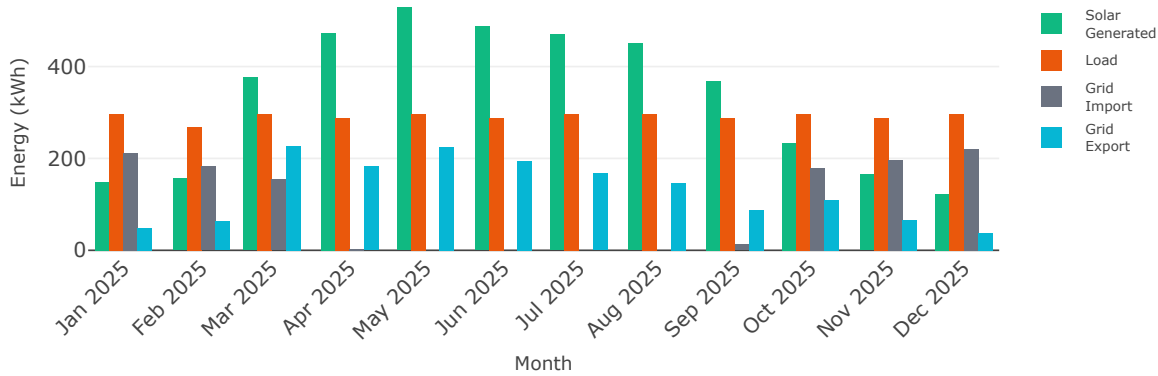
Spring: 82.2% Summer: 100.0%  
Autumn: 55.5% Winter: 28.8%



