

# Report estimate

## 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)	5000.0
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)	5000.0
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	2
Standby power contribution (W)	100.0

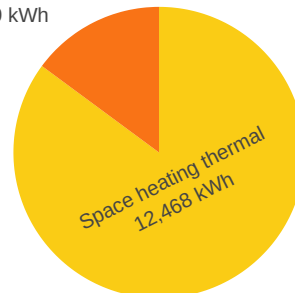
## Summary

Space heating electricity	2,697 kWh
Hot water electricity	682 kWh
Total heat pump electricity	3,379 kWh
Space heating thermal output	12,468 kWh
Hot water thermal output	2,179 kWh
Total thermal output	14,647 kWh
Average COP (space heating)	4.62
Average COP (hot water)	3.19
Average COP (combined)	4.33

## Thermal output mix

Share of thermal output between space heating and hot water.

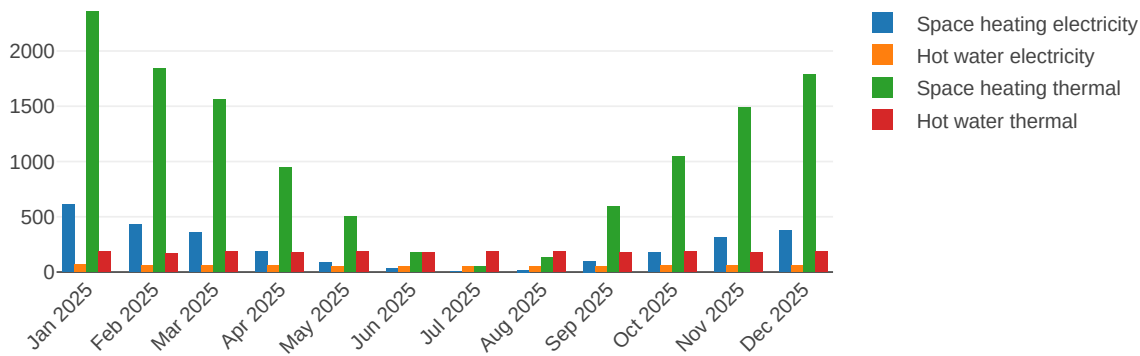
Hot water thermal  
2,179 kWh



## Yearly summary

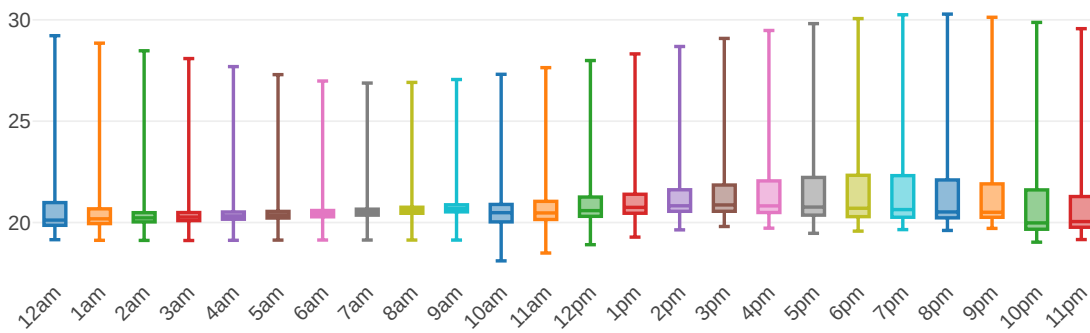
### Monthly heat pump energy

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).



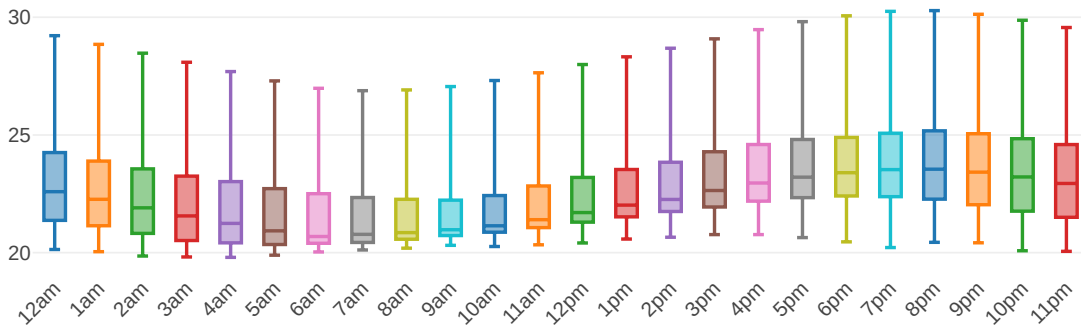
## Monthly Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Space heating electricity kWh	609	434	359	187	90	28	7	19	100	176	316	374
Hot water electricity kWh	71	61	63	56	54	48	48	49	53	57	60	63
Space heating thermal kWh	2,356	1,845	1,557	943	501	179	49	129	593	1,044	1,485	1,786
Hot water thermal kWh	186	168	186	180	185	177	183	183	179	186	180	186
Average house temperature °C	20.1	20.2	20.3	20.6	21.2	22.6	23.2	22.5	20.8	20.4	20.3	20.2

