

Heat Pump 1kW Heat Loss

Workspace

📍 Site location

UK-Gloucester (51.89, -2.19) · UTC

💧 Heat pump Heat pump

Design flow temperature (°C)	43.0
Minimum flow temperature (°C)	30.0
Weather compensation control	True
SCOP	3.77
SCOP reference temperature (°C)	45.0
Max heat pump power at design (W)	1000.0
Hysteresis (°C)	0.25

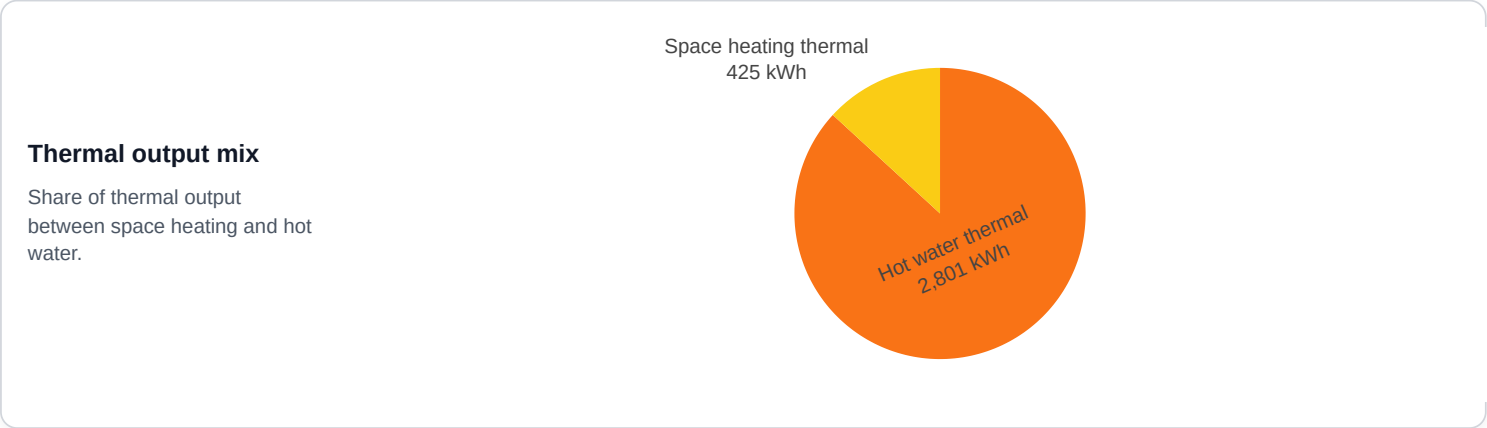
💧 Hot water tank

Hot water volume (L)	200.0
Hot water set temperature (°C)	55.0
Hot water hysteresis (°C)	10.0
Hot water charge delta T (°C)	7.0
Hot water litres per person per day	50.0
Cold water temperature (°C)	10.0
Hot water loss (W/°C)	2.0

🏠 House

Heat loss at design temperature (W)	1000.0
Design outside air temperature (°C)	-3.0
Design inside temperature (°C)	20.5
Thermal mass (kJ/°C/m²)	160.0
Property floor area (m²)	100.0
Solar glazing g-factor	0.6
Number of occupants	3
Standby power contribution (W)	100.0

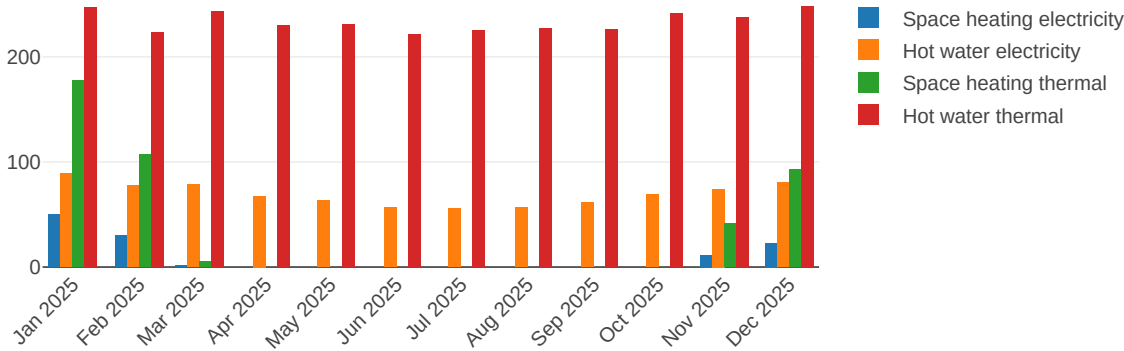
Summary	
🔌 Space heating electricity	116 kWh
🔌 Hot water electricity	829 kWh
🔌 Total heat pump electricity	946 kWh
🔌 Space heating thermal output	425 kWh
🔌 Hot water thermal output	2,801 kWh
🔌 Total thermal output	3,226 kWh
🔌 Average COP (space heating)	3.66
🔌 Average COP (hot water)	3.38
🔌 Average COP (combined)	3.41



