

GenGame

Consumer Engagement Platform

Clean Heat Streets Project

Innovative methodology to deliver a high density heat pumps uptake of heat pumps in Rose Hill area, Oxford

WS3 Task 3.3

User research to test of outputs of consumer proposition workshop, task 3.2

Analysis of focus group 1



Objectives

- Present financial propositions developed in task 3.1 and 3.2 to Rose Hill residents and capture their feedback and opinions.
- Understand any previous experiences of heat pumps, the challenges and barriers.
- Present heat pump information together with the aid of a demo trailer to understand any concerns, and what is the most important information required to encourage heat pump uptake.

Recruitment Criteria

Participants must live in Rose Hill and not have a heat pump installed

Recruitment Methods

- Facebook post on the Rose Hill and Iffely Low Carbon (RHILC) group Facebook page
- Crowd sourcing – word of mouth and individual social networks
- Local Nextdoor platform
- Posters sent to community centre
- Contacts in Oxford County and City councils

Fieldwork - Quantitative

- Demographic and heat pump attitudinal survey was sent out to all the participants before the focus group session – 10 out of the 11 participants completed the survey

Fieldwork - Qualitative

- 2hr face-to-face focus groups held in the Methodist Church within the Rose Hill area
- 11 Participants in total, split into two groups

Quantitative fieldwork - Survey

Question categories

- Demographics
- Property type and information
- Energy use in the home and heating systems
- Awareness and perception of heat pumps

Key insights from the survey results

- The focus group participants have similar demographics for age, education and household income.
- Half live in semi-detached property and proportion of tenure is split between owning and renting.
- High majority are aware of their home insulation status, but not so many have their property ECP rating.
- Most participants pay a lot of attention to their energy usage to reduce environmental impact and reduce costs.
- All participants had some awareness and knowledge of heat pumps, and the majority were very interested in having a heat pump installed.
- All participants agree that heat pumps can save energy and protect the environment
- There was a lack of knowledge for the reliability of heat pumps
- Majority of participants think heat pump are expensive to install

Survey Results- Demographics

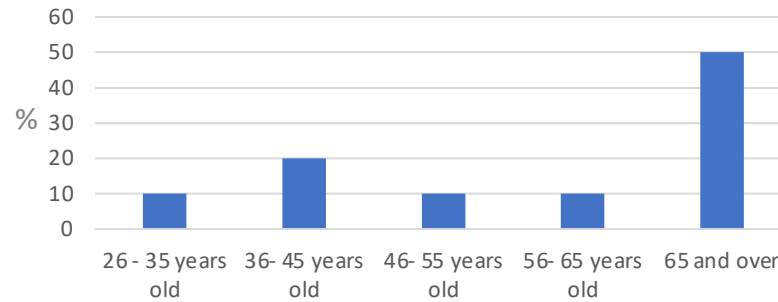
- There was a 30:70 ratio of Female:Male in the sample group
- The majority were over 65yrs old, and most are married or in a domestic partnership
- All participant's education level is Bachelor's degree and above
- 60% of the participants are retired with the remaining 40% in full-time employed
- Most of the participants have an annual household income of £40,000-£60,000

