

Heat pump 2kW 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)	2000.0
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)	2000.0
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	701 kWh
🔌 Hot water electricity	896 kWh
🔌 Total heat pump electricity	1,597 kWh
🔌 Space heating thermal output	2,865 kWh
🔌 Hot water thermal output	2,944 kWh
🔌 Total thermal output	5,809 kWh
🔌 Average COP (space heating)	4.09
🔌 Average COP (hot water)	3.29
🔌 Average COP (combined)	3.64

Thermal output mix

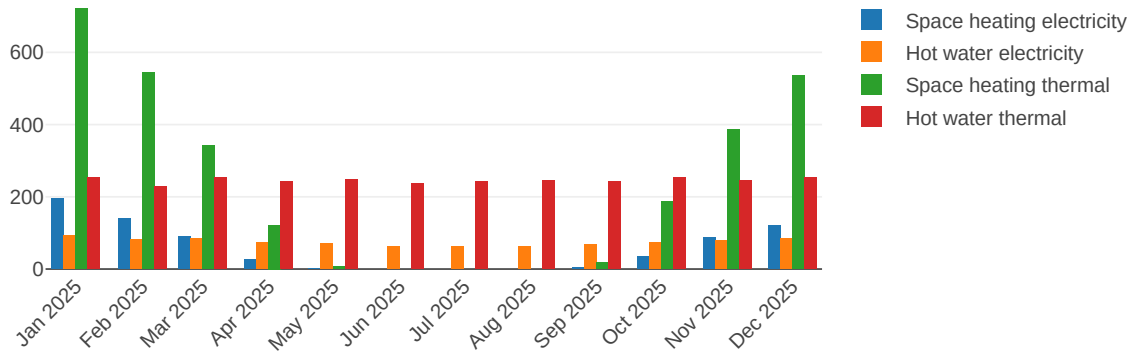
Share of thermal output between space heating and hot water.

Category	Value (kWh)
Space heating thermal	2,865
Hot water thermal	2,944

Yearly summary

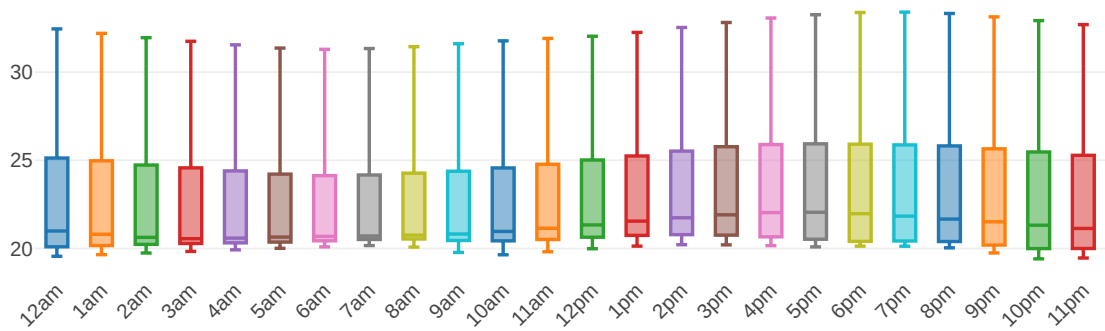
Monthly heat pump energy

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).



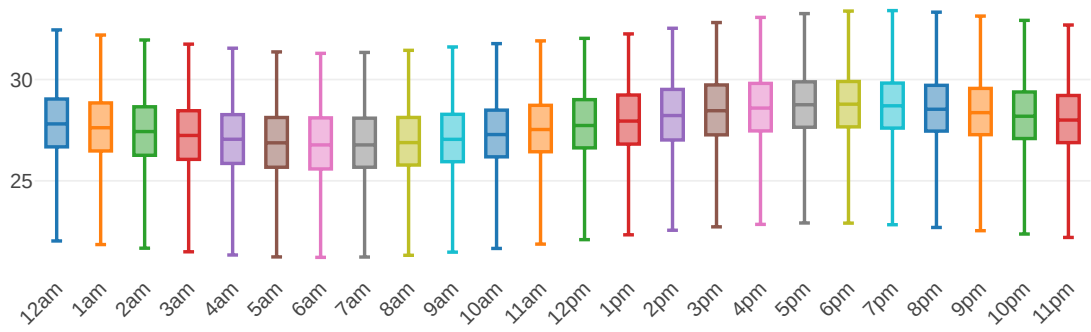
Monthly Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Space heating electricity kWh	195	140	89	27	2	0	0	0	3	35	88	121
Hot water electricity kWh	93	81	84	74	71	63	62	63	68	75	79	84
Space heating thermal kWh	721	544	342	122	8	0	0	0	18	188	386	536
Hot water thermal kWh	253	228	252	243	249	238	243	245	242	252	245	253
Average house temperature °C	20.3	20.4	20.8	21.6	23.9	26.6	28.8	27.7	23.1	20.9	20.4	20.4

