

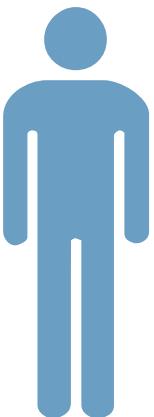
The Ross Family (*business from home*)

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

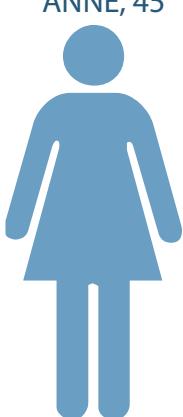


STEVE, 52
Main Respondent



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)

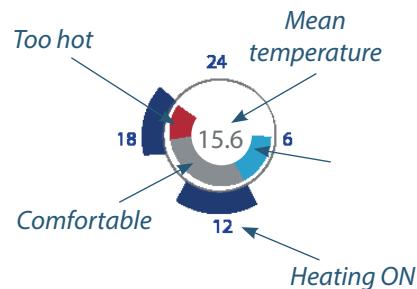
Electricity Spend (£/annum)
1,230

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

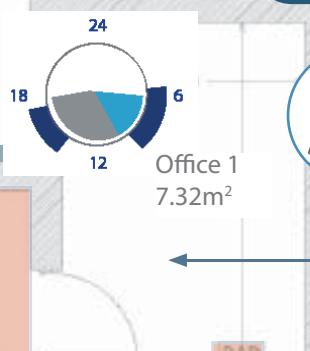
Set to 5 and rarely changed; Ground floor only



