Lancaster West
Neighbourhood Team

Notting Dale Heat Network Engagement Report

April 2021

CONTENTS

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Resident Engagement Co-Design Report sits alongside the Outline Business Case for the Notting Dale Heat Network proposed to supply renewable heating to Lancaster West Estate. The report follows a resident co-design period to develop the strategy, design and delivery of a heat network for Lancaster West Estate. This report summarises the findings of co-design activities that took place between December 2020 and April 2021. The key findings, data and insight contained within this report was shared with the Heat Network Project Team, Lancaster West Neighbourhood Team, and the council widely, to inform the design and decisions involved.

A resident summary brings the key findings from resident interactions through this initial co-design period to the fore. It includes two important project deliverables, demonstrating how the project has responded to 62 of 81 actionable comments from residents to date; and a Frequently Asked Questions section, which shall evolve over the project's duration.

Resident co-design for the heat network has been delivered alongside the ongoing co-design activity for the estate-wide refurbishment programme. The initial co-design stage has involved raising awareness and forming clear residents' priorities for the project via surveys, webinars and pop-ups. Further detailed feedback with some residents on the strategic delivery model, tariff and billing was sought via focus groups and collaboration with Lancaster West Resident Association.

There are four mechanisms in which feedback was collected and analysed for the heat network resident co-design.

1. Resident Survey
   This survey provided insight into resident perception of their heating today, whether they are on an existing communal network, or have an individual boiler. The survey identified the essential deliverables of the project, heat controls (enabling residents to choose when and how they heat their homes), and that heating be affordable.

2. Treadgold Heating Survey
   A separate resident survey on heating was delivered to residents of Treadgold House, this was due to differing requirements of the Energiesprong funding which it has been awarded.

3. Co-Design Survey
   A series of co-design pop-ups were held by the refurbishment team in March and April 2021.

4. Informal Resident Comments
   Individual comments and questions were recorded at resident meetings, webinars, and pop-ups, within a communications log. These 81 comments have been analysed, to provide another level of insight and resident outlook on the proposed heat network project.

Resident comments from all events, emails and communications were collated within a communications log and analysed. Of the 81 comments received, 62 were actionable. Several themes emerged from these comments, indicating where further information and detailed planning or action is required for the project.

- 28% (16% Billing, 12% Cost). Will billing happen as it is today? Will residents just get one bill, will new billing options be available? Will costs be cheaper or the same? We need a guarantee on costs.
- 22% Delivery – how can the heat network minimise disruption in the home and to heating. Will it avoid damage to décor (a particular leaseholder concern)
- 19% Home Impact – What will be installed within the home, will it take much space and give the controls residents desire?
- 17% Technology – Is it reliable, will it have good heating controls, can it use solar power to make costs cheaper for residents?

Three overarching deliverables for the heat network were prioritised by residents through a survey as follows:

- 47% Better heating controls
- 38% Affordable Heating
- 13% Sustainable Heating

As part of the co-design process, a survey accompanied display boards that provided further information on the heat network development. This survey allowed residents to make additional suggestions on how the network could be delivered or installed within their home. A question was also asked for feedback on the proposed renewable energy centre location, 87% of residents said they like the proposal, which would replace an existing substation just outside Kensington Leisure Centre.

Two sections of this report evident the areas in which the heat network can make a wider impact. The 'You Said, We Did' section included within the resident summary is focussed on findings from the resident co-design period directly. The second section outlines how the heat network proposal could make an impact in response to other strategic workstreams and findings within Lancaster West Neighbourhood Team. This section also presents further information on the current physical state and resident experience of the existing heating systems, through the analysis of customer service data recorded between May and November 2020. Key findings from customer service records revealed:

- The level of complaints is highest in LW1 (0.98 issues per household) where a temporary diesel boiler is currently installed, the complaints level was also high in LW3 (0.59 issues per household).
- Although the rate of complaints for those with individual gas boilers is lower than the communal networks, the reliability of heating for households is still questionable and issues rate is potentially higher than expected (0.47 issues per household).
- The most common complaints overall are no heating (30.5%), no hot water (25%) and problems with radiators (23%).

Drawing on the evidence from resident surveys, co-design engagement, and review of customer service data, the need to improve or replace heating systems throughout Lancaster West Estate is clear. The new heat network must address resident experience of their heating systems, from difficulties with radiators to the communal network and individual boilers. The principal issue highlighted by residents is the lack of heating control available to them currently, 47% of residents stated this as their top priority, for the reasons given:

- Centrally controlled heating, that is either 'on' (winter mode), or 'off' (summer mode)
- Over-heating / heat not delivered evenly to radiators, due to poor pipe insultation, leaking heat before it enters radiators
- No radiator heating controls
- No central heating controls, other than 'on' or 'off', during winter

The second resident priority was that heating should be affordable (38% of responses). The importance of fair and accessible pricing to renewable heating has been recognised by the project team. During this co-design period, National Energy Action were invited to support the project as a 'resident champion' to evaluate the heat network's future business model and potential tariff structures. To ensure continued resident involvement in this process, a resident working group has been set-up to provide resident input. The cost of heating to residents will be established during the next project stage, 'commercialisation' (beginning August 2021).

At present, sustainability is a priority to a small minority of residents, about 13%. As one resident in an interview with Sussex University put it, 'People don't care about sustainability, we are just trying to survive'. When residents were asked if they would like to move to a low carbon heat network, 47% said they would if it cost no more than heating today, only 16% would if it was more expensive (LWNT, Sustainability Strategy findings). If there was a financial benefit or incentive for residents to change heating, 47% grew to 73%. This suggests that the transition from current heating and billing arrangements will necessitate support and even incentive to meet resident needs and expectations. The pricing model for the heat network is still under development and should take these resident sentiments into consideration.

Another notable priority was concern around the delivery of the heat network and home impact, indicated by general comments from residents (41% of 81 comments). Residents want to see new heating delivered alongside the refurbishment, to prevent multiple periods of disruption within the home. Programming and communicating the timeline for heating improvements and providing information on the opportunity available to leaseholders and freeholders to go renewable during this period will be essential.

RESIDENT SUMMARY

The Notting Dale Heat Network has been developed through a resident co-design process from early concept stage. Residents will be involved throughout the design, delivery, and long-term management of the heat network.

This summary shares the headline findings from co-design engagement during December 2020 – April 2021. It documents the questions and suggestions submitted by Lancaster West Residents through a Frequently Asked Questions document and 'You Said, We Did' log. A brief data summary of resident's priorities is also included.

INTRODUCTION

Purpose

The Notting Dale Heat Network Engagement Report follows a period of resident engagement to develop a proposed heat network for Lancaster West Estate. This report summarises the findings of co-design activities that took place between December 2020 and April 2021. The key findings, data and insight contained within this report was shared with the Heat Network Project Team, Lancaster West Neighbourhood Team, and the council widely, to inform the design and decisions involved.

Project Summary

Lancaster West Estate is set to become a model 21st Century Housing Estate, the cornerstone to a vision that Notting Dale Ward will become the UK's largest Eco-Neighbourhood.

A new renewable heat network will secure Lancaster West Estate in becoming net-zero carbon. The renewable technology will address one of the most carbon costly aspects of our home, heating accounts for around 31% of domestic carbon emissions in the UK. The prospect of a renewable heat network will coincide with the major retrofit of all blocks at Lancaster West Estate. The heat network will seize the opportunity to make the significant improvements required of the existing communal heating systems that currently supply 80% of homes on the estate, and deliver sustainable, renewable heating to all homes on the estate. Lancaster West Estate will jump ahead of the 2030 operational net-zero carbon target, to become the first estate in Notting Dale and RBKC to achieve this goal by 2024.

Lancaster West Neighbourhood Team has made a commitment to develop the heat network through a resident co-design process. This ensures that resident's input on aspects including, the strategic delivery model, operation, tariff expectations, delivery and installation within their home.

The proposed heat network has been designed in response to the findings of this document, and resident co-design will continue throughout the heat network development. Putting residents at the centre of the project, has been put in focus by the overarching project vision.

Project Vision

Our vision is to deliver a nationally significant model heat network. The zero carbon Notting Dale Heat Network will put residents first, rely solely on renewable heat sources, and provide affordable heating and hot water whilst tackling fuel poverty.

Project Aims

1. **Puts residents first:** achieving at least 80% resident satisfaction with the heat network customer service experience and be more affordable than alternatives.
2. **Set the standard for 21st century social housing:** delivering warm homes, tackling fuel poverty, and achieve the Council's zero carbon ambition for the Lancaster West Estate.
3. **Help RBKC move towards carbon neutrality by 2030:** working in partnership to achieve objectives for housing, planning and environment, and Grenfell recovery.

The Project in Ten Questions

1. **What is a Heat Network?**
   A heat network is plumbing on a large-scale. An energy centre will supply heat through underground pipes to housing blocks, leisure centre and school. Other buildings could connect to the heat network in the future.

2. **Why is a heat network required?**
   The renewable heat network will replace two existing communal networks powered by gas. They need replaced due to the age of pipework and the planned move away from gas in the UK.

3. **What is proposed?**
   A new renewable energy centre, containing a large air source heat pump and electric boilers is proposed. This energy centre will use renewable energy to heat all the homes, leisure centre, and Academy located within the estate. The heat network will be available for tenants, leaseholders and freeholders to join, even if you have a gas boiler today.

4. **When will it happen?**
   There are three phases to the development of the heat network. Firstly, individual heating systems in each home will need to be upgraded. This work will happen when homes are being refurbished (leaseholders will be able to plan their works within a timeframe). The second phase will build the energy centre, potentially be located behind the leisure centre. The final phase will connect each housing block up to the new heating network.

5. **When will the heating improve?**
   Heating in each home on the estate will be vastly improved by the refurbishment.

6. **Who will manage the heat network?**
   A local energy company could manage the heat network energy centre and underground pipes that connect your block to it. This requires further Council consideration and approval.

7. **How will it change residents' energy bills?**
   In the future residents will need to pay for the heat each household uses. Today the energy bills are based on the number of bedrooms a property has. The heat network team are working with the Lancaster West Resident Association to ensure a fair price for all. The council will issue heating and hot water bills to tenants and leaseholders on the new heat network.

8. **How has the project been funded?**
   The project has received grant funding from the Heat Network Development Unit (HNDU). This money has paid for the project team, engineers and on-site testing. To build the heat network, a £1.1m grant will be sought from the Heat Network Investment Project (HNIP) in addition to £17.5m secured from the Housing Revenue Account (HRA) and up to £1.27m from the Council's capital programme.

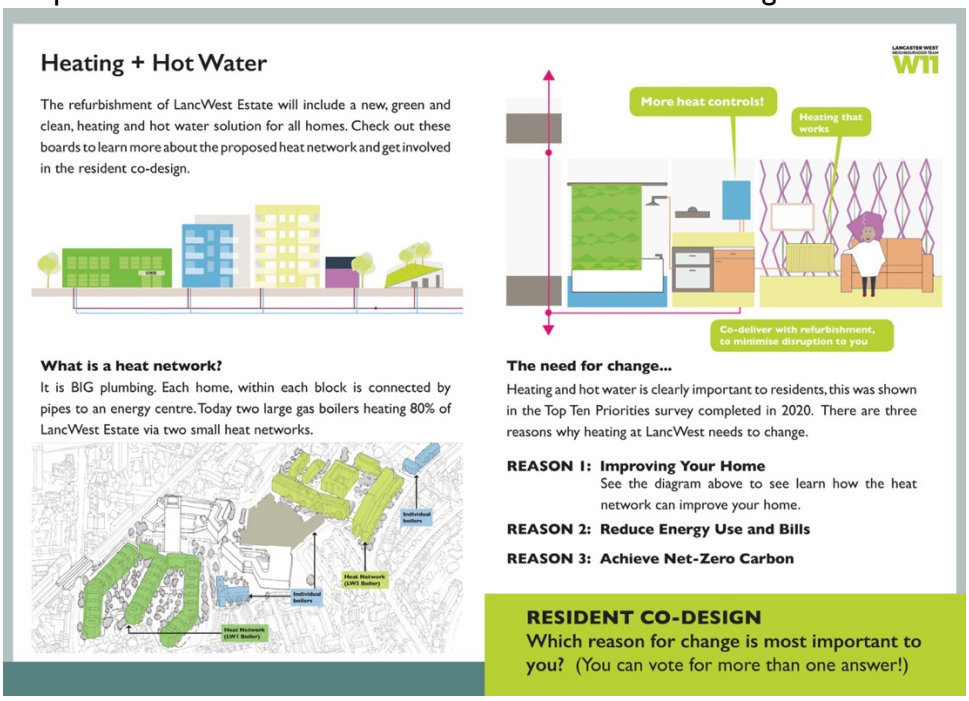
9. **Who is involved in the heat network project?**
   There is a specialist team recruited by the council to design the heat network. It includes a heat network programme manager, two stakeholder managers and office support. There are two engineering companies involved in designing the project, Ramboll and TACE. They are working with the architects for each block, to ensure that the heat network design fits with the new refurbishment designs and resident input.

