

Heat Pump 8kW 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)	8000.0
Hysteresis (°C)	0.25

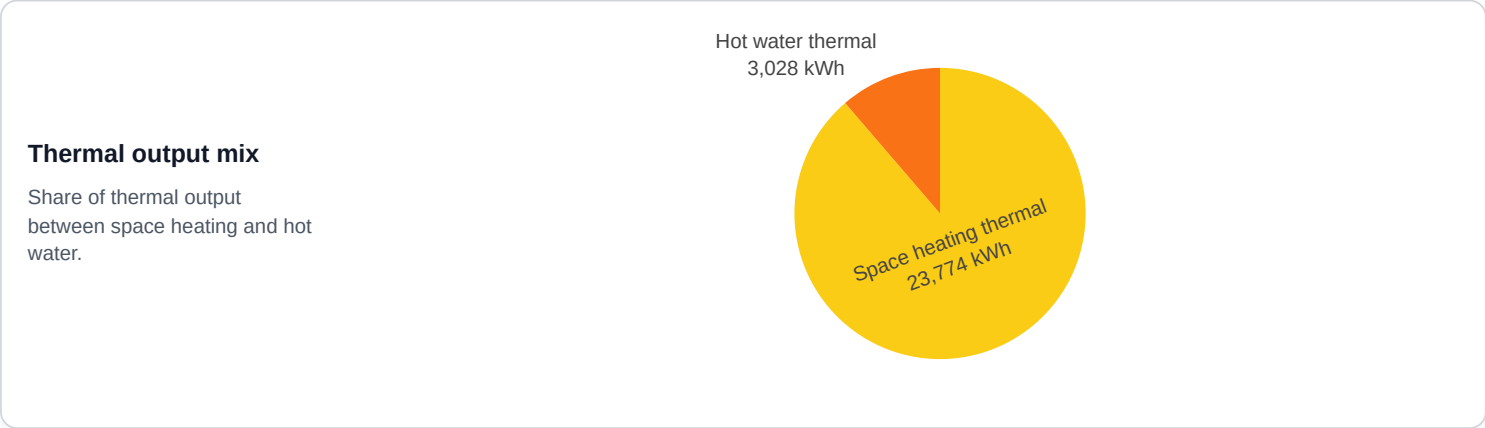
💧 Hot water tank

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)	8000.0
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

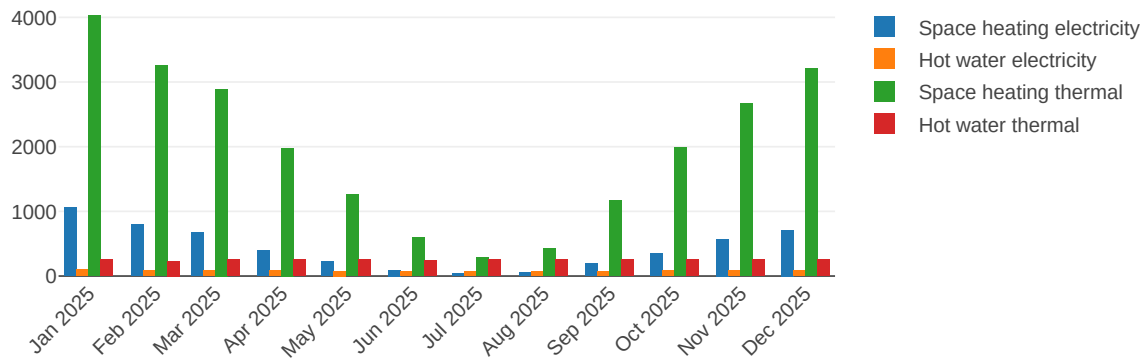
Summary	
🔌 Space heating electricity	5,182 kWh
🔌 Hot water electricity	963 kWh
🔌 Total heat pump electricity	6,145 kWh
🔌 Space heating thermal output	23,774 kWh
🔌 Hot water thermal output	3,028 kWh
🔌 Total thermal output	26,802 kWh
🔌 Average COP (space heating)	4.59
🔌 Average COP (hot water)	3.14
🔌 Average COP (combined)	4.36



