

Octopus Agile Tariff 10kWh battery

Workspace

**Site location**

UK-Gloucester (51.89, -2.19) · UTC

**Battery**

10kWh (10 kWh)

**Inverter**

Fox ESS H1-5.0-E (5 kW)

setpoints: Auto-optimize battery setpoints

**Solar Arrays**

west (Jinko Tiger Neo 54HL4R 445W, 7 panels, 3.1 kW)

east (Jinko Tiger Neo 54HL4R 445W, 7 panels, 3.1 kW)

**Load profile**

house load (3,500 kWh/yr)

**Heat pump**

heat pump (rated 5,000 W · design house 21 °C · design flow 45 °C)

**Tariff**

Import: Octopus Agile Import (UK)

Export: Octopus Agile Export (UK)

daily standing: 0.60

|                                       |                                                        |                                               |
|---------------------------------------|--------------------------------------------------------|-----------------------------------------------|
| Summary                               |                                                        |                                               |
| ☀ Solar Generated                     | 5,408 kWh                                              | (5,408 (utilised) + 0 (clipped))              |
| ⚡ Load Consumed                       | 7,423 kWh                                              | 1,581 GBP (cost without solar)                |
| 🔧 Space heating electric (heat pump)  | 3,216 kWh                                              | (thermal generated 13,931)                    |
| 🔧 Hot water electric (heat pump)      | 707 kWh                                                | (thermal generated 2,190)                     |
| 🔌 Grid Import                         | 4,921 kWh                                              | 844 GBP (0.17 (average import price GBP/kWh)) |
| 🔌 Grid Export                         | 2,594 kWh                                              | 328 GBP (0.13 (average export price GBP/kWh)) |
| \$ Total benefit from solar & battery | 1,065 GBP                                              |                                               |
| \$ New electricity bill               | 735 GBP (844 (import) - 328 (export) + 219 (standing)) |                                               |

**Self-Consumption**

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

**33.7%**

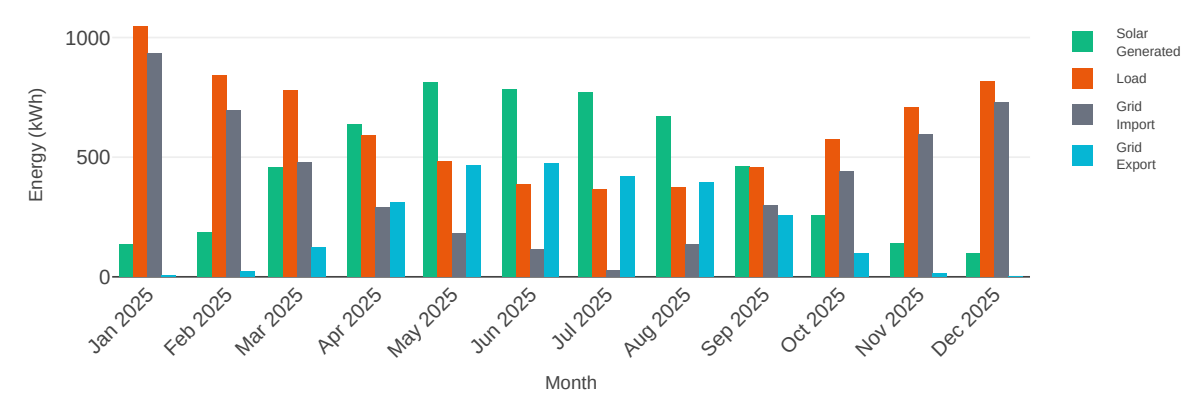
Spring: 48.8% Summer: 75.2%  
Autumn: 23.2% Winter: 12.8%

|                  |           |
|------------------|-----------|
| Self-Consumption | 2,502 kWh |
| Grid Import      | 4,921 kWh |