# Summer monthly summary

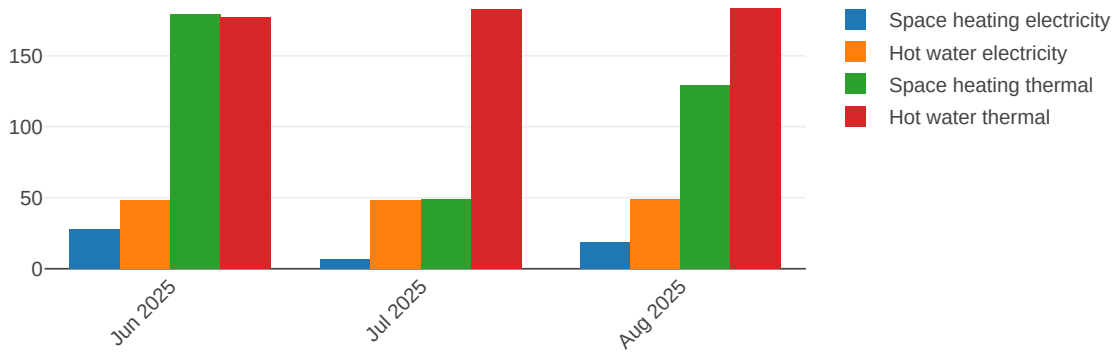
## Summer house temperature by hour

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



## Summer heat pump totals by month

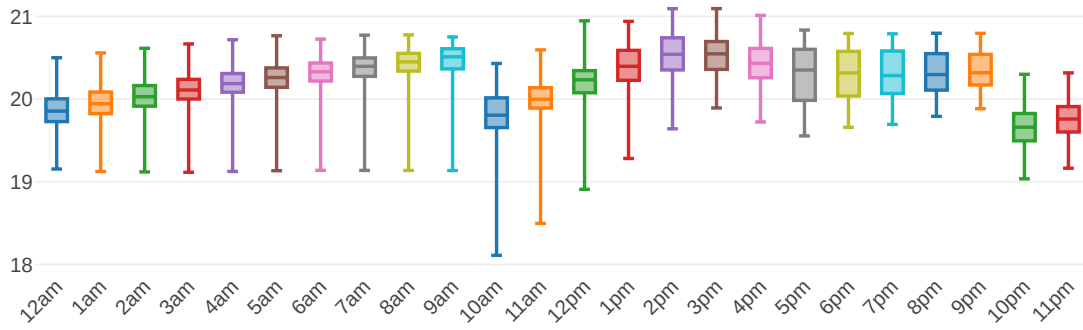
Electricity and thermal energy for June, July, August.



# Winter monthly summary

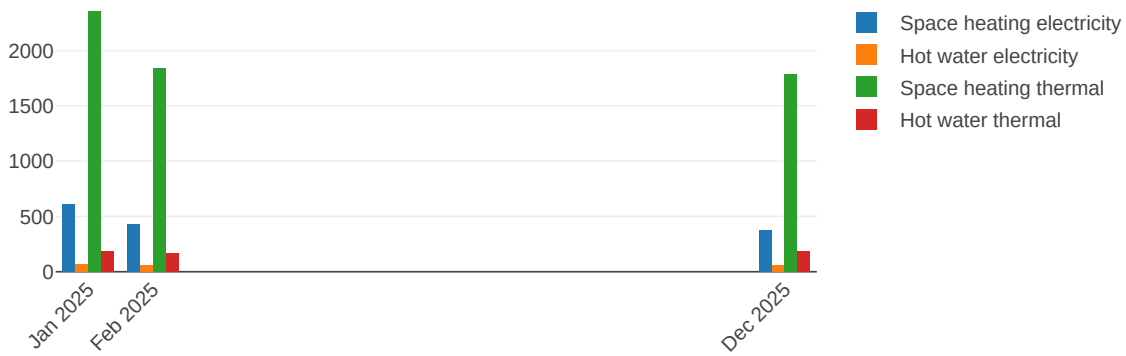
## Winter house temperature by hour

December, January, February: indoor temperature by hour.