# Yearly Summary

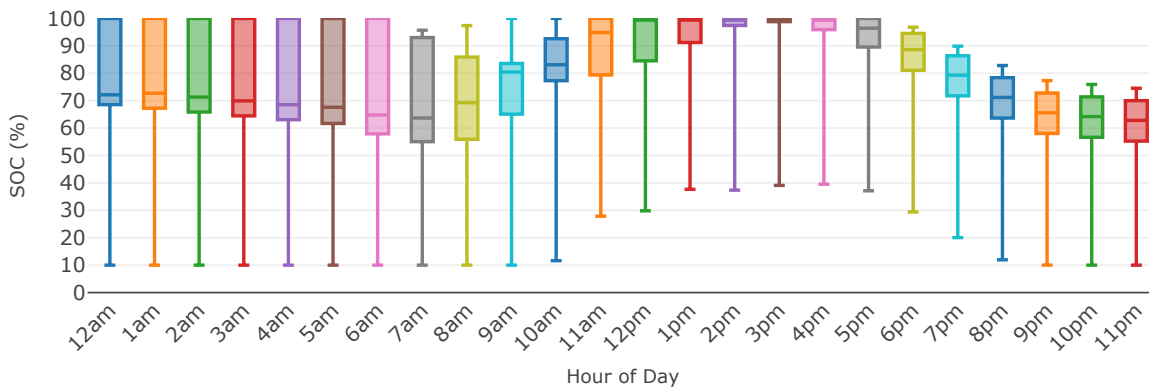
## Monthly Energy Totals

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



## SOC Distribution by Hour

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



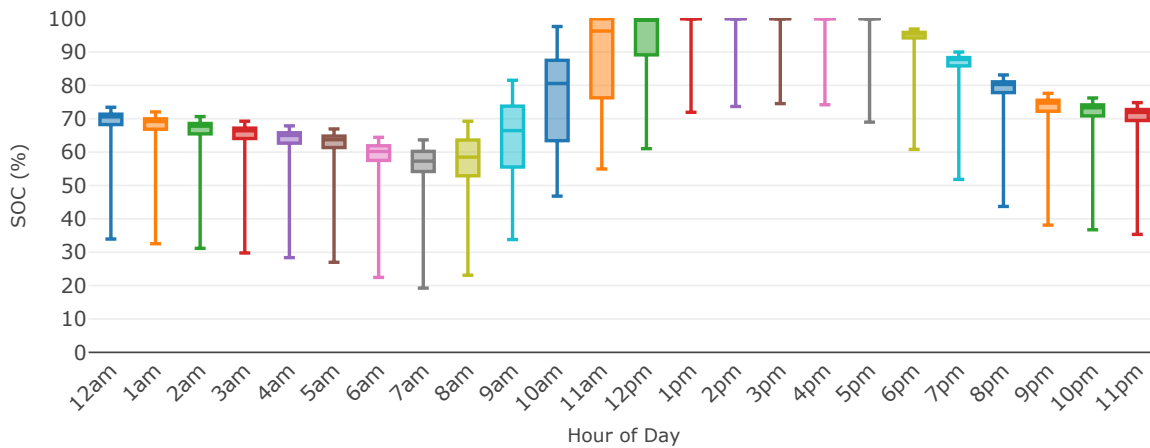
## Monthly Summary

	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	212	182	154	3	0	0	0	0	13	179	196	221
Grid Export kWh	48	62	227	183	225	195	167	147	88	109	66	37
Average SOC %	83	84	92	73	78	80	78	73	62	88	84	81