## Yearly Summary

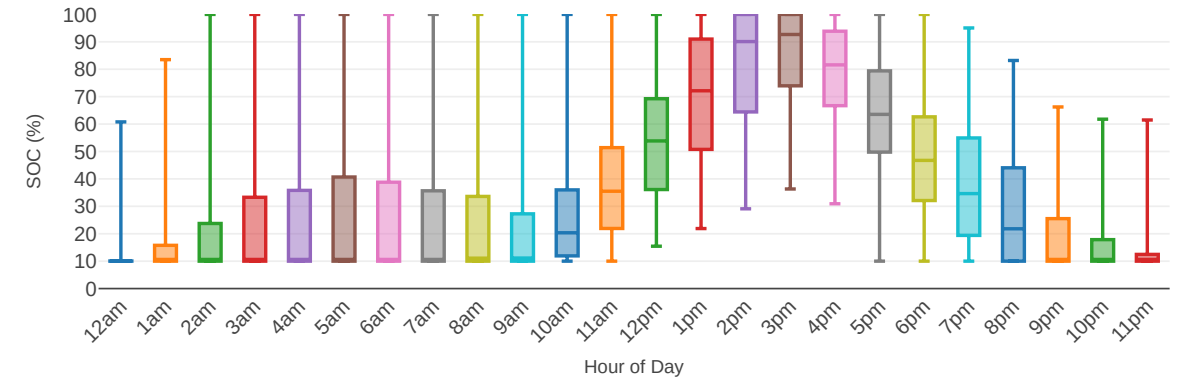
### Monthly Energy Totals

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



### SOC Distribution by Hour

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



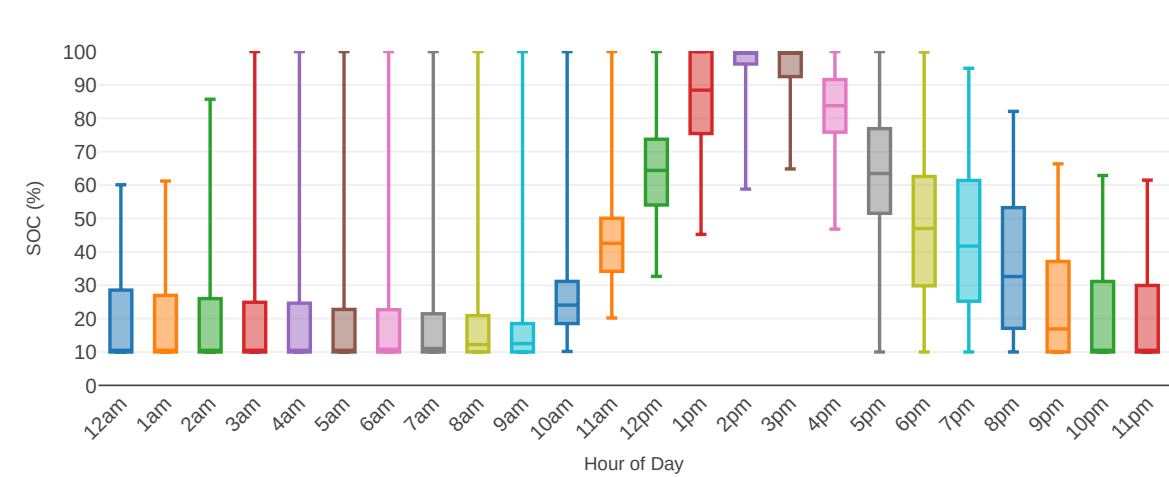
### Monthly Summary

|                          | Jan       | Feb       | Mar      | Apr      | May      | Jun      | Jul      | Aug      | Sep      | Oct      | Nov      | Dec       |
|--------------------------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Solar Generated kWh      | 137       | 187       | 456      | 639      | 812      | 784      | 769      | 669      | 461      | 257      | 139      | 99        |
| Load kWh                 | 1,048     | 840       | 778      | 590      | 484      | 387      | 364      | 376      | 457      | 574      | 709      | 817       |
| Average SOC %            | 43        | 45        | 38       | 40       | 39       | 37       | 46       | 34       | 42       | 35       | 35       | 32        |
| Grid Import kWh/GBP      | 934 / 209 | 694 / 151 | 478 / 86 | 289 / 46 | 182 / 25 | 116 / 14 | 28 / 4   | 135 / 18 | 300 / 31 | 439 / 52 | 597 / 93 | 729 / 114 |
| Grid Export kWh/GBP      | 5 / 2     | 25 / 3    | 125 / 18 | 310 / 41 | 467 / 55 | 476 / 55 | 422 / 52 | 394 / 50 | 257 / 34 | 99 / 15  | 15 / 2   | 0 / 0     |
| Net electricity cost GBP | 208       | 148       | 68       | 5        | -30      | -41      | -47      | -33      | -3       | 37       | 90       | 114       |