Yearly summary

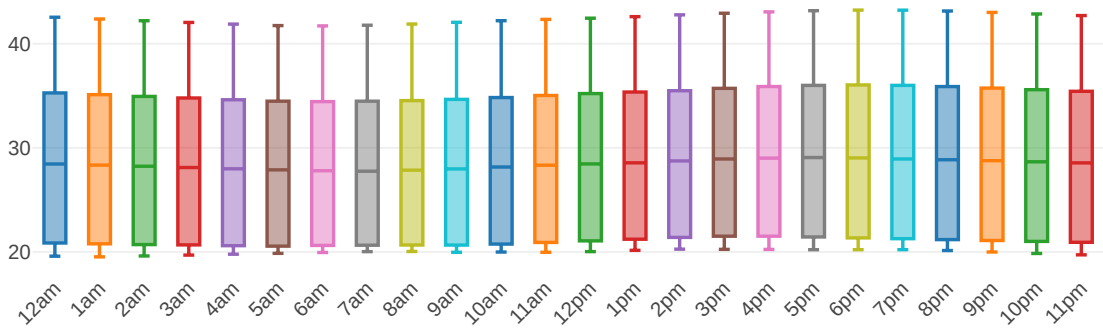
Monthly heat pump energy

Electricity and thermal output by month: space heating and hot water.



House temperature distribution by hour

Spread of indoor air temperature by hour of day (box plot).



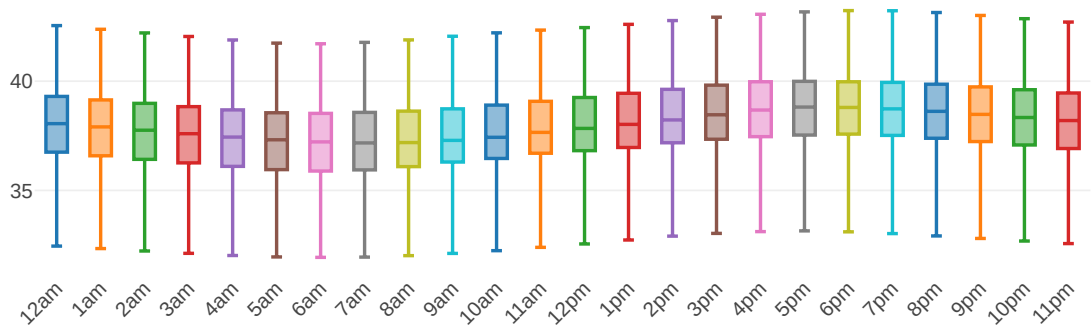
Monthly Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Space heating electricity kWh	50	30	2	0	0	0	0	0	0	0	11	23
Hot water electricity kWh	89	77	78	68	64	57	56	57	61	69	74	80
Space heating thermal kWh	178	107	5	0	0	0	0	0	0	0	42	93
Hot water thermal kWh	247	223	244	229	231	221	225	227	226	241	238	248
Average house temperature °C	20.5	20.9	23.8	29.2	34.4	36.6	39.3	37.7	32.1	25.9	22	20.6

Summer monthly summary

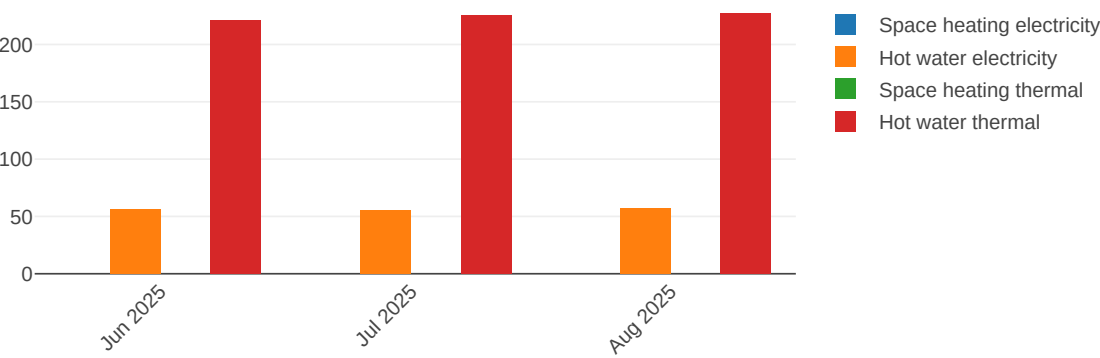
Summer house temperature by hour

June, July, August: indoor temperature distribution by hour.



