

HISTORIC SIMULATION REPORT

# Off-grid option 24kWh battery + 10kW solar array

## Workspace

**Site location**

home (51.89, -2.19) · UTC

**Battery**

2xep12 (23 kWh)

**Inverter**

Alpha 5 (5/5 kW)

**Solar Arrays**

Southx20 (DMEG 495, 20 panels, 9.9 kW)

**Load profile**

household load 2800 (2,800 kWh/yr)

**Tariff**

fixed  
import: 0.28 · export: 0.12 · daily standing: 0.60

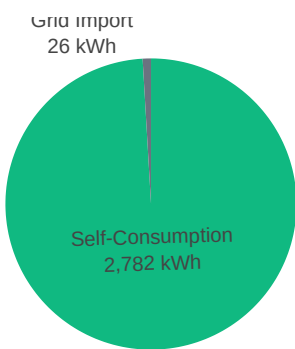
| Summary                              |                  |  |
|--------------------------------------|------------------|--|
| ☀️ Solar Generated                   | <b>9,620 kWh</b> |  |
| 📉 Load Consumed                      | <b>2,808 kWh</b> | <b>786 GBP</b> (cost without solar)                          |
| 🔌 Grid Import                        | <b>26 kWh</b>    | <b>7 GBP</b>   |
| 🔌 Grid Export                        | <b>6,329 kWh</b> | <b>759 GBP</b>   |
| 💰 Total benefit from solar & battery |                  | <b>1,538 GBP</b>   |
| 💰 New electricity bill               |                  | <b>-533 GBP</b> (7 (import) - 759 (export) + 220 (standing)) |