# Summer Monthly Summary

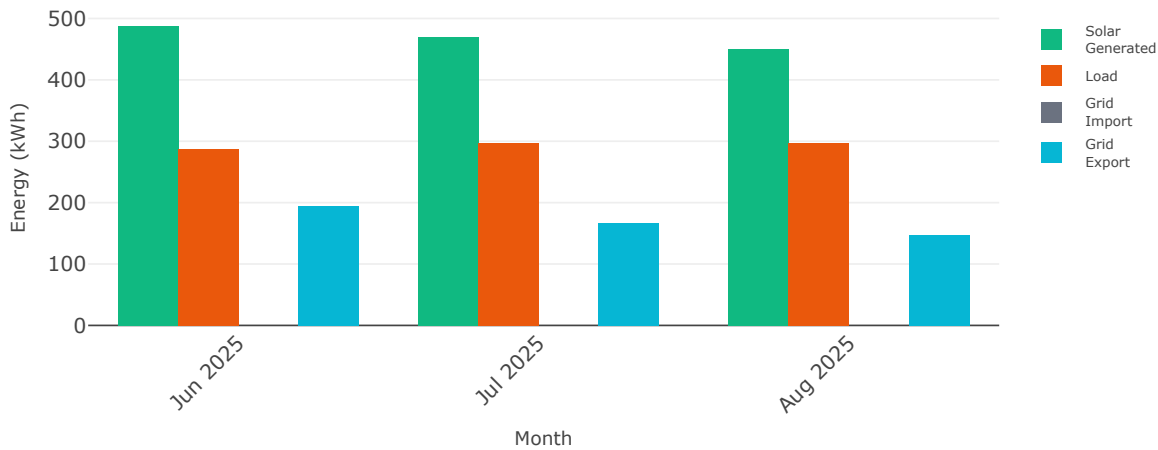
## Summer SOC Distribution by Hour

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



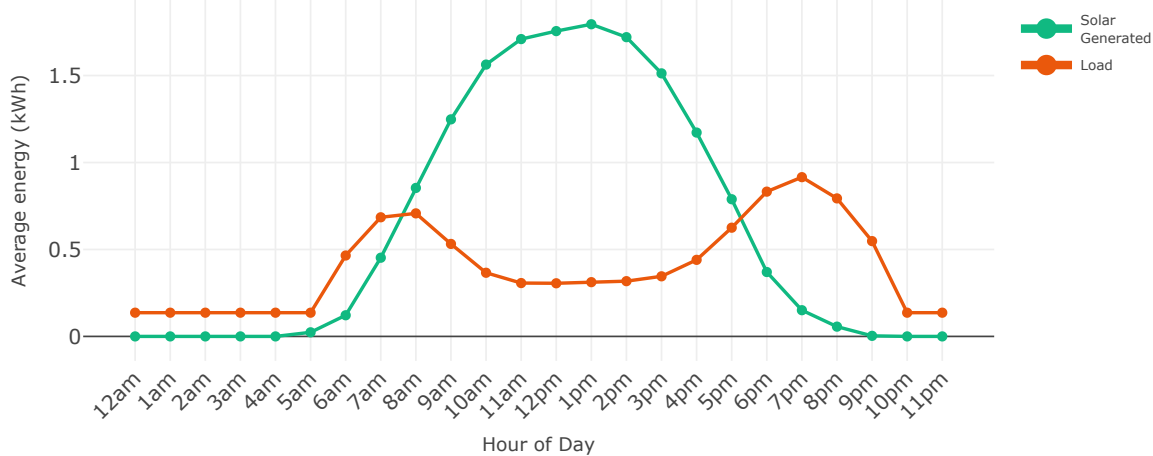
## Summer Energy Totals by Month

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



## Summer Hourly Average Energy

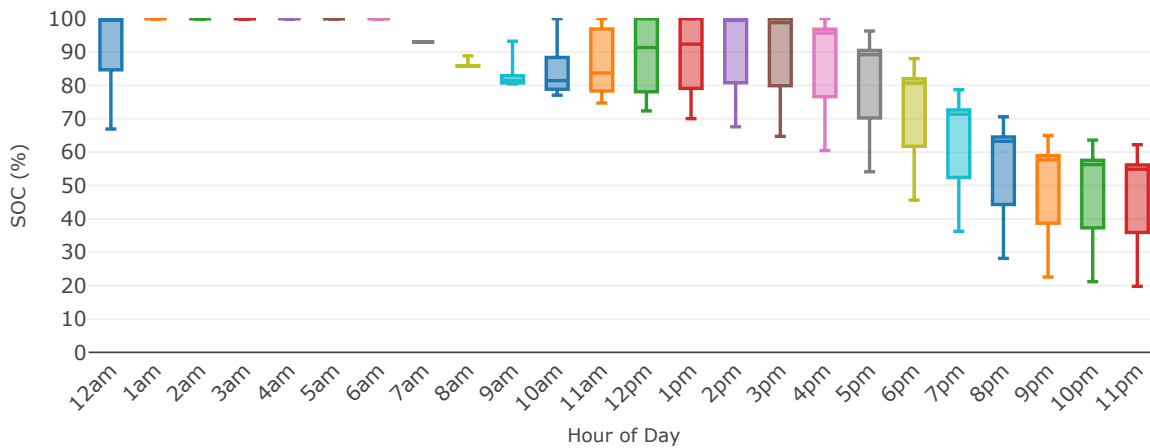
Average hourly solar generation vs load for that season's months.