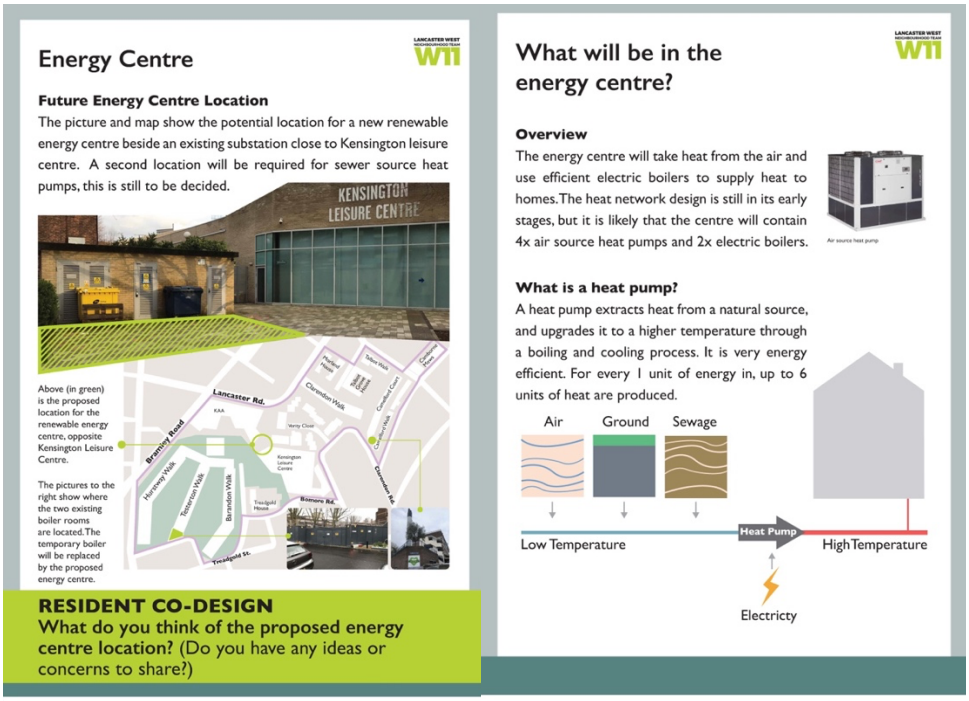
10. Who is providing advice on the project?

National Energy Action provides advice on energy and heating throughout the UK. They were appointed as a 'resident friend' to the heat network project, to provide advice and question the heat network proposal from a resident perspective. NEA attended resident focus groups for the heat network project. The Government's Heat Network Delivery Unit(HNDU) and Greater London Authority have also been providing the project with advice and support.

Where further information can be found?

There is a heat network section in the 'refurbishment' section at www.wearew11.org/. A full list of communications shared with residents as part of the co-design process is shown on page 14. Graphic extracts from communications are included throughout this document.

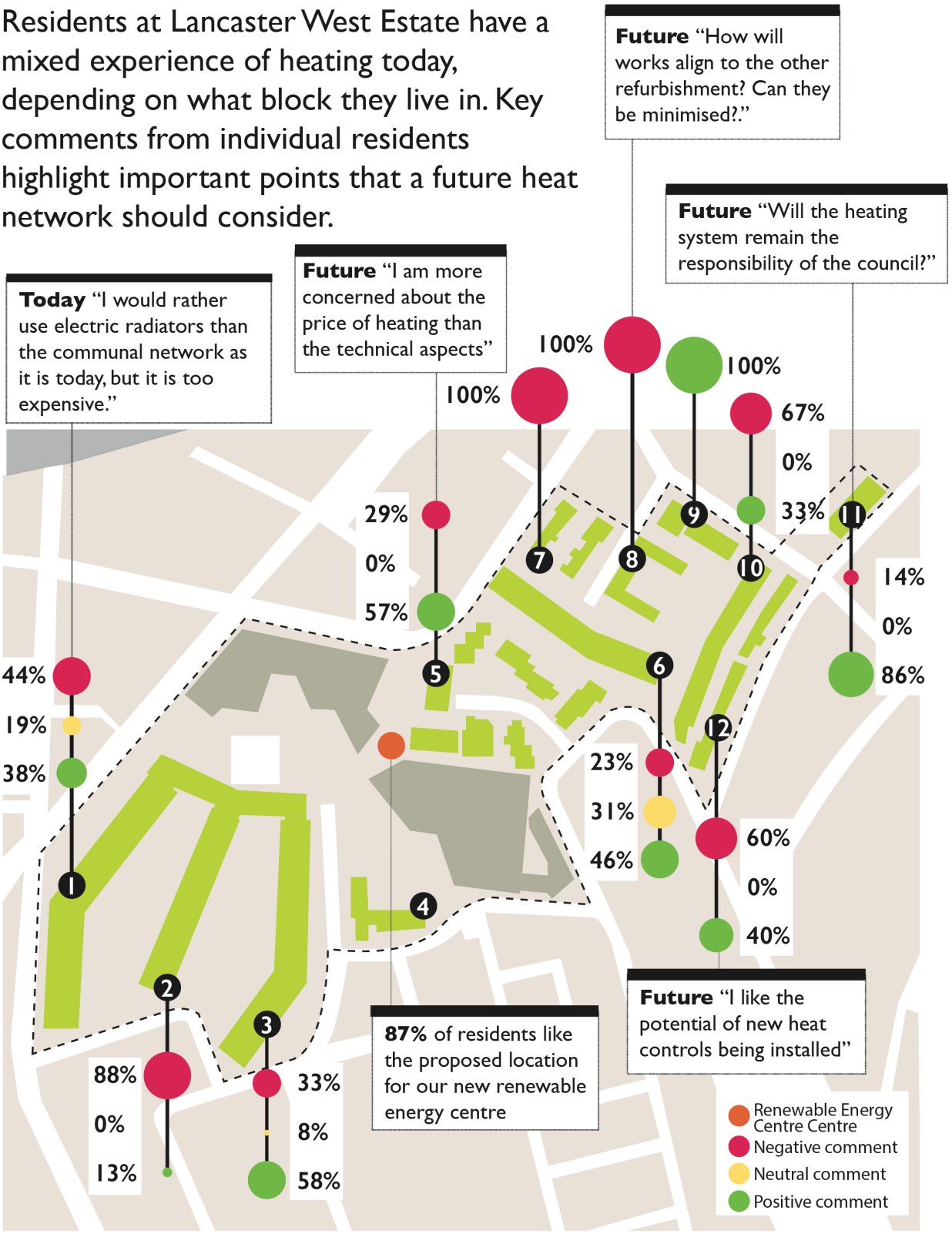




LANCASTER WEST NEIGHBOURHOOD TEAM
W11
part of Kensington and Chelsea Council

What you think of heating at LancWest today...

Residents at Lancaster West Estate have a mixed experience of heating today, depending on what block they live in. Key comments from individual residents highlight important points that a future heat network should consider.



1 Hurstway Walk
2 Testerton Walk
3 Barandon Walk
4 Treadgold House
5 Verity Close
6 Clarendon Walk
7 Morland House
8 Talbot Grove House
9 Talbot Walk
10 Camelford Court
11 Camborne Mews
12 Camelford Walk

COMFORT

Do you heat your home to the level you would like?

60%
Heat their home to comfort level

Do not heat their home to comfort level

40%

COST

Would you change to a renewable supplier?

16%
Said YES if heating is **more expensive**

+31%
Said YES if heating is **the same price**
47% total

+26%
Said YES if heating is **cheaper**
73% total

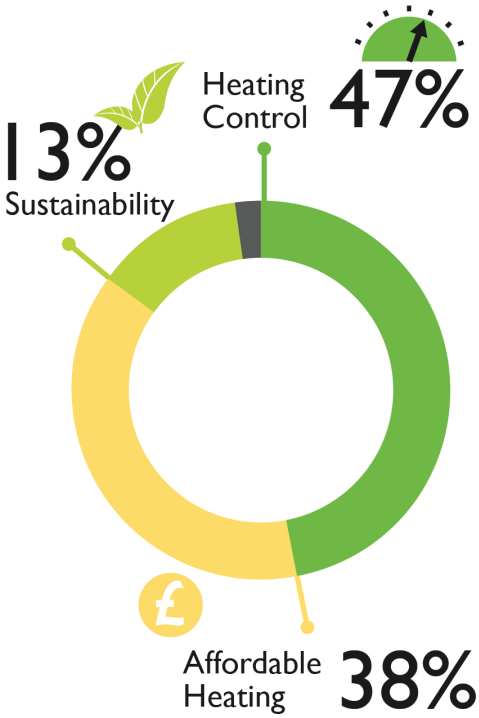
17%
Did not respond...

CO_2

61%
Want to reduce their energy + gas use, saving carbon

PRIORITIES

Thinking about heating, what is your priority?



'You Said, We Did'

The table below outlines the actionable comments and questions put forward by residents to the Heat Network Team in Spring 2021. 62 of 81 comments received were actionable. All comments can be found at Appendix E.

You Said	We Did…	Theme
What would be installed in my home? Set heating controls to cheaper usage times? HIU? What about the unvented cylinders recently installed?	Information has been provided through resident engagement at pop-ups, online meetings and the W11 website.	Home Impact
9 Comments, 12% Total		
Concern about pricing, generally residents feel pricing today is ok, and would be worried about future increases. Access to winter fuel payments and other financial support was also mentioned. Some residents indicated that they are struggling to afford heating today.	The heat network local energy company will be registered with the Heat Trust, which provides third party customer protection	Billing
7 Comments, 9% Total		
Will residents be required to sign-up, has a decision been made?	Lancaster West Estate will go Net Zero by 2030; this will mean the removal of gas to the Estate. The heat network will provide an alternative means capable of heating all homes on the Estate at an affordable price. We hope that all households take the opportunity to join, when the sign-up process is shared.	Delivery
7 Comments, 9% Total		
Cost to connect	There will be no costs to tenants to join the heat network. We are currently reviewing if there will be any costs for leaseholders and freeholders.	Billing
6 Comments, 8% Total		
How can heat pricing be made fair? How will pricing be controlled? Will some people pay more than others?	Good water pressure, especially for the shower	Billing
4 Comments, 5% Total		
Billing process, would like to see a simple singular bill on monthly basis	Constant and consistent supply of hot water	Technology
6 Comments, 8% Total		

How can heat pricing be made fair? How will pricing be controlled? Will some people pay more than others?	The refurbishment and heat network projects aim to reduce resident bills overall. The energy billing and prices are still under development.	Billing
4 Comments, 5% Total		
Solar panels to be used? How much electricity can be produced on the estate?	A great idea, that the project team are looking into.	Technology
4 Comments, 5% Total		
Desire that works be done as part of the refurbishment, to prevent another period of disruption	The heating system in each flat (your central heating system), and in each block (the 'secondary network') will be improved as part of the refurbishment programme.	Technology
4 Comments, 5% Total		
Billing process, would like to see a simple singular bill on monthly basis	Simple, transparent bills are a requirement of the new heating and billing regs which the project must align to.	Billing
3 Comments, 4% Total		
Leaseholder impact: heating upgrade versus cost of décor damage, how to plan and manage those connections	There will be no costs to tenants to join the heat network. We are currently reviewing if there will be any costs for leaseholders and freeholders.	Home Impact
3 Comments, 4% Total		
Technology is good idea	N/A	Technology
3 Comments, 4% Total		
Current overheating problems	It is understood that much of the overheating on Lancaster West Estate is due to the age of existing insulated pipework. Without the insulation, they are losing heat to rooms before it gets to radiators! These pipes will be replaced as part of the heat network project.	Technology
2 Comments, 3% Total		

FREQUENTLY ASKED QUESTIONS

Questions from residents were recorded at engagement events and webinars, these have been brought together to form an FAQ. These have been organised into themes most relevant to resident concerns; Your Home, Your Block, The Estate and Local Area, The Energy Centre, The Design Process, Project Delivery and Connection + Payments.

This document will evolve over the project and be made available to residents online.

QUESTION	ANSWER
YOUR HOME	
How / why will this be better than the existing heat network?	Several changes should improve your experience of heating in the future: 1. Control over your heating; A Heat Interface Unit will give control of heating for your home, in the event of any system fault it will also isolate your home to prevent heat issues in one home effecting other homes 2. Insulated pipe installation: will prevent overheating in homes 3. Improved pipe sizing and pressure through use of pumps: will make sure that all homes, in all blocks receive quality heat 4. Smart pipes: the heat network pipes will also be 'wired in', these can detect any possible leaks between the energy centre and building
How will it change the heating control (radiators + thermostats)?	The new heating system will give you better heating and hot water control in every room in your home, all year round. Radiators, a Heat Interface Unit (HIU) and control panel will help you control the temperature of your home. The system can be turned off completely, if you do not need heating. It will have timing and remote controls available.
Who is designing the future heating system in my home?	Engineers will design the new heating system, working with the architects appointed to design the external refurbishment of each block. The system (radiators etc.) that the engineers design will connect to a Heat Interface Unit in your home. The Heat Interface unit marks the boundary between your internal heating system, and the communal heating system.
What is a Heat Interface Unit?	A Heat Interface Unit transfers heat from the block's pipes to your heating system. It heats up the liquid flowing through radiators and can also provide instant hot water. It does this via a 'plate heat exchanger', a metal honeycomb plate which allows heat to be transferred without the liquid in each system (block and your central heating system) mixing.
How big will the Heat Interface Unit be?	Just like a standard wall mounted boiler. Approximately 60cm wide X 85cm high X 30cm deep.
Where will the Heat Interface Unit be installed?	Each home will have a Heat Interface Unit (HIU) installed in a service cupboard within your property, it will be placed as close to the building connection point as possible.