Gender

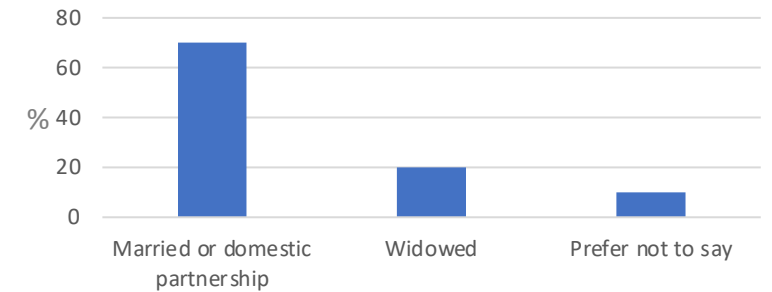


■ Male ■ Female

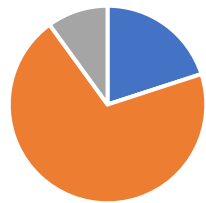
Age



Relationship Status

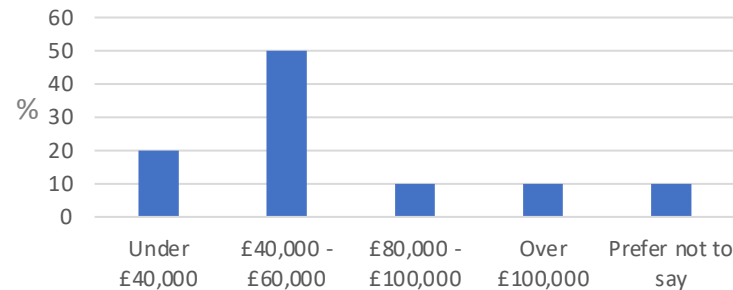


Education level

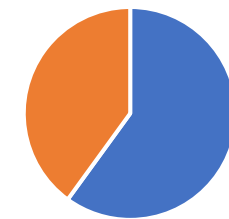


■ Bachelor's degree ■ Master's degree ■ Doctorate degree

Household income



Employment status

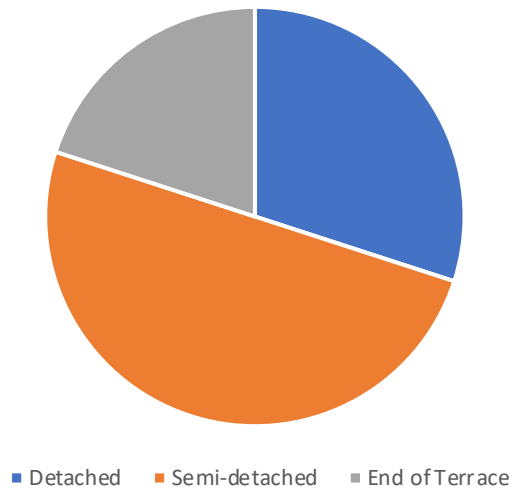


■ Retired ■ Employed Full-Time

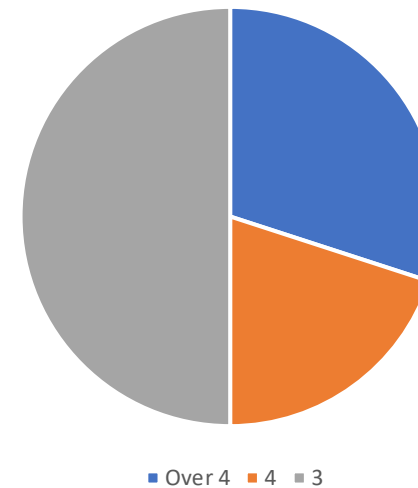
Survey Results- Property type and information

- Half of the participant own their property and the other half rent.
- 50% live in a semi-detached property, and most have 3 bedrooms.
- When asked “Do you know if your property has wall or loft insulation?” All participant knew their property’s insulation status, 80% did have wall or loft insulation.
- 60% of participants knew their property’s ECP rating

Property Type



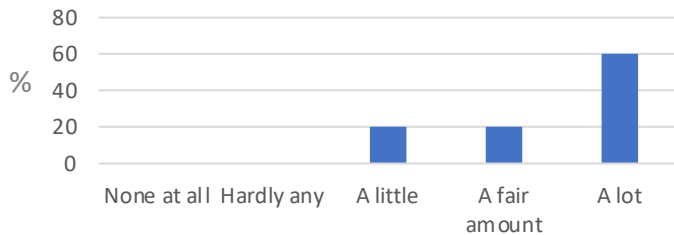
Number of Bedrooms



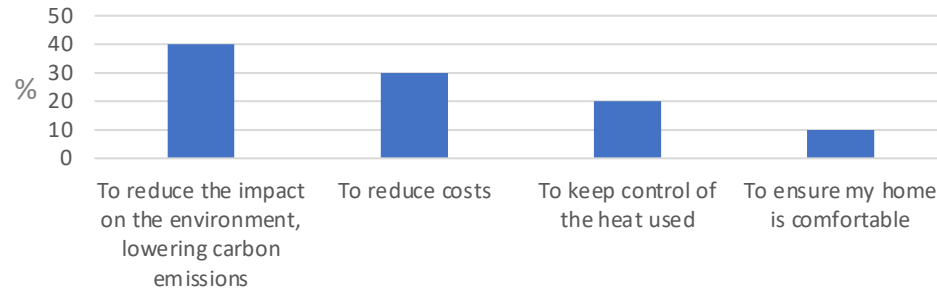
Survey Results – Energy use in the home and the heating systems

- The majority of participants pay a lot of attention to their energy usage.
- For most, this is to reduce their carbon emissions, for others it's for costs, control and comfort.
- All participants current have a gas boiler.
- Most participants carry out maintenance of their heating system once a year.
- The participants are already thinking about changing their system and considering other energy efficient measures.

