

The Ross Family (*business from home*)

The Ross family are a tight-knit family who have lived in their home for 23 years. With Steve and Anne owning their own businesses and at home the majority of the work week, their home is very important to them- it is the hub of their lives. So much time at home means comfort is of the utmost importance, although differences in preference for temperatures means some members of the family are either too hot or too cold.

- Differences in temperature preference means some family members are often uncomfortable
- Home is focus of their lives, with adults working from home and spending time as a family in the evenings
- Would prefer greater control to reduce waste and cost, such as better zoning



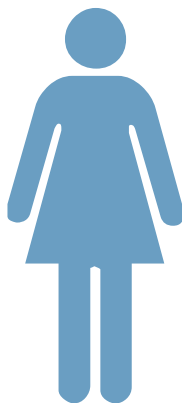
Who lives here?

STEVE, 52
Main Respondent



Works from home on insurance business

ANNE, 45



Works from home on gymnastics business

KATE, 19



Attends college and has two part-time jobs

REBECCA, 14



Attends school and on a regular schedule

Key Features

Tenure

Owner-occupier

Household Income (£/annum)

50k -75k

Location

Suburban

Electricity Use (kWh/annum)

9,096
(HIGH)

Gas Use (kWh/annum)

16,658
(HIGH)

Electricity Spend (£/annum)

1,230

Gas Spend (£/annum)

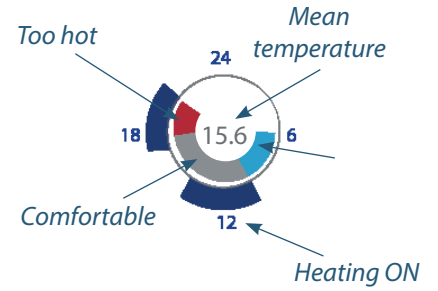
701

Primary Heating Fuel

Mains gas central heating

Home & System Usage

OCCUPANCY & COMFORT LEGEND

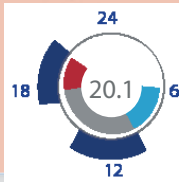


ELECTRIC UNDERFLOOR HEATING
Not used very often because thought to be costly, but when it is turned on, often forget to turn it off



KITCHEN
The kitchen is the warmest room in the house and is where the husband works during the day. As there is no mechanical ventilation in the kitchen, the French doors are often open while cooking. The control for the underfloor heating is in the kitchen extension.

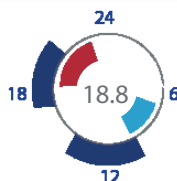
Kitchen
16.63m²



THERMOSTAT
Temperature kept at 18-23 degrees; husband tends to turn it down while others turn it up; heating is turned on based on outside temperature

TRVs
Set to 5 and rarely changed; Ground floor only

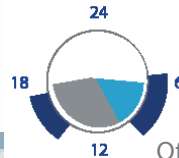
Living
17.66m²



OFFICE 1
Converted garage done by previous owner, where the wife works during the day. When hot water tank turns on (and central heating turns off to optimise water temperature), both radiators in Office 1 and 2 which are plumbed in with the hot water system, turn on as well, making it quite warm



Office 1
7.32m²

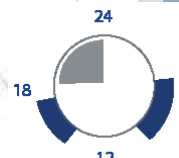


BOILER
Non-combi gas boiler. Timer not used, heating is turned on or off manually as necessary

SNUG/OFFICE 2
A more private room to relax which is mainly used by husband when he isn't working late. Teenagers sometimes use the space to socialise with friends. Snug is also used for drying laundry so it is out of the way and out of view of visitors.