# Winter Monthly Summary

## Winter SOC Distribution by Hour

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



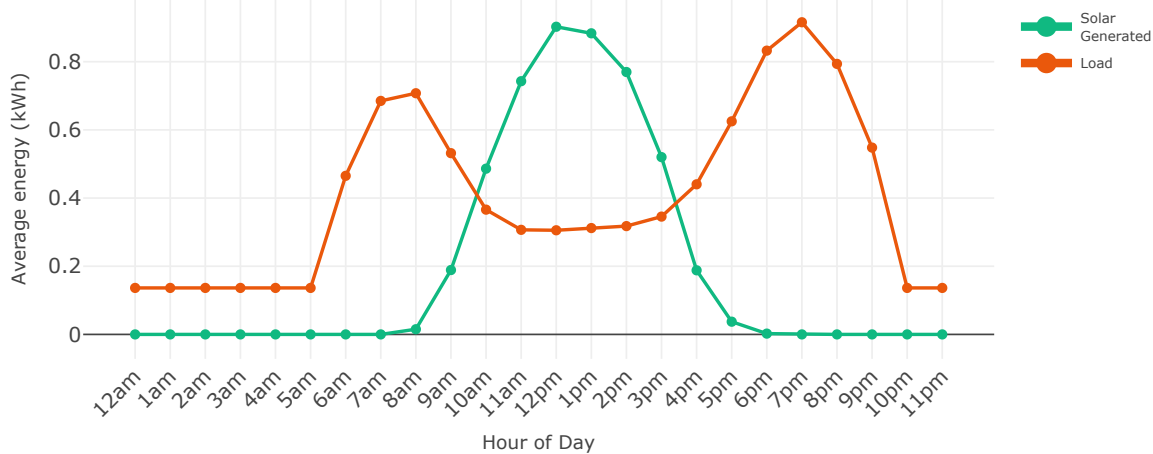
## Winter Energy Totals by Month

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



## Winter Hourly Average Energy

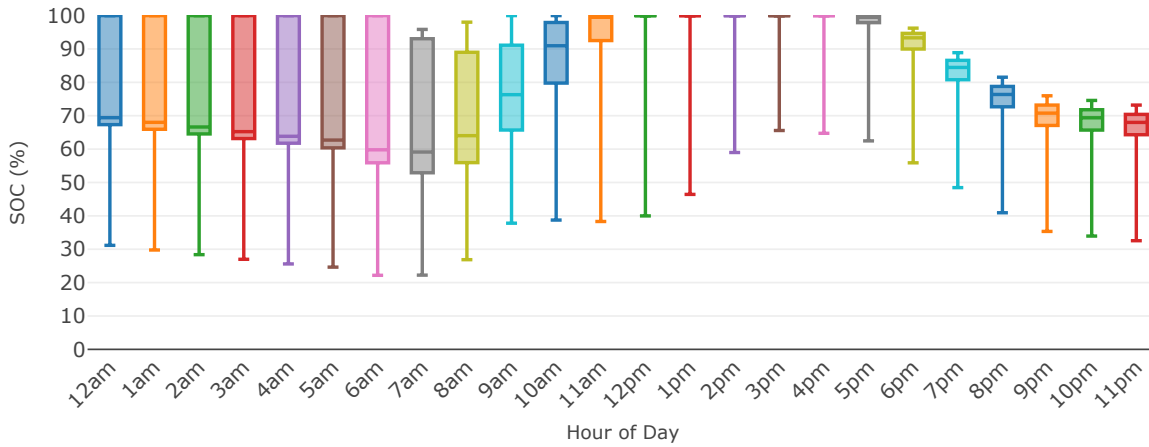
Average hourly solar generation vs load for that season's months.