Summer heat pump totals by month

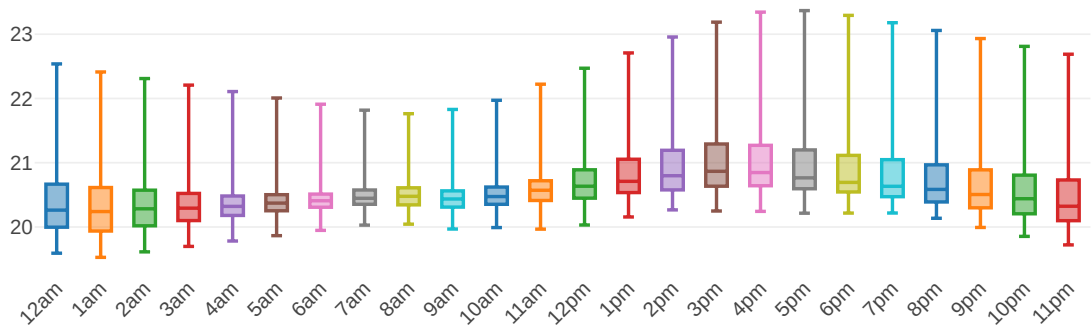
Electricity and thermal energy for June, July, August.



Winter monthly summary

Winter house temperature by hour

December, January, February: indoor temperature by hour.



Winter heat pump totals by month

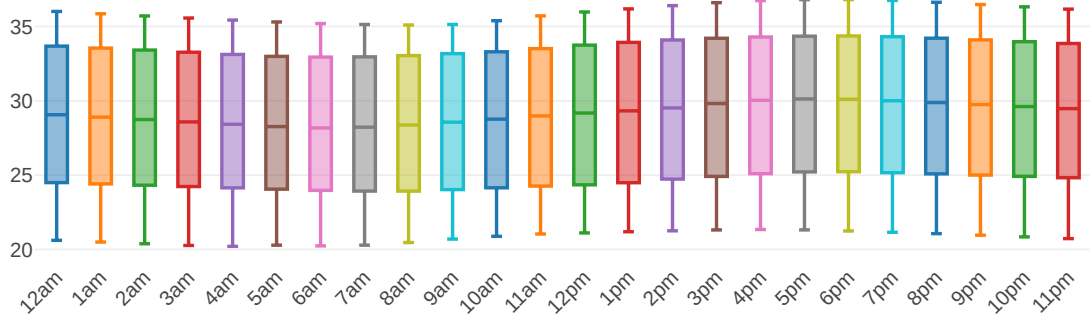
Electricity and thermal energy for December, January, February.



Spring monthly summary

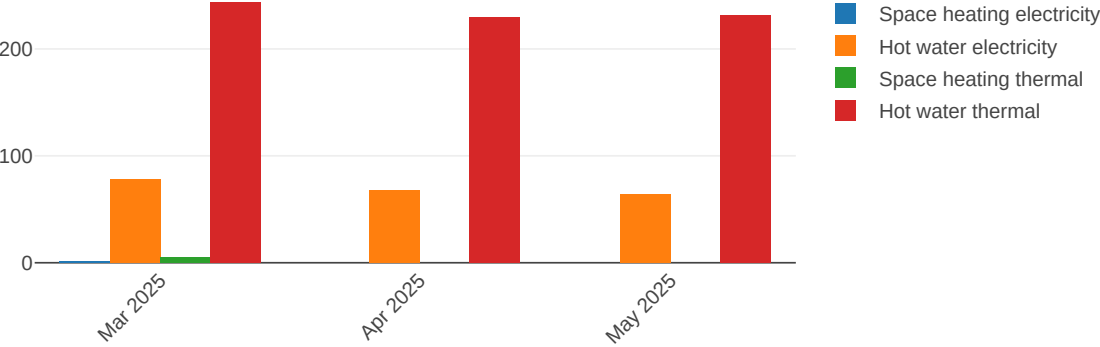
Spring house temperature by hour

March, April, May: indoor temperature by hour.



Spring heat pump totals by month

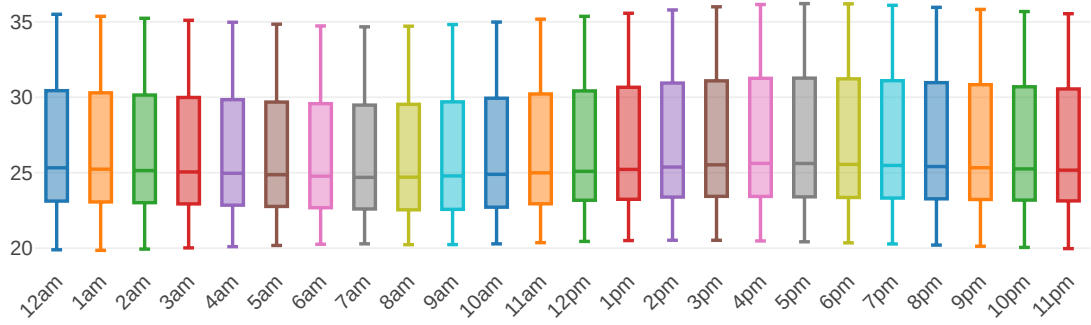
Electricity and thermal energy for March, April, May.



Autumn monthly summary

Autumn house temperature by hour

September, October, November: indoor temperature by hour.



Autumn heat pump totals by month

Electricity and thermal energy for September, October, November.