	Homes in Barandon, Hurstway and Testerton Walks– may have the Heat Interface Units installed within the communal walks, not in individual homes. This will be considered through the architect design process.
Will the same Heat Interface Unit be installed in every home?	Some of the larger homes on the estate may require a heat interface unit with a higher power rating. All the heat interface units to be fitted in homes will be a similar size, whatever the power rating is.
Heat Interface Units were installed in some homes during 2020, will these heat interface units be installed in the same way?	The Heat Interface Units that were previously installed in some homes, these were not successful due to the summer / winter cycle of the existing boilers. The new Heat Interface Units will be installed into a system that operates all-year-around, and can heat your home throughout the year.
Will there be a cooling system / air conditioning installed?	There will be no cooling system included as part of the heating installation.
How will homes be ventilated?	Mechanical Ventilation Heat Recovery (MVHR) will be installed in each home. This system replaces stale air with fresh air, whilst also preventing heat lost during winter. This means less energy is lost from the home than when a window is open. The architect led team for each block will outline the MVHR design.
How will hot water be delivered?	For blocks where the refurbishment and heat network will happen at the same time, Heat Interface Units will be installed to provide instantaneous hot water. Back-up will be provided by the thermal store at the new energy centre.
What if I've already had a hot water cylinder installed as part of the internal refurbishment?	For internal refurbishments that are happening soon at Morland House, Talbot House, Cambourne Mews and Verity Close, we will remove the old cylinders and replace them with a more modern version that can improve hot water pressure and provide a guaranteed hot water supply. We'll also provide pipework from outside of the home into the storage cupboard, to allow future connection to the new heat network. Future disruption will be minimised by limiting works to the storage cupboard (where available). Once the heat network connection happens, a Heat Interface Unit will be installed, and the cylinder could be removed or retained.
Is there a limit on the number of baths and showers we can take? Will hot water always be available?	Hot water is instantaneously available, so there's no limit on the number of baths or showers. You simply pay for what you use. The Heat Interface Unit supplies hot water in a similar way to that of a gas 'combi' boiler.
How does the water stay hot in the pipes?	All the pipes from the boiler to your home will be highly insulated.
How hot will the heating be?	The heating system will be designed so that rooms can be maintained at 21DegC on a winter day (up to 70DegC will be delivered to radiators).
How hot will water from taps be?	Water temperatures will be up to 60Deg C.

How big will the radiators be?	The new central heating system within your home will be designed through the internal refurbishment. This will include the radiator, size, design and selection, they will be similar to your existing radiators but will have additional controls.
How will I be able to see what energy I use?	Each Heat Interface Unit will have a touch screen control unit that will display energy use and heat control options. There will also be thermostat controls made available, so that residents can control the comfort heating level of each room. A separate control panel will be provided for this.

YOUR BLOCK	
What work will be required in communal areas?	New pipes will be delivered as part of the refurbishment of each building. All residents will be given notice ahead of these works.
How has the system been designed ahead of the refurbishment of each block?	To design a heat network, there needs to be an understanding of how much heat is needed by homes. The heating need for the Estate has been calculated by assuming that all homes will achieve and improve on Building Regulation "Part L" standards. This sets out the minimum "U'-value", the measure for prevention of heat loss.
How has the system been designed to cope with peak hot water and space heating demand?	The system has been designed to keep homes at a comfortable temperature (18-21Deg C) on a cold winters day (down to -4Deg C), and for all homes on the Estate to be able to run hot water for a bath.
Does the system work on a very cold day?	Yes, the system has been designed to work at -4DegC, it will work in very cold temperatures also (below -4DegC). The retrofit will also ensure that temperatures are comfortable during exceptionally cold days.
Are communal areas to be heated?	Most communal areas, that are covered, will be heated.
Will there be any changes to the building?	There will be some external works required to each block to install the new heating system. This will include external risers, and pipework in communal areas or fixed to the external facades (where there is no indoor communal area). These works will be designed with the architects for the building retrofit, to make sure they are unseen where possible.

THE ESTATE AND LOCAL AREA	
Are there any environmental risks associated with the technology proposed?	There are no known environmental risks in the delivery of heat within your property.
Are there other examples of a successful heat network refurbishment similar to Lancaster West?	Heat Networks are used throughout London, and many will have been refurbished over the decades. What is special about the Notting Dale Heat Network, is that the system will use renewable energy. The Danish use renewable heating for around 50% of their heat networks. The UK is just starting to switch to renewable energy for its heat networks. For example, the Cory Riverside project in East London will connect 10,000 homes to a

	system recovering from household waste. A similar project has also been outlined for Kingston it will use waste heat from sewage.
Why has it been decided to include the school and sports facility?	The school and sports centre will be joining the heat network. These two buildings use a lot of heat and will make a big impact on reducing pollution in the local area by changing from gas to renewable energy.

THE ENERGY CENTRE	
What type of renewable energy will be used?	It is proposed that two large air source heat pumps and energy efficient electric boilers are used to supply heat to homes. The existing gas boiler in Camelford Court will be kept as a back-up energy supply. In the longer-term sewage source heat pumps could also be used, taking heat from a trunk sewer that runs under the Estate. Heat would be drawn from wastewater and converted into heat within a plant room.
What will be the quality of the renewable heating?	The new heat network will use multiple energy sources (air, electric and gas back-up until 2030), it also has a spare heat pump built in, plus thermal stores which act as a large water battery. This means that there is a lot of extra back-up built into the heating, more than is provided by just having gas boilers as the Estate does today.
What back-up will there be for the new heating system?	The new heat network will be a lot more robust than the current system: 1. If something goes wrong with the heating in one flat it can be isolated, so that the heating in every other flat isn't affected. 2. The new smart pipework to be installed will make it easy to identify where there are any leak or problem if it does happen. 3. There are many energy sources used by the renewable energy centre, so the heating doesn't rely on a single large gas boiler.
Where will the plant room be located?	The plant room is likely to be built where an existing substation is located, on land to the rear of Kensington Leisure Centre.
Will solar panels be used to provide electricity to the energy centre? How much energy can they provide?	Roof-top solar panels may play a role in supplying electricity to communal areas (eg. For Lighting) and the heat network. A study is currently underway to review what buildings could support solar panels.

THE DESIGN PROCESS	
How will the heating design work with the refurbishment planned?	A 'fabric first' approach is to be taken for all blocks on the estate. That means that reducing the level of energy required to heat homes is the first priority. The aim is that each block will achieve a maximum 25-50kWh per metre squared heat loss requirement, this exceeds minimum UK retrofit standards. The architects designing the external refurbishment of each block are working with project engineers to achieve this target.
How will the pipe network between each building be designed?	A survey will be carried out to identify the routes of existing utility pipes underground. This will inform the route planned between buildings to the new zero-carbon energy centre.
How long will the heat network be designed to last?	The minimum lifespan for the pipes and ducts is 50 years, the mechanical equipment required should last at least 20 years, with a budget provided to provide new replacement equipment.

DELIVERY

How will this heat network be delivered?	A new heating system for homes and blocks will be installed as part of the internal refurbishment programme, which for LW1 and LW3 networks will initially connect to the existing large gas boilers. Treadgold House will connect to its own large air source heat pump and be future-proofed for connection the new heat network by 2030. The final step is to build the new energy centre (by July 2024) and external pipework in the ground, which each block then connects into. The details of this plan will be developed with designers and the residents of each block.
How will disruption be minimised?	The new heating system within homes are to be installed as part of the refurbishment in each home. Where possible, the replacement of existing heating systems will take place in summer, when heating is not generally required and won't be missed by residents. We are carrying out as much work as possible as part of the internal refurbishment, external connections can then be made at a later date, without further disruption to residents.
My home has already been refurbished; will it work with the new heat network?	Some homes that have already been refurbished had a large hot water cylinder installed to provide hot water to homes. These cylinders can work with the new heat network.
What is the £17.5m received going to pay for?	This money from the Housing Revenue Account, is to be invested to improve the heating systems and pipe work across Lancaster West Estate. This money will need topped up by a Government Grant, to help us to go renewable.
HEAT NETWORK COSTS	
What is the "Resident Price Promise?"	The project aims to put residents first and provide affordable heating and hot water, whilst tackling fuel poverty. More detailed information on the cost for tenants, leaseholders and freeholders to be supplied with heating and hot water from the new Notting Dale Heat Network will be tested with the Lancaster West Residents' Association. A 'Residents Price Promise' will follow and be circulated to all residents.
Further information?	Will be added to this FAQ shortly.

If you have further questions about the project, please email:

Janet.hall@rbkc.gov.uk

Shabir.jafari@rbkc.gov.uk

ENGAGEMENT ACTIVITY & FINDINGS

Heat Network Co-Design
The heat network co-design programme presented real options to resident stakeholders for the potential development of a heat network at Lancaster West and Notting Dale Ward. The options presented are to be extracted from the draft outline business case, and feedback from residents will inform the final business case and project design.

The engagement strategy is included at appendix A.

Events
Information about the heat network was shared at 15 events between February and April 2021. Most events were held online (11 events) due to Covid-19 restrictions, but 3 pop-ups and 1 outdoor focus group, made it possible to meet residents in person.

INVITED EVENTS

Block Rep Meetings
Tuesday 23rd February
4-5pm
Wednesday 24th February
6-7pm
Monday 1st March
1-2pm

LWRA Meeting
Thursday 28th January 2021

Focus Group
Friday 9th March,
2-4pm
Wednesday 14th March,
5-7pm

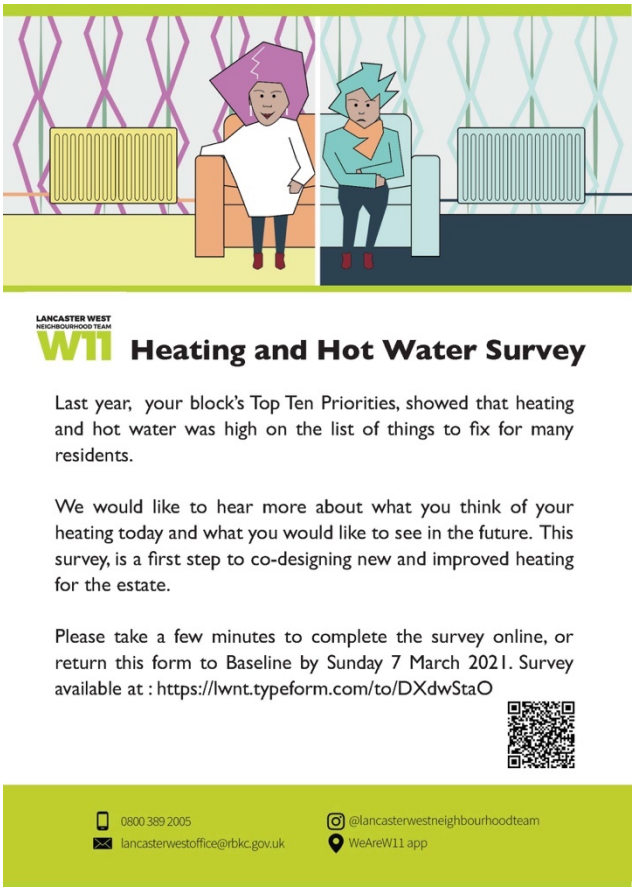
GENERAL EVENTS

Block Resident Design Meetings
Morland + Talbot Grove Workshop, Thursday 25th Feb 5-6pm
Verity Close Workshop, Wednesday 3rd March 5-6pm
Walkways Workshop, Thursday 11th March 5-6.30pm
Camelford Court, Clarendon Walk, Camelford Walk, Talbot Walk Workshop, Thursday 18th March 5-6.30pm

Estate-Wide Meeting
Monday 29th March 7-8.30pm

Pop-Up Events
Tuesday 30th March, Verity Close Pop-Up, 2-5pm
Wednesday 7th April, Talbot Walk / Camborne Mews
Thursday 15th April, Walkways Pop-Up, 3-5pm
Friday 16th April, Walkways Pop-Up, 3-5pm

How was feedback from residents collected?
As part of the resident co-design process, feedback was gathered via each of the events above, and through an all-estate survey. The following methods were used to collect 186 comments from residents.



How was the feedback from residents used?
The comments made by residents were shared with the wider project team and have informed the design evolution of the project as set out in the 'You Said, We Did' section. There were also a lot of questions received about the heat network from residents. These have been collated to create a Frequently Asked Questions document.

Feedback Collection:

Treadgold House Heating and Hot Water Survey
11 Surveys Received
1st – 22nd February

Resident Heating and Hot Water Survey
96 Surveys Received
10th February – 14th March

A resident survey on heating and hot water was issued to all households on the Estate. The survey gave further information on resident's experience of heating and hot water today. It also identified what their priorities are for a future heating system.

Resident Co-Design Survey
12 Surveys Received
30th March – 16th April

A short resident co-design survey enabled residents to respond to more detailed design information shared at each of the 4 pop-ups held on the Estate in March and April. This aspect of the project will be developed further during the detailed design and delivery stages.

Informal Resident Comments
81 Comments Received

Comments and questions were noted from each resident meeting and informal conversations at pop-ups, these have been logged and responded to in the 'You Said, We Did' section of this report.

197 Comments Received Overall

FEEDBACK OVERVIEW: Treadgold Heating and Hot Water Survey Results

Engagement with residents of Treadgold House started prior to outreach with the wider Estate. This was due to the different programme and data requirements of the MustBeZero and Energiesprong funding secured for the buildings refurbishment. The following data was collected to support the technical design of Treadgold House. See Appendix C for raw data.

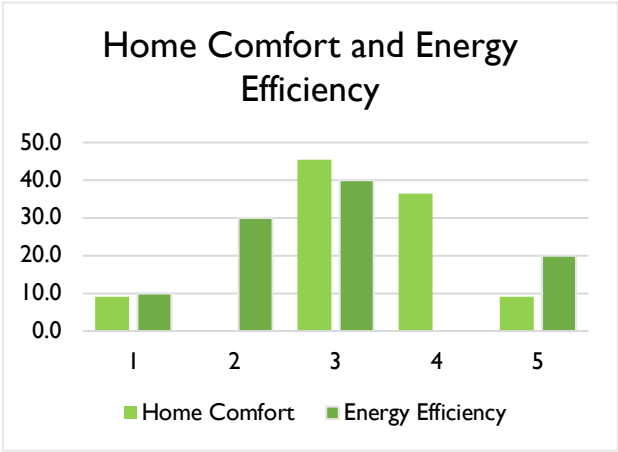
Overview

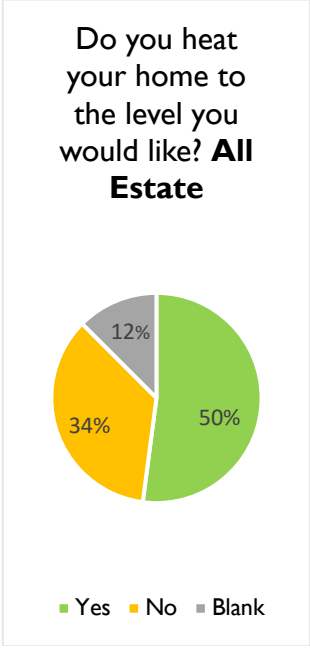
Residents of Treadgold House, generally find their homes to be comfortable, with 45% stating comfort as 'ok' and 35% finding it 'good'.