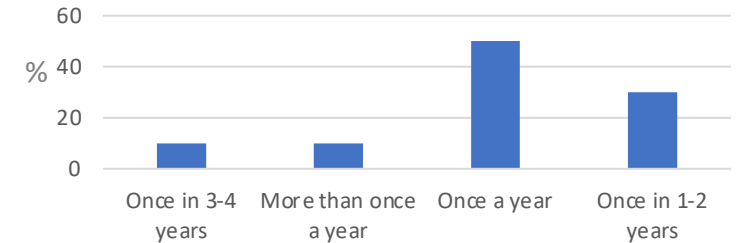
How much attention do you pay to the amount of heat used in the home?



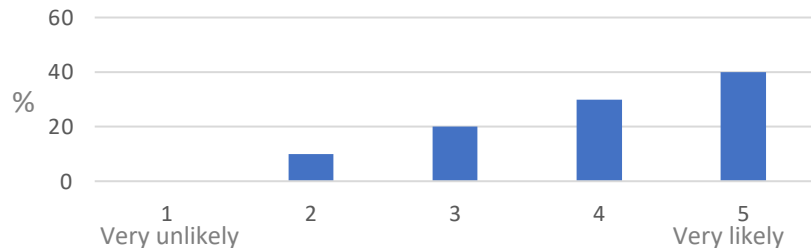
If you do pay attention to heating your home, what are the main reasons?



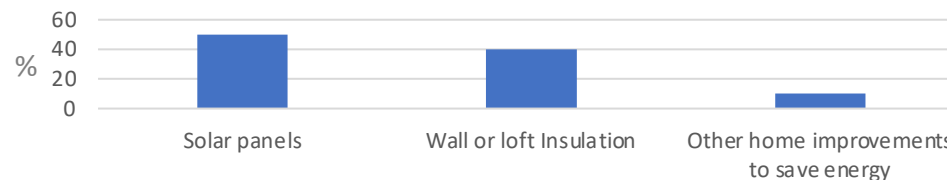
How often do you carry out maintenance on your heating system



What is the likelihood of changing your heating system at the moment?



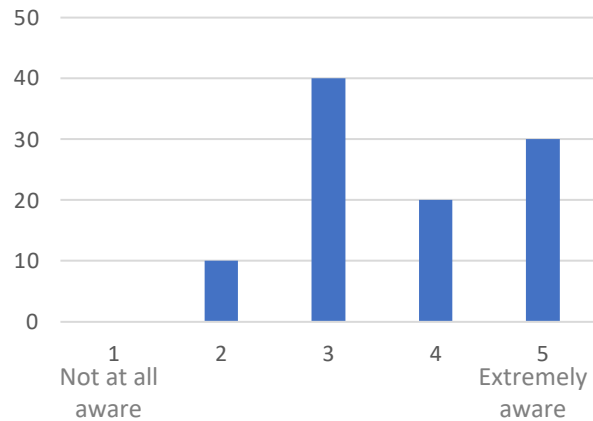
Which of the following energy efficiency measures would you consider implementing in your home?



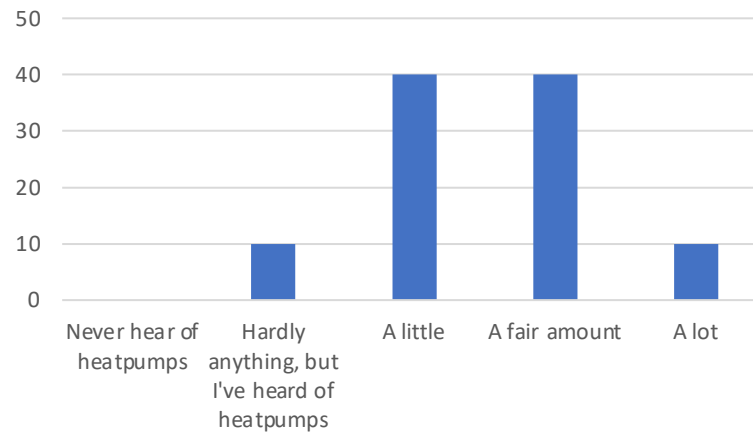
Survey Results – Awareness of heat pumps

- All the participants are aware of heat pumps and most have some previous knowledge.
- There is a high level of interest in the group for installing a heat pump.