Snug/Office 2
8.13m²



GAS FIREPLACE
Use as space heating when central heating is off in the morning and in the evening to keep daughter's room becoming too hot



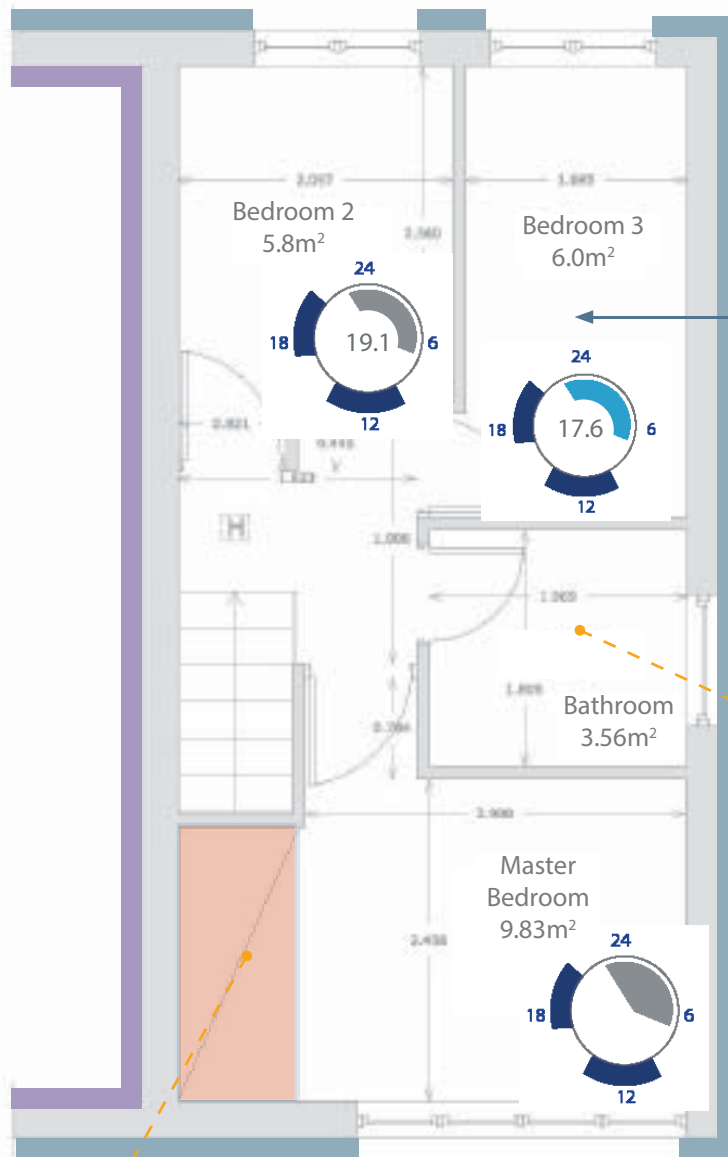
Main Entrance

GROUND FLOOR

“The biggest challenge is everybody wanting it to be different temperatures... I don't like it too warm, but...my wife would want it red hot”



BEDROOMS
Rooms only used for sleeping; Bedroom 3 coldest room in house because of two external walls





BATHROOM
Includes power shower, bath tub and standard fixtures

IMMERSION HEATER

FIRST FLOOR



WALL TYPE LEGEND

-  Party wall
-  External wall

Is the heating on?

(the darker the colour, the more likely it is that the heating is on)

6:00



9:00



12:00



15:00



18:00



21:00



24:00



Husband and wife shower before work



Wife and daughter bathe before bed

7:00

Wake up to cook breakfast for youngest daughter

14:00

Steve and Anne are out in the afternoon for a few hours as part of new business

22:00

Family goes to bed; Steve may stay up and watch TV until midnight

06:30

Central heating (except Offices 1 and 2) turns off for an hour as hot water heats up

8:00

Steve and Anne work from home

16:00

Central heating turns off for an hour as hot water heats up

17:00

Evening meal as family

19:00

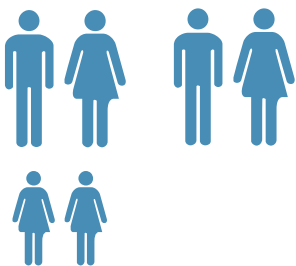
Anne and her daughters watch TV in lounge; Steve watches TV in the snug