# Spring Monthly Summary

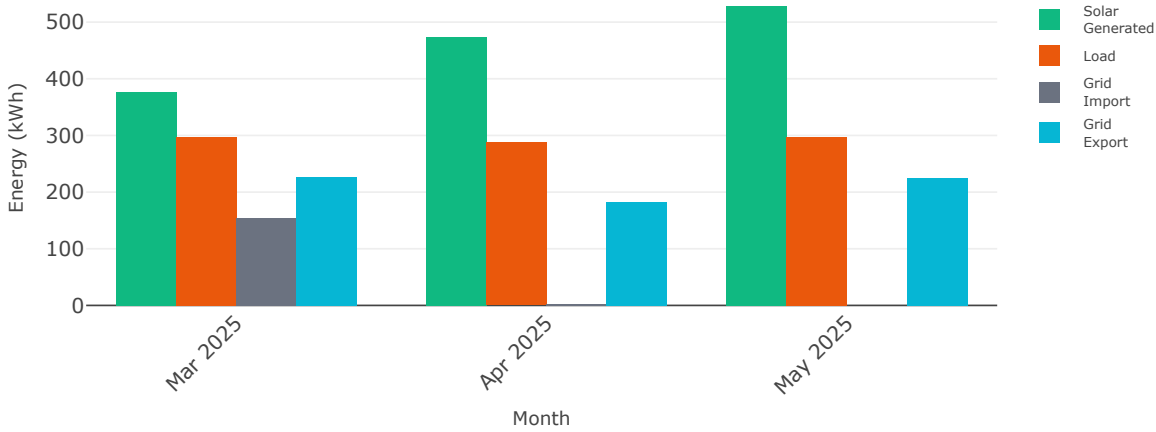
## Spring SOC Distribution by Hour

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



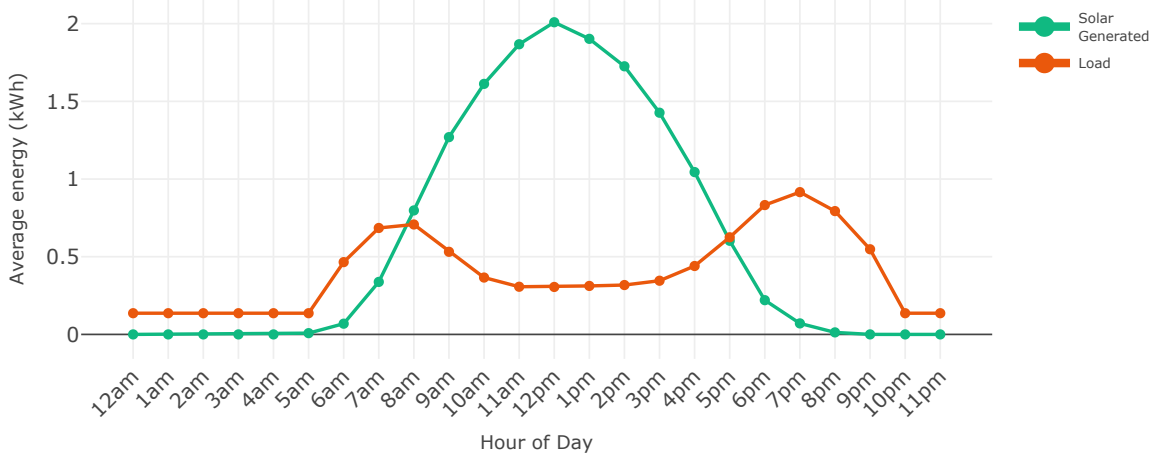
## Spring Energy Totals by Month

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



## Spring Hourly Average Energy

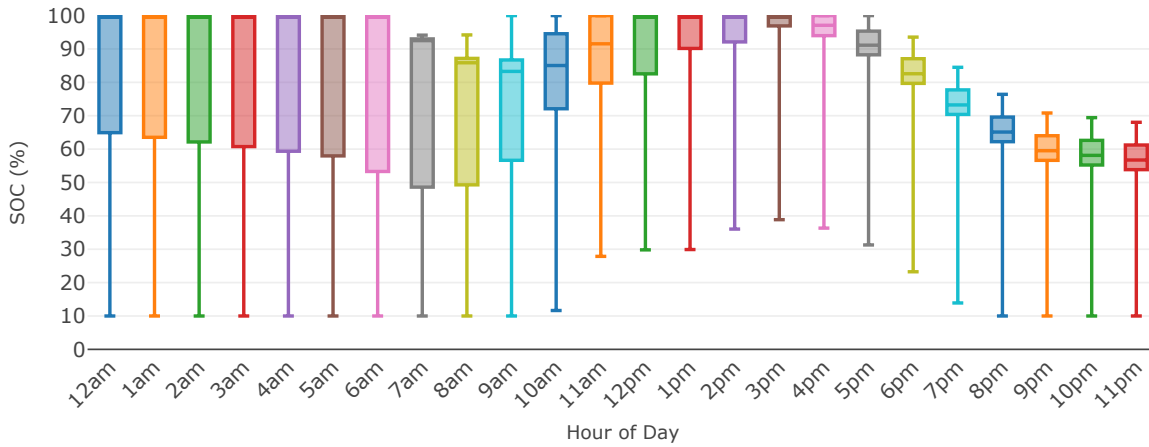
Average hourly solar generation vs load for that season's months.



# Autumn Monthly Summary

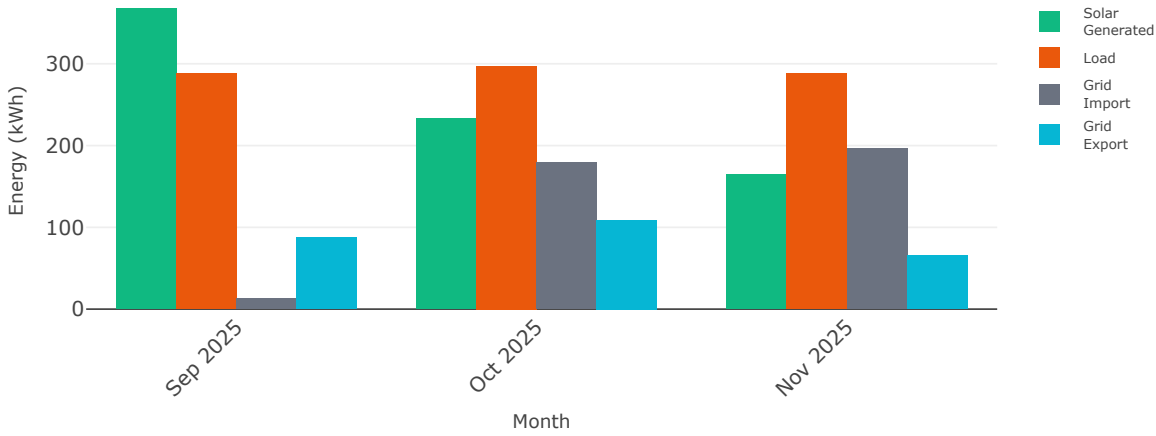
## Autumn SOC Distribution by Hour

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.