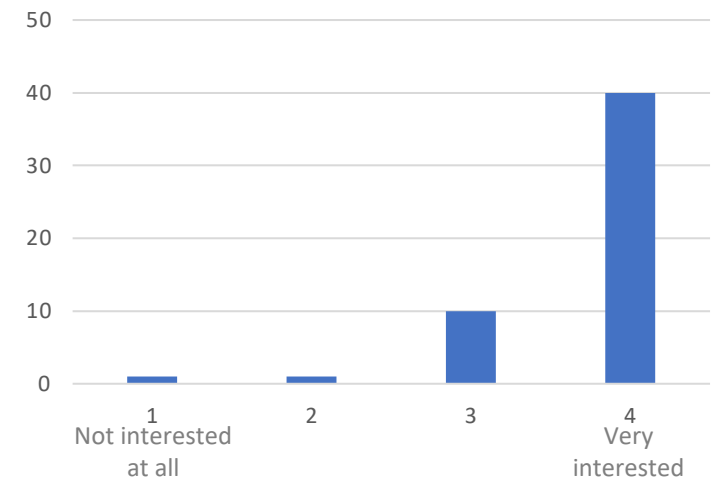
How would you describe your level of awareness of heat pumps?



How much knowledge do you have of heatpumps?

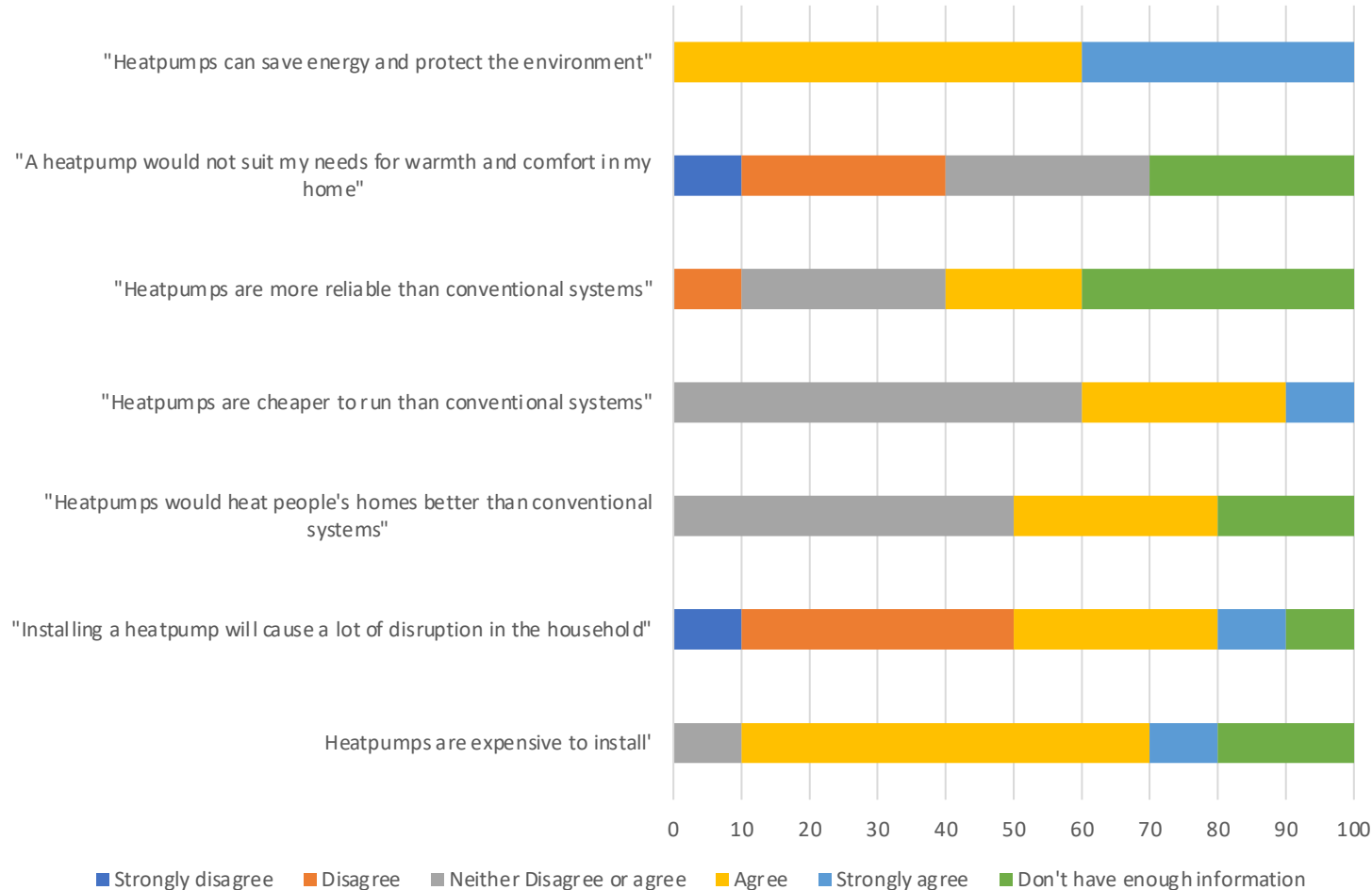


How interested are you in having a heatpump installed in your home



Survey Results – Perception of heat pumps

- To find out participants general perception of heat pumps, they were asked if they agreed with the following statements



- All participants agree or strongly agree heat pumps can save energy and protect the environment.
- They have a lack of information regarding reliability and performance of a heat pump.
- More than half the participant were unsure if a heat pump would be cheaper to run than a conventional system.
- There were mixed feelings if a heat pump would cause disruption to the household and the expense to install.
- Majority of participants think heat pump are expensive to install

Quantitative fieldwork – Focus group

Session plan & Discussion categories

- Participants current attitudes and experiences of heat pumps
- Heat pump demonstration and the myths and benefits presentation
- Smart thermostats and smart meters
- Financial propositions presentation and discussion
 - Tariff offer
 - Heat pump package offers

Key insights from the Focus group results

- The participants have had different in direct experiences of heat pumps with the most positive from a family experience.
- The interest in heat pump has been prompted but the need for boiler replacement and the need for renovation work on their home.
- Participants would like more information about the embedded carbon for heat pumps to help make an environmental choice.
- The priorities for heat pump information apart from costs of the unit were;
 - What home alteration were required for efficient performance, the cost of these alteration and how could find out options for their home.
 - What would be the temperature output be compared to a gas boiler and the operation control including control heating different rooms of the home.
 - The physical size of the unit and water tank and any spatial restrictions.
- There was a lack of understanding of smart technologies and agile tariffs and how they were related, but after receiving information the participants could see the benefits and became more interested.