# Summer Monthly Summary

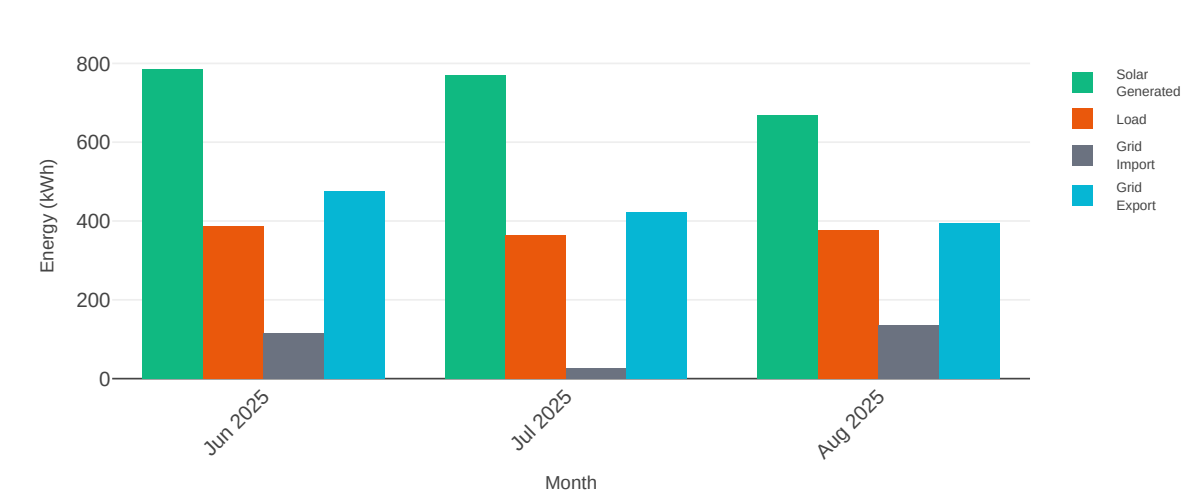
## Summer SOC Distribution by Hour

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



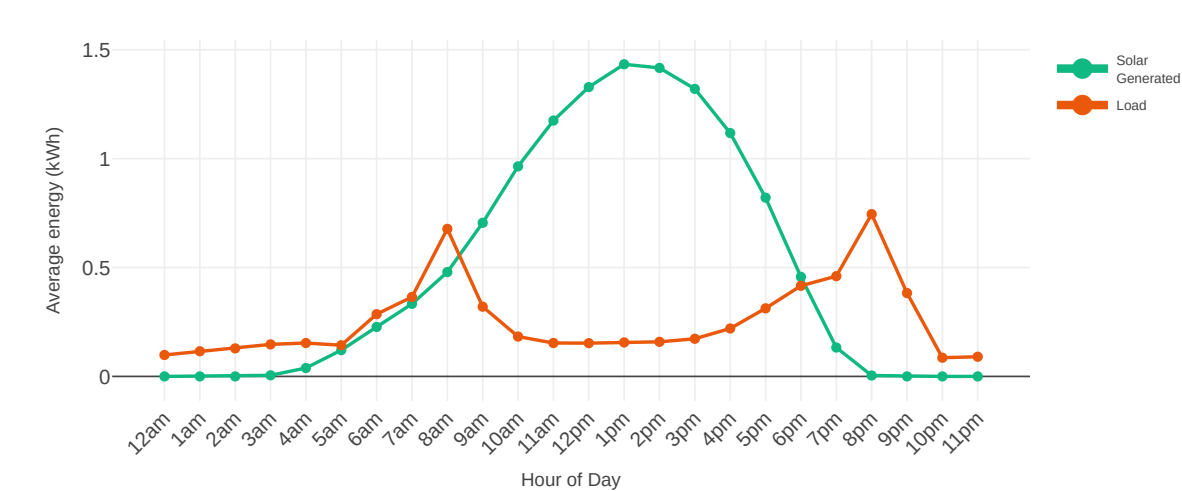
## Summer Energy Totals by Month

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



## Summer Hourly Average Energy

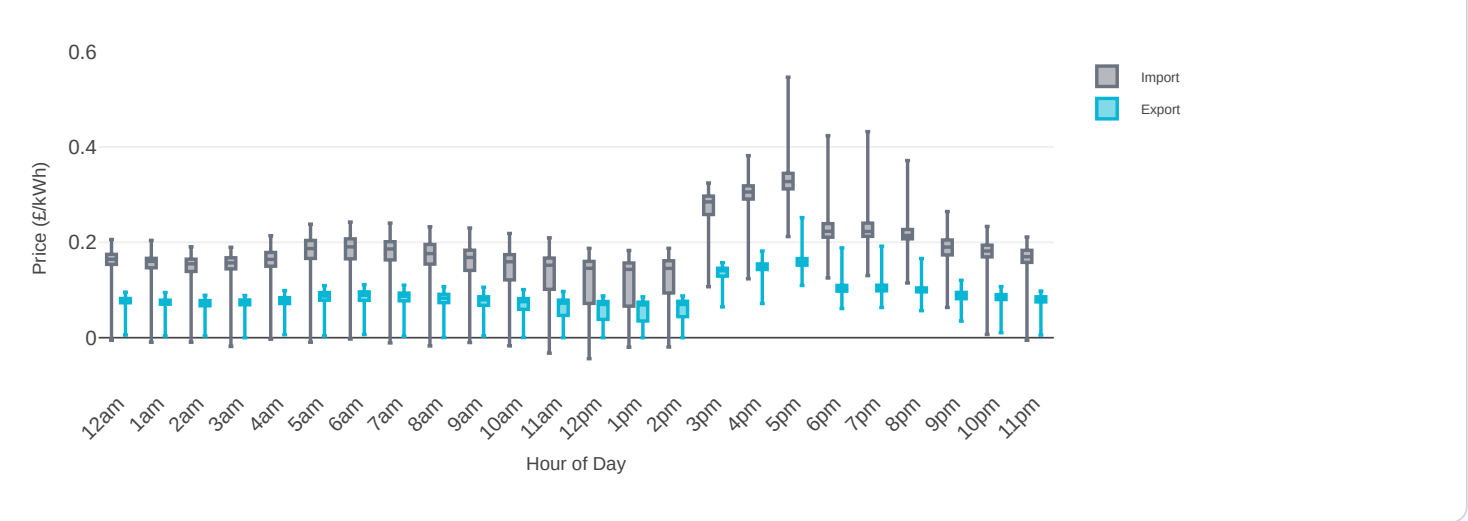
Average hourly solar generation vs load for that season's months.



# Summer Prices and Power

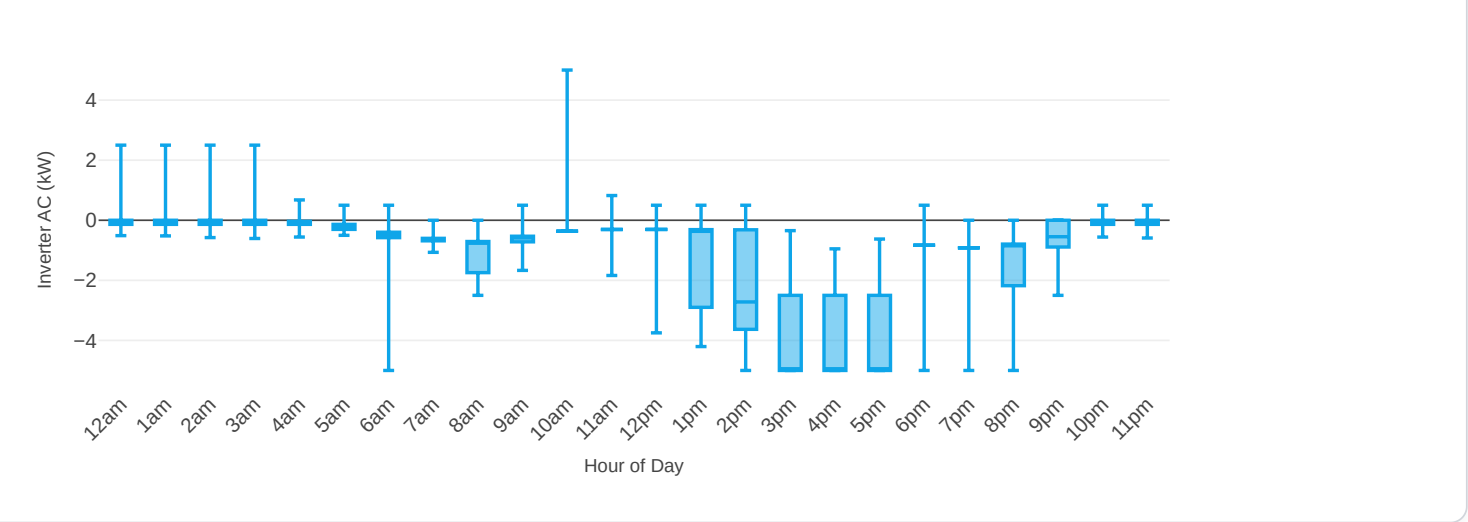
## Summer Import & Export Price Distribution by Hour

Spread of import and export tariff rates by hour for June, July, August.



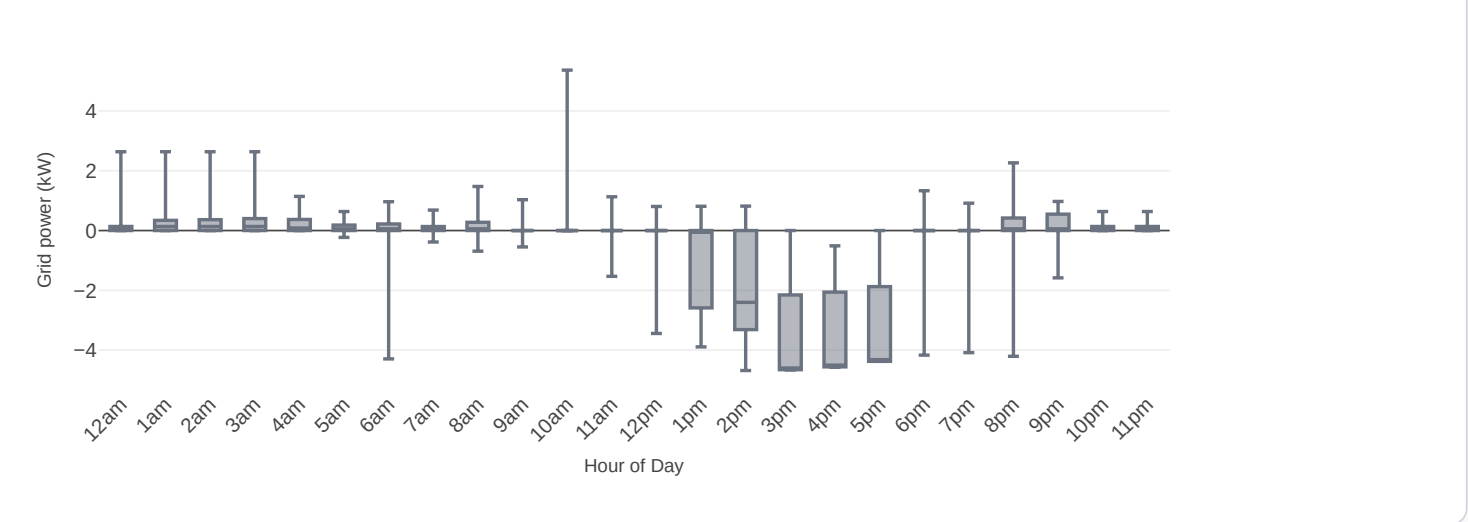
## Summer Inverter AC Power Distribution by Hour (inverter charge is positive)

Spread of inverter AC power flows by hour for June, July, August.