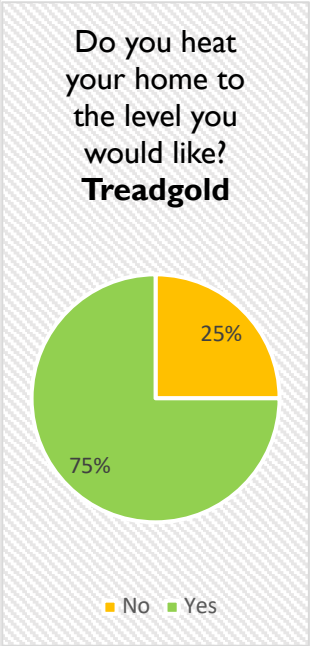
Despite positive levels of comfort, there was a prevalent perception that the energy efficiency rating of homes was not good; 40% described it as 'very poor' or 'poor' and 40% as 'ok'. However, 20% also viewed their homes as being very energy efficient.
More residents in Treadgold House heat their homes to the level that they would like, compared to the rest of the estate.

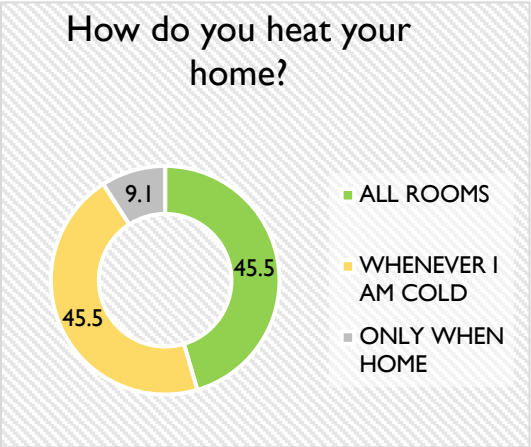
Each home in Treadgold is installed with an individual boiler, giving residents control of their heating which isn't available to 80% of the estate which is heated via an old communal heating system.

Today there is an even split between residents heating all rooms as routine (45.5%), or just using heating when they are cold (45.5%).









LANCASTER WEST NEIGHBOURHOOD TEAM
W11
part of Kensington and Chelsea Council

FEEDBACK OVERVIEW: Heating and Hot Water Survey

96 Surveys Received

These are the key findings from the resident heating and hot water survey carried out during Spring 2021. The full summary report is included as Appendix B.

Participation

96 Households participated, including 39 online.

Heating to Comfort Level

A significant proportion of residents (40.5% overall) are not heating their home to the level that they would like: For many on the communal networks (LW1 and LW3) this is due to the lack of heating controls available.

- 41% on LW1 (Walkways)
- 44% on LW3 (All other blocks)
- 11% with individual gas combi boilers did not heat their home to comfort level
- Of the 34 residents that said they do not heat their home to the level they would like 7 were leaseholders (21%) and remaining 27 tenants. This split lines up with the overall tenure split

Ability to Control Heating

46.9% of residents found heating difficult to control, 32.3% found it ok. Only a small number of residents found controlling the heat in their home easy, 16.7%.

Achieving Warmth

Most households are warm enough in winter, 67.7% of residents considered their home to be 'ok', 'often', or 'always' warm. In the comments received, some residents highlighted that overheating can be a problem, even during winter. Blocks where residents find it difficult to achieve warmth include, Testerton Walk (50%), Camelford Walk (33.3%), Verity Close (55.6%), Talbot Walk (50%). It should be noted that thermal comfort is different for everyone, however, there were clear trends within these blocks.

Achieving Coolness

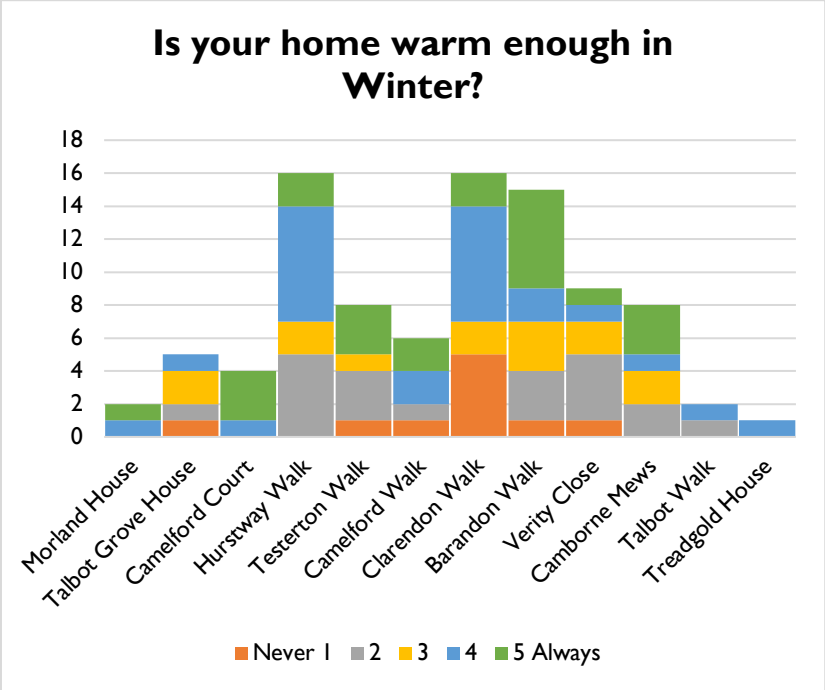
Several blocks on the estate also currently struggle to keep cool in summer, Morland House (100%), Talbot Walk (100%), Camelford Court (75%), and Clarendon Walk (75%) particularly.

Heating System Perception Today

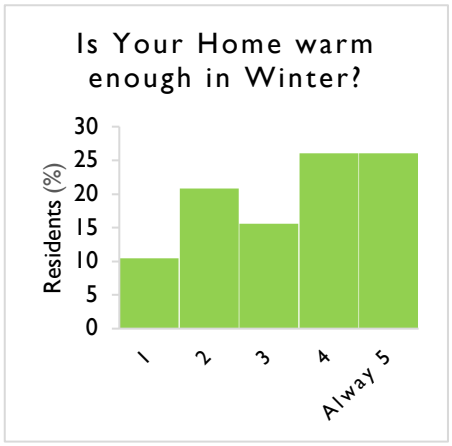
Residents were asked what they like about their heating system, many could not think of anything that they like about their current heating system, and instead shared information of issues experienced. Within the 76 comments received there were a total of 45 likes (50%) and 45 dislikes or issues (50%) mentioned. See Appendix B for all comments.

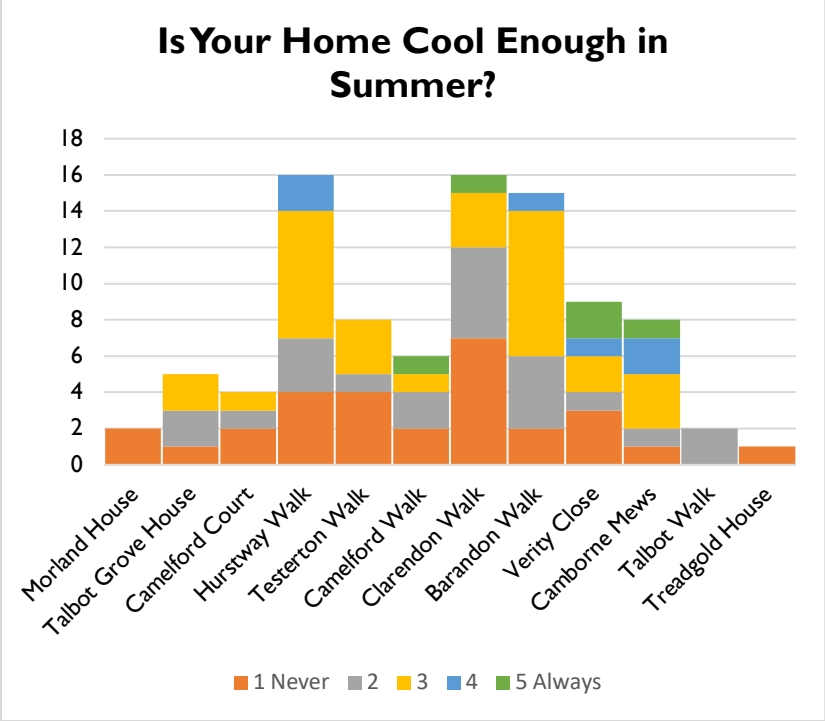
Future Heating Priorities

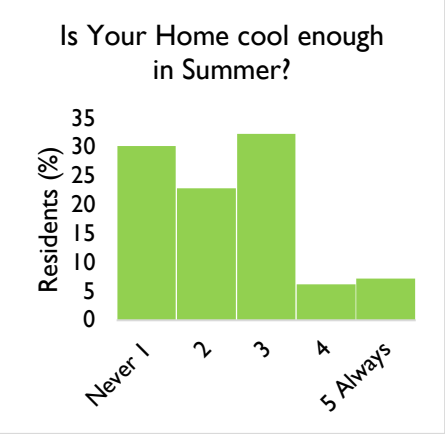
Residents were asked to select a single priority for the renewable heat network to deliver. Overall heating controls were identified as the number one priority for residents (47%). This was closely followed by the affordability of heating (38%), sustainability and environment (13%) Only one participant said that seeing how much energy they use, or who provides their heating was important to them.



1 – Never
2 – Sometimes
3 – OK / Acceptable
4 – Often
5 – Always







LANCASTER WEST NEIGHBOURHOOD TEAM
W11
part of Kensington and Chelsea Council

FEEDBACK OVERVIEW: Resident Co-Design Survey Results

The heat network design is still at an early stage. Many details on how it will be designed and delivered in each block are still to be considered. Before the next project stage, residents had an opportunity review some key design decisions and give their feedback. See Appendix D for full details.

The co-design survey was presented alongside display boards at a refurbishment pop-up. This process will be continued to raise awareness of the heating project and resident impact.

Overview

- Improving homes (45.5%) and reducing energy bills (18.2%) were the most important reasons for change to residents. 27.3% of residents considered these two aspects of equal importance.

- 33% had no concern or suggestion for a heat interface unit location. Some residents have concerns about where a heat interface unit could be located (25%) or general concern (16.7%). A few residents suggested that it be located in their kitchen, cupboard (16.7%), or where a boiler is located currently (8.3%).

- Generally, residents thought that the proposed energy centre location was good (45.5%) or reasonable (36.4%). One stated it was ok, if not too loud (9.1%). Further detailed resident engagement on the energy centre location and design will follow, to ensure resident buy-in and support ahead of any planning application.

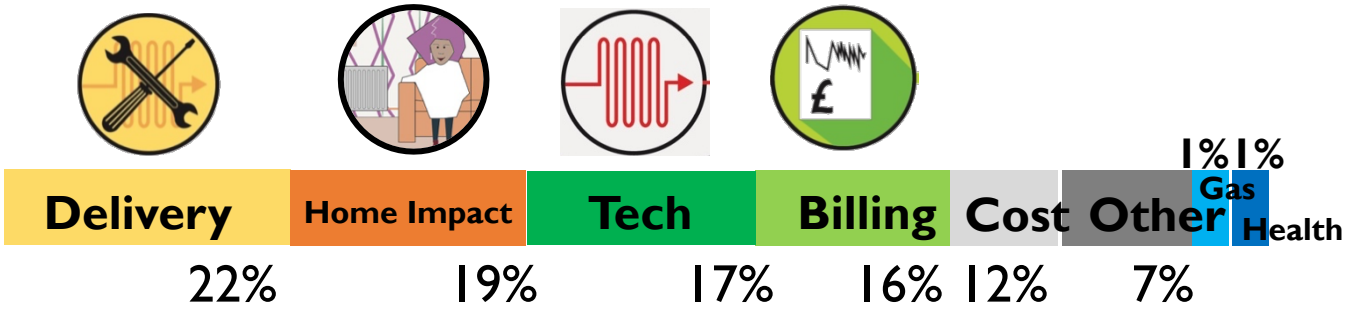
- Supporting residents through the proposed heating changes is paramount, residents wanted to see regular communications about the heat network (40%) and asked that the project continue engaging with them (30%). Organising and communicating in the lead up to project delivery was of particular importance to some residents (20%).

FEEDBACK OVERVIEW: Resident's General Comments

81 Comments Received

Comments were received by the heat network project team via email, phone, interview, and at co-design pop-up events held as part of the refurbishment programme. These comments have been categorised by type and theme, to show what residents are most interested in. Full results can be found in Appendix E.

The following themes were highlighted throughout the resident co-design; delivery of the project (22%) and home impact (19%) to residents were the most important concerns. There were also a few questions on the technology (17%), billing (16%) and costs (12%) to residents. Other peripheral comments mentioned the need to move away from gas and improvements required for health reasons.