- The tariff offers including flexibility and renewable energy sources were the most popular propositions, but participant would like clarity of these renewable sources.
- Participants priorities for choosing an energy tariff was firstly cost, also reliability, flexibility and integrating with solar.
- The fixed priced and peace of mind offer (leasing) heat pump packages were popular. There were concerns of how the leasing package would work if the property was sold and if the price would be guaranteed over time.
- There were general concerns for the if the 7yr warranty indicated the longevity of the product and that the interest rates were high.

Focus Group – Participants current attitudes and experiences of heat pumps

Some participants have started the process of heat pump ownership, initial interest, research and getting advice on home alterations. One participant was told by installer that they would have to make major changes to home to become "heat pump ready"

A couple of participants have conflicting in-direct experiences, where heat pumps either don't heat the home effectively, or warm the home too much.

One participant has had a positive experience via family in Germany encouraging them to get a heat pump installed.

A lot of interest in heat pumps from the participant has been prompted by need to replace their boiler and the intention for long-term renovations.

Some participants questioned the low carbon credential of heat pumps. Balancing the embedded carbon in discarding an existing heating system with the carbon saving from a heat pump replacement, together with the carbon cost for manufacture and shipping a new heat pump.

One participant was not expecting to get money back from the cost of heat pump installation.

Some concern of heat pumps voiced by participants were; the noise emitted and the aesthetics of outside unit.

Focus Group – Feedback from the heat pump demonstration and the myths and benefits presentation

Participants were invited to a heat pump demo trailer containing the running heat pump unit with all the components for the home. The participants were then presented with heat pump information. During this time, participants discussed their opinions and concerns.