## Winter heat pump totals by month

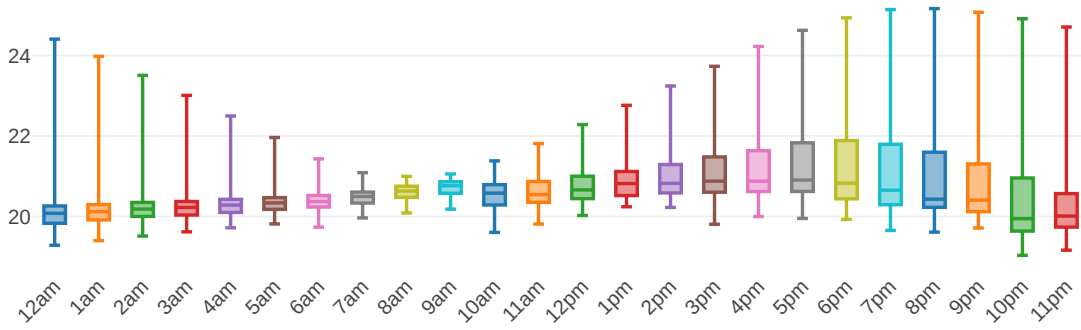
Electricity and thermal energy for December, January, February.



# Spring monthly summary

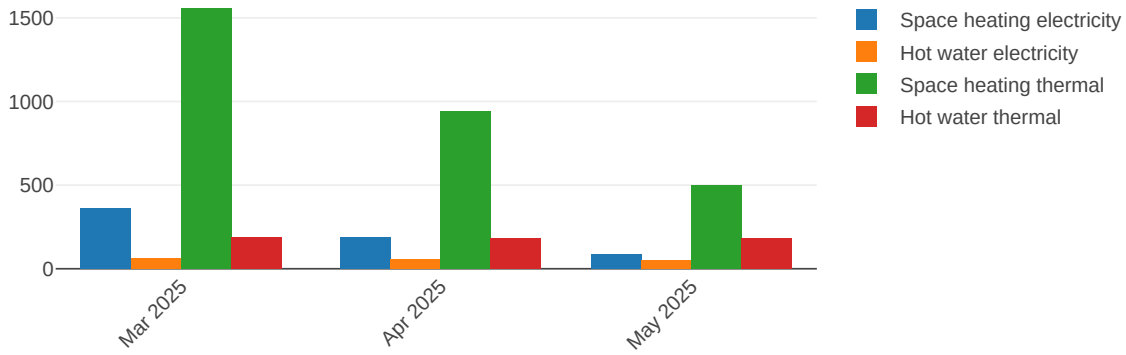
## Spring house temperature by hour

March, April, May: indoor temperature by hour.



## Spring heat pump totals by month

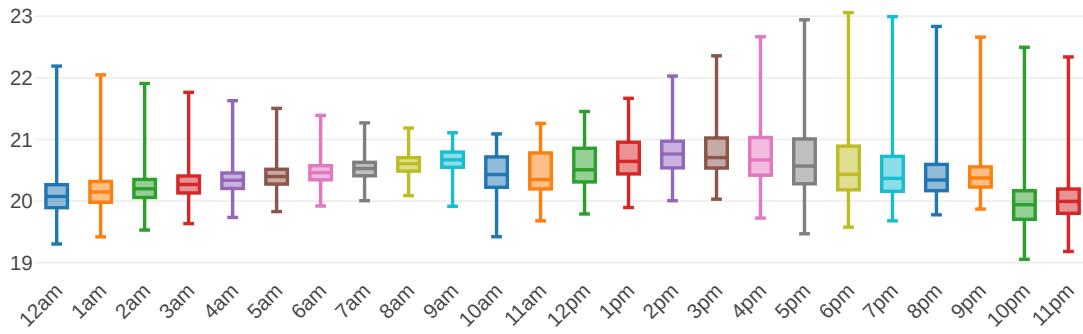
Electricity and thermal energy for March, April, May.



# 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.