Top Ten Questions

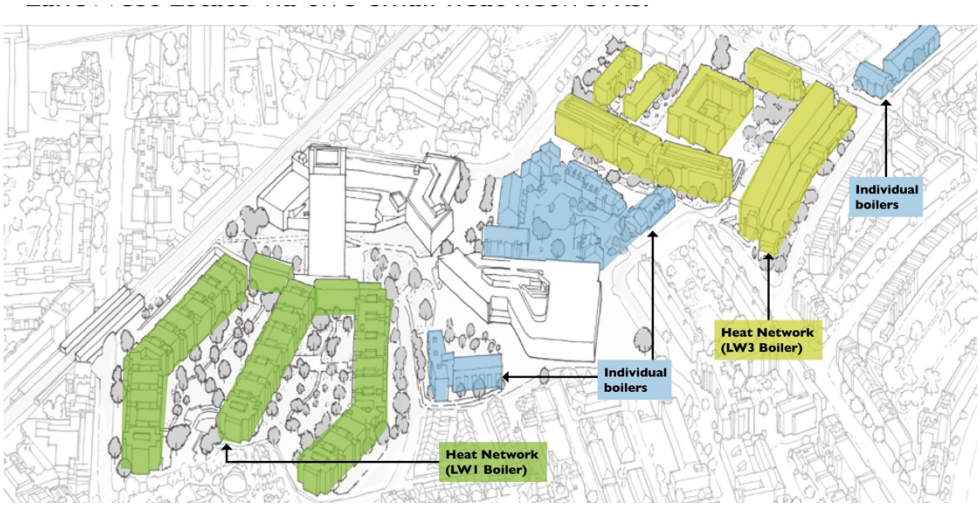
No.	%	Comment Description
9	12	What would be installed in my home? Set heating controls to cheaper usage times? HIU? What about the unvented cylinders recently installed?
7	9	Concern about pricing, generally residents feel pricing today is ok, and would be worried about future increases. Access to winter fuel payments and other financial support was also mentioned. Some residents indicated that they are struggling to afford heating today.
7	9	Will residents be required to sign-up, has a decision been made?
6	8	Cost to connect
4	5	How can heat pricing be made fair? How will pricing be controlled? Will some people pay more than others?
4	5	Solar panels to be used? How much electricity can be produced on the estate?
4	5	Desire that works be done as part of the refurbishment, to prevent another period of disruption
4	5	Whole building impact
3	4	Will the quality of renewable heating be good?
3	4	The longevity of the system proposed in terms of its maintenance and management - ensuring that residents interests are protected

HEAT NETWORK IMPACT

The future heat network will address existing heating issues and resident priorities within Lancaster West Estate, it shall become a defining component of the Estate's sustainable renewal. The heat network has significant interplay with the long-term strategic development set out by the Lancaster West Neighbourhood Team with resident

PROJECT CONTEXT

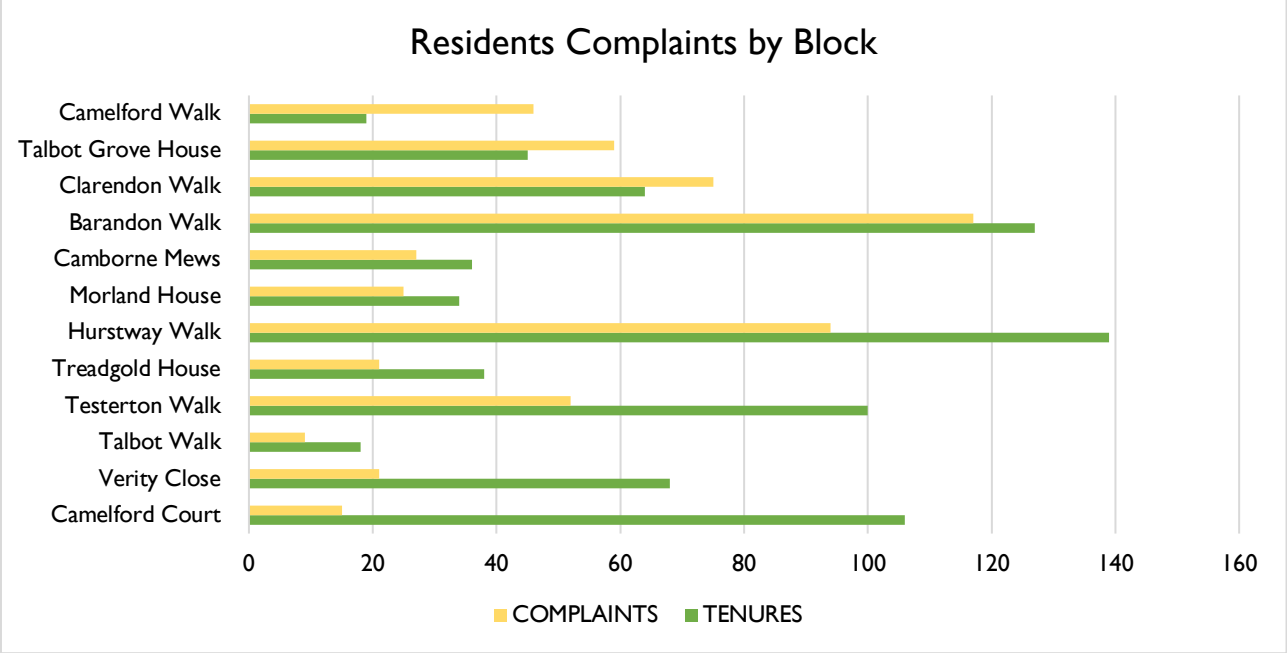
To review the potential impact that the future heat network could make for residents at Lancaster West Estate and Notting Dale ward, the current customer experience of heating and hot water on the Estate has been reviewed. Customer service data has been analysed in relation to households on the two communal heat networks (LW1 and LW3), and those with individual gas boilers. All three existing heating solutions would be replaced by the proposed heat network.



1. Individual gas boilers (Treadgold House, Camborne Mews, and Verity Close)
2. LW1 communal heat network (Barandon, Hurstway, Testerton Walks)
3. LW3 communal heat network (Camelford Court, Walk, Talbots, Morland House, Clarendon)

80% of Lancaster West Estate is heated using communal boilers today

The Table below illustrates the number of heating and hot water complaints received for different tenures in each housing block, ordered by those with the highest to lowest rate. Appendix H shows a further breakdown of the issues found in each block.



LANCASTER WEST NEIGHBOURHOOD TEAM
W11
part of Kensington and Chelsea Council

COMPLAINTS SUMMARY

Existing Communal Network

LW1 – Barandon, Hurstway, Testerton Walks

360 Complaints
366 Residents (0.98 complaint rate)

No heating (32%), no hot water (21%) and problems with radiators (29%) are consistent issues in all three Walkways. Noise problems were a recurrent issue with radiators that troubled residents (5%). A small number of issues with Heat Interface Units (HIUs) were also identified. During this period, there were 14 Heat Interface Units installed in the Walkways as part of the Lancaster West Estate Heating Pilot. The pilot study revealed that Heat Interface Units are not compatible with the existing communal heating system, due to the winter-summer heating mode. This is an issue that the new estate-wide heat network will be able to address. The need for, or problems with emergency heating was also a frequent occurrence (7%).

LW3 - Clarendon, Camelford, Talbots, Morland House

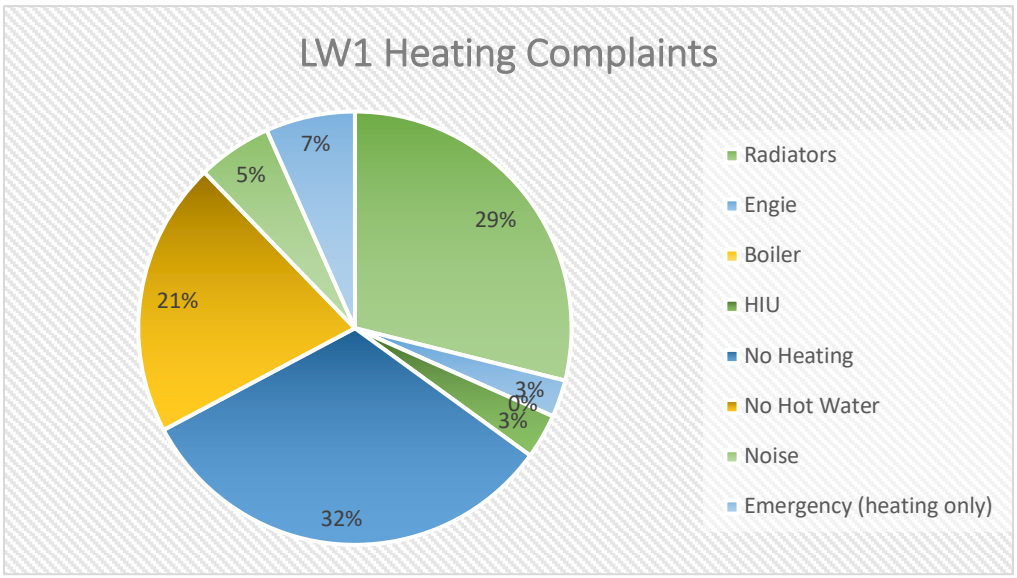
170 Complaints
286 Residents (0.59 complaint rate)

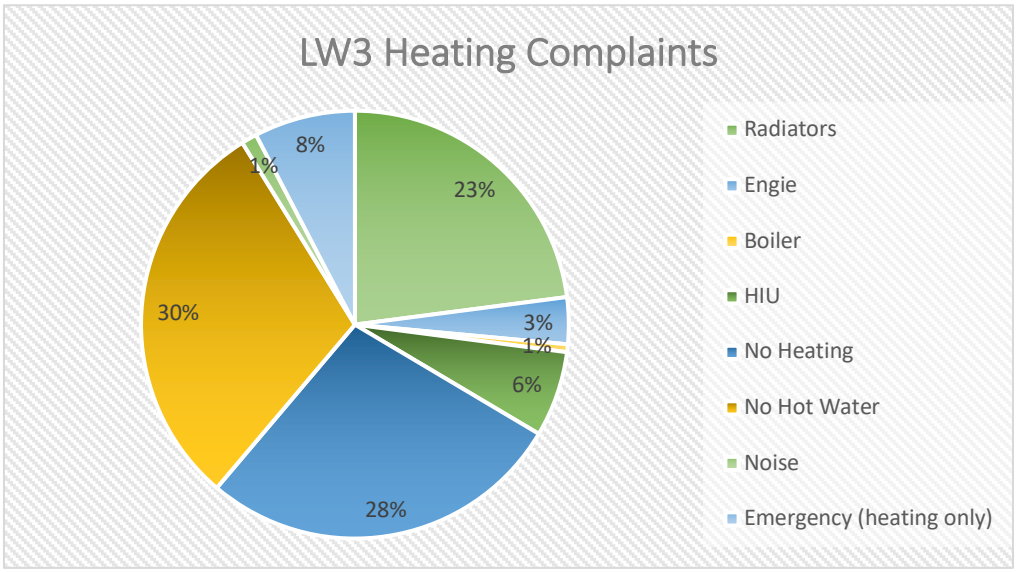
No heating (28%), no hot water (30%) and problems with radiators (23%) are consistent issues in all homes connected to LW3. Problems with HIUs (6%) are recurrent in Clarendon Walk and Camelford Walk. The need for, or problems with emergency heating was also a frequent occurrence (8%).

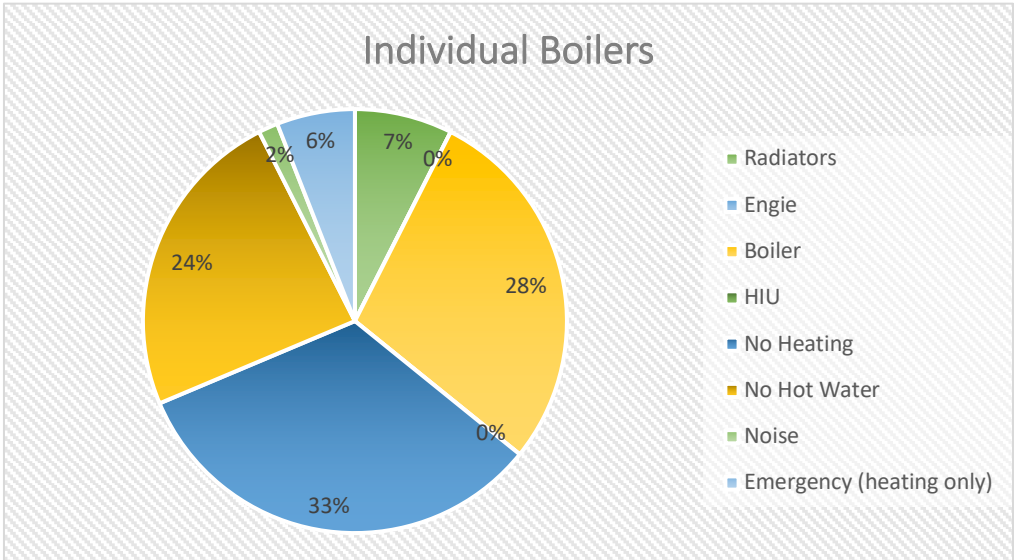
Individual Gas Combi Boilers – Verity Close, Camborne Mews, Treadgold House

67 Complaints
142 Residents (0.47 complaint rate)

Although the rate of complaints for those with individual gas boilers is significantly lower than the communal networks, the reliability of heating for households is still questionable. Common complaints included no heating (33%), no hot water (24%) and general problems with boilers (28%). Trouble with radiators have been identified in Camborne Mews and accounts for a significant proportion of the radiator issues (7%). Problems or need for emergency heating also occurred in buildings regularly (6%).