Home Alterations

There were questions about the need for underfloor heating to increase efficiency, cost for more efficient radiators and the impact of wall insulation.

Participants showed a need for more advice on options for home alterations.

Survey

Participants were interested in what information would be provided by a heat pump survey, alterations needed, size of heat pump and would a survey be part of the offer.

Flow temperature and efficiency

Participants wanted to know how they could control and output temperature of a heat pump and how it compared to gas boiler. Some participants thought gas boilers were more efficient when running at high temp.

Temperature control

Participants wanted to know if and how they would control the temperature in individual rooms with a heat pump system.

Logistics of space

Participant asked question regarding the restrictions of space; the proximity of outside unit to inside hot water tank, how far can the unit be from the house and what is the space required for water tank inside the house.

Focus Group – Smart thermostats and smart meters

Overall there was a lack of understanding of smart technologies and agile tariffs and how they were related.

Within the group there not many participants have a smart meter. A couple have encountering problems; waiting for their energy supplier to provide a smart meter and poor network signal affecting the smart meter.

Once smart thermostats were explain there was an increase in interest from the participants. They wanted to know the cost to install and how the thermostats links to their energy supplier.

This sparked curiosity from some participant of how smart technologies worked with solar PV home consumption. One participant was sceptical how this integration would work.

The participants expressed an appetite to know when there was cheaper and lower carbon periods, allowing the choice of when to use electricity.

Focus Group – Financial propositions

Tariff offers

OFFER 1

Price cap tariff (SVT) 1

- New price set every 3 months by Ofgem (the regulator)

OFFER 2

Fixed tariff for heating season

- Price will be fixed every September for 1 year to give price certainty
- Fixed price may be slightly lower or higher than the SVT (as depends on future wholesale price expectations)

OFFER 3

“Time-of-use” tariff + smart thermostat

- The smart thermostat will gently adjust the way the heatpumps heats your home to reduce costs based on electricity pricing
- Save up to 20% over SVT tariff
- All of your electricity usage will be charged based on the time-of-use tariff

OFFER 4

Flexibility discount + smart thermostat

- Instead of having a time-of-use tariff, your energy supplier will work with the smart thermostat provider to gently adjust the way the heat pump heats your home to reduce costs based on what’s happening in electricity markets and on the grid
- In return for flexibility you’ll get a cheaper fixed unit price for your electricity
- Save up to 20% over SVT tariff

OFFER 5

“Time-of-use” tariff + smart thermostat + solar

- In addition to Offer 3/4 we will install Solar panels on your roof.
- Option 1: Pay full cost (£6k); and get free electricity from your roof (3000kWh per year)
- Option 2: “rent your roof” and buy the electricity for 30p/kWh on a 20 year contract increasing by CPI + 2% per year;
- Option 3: “rent your roof” and buy the electricity at a rate guaranteed to be 20% under the yearly average electricity supply price (per kWh);

OFFER 6

Renewables matching tariff

- Based on your expected usage profile we will match you with a wind farm and a solar field
- Energy that comes from your matched generation sites will be charged at a cheaper rate and unmatched electricity will be charged at the price cap rate

Focus Group – Feedback to financial propositions

Tariff offers

After learning more about how a smart thermostat could control the heat pump system, the time of use tariff in offer 3 and 5 were more attractive to some of the participants.

There was interest in the flexibility discount in offer 4 appealing to participants that feel they are already trying to reduce usage as much as possible but would like to try benefits from supplier control.

A couple of participants were interested in offer 5 but wondered if storage batteries would be required. This causes doubts over their longevity of the batteries.

A lot of the participants were interest in offer 6 for the green credentials. They would like to have visibility of the energy generated by renewables and the source. They were curious of what would happen when the supply of those renewables wasn't sufficient for demand.