Living
17.66m²



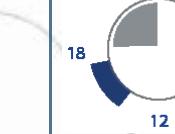
GROUND FLOOR



Office 1
7.32m²

Snug/Office 2
8.13m²

Garage



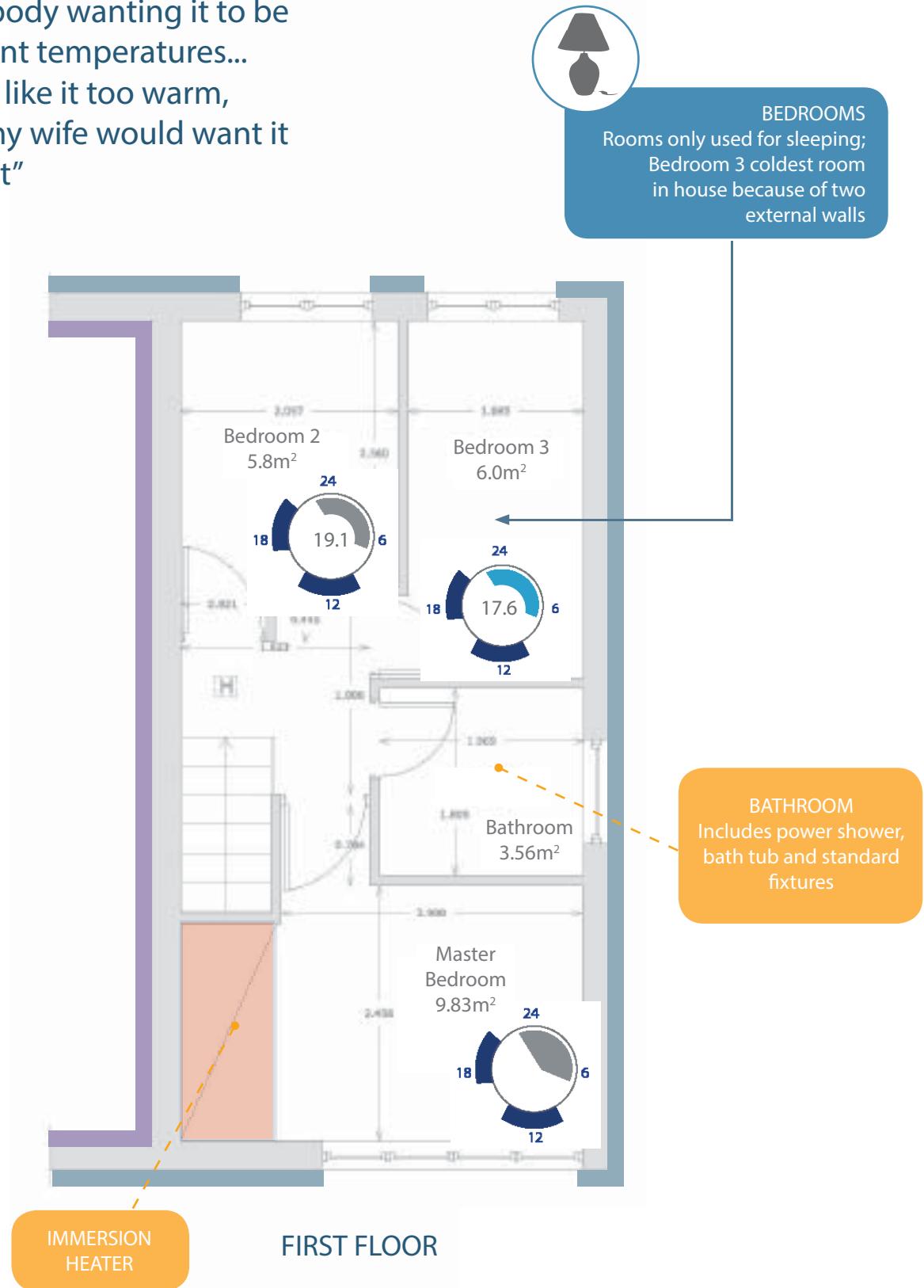
BOILER

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.

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

"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"



WALL TYPE LEGEND



Party wall

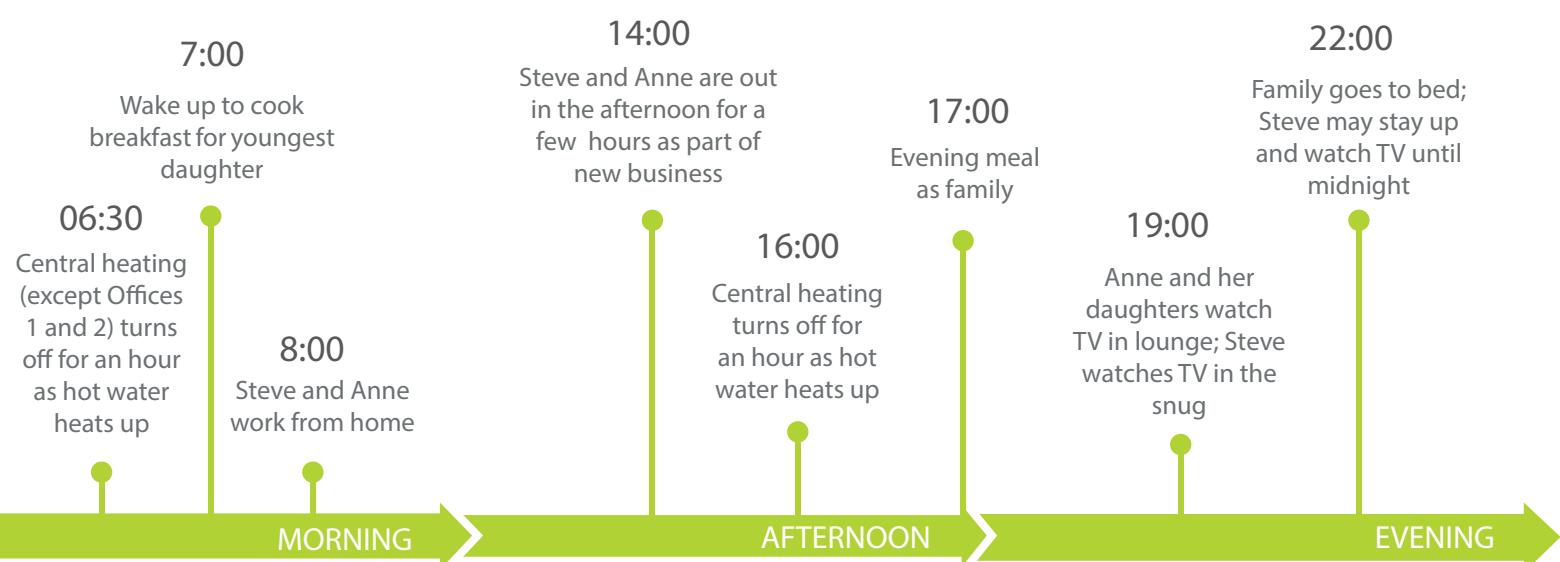
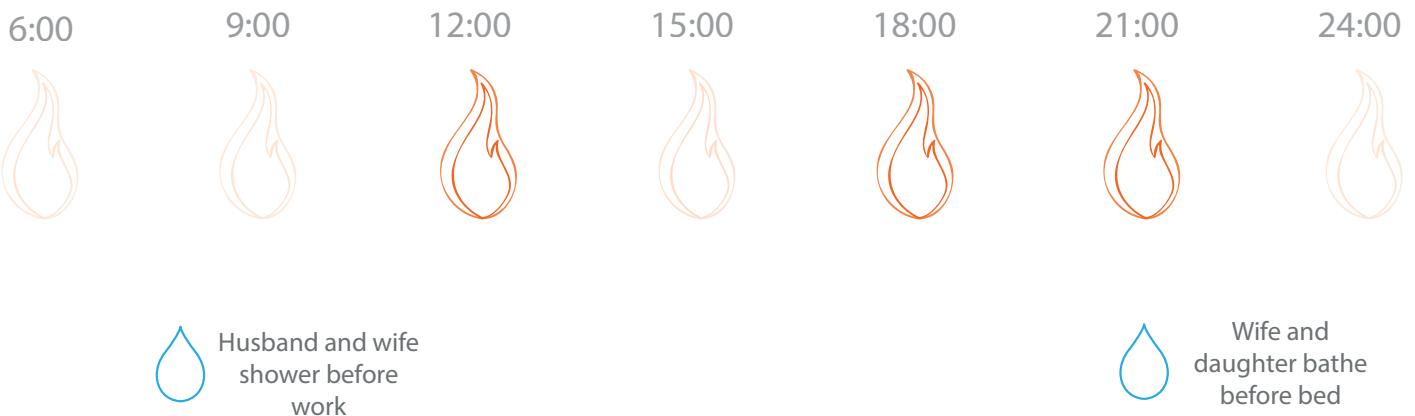