Summer monthly summary

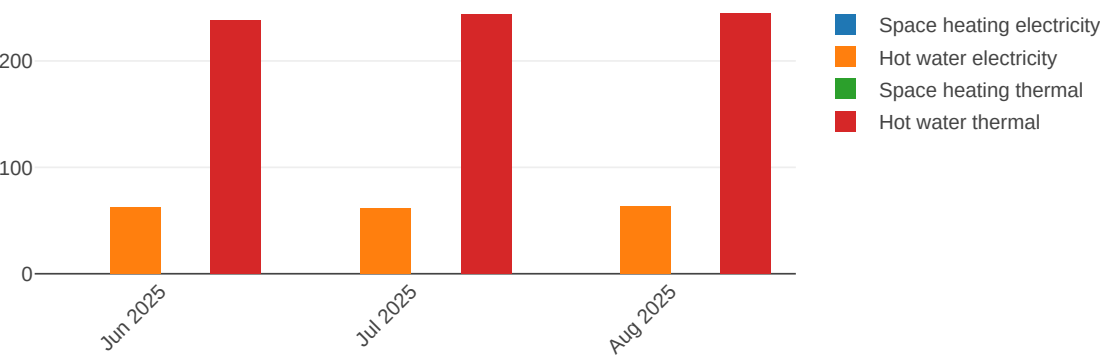
Summer house temperature by hour

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



Summer heat pump totals by month

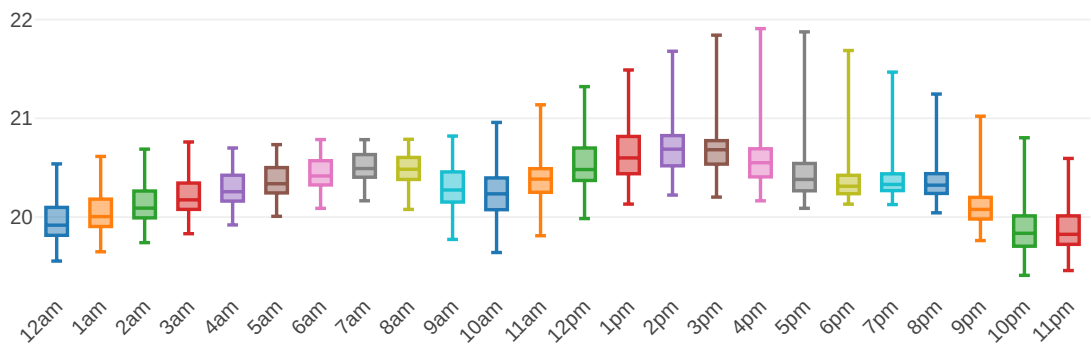
Electricity and thermal energy for June, July, August.



Winter monthly summary

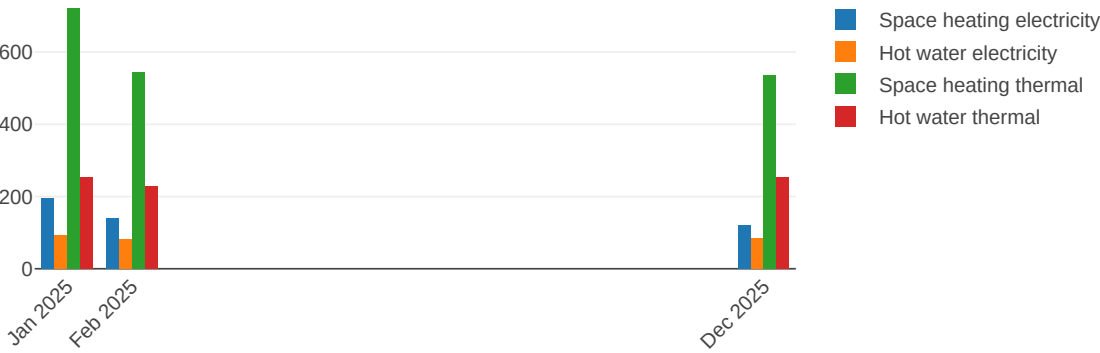
Winter house temperature by hour

December, January, February: indoor temperature by hour.