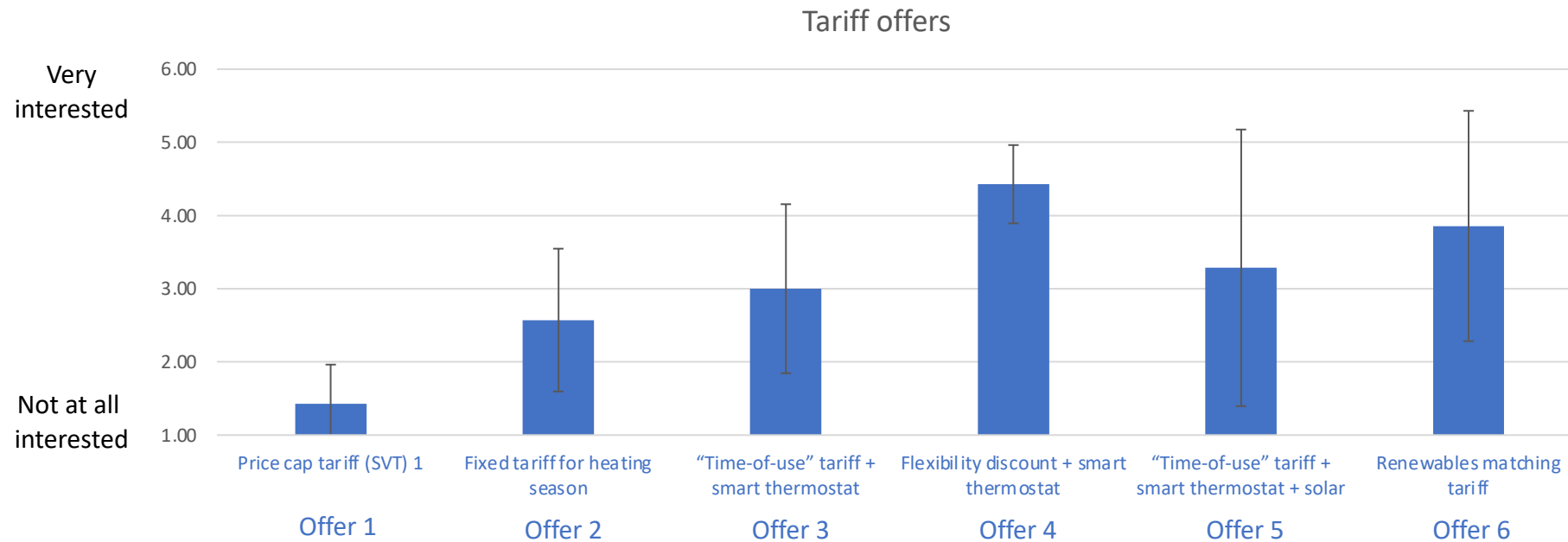
The participants were asked 'what are the priorities when choosing an energy tariff'
The responses were, firstly cost, also reliability, flexibility and integrating with solar.

Overall, the participants found the information of all the offers complex.
When asked 'what would help to navigate different tariff options' participants suggested a comparison table, advice supported by a trusted and independent source, e.g. Martin Lewis, and Which.

Focus Group – Feedback to financial propositions

Tariff offers

6 of the participants fill out the booklets to note their interest levels in each of the tariff offers



Offer 4 was the most popular. offers 5 and 6 were also popular but feelings of individual participants for these were mixed hence the large stdev bars

Focus Group – Financial propositions

Heat pump package offers

OFFER 1

Your fixed price including installation

£12,000 / £7,000

Estimated payback period: 20.4 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year)

What's included?

- All new radiators
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

If no new radiators, price will be £6,000

Does not include yearly service (est. cost £200)

OFFER 2

Pay over 24 months interest free

£600 upfront, £267 monthly

Estimated payback period: 20.4 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year) Samsung Finance

What's included?

- All new radiators
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

If no new radiators, price will be £6,000

Does not include yearly service (est. cost £200)

OFFER 3

Pay in instalments over 7 years (10% APR)

£1,000 deposit, £99 per month

Estimated payback period: 30 years

(Compared to new Gas Boiler at £2,300; No new radiators; Gas meter removed; savings £230 per year)

What's included?

- All new radiators
- Removal of old boiler
- System flush
- New thermostat
- 7 year warranty

Does not include yearly service (est. cost £200)

OFFER 4

Peace of mind deal

Up to 15 years, £65 per month

If new radiators needed, then £75 per month.

The heatpump is owned by the leasing company; depending on the model there may or may not be a buy-out available at the end of the lease;

Alternatively at the end of the lease you could sign a new lease deal including a new generation heatpump;

What's included?

Covers all costs included in other offers, **and no hidden charges for the full term (10-15 years)**. Yearly servicing, repair and replacement should it be required during the term.