Yearly summary

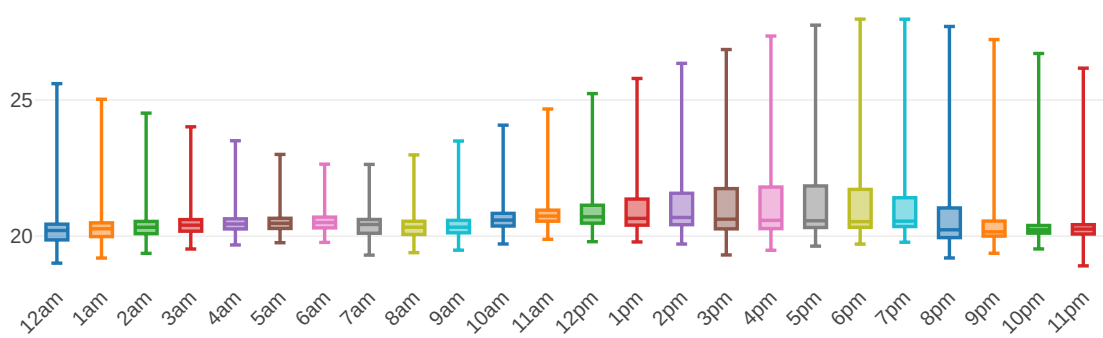
Monthly heat pump energy

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).



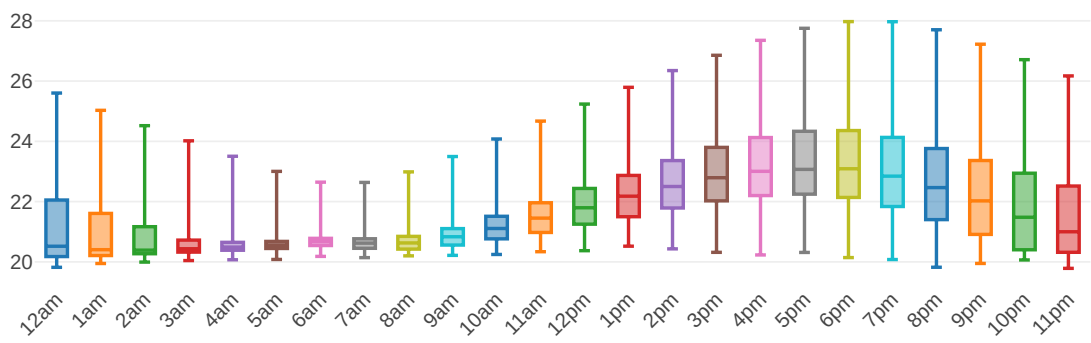
Monthly Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Space heating electricity kWh	1,067	803	667	401	228	93	41	61	194	344	572	711
Hot water electricity kWh	99	87	91	80	78	69	68	69	73	79	83	88
Space heating thermal kWh	4,027	3,253	2,892	1,980	1,257	602	293	423	1,173	1,993	2,673	3,209
Hot water thermal kWh	258	233	258	250	258	246	255	256	249	257	249	257
Average house temperature °C	20.2	20.2	20.3	20.4	20.7	21.5	22	21.7	20.7	20.4	20.3	20.3