Winter heat pump totals by month

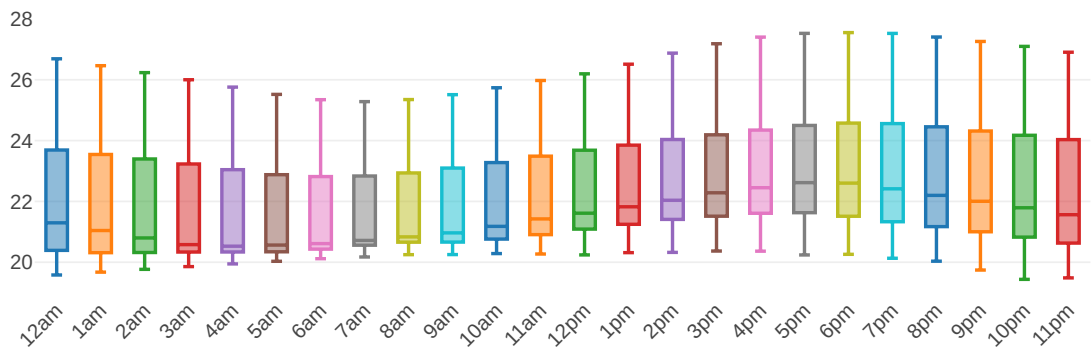
Electricity and thermal energy for December, January, February.



Spring monthly summary

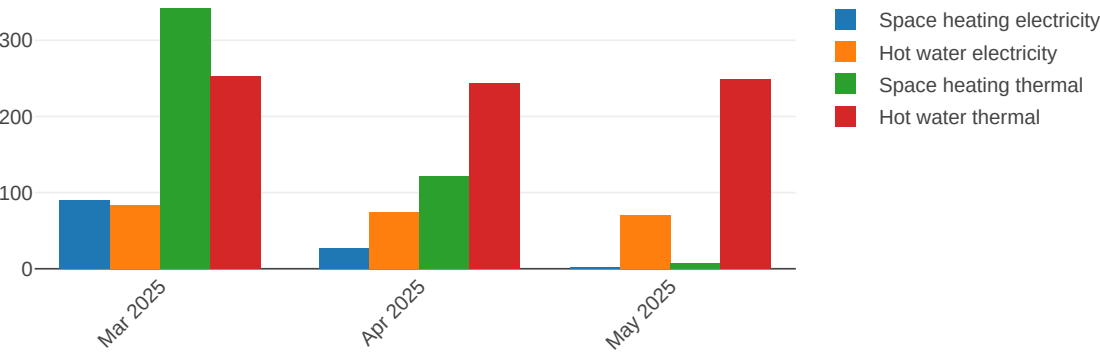
Spring house temperature by hour

March, April, May: indoor temperature by hour.



Spring heat pump totals by month

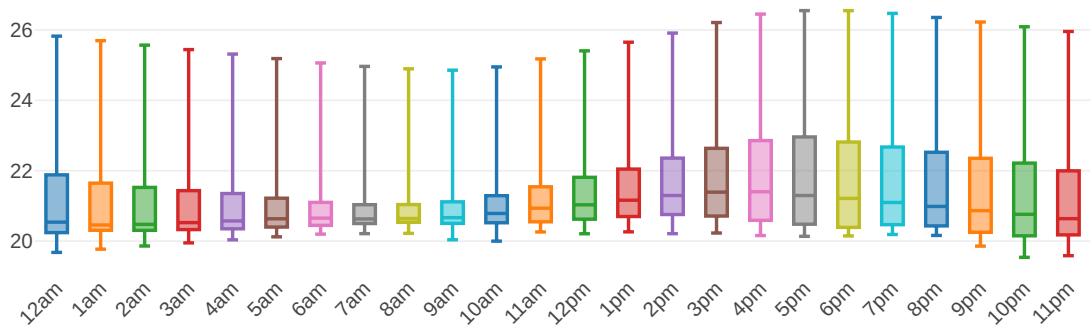
Electricity and thermal energy for March, April, May.



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.