Data source: six-month log (01.06.20 – 11.11.20)

HEATING TODAY AND LANC WEST'S SUSTAINABLE FUTURE

The heat network resident co-design is one part of an ongoing conversations with residents about the future of the Lancaster West Estate. The following workstreams have provided context to the new renewable heat network,, linking the project into resident views on the refurbishment, sustainability, heating and the services provided by the Lancaster West Neighbourhood team.

Top Ten Priorities

Date, Number of Participants

Heating and Hot Water or Boilers featured in the Top Ten Priorities for all but two of the Blocks at Lancaster West Estate, Camelford Court and Treadgold House.

Sustainability Strategy

February 2021, 34 Participants

Resident feedback for the Sustainability Strategy, reviewed what residents think of a net-zero carbon Estate and how the Lancaster West Neighbourhood Team plan to deliver it. The survey was delivered ahead of the resident co-design of the heat network, setting the scene for engagement on achieving carbon neutrality. It was clear that residents have an interest in reducing electricity and gas use (61%), that they would like to switch to a green energy provider (42%), and that if the renewable heat network was cheaper than heating currently, 73% of residents would like to make the move. (Based on 33 participants, Sustainability Strategy Summary*, Page 11.)*

The Heating Pilot

September 2020, 14 Participants

The heating and hot water pilot was carried as part of the internal refurbishment programme in the Walkways at Lancaster West Estate. The pilot provided testing and resident review of alternative heating systems between August 2019 and May 2020. As a result of the heating pilot, large thermal water cylinders are to be installed within homes, during the ongoing internal refurbishment programme. Heat Interface Units were rejected as a solution at this stage, due to their incompatibility with the existing communal network's summer-winter heating mode.

Neighbourhood Strategy

April 2021, 69 Participants

The Neighbourhood Strategy will set the strategic direction for the Lancaster West Neighbourhood Team, shaping activities relating to some of the key ongoing workstreams. The heat network sits between two of these workstreams, Refurbishment and Major Works, and Sustainability. Improvements on LancWest delivered by LWNT associated with sustainability, was an area that the Neighbourhood Strategy demonstrated scope for growth. Only 58.2% of residents felt that improvements were visible, this is an area which the renewable heat network could make a significant contribution to.

Don't know 19.4%

HEAT NETWORK IMPACT

The heat network project has used this background research on resident experience to deliver the following impacts. The heat network co-design process has responded to direct resident comments, an update is available on page 27.

Source	Finding	Heat Network Impact	Status
Top Ten Priorities	Heating and Hot Water was a consistent priority amongst blocks Each block ranked the priority of heating and hot water as follows: - Morland House, 2nd Priority - The Walkways, 4th Priority (LW1) - Talbot Grove House, 5th Priority - Clarendon Walk, 5th Priority - Talbot Walk, 6th Priority - Camelford Court, 6th Priority - Camborne Mews, 8th Priority (Individual Boilers) - Verity Close, 9th Priority (Individual Boilers)	Will provide all-estate solution to existing heating problems on the Estate	Ongoing
Top Ten Priorities	Some blocks have worse experiences of space heating and water today than others	It is homes on the existing, outdated communal systems that have the poorest quality heating today. These will be prioritised in connection to the heat network.	Ongoing
Sustainability Strategy	Residents feel informed about going carbon neutral **71% of 34** participants (Sustainability Strategy Summary, *Page 4)*	Reinforce existing messages, illustrate the national 2050 carbon neutral goal and the 2030 RBKC carbon net-zero goal.	Delivered through comms + ongoing
Sustainability Strategy	Residents feel informed on how the Estate will become carbon neutral **48% of 34** participants (Sustainability Strategy Summary,, *Page 4)*	The heat network has emphasised messaging on how the Estate will become carbon neutral: - The need to move away from gas, and timeline to achieve this - Provide information on the carbon impact of heating today from our homes - Explain how homes today are heated today on the Estate - Demonstrate impact of the 100% renewable solution offered by the Notting Dale Heat Network	Delivered through comms + ongoing

Sustainability Strategy	The most important improvement or benefit recognised by residents at Lancaster West were: 1. Improving air quality, **19 comments** 2. Reducing energy bills, **18** comments 3. Green spaces, 17 comments (Sustainability Strategy Summary, *Page 6)*	The heat network will contribute toward the first two resident priorities identified by the sustainability strategy. Improving air quality and reducing energy bills. This has been made clear in the project objectives and KPIs.	Ongoing
Sustainability Strategy	For energy efficiency, the following were a priority to residents: 1. Warmer homes in winter, **20 comments** 2. Control over bills and energy use, **19 comments** 3. Cooler homes in summer, **18 comments** Heat and bill control was a clear priority over damp, mould **(13)** and air flow **(10)** within homes. (Sustainability Strategy Summary, *Page 8)* *I believe much is made of homes not being warm enough or too hot in the summer. My own experience for over 20 years has been very positive at Morland House. If anything, my flat has been too warm, and a saving perhaps could have been made there.* *Living experience is priority, we are freezing!*	The heat network will address these issues as follows: 1. Warmer homes in winter – fabric first approach will prevent heat loss. 2. Control over energy use will be given by new thermal controls and installation of a heat supply unit. **3.** Replacement of insulated pipes will prevent overheating in homes. A frequently asked questions document has been prepared to answer questions from residents on home warmth, heating control, and cooling. This general document has been written to address the variety of concerns that exist in different blocks within the estate.	Ongoing
Sustainability Strategy	To help the Estate live more sustainably. You said: **61% (20/33)** – Reduce electricity and gas use **42% (14/33)** – Switch to a green energy provider (Sustainability Strategy Summary, *Page 11)* *I don't want any reduction…Give us heating all year round. Do you understand the problem here? Invest in giving us insulation and double glazing!!!*	The heat network will provide energy more efficiently than the current communal system. Due to the technology use (heat pumps) and the replacement of pipework across the Estate. The shift from gas to renewable energy at an Estate level will support all residents to make the move to environmentally friendly energy, which 42% of residents indicated support for.	Ongoing

Sustainability Strategy	Residents were asked if they would like to move to a low carbon neutral communal heating system if the network was: 1. More expensive **16% (5/31)** said yes 2. The same **47% (15/32)** said yes 3. Were cheaper **73%, (24/33)** said yes (Sustainability Strategy Summary, *Page 13)*	A Resident Price Promise for the heat network is currently under development, and a resident working group has been set up with the Lancaster West Resident Association to develop this.	Ongoing
Heating Pilot	The Pilot concluded that Heat Interface Units would not be installed as part of the ongoing refurbishment programme, as they were found to not be compatible with the existing communal heating system. *(Heating Pilot Sep 2020, Page 13)*	In the pilot study, heat interface units were introduced as a 'sticking plaster'. They were not suitable for adding to the old existing heat networks. As the pipes are all being replaced with the new renewable heat network, Heat Interface Units will be the best means of giving residents heat control in their homes, and so will need to be installed as part of modern and efficient heat network.	Ongoing
Heating Pilot	Based on this report unvented cylinders have been selected for installation in homes. They offer residents the ability to control their central heating and hot water through hot water storage.	The unvented cylinders are compatible with the new renewable heat network proposed, and so can remain in situ, if preferred by residents that already have these.	Ongoing
Neighbourhood Strategy	Residents were asked if they felt more informed and engaged in refurbishment and major works because there is a local neighbourhood team? **Yes** 78.5% **No** 12.3% **Don't know** 9.2%	Maintaining a high level of resident engagement in the refurbishment is important for the heat network, to manage resident expectations on the cost, control and comfort offered by the heat network.	Ongoing
	Do you feel improvements are being made concerning sustainability and delivering a green environment because you have a local neighbourhood team? **Yes** 58.2% **No** 22.4% **Don't know** 19.4%	The renewable heat network will make a significant contribution to reducing energy use, and air pollution on the estate. Highlighting the role of the heat network in delivering clear sustainability goals, relating to personal daily lives, will strengthen the LWNT's impact in this area.	

RESIDENT CO-DESIGN NEXT STEPS

Future Heat Network Resident Summary Leaflet

A leaflet summarising the results from comments, the resident survey, and the heat network design process will be shared with residents. This important communication also aims to include a price promise to be made to residents. Attached to this leaflet, there will be an opportunity for residents to comment on the project. Feedback received will inform the next recognised stage of the heat network development, which is known as 'Commercialisation.'.

Commercialisation Stage: Resident Co-Design

The financial aspects of the project and contracts to build the heat network will be determined at this Commercialisation Stage.

Resident Impact:

- Costs to residents (tenants, leaseholders, freeholders) determined
- 'Renewable Rate', resident tariff to be shared
- Need for a user manual / video to explain how new equipment works.

Construction Stage 1: Resident Co-Delivery

Upgrading of central heating systems within homes (tertiary system), and pipework in communal areas (secondary system). To make buildings ready for connection to the new energy centre, and improve resident experience of heating as quickly as possible.

Resident Impact

- Delivery of works to upgrade central heating systems in homes, to be aligned with the ongoing refurbishment programme on a block-by-block basis

Construction Stage 2: Resident Co-Delivery

Connection of blocks to the new renewable energy centre.

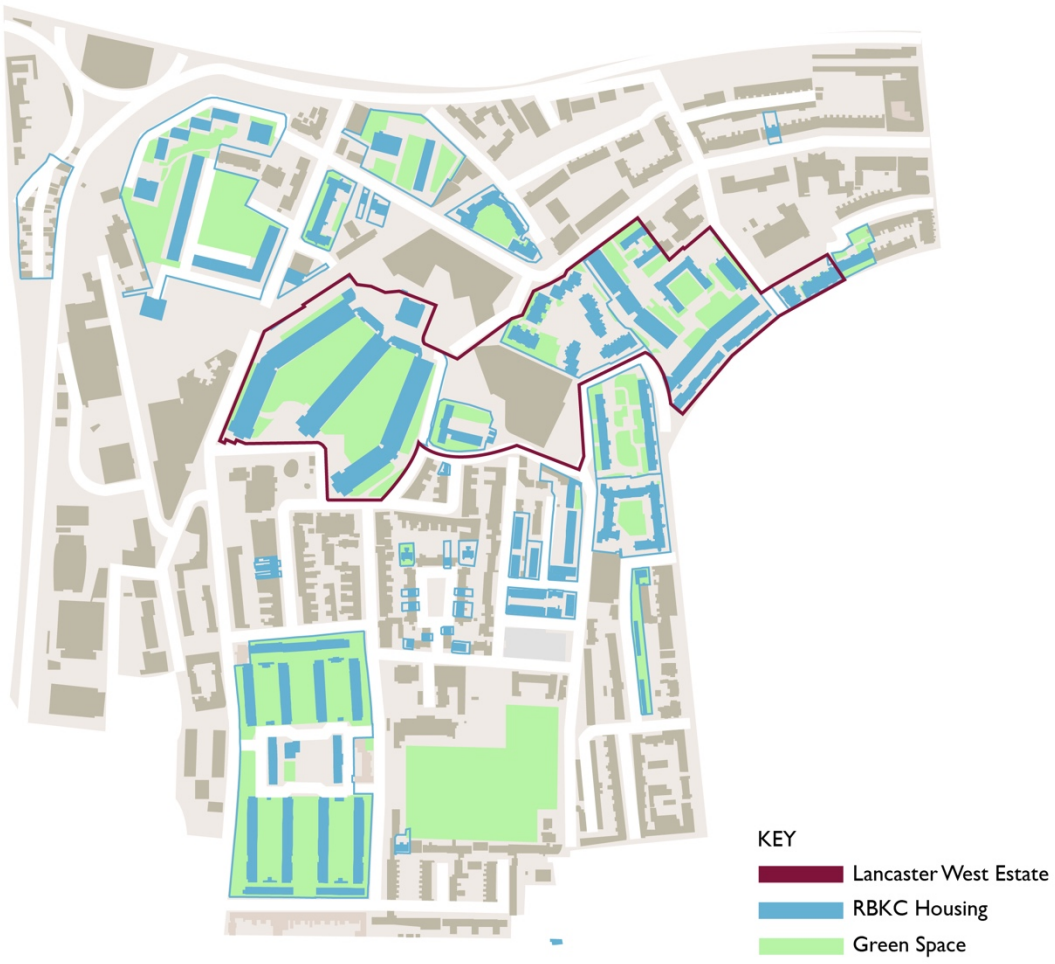
Resident Impact

- Launch of the resident 'renewable rate' for heating, changing resident bills
- Commissioning of the heat network, and potential down-times during this period

Notting Dale Heat Network Expansion

An opportunity has been identified to expand the proposed heat network at Lancaster West Estate, to serve residents living in other RBKC properties nearby. There are a further 500-800 Council homes within the Notting Dale Ward which could benefit from this expansion and take a step closer to achieving Net Zero. A strategic approach, to work with two other heat networks in development locally, at White City and Hammersmith is under consideration. Through the Notting Dale Eco-Neighbourhood, the Council will work to create an inclusive green transition which makes green energy accessible to all.

Map: Notting Dale Ward, RBK



Resident Impact

- Key pathway to achieving operational Carbon Net Zero at Notting Dale Ward and RBKC, whilst minimising disruption to existing resident heating systems. (Heat networks are compatible with standard central heating systems, following removal of boilers).
- Economies of scale, this is a potential benefit to the long-term tariff costs for residents
- Widening initial project benefits discovered in Lancaster West Estate to many RBKC residents in the Notting Dale Ward

APPENDICES

APPENDIX: A

Heat Network Resident Engagement Strategy

Purpose

The heat network co-design programme presented real options to resident stakeholders for the potential development of a heat network at Lancaster West and Notting Dale Ward. The options presented are to be extracted from the draft outline business case, and feedback from residents will inform the final business case and project design.