Summer monthly summary

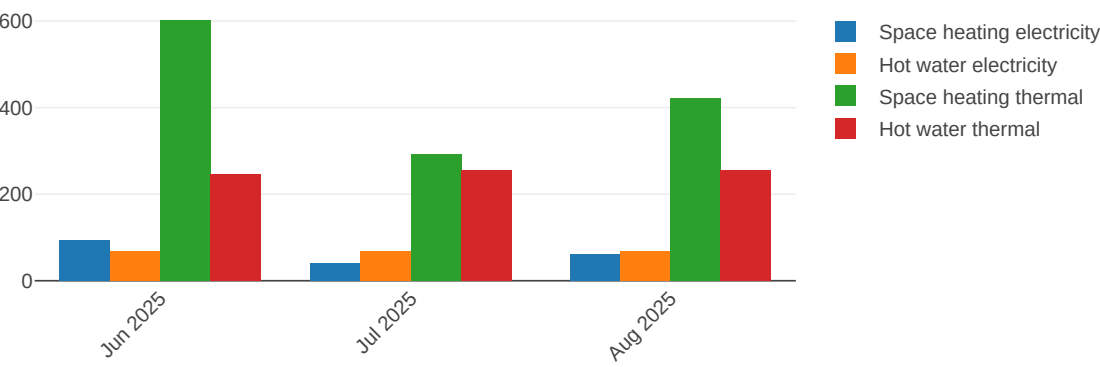
Summer house temperature by hour

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



Summer heat pump totals by month

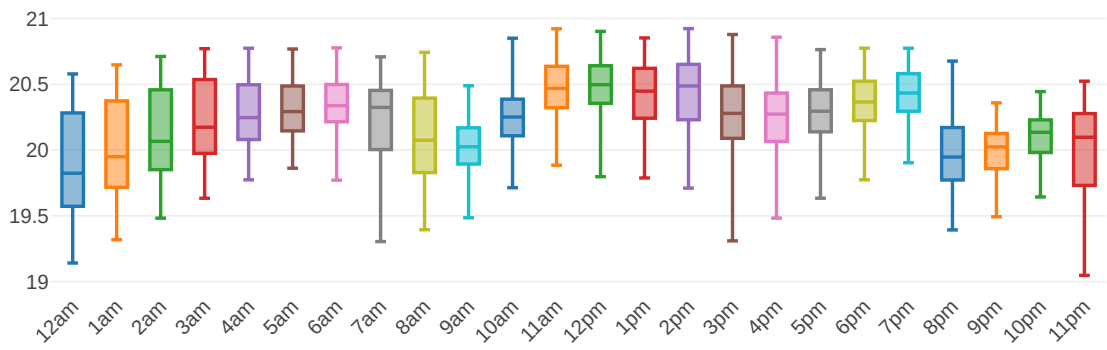
Electricity and thermal energy for June, July, August.



Winter monthly summary

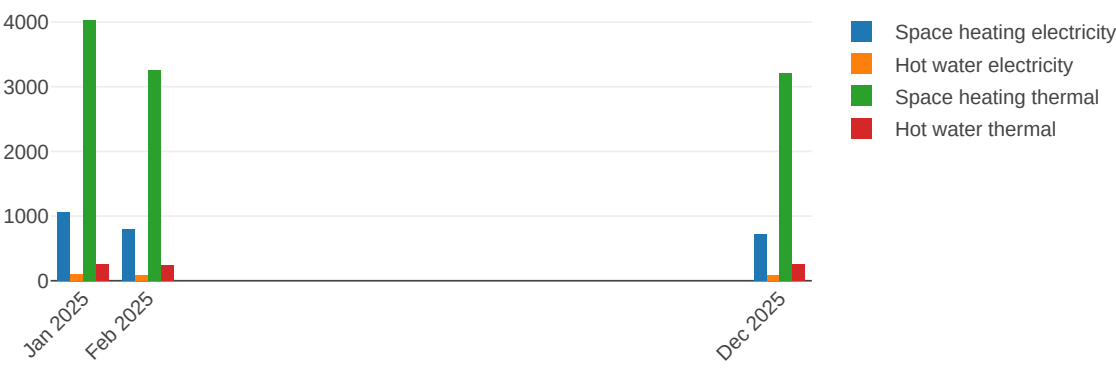
Winter house temperature by hour

December, January, February: indoor temperature by hour.