## Summer Grid Power Distribution by Hour (import is positive)

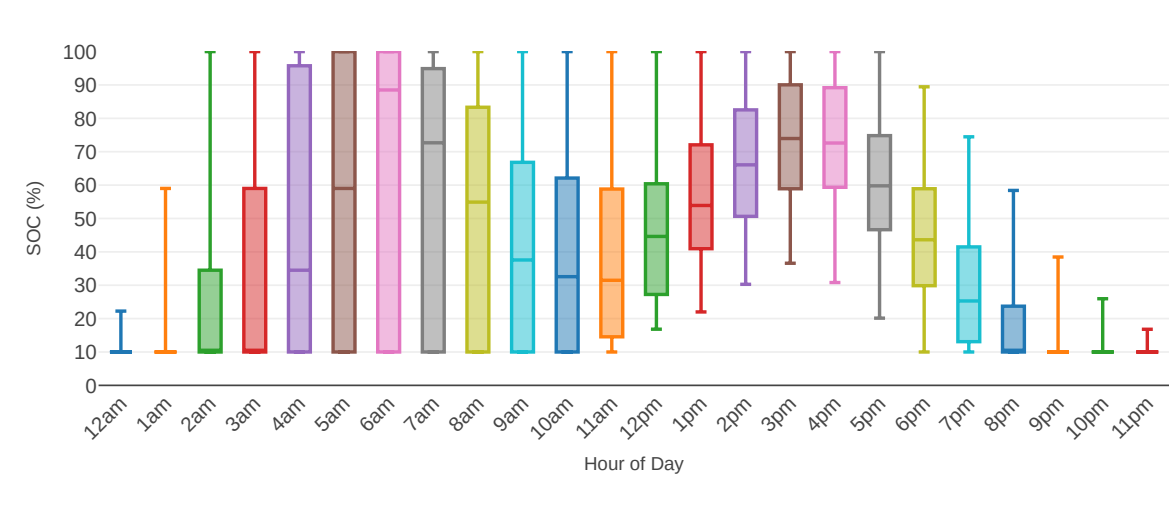
Spread of net grid power by hour for June, July, August.