- Co-design will seek feedback from residents on the heat network design. This will offer opportunities to identify resident priorities or preferences and gain their project support on the following:
    - Technical priorities / preferences
    - Location of the energy centre
    - Delivery model
    - Metering, Billing and Tariff
    - Community benefits
    - Information sharing and engagement delivery
- LNWT will share transparent information on any practical impacts of technical or business decisions made to residents, explaining how it will change their home or lifestyle.
- Consultation feedback from engagement will be reported to
    - The refurbishment programme board (key decision-maker)
    - LWRA (key consultation body)
    - The project team (individual consultants, as appropriate)
    - The project board (internal departmental stakeholders)
    - The outline business case

Deliverables

- Strategic case input: Resident experience baseline report
    - Survey
    - (Heating prototype) summary / reference
    - LWRA engagement input
- Draft OBC: Co-design through resident evaluation of the heat network design, to address aspects represented by each draft business case.
    - 'You Said, We Did' document forms project report
    - Focus groups: Metering and billing, legal, fuel poverty, NEA as potential critical friend on behalf of residents
    - FAQ to cover technical, financial, legal and customer interests in the project (technical documents to follow)
- Final Outline Busines Case (OBC): Resident consensus.
    - OBC summary document, to include resident 'you said, we did'
    - Final engagement report (engagement log from all stages)

Heat Network Engagement Phases

Concept **Strategic** Feb	1. Listen and learn about existing heating problems 2. Introduce the potential solutions, inc. heat network 3. Gather evidence on existing comfort, user experience, heat expenditure, and resident priorities for heating 4. Recruitment for focus groups and heat champions	All LancWest Residents Neighbouring Council Estate Residents
Co-Design **Draft OBC** March	1. Present design options for review, comment and further ideas made by residents 2. Provide information on heat networks, climate change, and energy bill support available. 3. Feedback resident input to various project stream strands (technical, legal, financial)	All LancWest Residents
Consensus **OBC** April - June	1. Final evidence from residents on the heat network 2. Communicate the decision, and next steps	All LancWest Residents

Resident Communications

- Key messaging to be agreed with core project team
- Key messages shared and refined with project board
- Engagement communication plan to align with refurbishment engagement plan, and wider LWNT objectives

Stage	Date	Event	Communications
Concept **Strategic**	February – March 2021	LWRA Meeting Resident survey on baseline experience Block Rep Meetings All resident – public meeting Refurbishment Concept Meetings – residents	Instagram LancWest Fest - digital engagement Newsletter Resident letter + survey hardcopy
Co-Design **Draft OBC (outline business case)**	March – April 2021	Resident Pop-ups Technical FAQs available Co-design questions online / leaflet circulated National Energy Action Focus Groups	Instagram LancWest Fest - digital engagement Newsletter Resident letter + survey hardcopy
Consensus **OBC**	April – July 2021	Outline business case available FAQ – technical and business case Opportunity to comment	Instagram LancWest Fest Newsletter Resident letter + survey

APPENDIX B: Heating and Hot Water Survey Resident Full Report

SURVEY

LANCASTER WEST NEIGHBOURHOOD TEAM W11

Your Details

Name

Building Flat Number

Phone

Email

I am a... Tenant Leaseholder Freeholder

Would you like to join a focus group in a one-off meeting to discuss your future heating in more detail? YES NO

1. What do you **like** about your heating system today?

2. Do you heat your home to the level you would like? YES NO

Reasons:

LANCASTER WEST NEIGHBOURHOOD TEAM W11

Heating Cost + Comfort

3. Is your home warm enough in **winter**?
circle your answer

never	not often	ok	often	always
1	2	3	4	5

4. Is your home cool enough in **summer**?
circle your answer

never	not often	ok	often	always
1	2	3	4	5

5. On a normal day, how many baths and showers does your household take?

Baths (no.) Showers (no.)

6. Do you have hot water available when you need it?

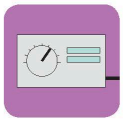
never	some-times	ok	often	always
1	2	3	4	5

7. Do you have further comments about anyhing above?

Heating Control

8. How do you control heating in your home today? *tick all your answers for each season*

Summer	Winter	
☐	☐	Thermostat
☐	☐	Switch the heating off
☐	☐	Standalone electric heater
☐	☐	Standalone gas heater
☐	☐	Opening windows
☐	☐	Closing windows
☐	☐	Closing doors
☐	☐	Draught stopper
☐	☐	Insulated curtains
☐	☐	Fan
☐	☐	Other _____



9. How easy is it to control the heating in your home? *tick one option*

Easy OK Difficult

10. Thinking about heating, what is most important to you?
tick one option

- ☐ Affordable heating
- ☐ Heating control
- ☐ Simple to pay
- ☐ Sustainability + environment
- ☐ Who provides your heating
- ☐ Seeing how much energy you use
- ☐ Other _____

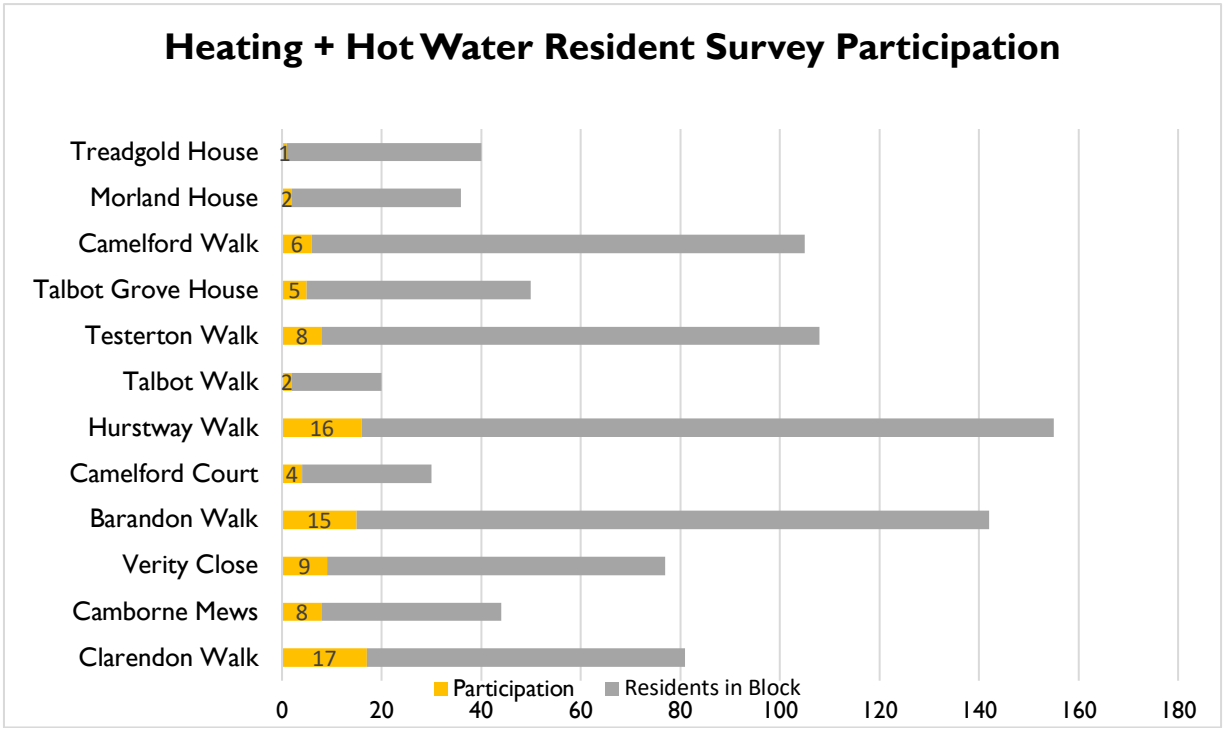
Thank you for completing this survey!

LANCASTER WEST NEIGHBOURHOOD TEAM W11
part of Kensington and Chelsea Council

APPENDIX C: Resident Survey

Participation

There was representation from residents in all Blocks within Lancaster West Estate, between 2.6% and 26.5% of residents from various blocks participated in the survey. The lowest participation was seen amongst Treadgold Residents, who had not been a target audience for this survey, as they had recently completed a recent survey specific to Energiesprong requirements.



QUESTIONS

Q1: What do you like about your heating system today?

76 Comments Received

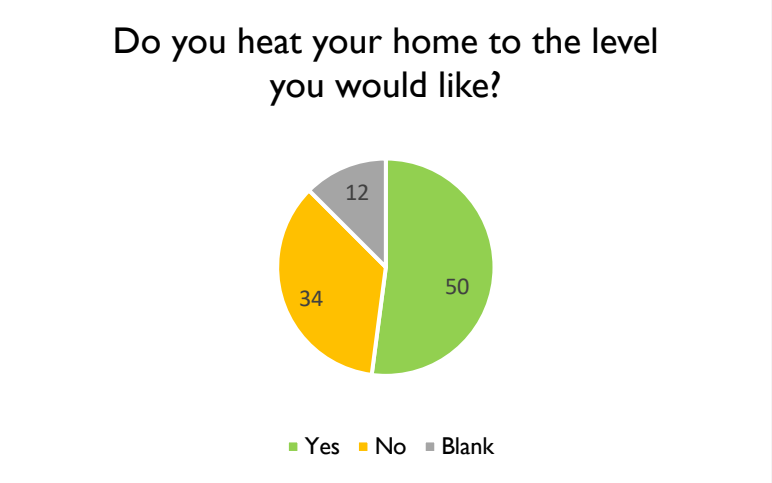
This question resulted in a split response from residents. Many could not think of anything that they like about their current heating system, and instead shared information of issues experienced. Within the 76 comments received there were a total of 45 likes (50%) and 45 dislikes or issues (50%) mentioned.

Comment Type by Block

Comments received were categorised as 'negative', 'positive' and 'mixed', based on the likes and dislikes that were outline.

Q2: Do you heat your home to the level you would like?
84 Comments Received

The majority of residents do heat their home to the level that they would like, 59.5%. However, a portion of residents do not currently heat their home to the level they would like.



	No.	%
Yes	50	59.5
No	34	40.5
Blank	12	12.5

By Block and Boiler Type

The inability for residents to heat their home to the level that they would like is a common experience for residents in Lancaster West. Households with individual boilers are generally less affected, however 22% of residents in Verity Close do does not heat their home to the level they would like, both residents stated that this was due to technology issues with their boilers and thermostats.

Across the Estate, residents that currently receive heat from the communal boilers are unable to heat their homes as they would like (47% responded 'No'). Resident experience of the communal heating systems, whether connected to LW1, or LW3 boiler was similar.

Block	Boiler	Responded 'No'	Participants Total	Participants (% of Total)	Overall %
Morland House	LW3	2	2	100.0	5.9
Talbot Grove House	LW3	3	5	60.0	8.8
Camelford Court	LW3	2	4	50.0	5.9
Hurstway Walk	LW1	8	16	50.0	23.5
Testerton Walk	LW1	4	8	50.0	11.8
Camelford Walk	LW3	3	6	50.0	8.8
Clarendon Walk	LW3	6	17	35.3	17.6
Barandon Walk	LW1	4	15	26.7	11.8
Verity Close	Individual	2	9	22.2	5.9
Camborne Mews	Individual	0	8	0.0	0.0
Talbot Walk	LW3	0	2	0.0	0.0
Treadgold House	Individual	0	1	0.0	0.0
Blank		0	3	0.0	0.0

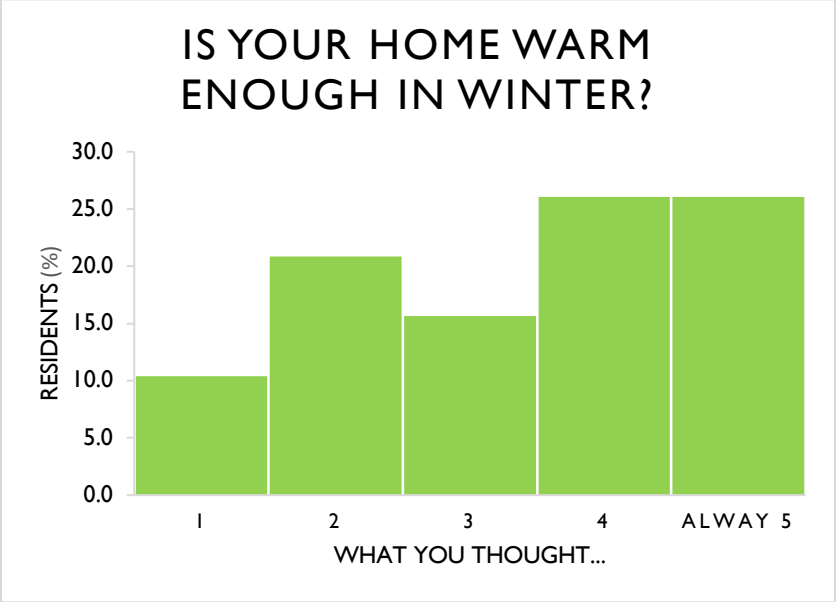
Boiler Type	Responded 'No'	Participants Total	Participants (% of Total)
Individual Boilers	2	18	11.1
LW1	16	39	41.0
LW3	16	36	44.4

By Tenure

Of the 34 residents that said they do not heat their home to the level they would like 7 were leaseholders (21%) and remaining 27 tenants. This split again lines up with the overall tenure split, suggesting that other factors such as the condition of homes are more significant.