External wall

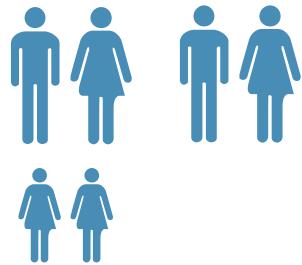
Routines and Occupancy ➤➤➤

Is the heating on?

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

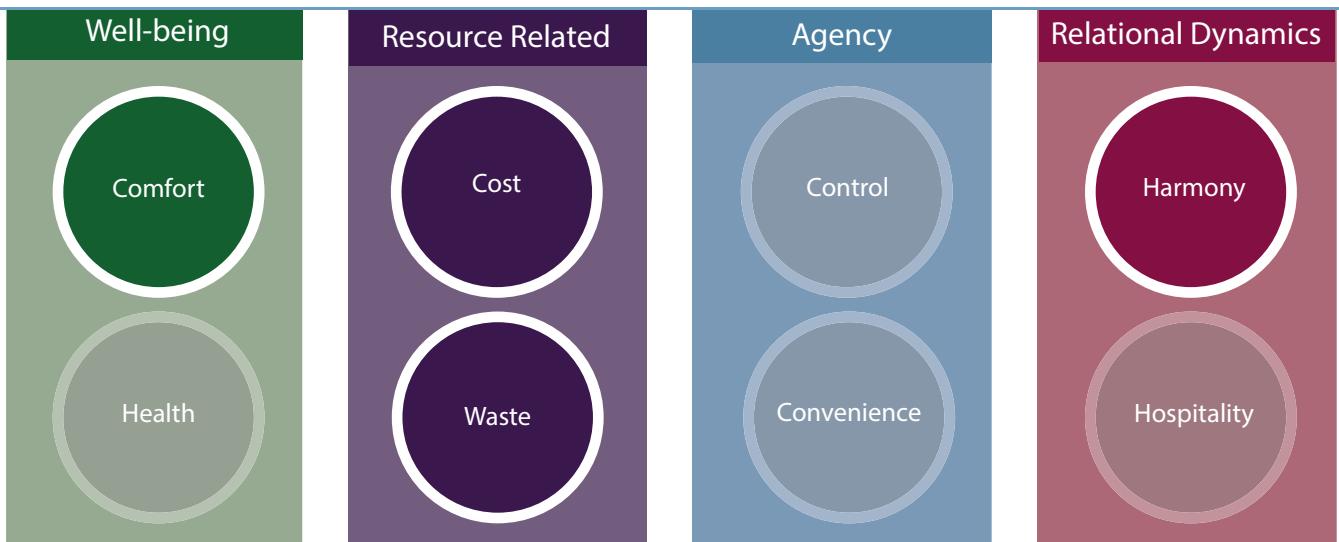


Who's home?



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

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

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

Completed



Conversion of garage into office



Downstairs extension to kitchen



Redecoration of upstairs bedrooms



Installation of TRVs on first floor

In Progress



Plans to brick up garage and install new door

Immediate Plans



Will get a new boiler once the old one expires



Wants to install more efficient and secure windows

Long Term