# Winter Monthly Summary

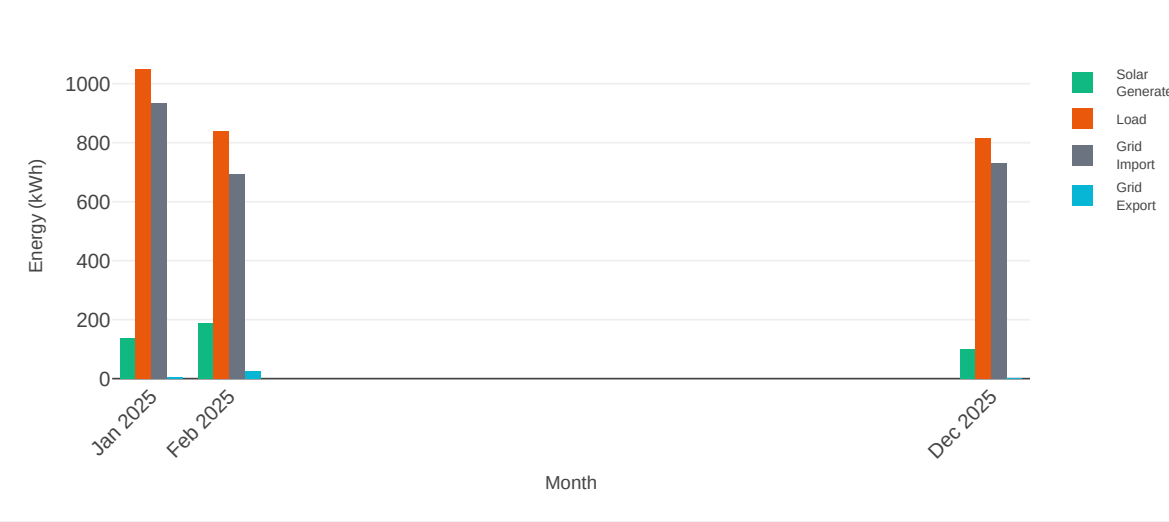
## Winter SOC Distribution by Hour

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



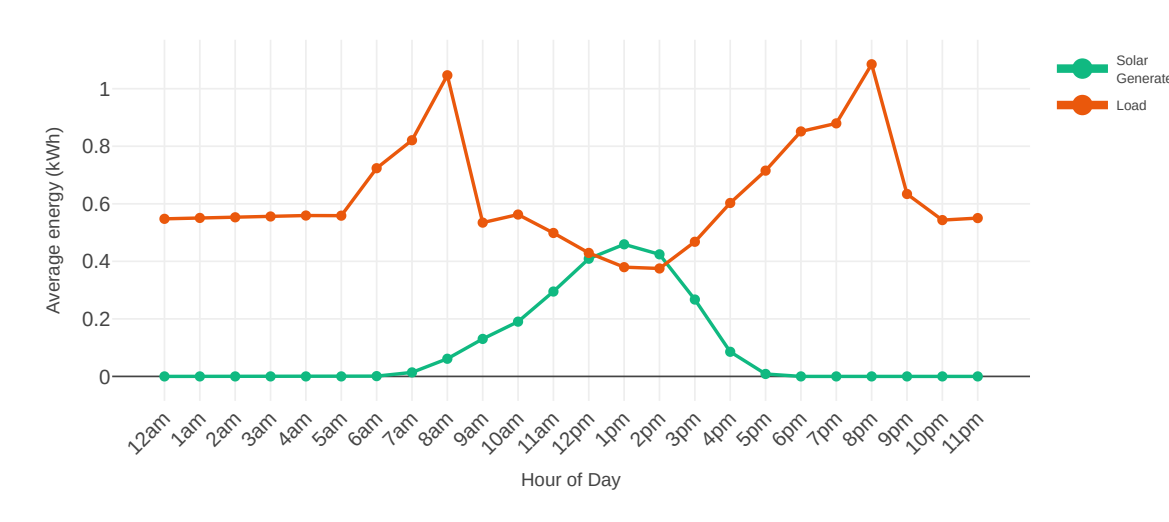
## Winter Energy Totals by Month

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



## Winter Hourly Average Energy

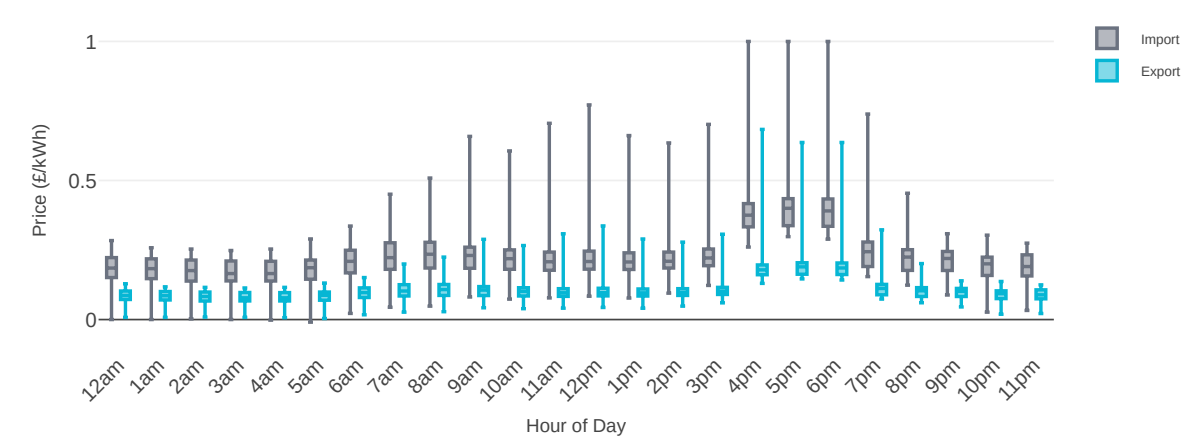
Average hourly solar generation vs load for that season's months.



# Winter Prices and Power

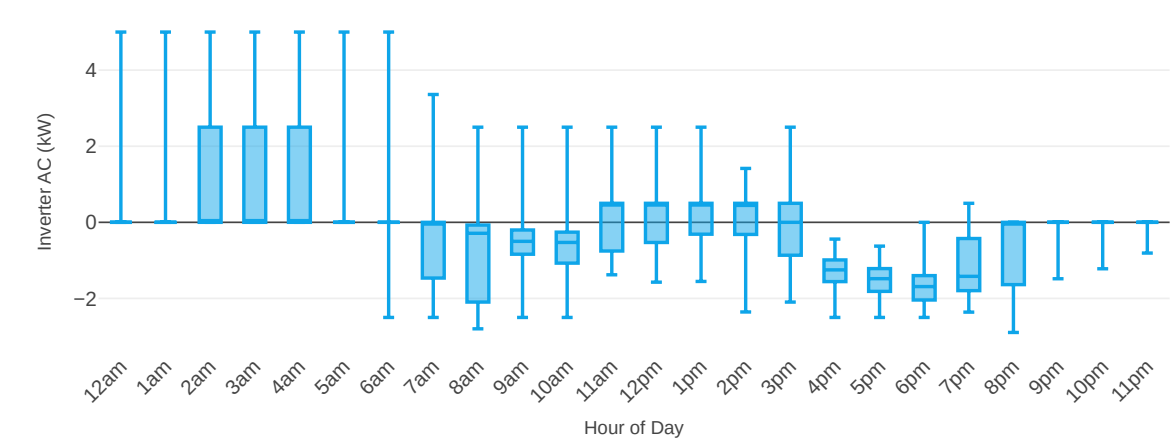
## Winter Import & Export Price Distribution by Hour

Spread of import and export tariff rates by hour for December, January, February.



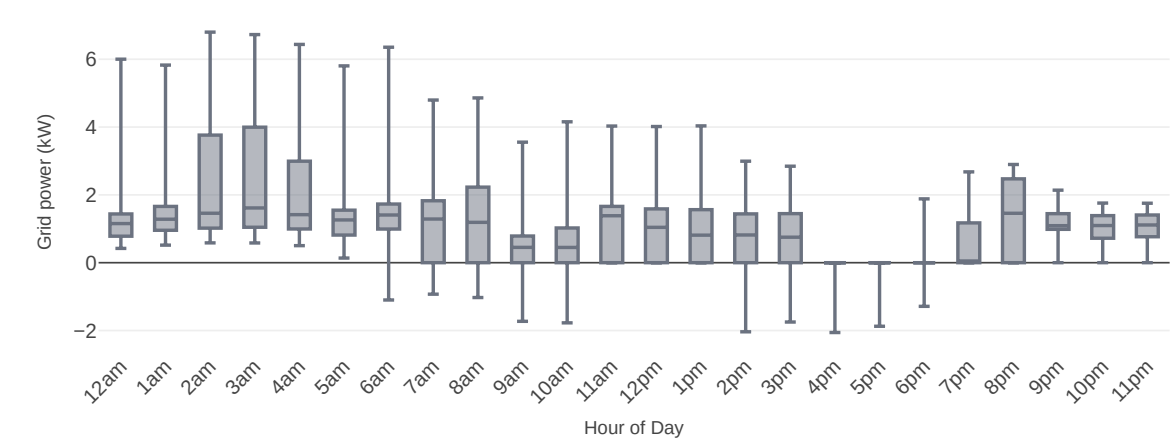
## Winter Inverter AC Power Distribution by Hour (inverter charge is positive)

Spread of inverter AC power flows by hour for December, January, February.



## Winter Grid Power Distribution by Hour (import is positive)

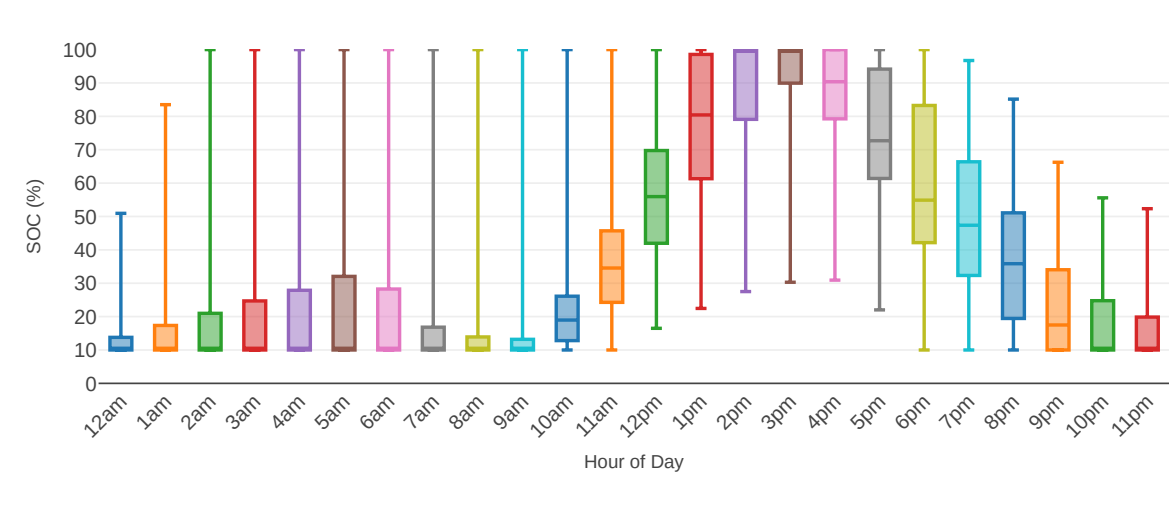
Spread of net grid power by hour for December, January, February.