MORNING

AFTERNOON

EVENING

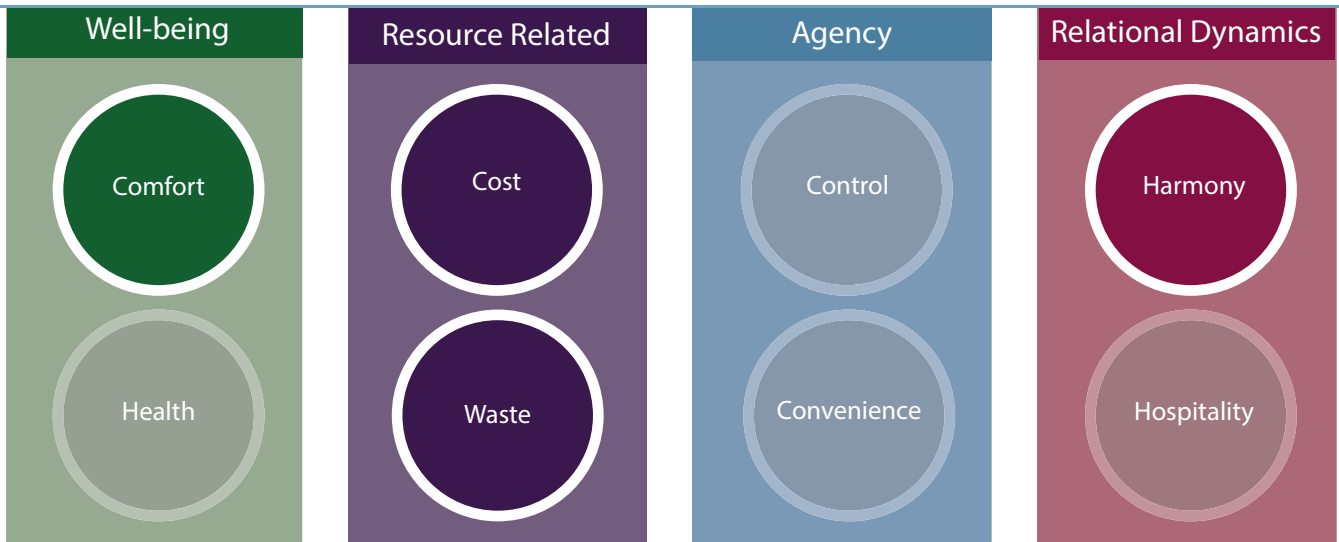
Who's home?



Needs & Energy System 'Fit'



“I want everyone in the house to be happy, and not have to think, oh, I can't turn the heating on because we can't afford it”



WHAT WORKS?

Fireplace in living room helps provide secondary heat when central heating is turned off

TRVs on ground floor and the opening and closing of internal doors help to keep certain rooms warmer or cooler

N/A

Heating system works very effectively, helping to keep the house warm

WHAT DOESN'T WORK?

Central heating has to be turned off for hot water to heat up to appropriate temperature

Concerns about wasting energy by have heat on across entire home when only a few rooms occupied

N/A

Problems with meeting varying temperature preference of each family member

KEY BEHAVIOUR

Decisions about when to turn the heat on are made based on 'whoever is cold'-important that everyone is comfortable

Installing TRVs upstairs to reduce waste when rooms not in use

N/A

Primary participant will open a door, or go to back room or garage if he finds heat to overpowering

Home Renovations

What needs are driving modifications?

- **Convenience:** If already doing work in a room anyway, will consider other opportunities for upgrades
- **Cost:** Will put off work that he'd like to do
- **Aesthetics:** Wants to replace windows because they seem old, as well as draughty

"But then you've got to look at cost...sometimes other things just take priority"

Completed

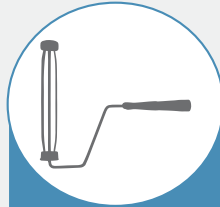


Conversion of garage into office



Downstairs extension to kitchen

In Progress



Redecoration of upstairs bedrooms



Installation of TRVs on first floor

Immediate Plans



Plans to brick up garage and install new door

Long Term



Will get a new boiler once the old one expires



Wants to install more efficient and secure windows