Focus Group – Feedback of financial propositions

Heat pump package offers

The 7yr warranty cause some participants concern around the lifetime of the product and it's ability to be repaired.
Some participants thought the interest rates were high

One participant preferred the 7yrs instalment payment period in offer 3 compared to the 15yrs in offer 6 as they would be tied in for so long.

Offer 4 was attractive, giving reassurance and security, but a fuller explanation of how this leasing would work. Concerns included, if the payments would be guaranteed, what would happen if the house was sold before the 15yr period and would it include the whole system.

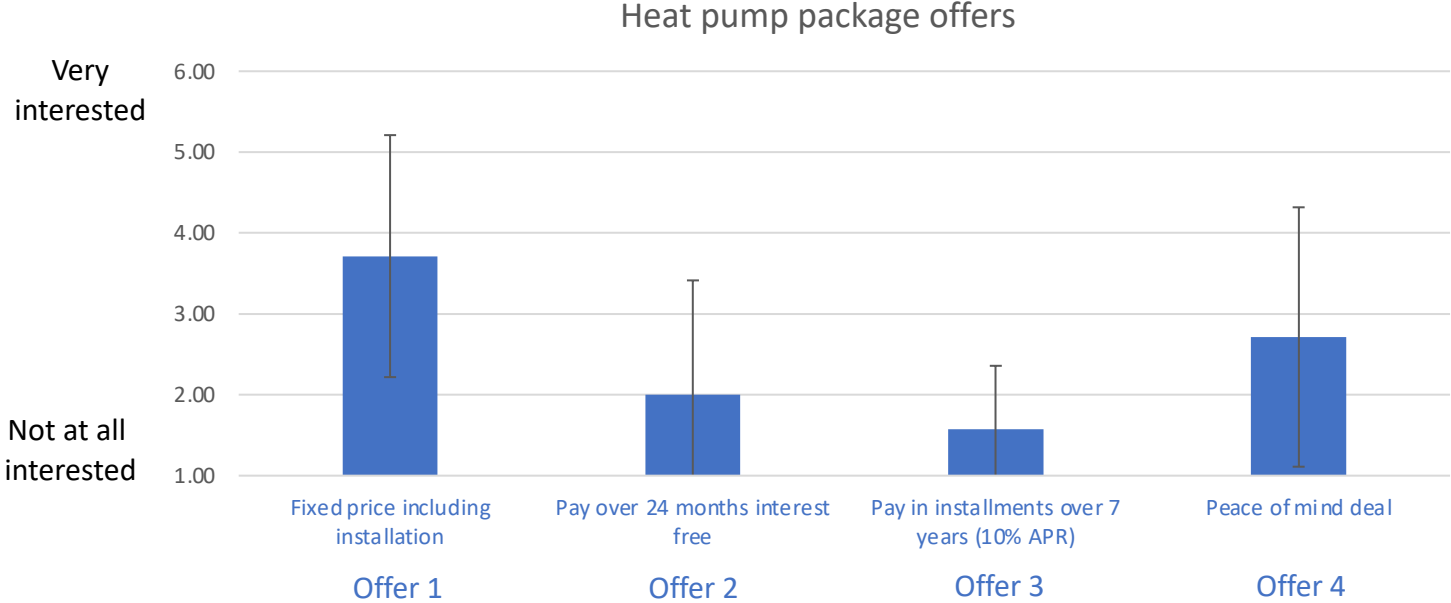
General questions from the participants during the discussion included:

- How do the offers compare with the BUS incentive?
- Does it include VAT?

Focus Group – Feedback of financial propositions

Heat pump package offers

6 of the participants fill out the booklets to note their interest levels in each of the heat pump package offers



Offer 1 and 4 were most popular, but mixed feeling from individual (stdev bar size)

Focus Group – Closing comments

After receiving and discussing the information in the focus group participants were asked how interested they were for installing a heat pump

Some participant would be interested in starting the process now, but others were cautious and wait for technology advancement and decreasing prices in the future – when to 'jump on the curve'

Limitations

Most of the participants were members of the RHILC group therefore already have an interest in low carbon technologies so challenges and barriers with experience of heat pump from people who are so engaged this these technologies was not included.

There was a lack of demographic diversity in the group, therefore, the insights and feedback gain during these focus group 1 session may not be representative of the whole Rose Hill community.

These factors must be considered when gauging suitability of the propositions for a diverse socio-demographic of the area.