# Spring Monthly Summary

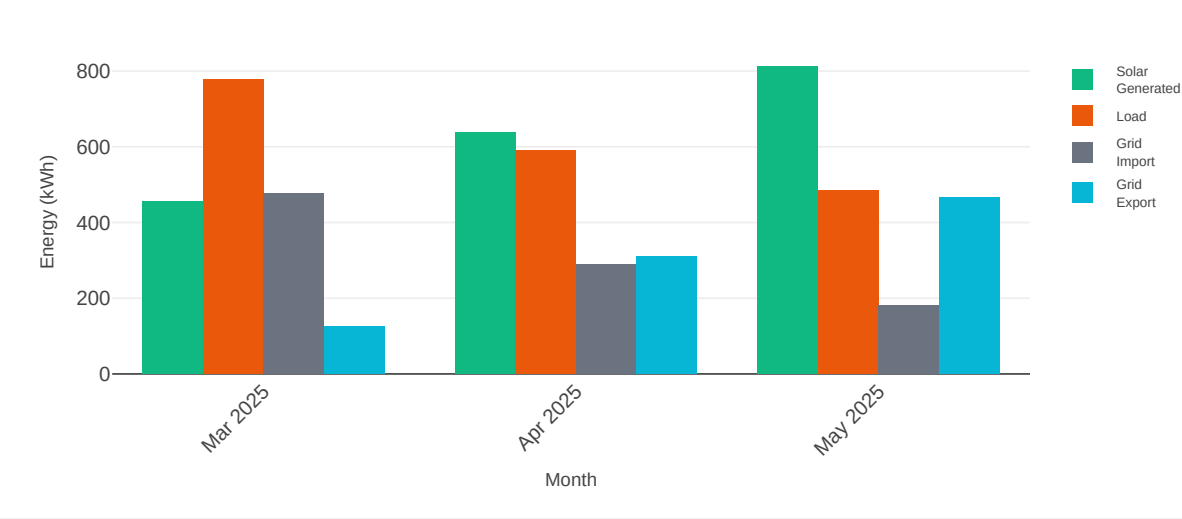
## Spring SOC Distribution by Hour

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



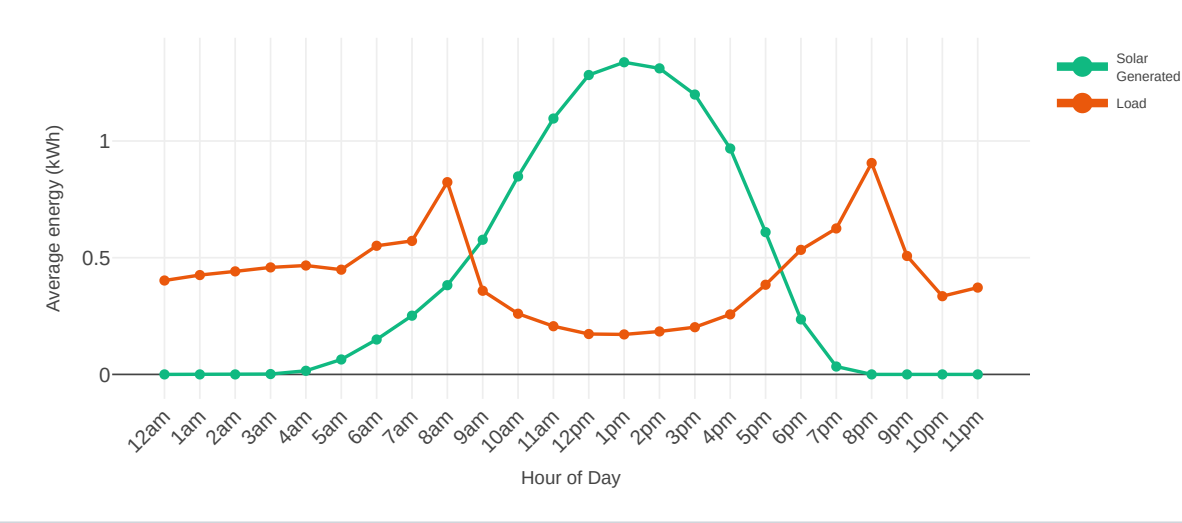
## Spring Energy Totals by Month

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



## Spring Hourly Average Energy

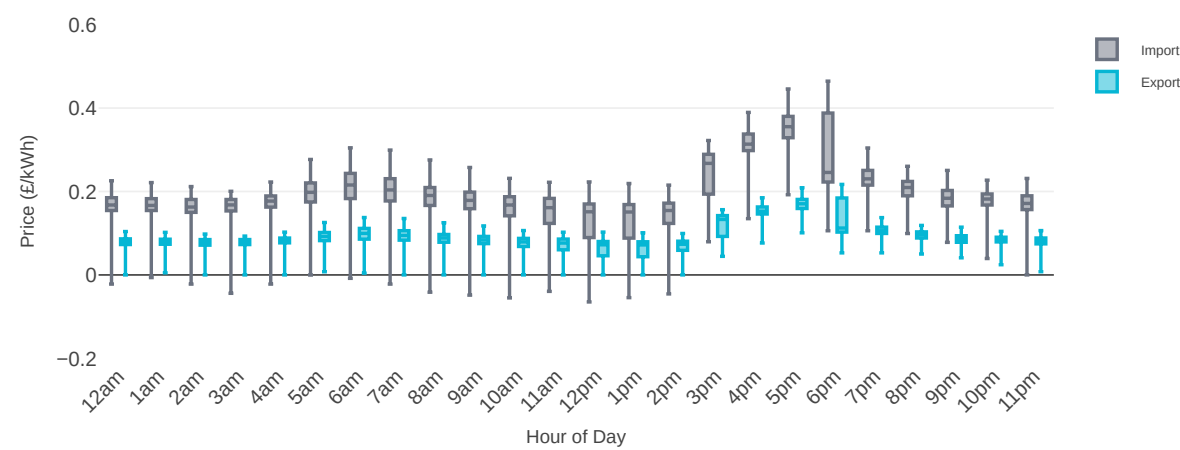
Average hourly solar generation vs load for that season's months.