### Self-Consumption

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

# 99.1%

Spring: 100.0%   Summer: 100.0%  
Autumn: 100.0%   Winter: 96.3%



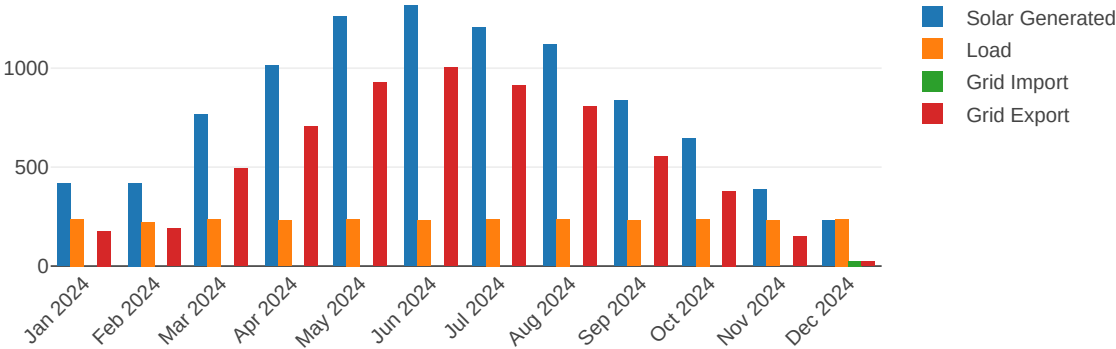
Grid import  
26 kWh

Self-Consumption  
2,782 kWh

# Yearly Summary

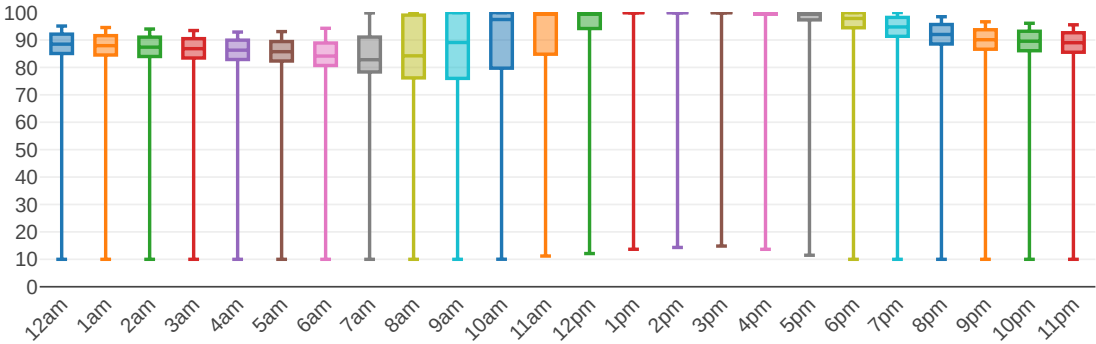
## Monthly Energy Totals

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



## SOC Distribution by Hour

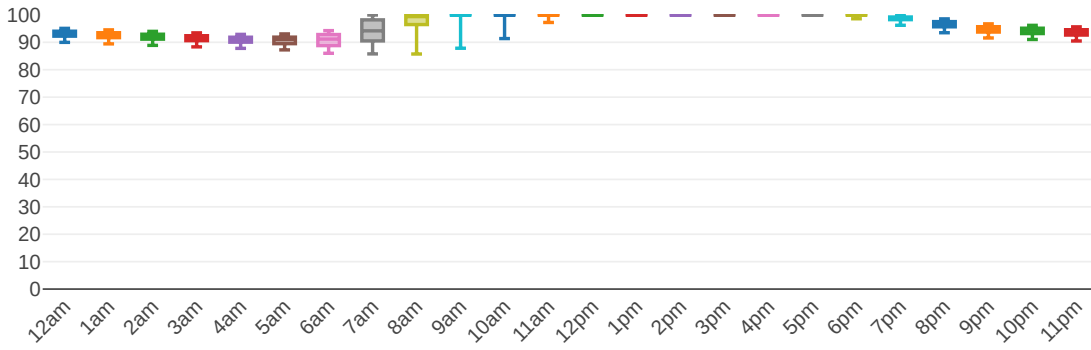
Spread of battery charge levels by hour (box plot).



# Summer Monthly Summary

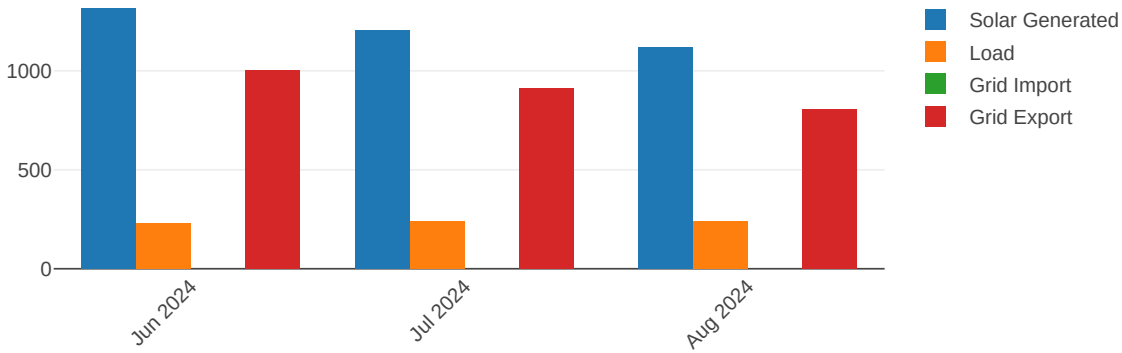
## Summer SOC Distribution by Hour

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



## Summer Energy Totals by Month

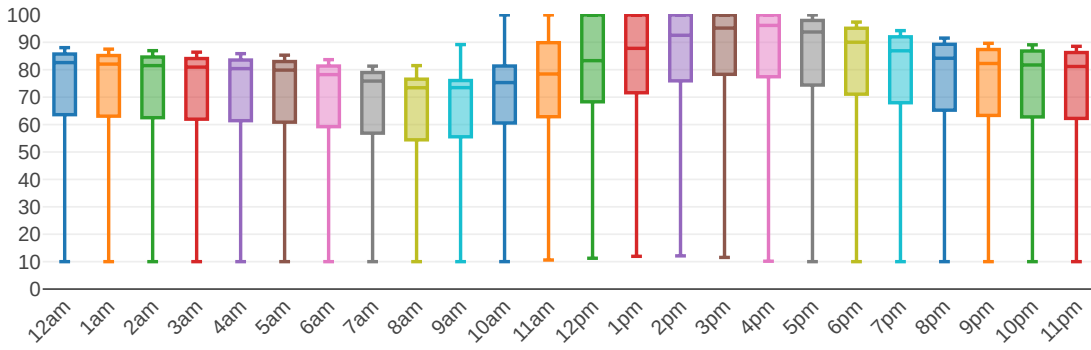
Energy flows for June, July, August: solar, load, grid import, grid export.