Winter heat pump totals by month

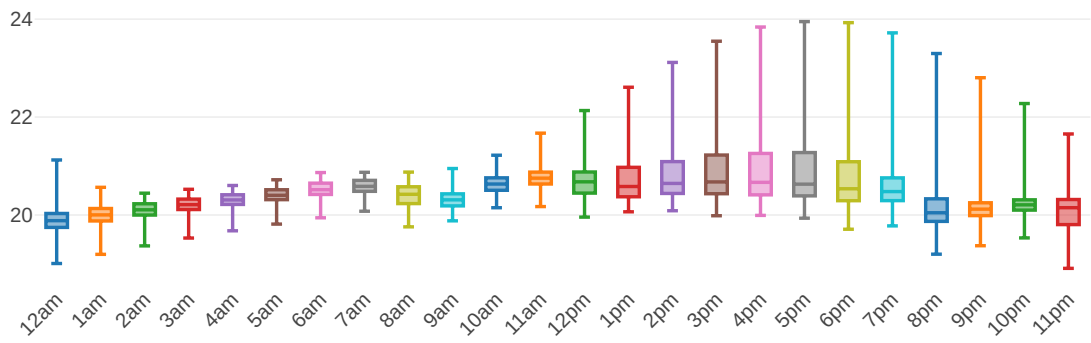
Electricity and thermal energy for December, January, February.



Spring monthly summary

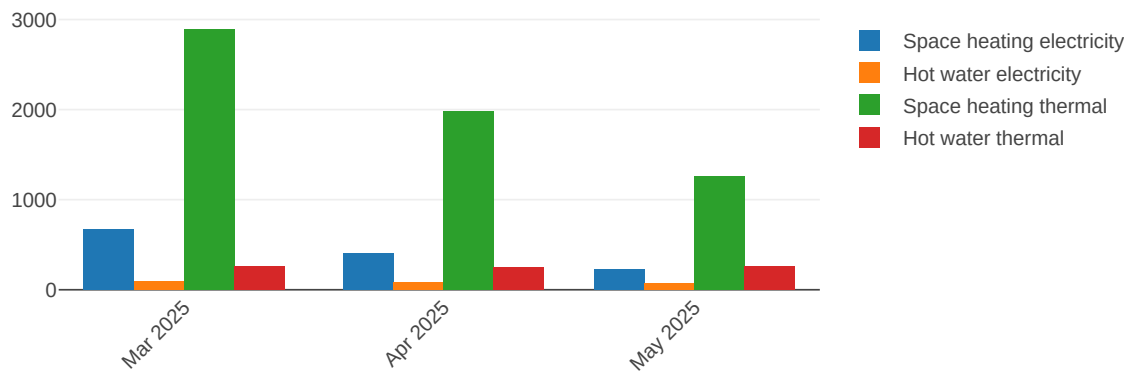
Spring house temperature by hour

March, April, May: indoor temperature by hour.



Spring heat pump totals by month

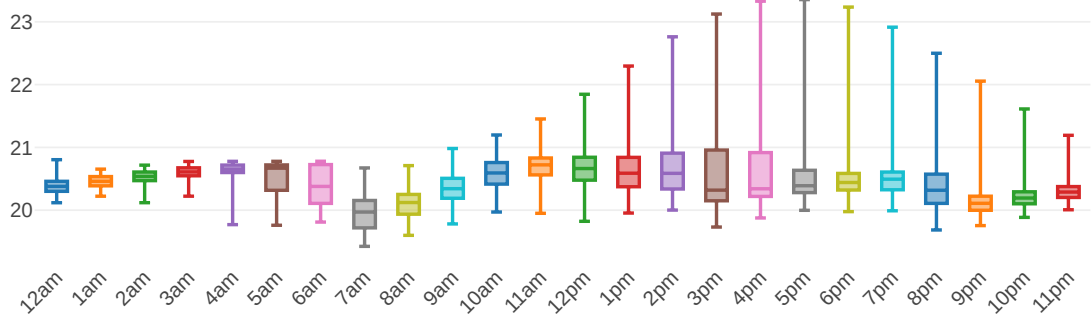
Electricity and thermal energy for March, April, May.



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.