# Spring Prices and Power

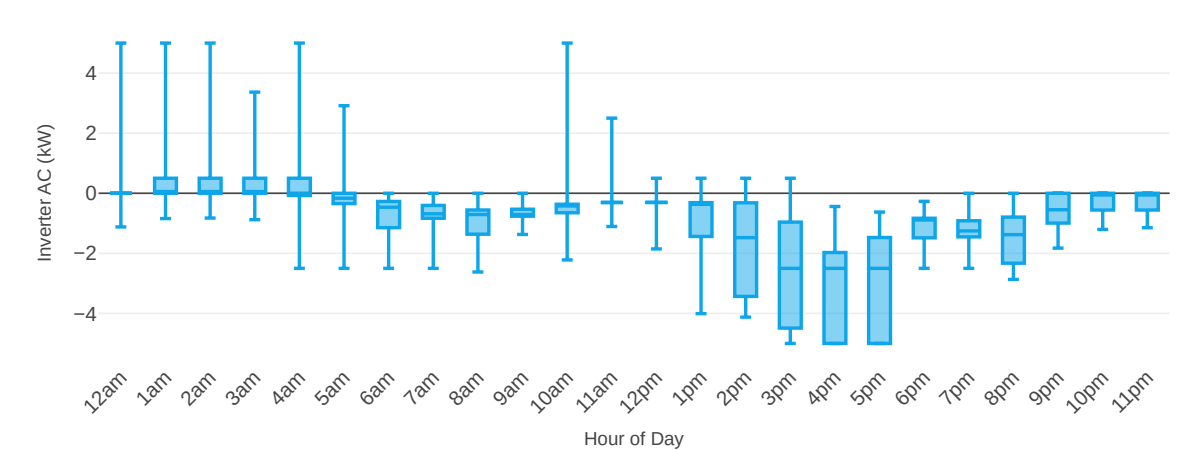
## Spring Import & Export Price Distribution by Hour

Spread of import and export tariff rates by hour for March, April, May.



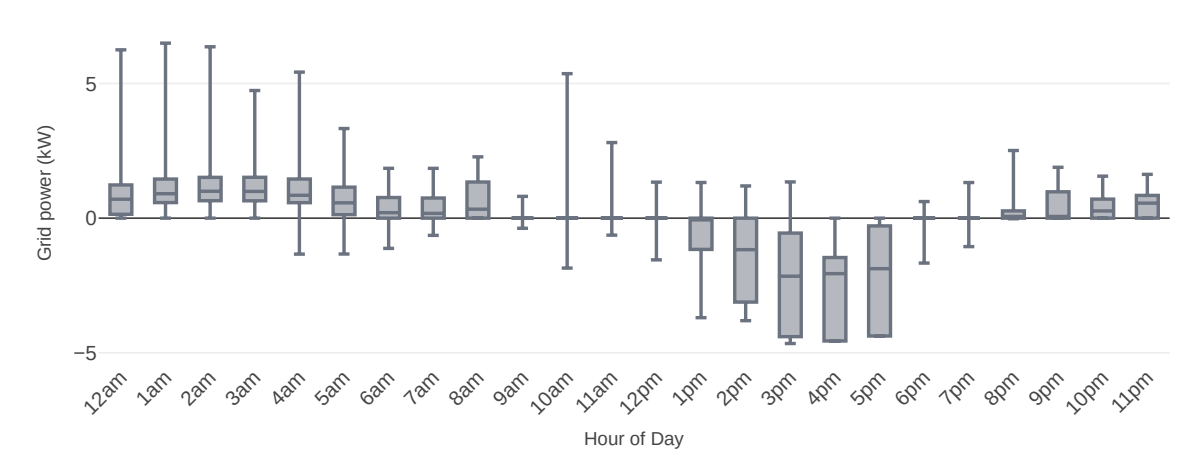
## Spring Inverter AC Power Distribution by Hour (inverter charge is positive)

Spread of inverter AC power flows by hour for March, April, May.



## Spring Grid Power Distribution by Hour (import is positive)

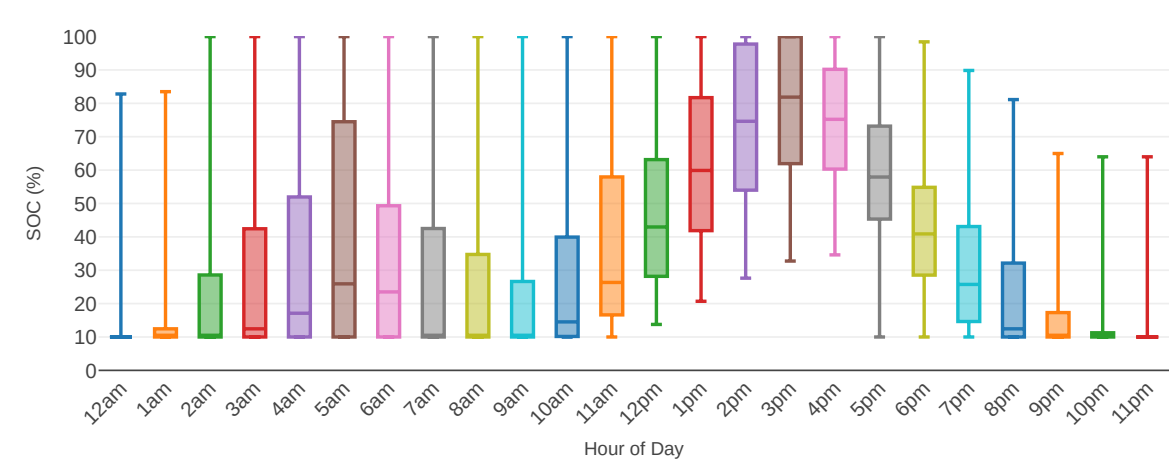
Spread of net grid power by hour for March, April, May.