# Winter Monthly Summary

## Winter SOC Distribution by Hour

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



## Winter Energy Totals by Month

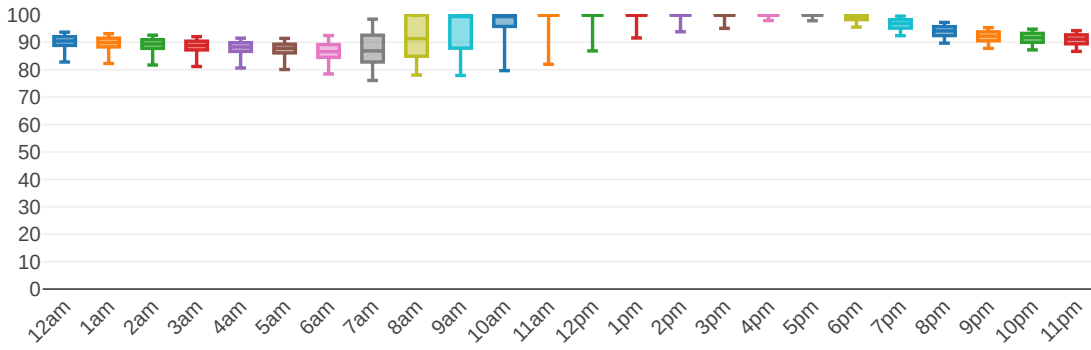
Energy flows for December, January, February: solar, load, grid import, grid export.



# Spring Monthly Summary

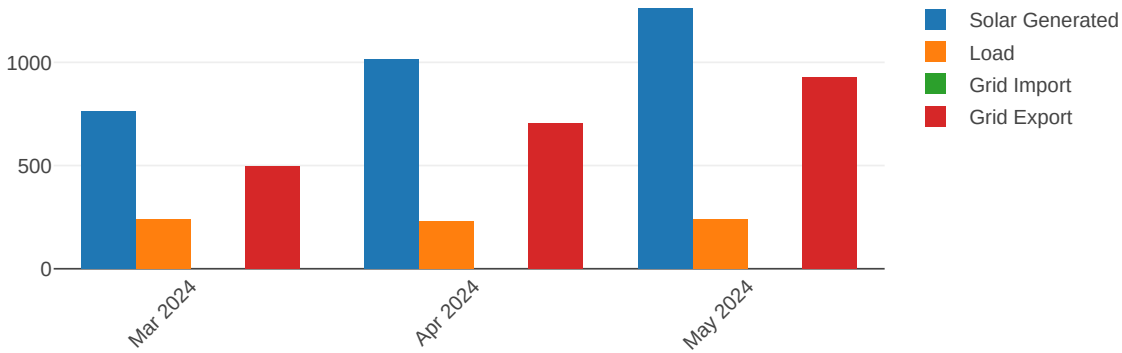
## Spring SOC Distribution by Hour

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



## Spring Energy Totals by Month

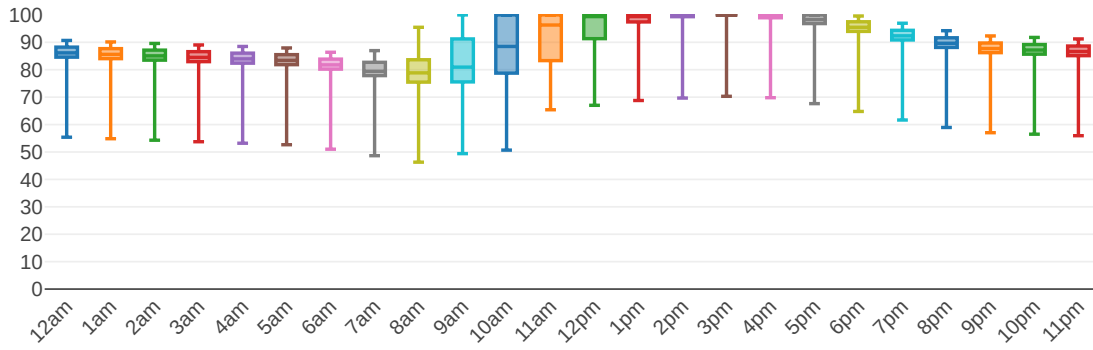
Energy flows for March, April, May: solar, load, grid import, grid export.



# 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.