# Autumn Monthly Summary

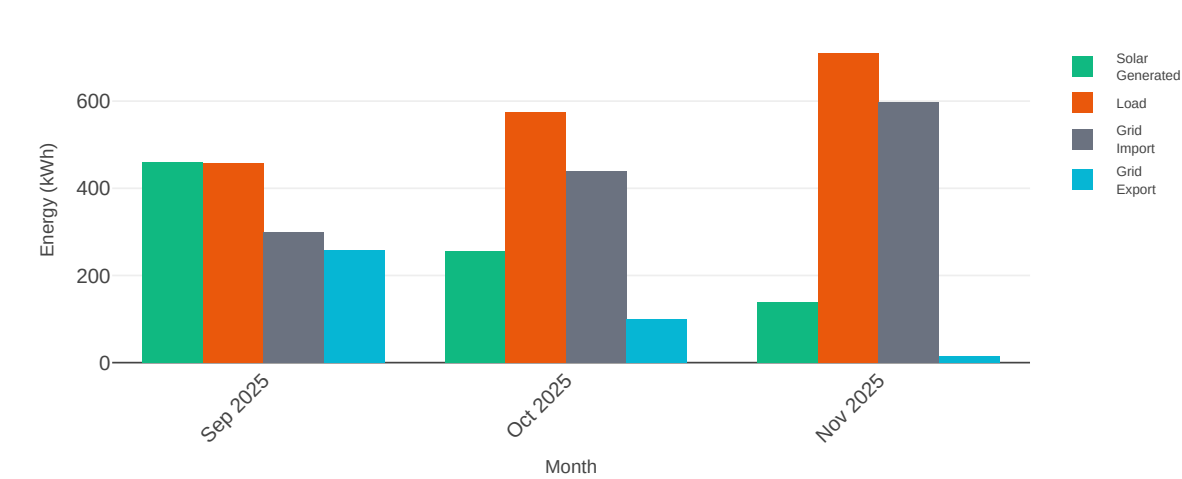
## Autumn SOC Distribution by Hour

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



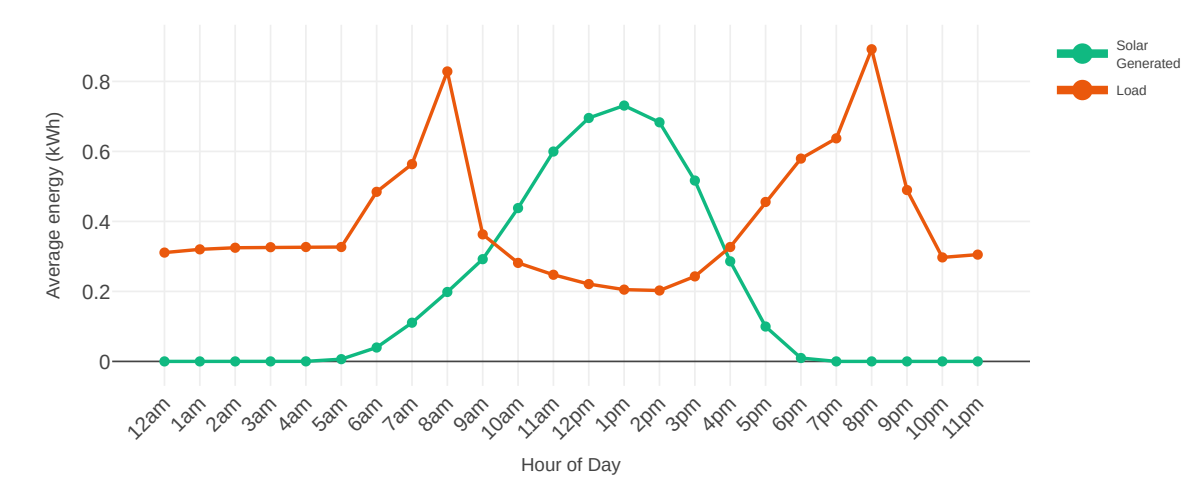
## Autumn Energy Totals by Month

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



## Autumn Hourly Average Energy

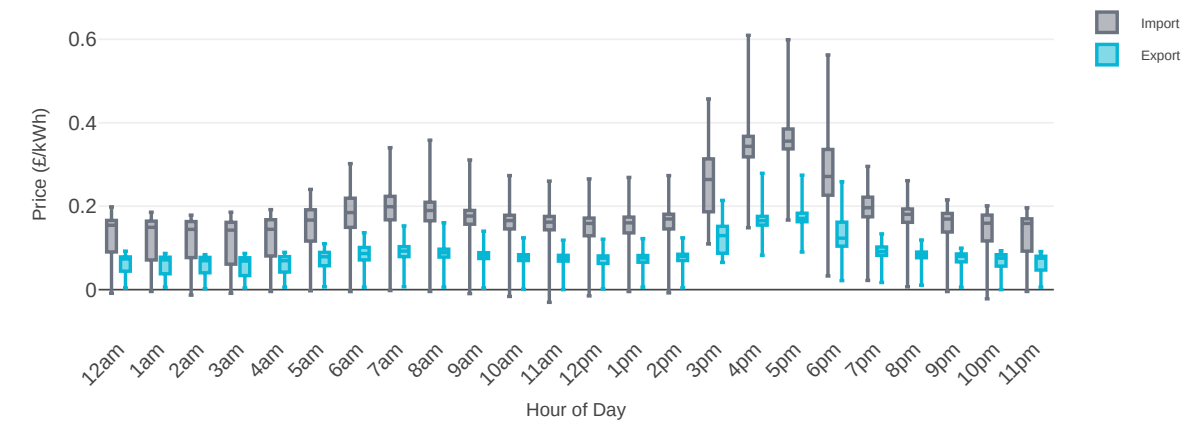
Average hourly solar generation vs load for that season's months.



# Autumn Prices and Power

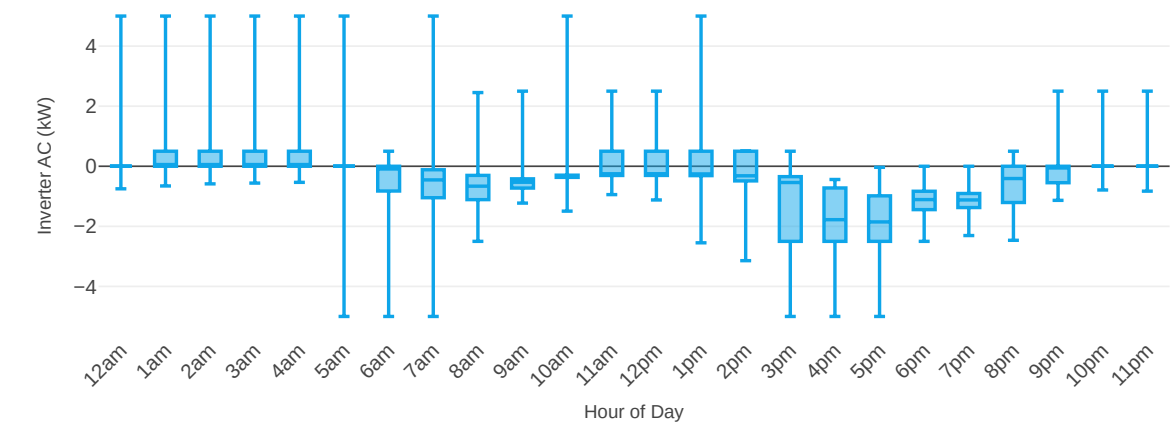
## Autumn Import & Export Price Distribution by Hour

Spread of import and export tariff rates by hour for September, October, November.



## Autumn Inverter AC Power Distribution by Hour (inverter charge is positive)

Spread of inverter AC power flows by hour for September, October, November.



## Autumn Grid Power Distribution by Hour (import is positive)

Spread of net grid power by hour for September, October, November.