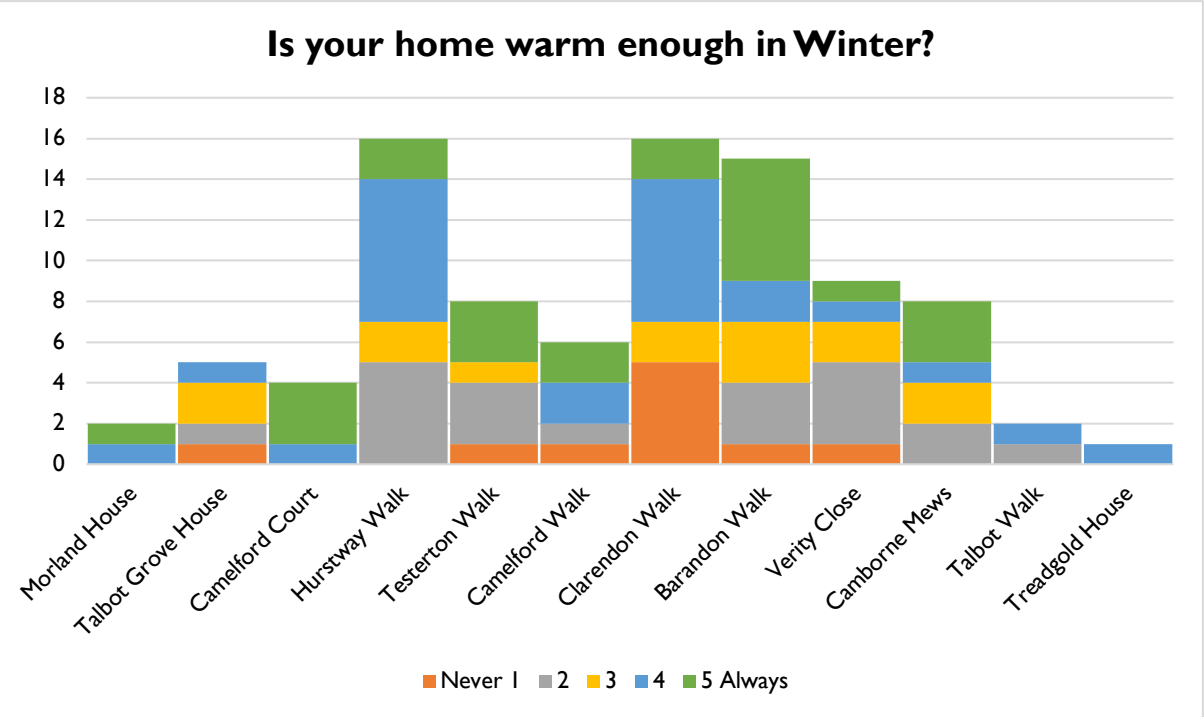
Q3: Is your home warm enough in winter?

95 Comments Received



1 – Never
2 – Sometimes
3 – OK / Acceptable
4 – Often
5 – Always

Overall, most households are warm enough in winter, 67.7% of residents scored their home 3 to 5.



Thermal comfort is different for everyone, this graph indicates whether residents can achieve warmth in their home during winter. Blocks where residents find it difficult to achieve warmth, a comfort level of Sometimes ('2') or Never ('1'); Testerton Walk (50%), Camelford Walk (33.3%), Verity Close (55.6%), Talbot Walk (50%).

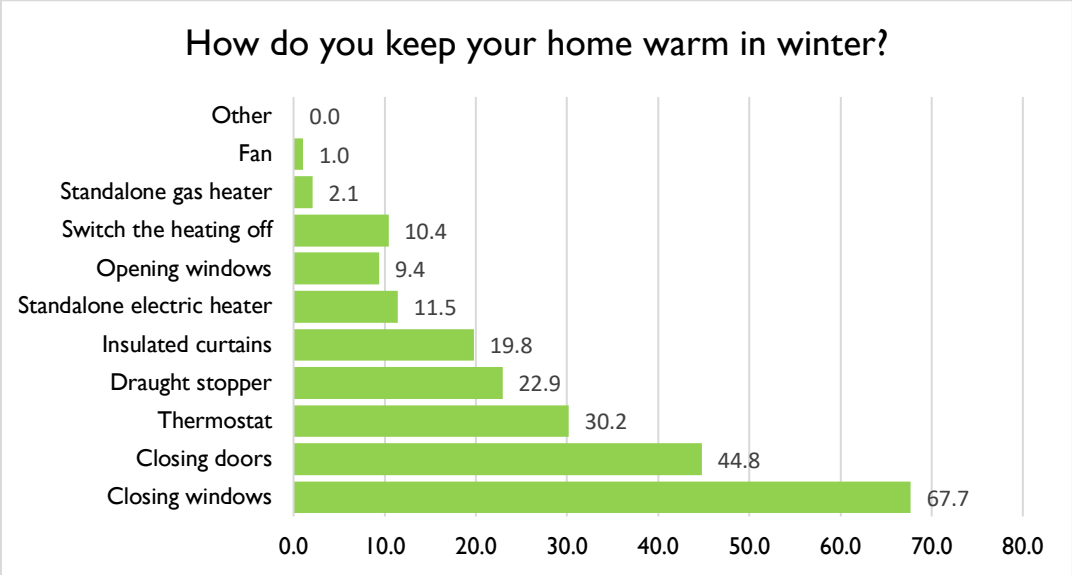
There was a mixed experience of warmth in other blocks, with some residents not finding their homes warm enough: Hurstway Walk (31.3%), Barandon Walk (26.7%) and Clarendon Walk (31.3%). Amongst residents that indicated their home is always warm in winter, some also noted that their home was too warm all-year-around.

Block	Boiler Type	1 to 2	3	4 to 5
Verity Close	Indv	55.6	22.2	22.2
Camborne Mews	Indv	25.0	25.0	50.0
Treadgold House	Indv	0.0	0.0	100.0
Hurstway Walk	LW1	31.3	12.5	56.3
Testerton Walk	LW1	50.0	12.5	37.5
Barandon Walk	LW1	26.7	20.0	53.3
Morland House	LW3	0.0	0.0	100.0
Talbot Grove House	LW3	40.0	40.0	20.0
Camelford Court	LW3	0.0	0.0	100.0
Camelford Walk	LW3	33.3	0.0	66.7
Clarendon Walk	LW3	31.3	12.5	56.3
Talbot Walk	LW3	50.0	0.0	50.0

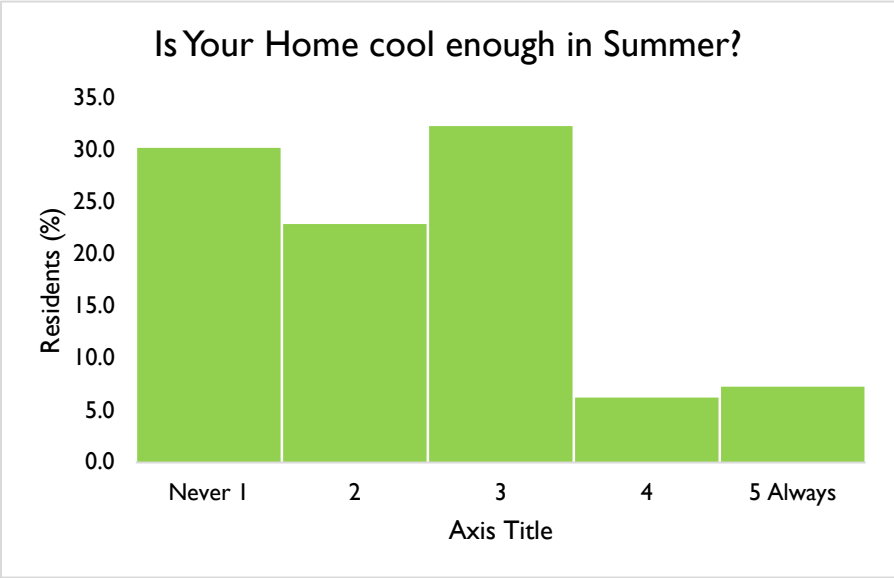
Q8: How do you keep your home warm in winter?
95 Comments Received

Closing windows, was the most common answer given by residents (67.7%), it should also be noted that some residents must open windows during winter to achieve comfort (9.4%). There were also a number who need to turn the heating off, giving an indication to the level of overheating experience (10.4%). Thermostats (30.2%) and closing doors (44.8%) were also an important aspect of thermal control.

It is also clear that residents are investing in additional measures to control the temperature of their homes, from standalone heaters (11.5%), to insulated curtains (19.8%), to draught stoppers (22.9%).

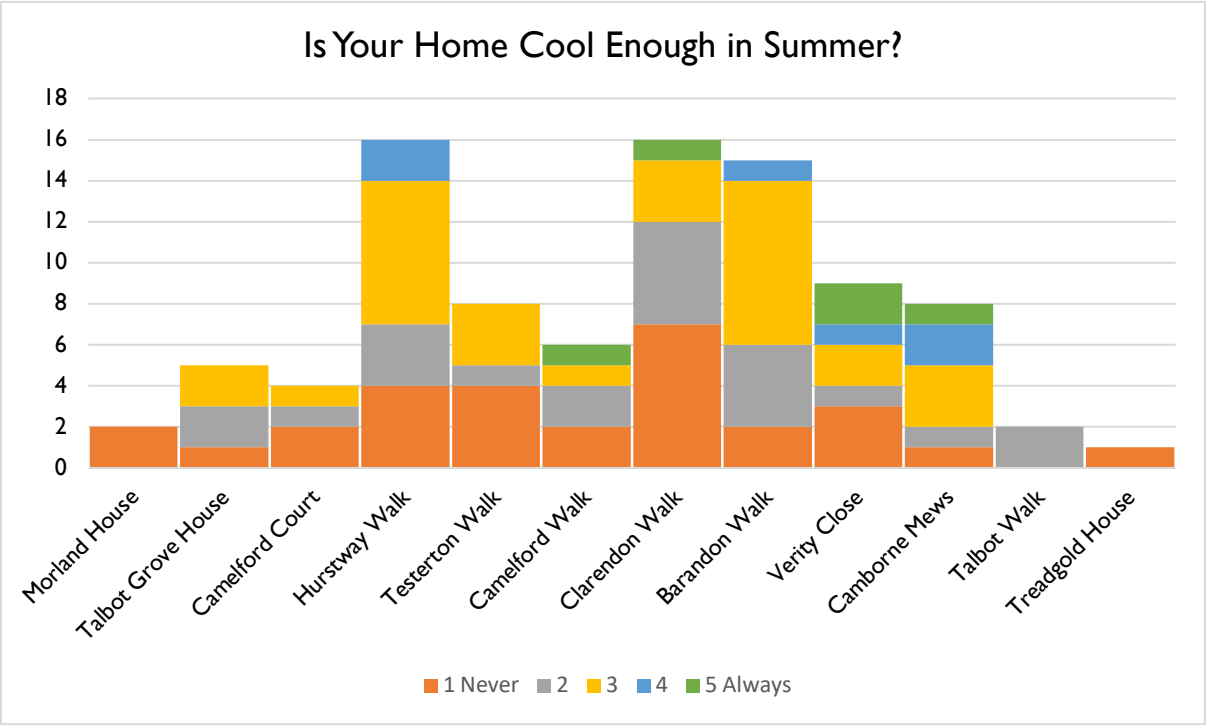


Q4: Is your home cool enough in summer?
95 Comments Received



Many residents struggle to keep their home cool enough in summer, 30.5% said they can never keep their home cool, 23.2% can sometimes keep their home cool (note this question was asked in February).

Thermal comfort is different for everyone, this graph indicates whether residents can achieve comfortable temperatures in their home during summer.

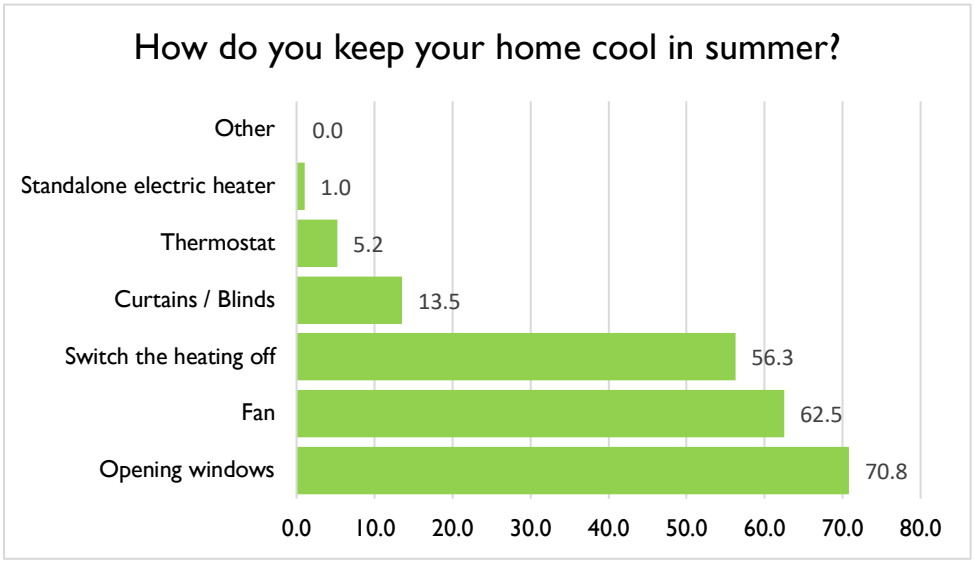


Many blocks on the estate currently struggle to keep cool in summer, Morland House (100%), Talbot Walk (100%), Camelford Court (75%), and Clarendon Walk (75%) particularly. (See blocks in red)
Others had mixed experiences (See blocks in orange)
Verity Close and Camborne Mews, which both have individual boilers were the only households able to keep cool generally.

Block		0 to 2	3	4 to 5
Verity Close	Indv	44.4	22.2	33.3
Camborne Mews	Indv	25.0	37.5	37.5
Treadgold House	Indv	100.0	0.0	0.0
Hurstway Walk	LW1	43.8	43.8	12.5
Testerton Walk	LW1	62.5	37.5	0.0
Barandon Walk	LW1	40.0	53.3	6.7
Talbot Walk	LW1	100.0	0.0	0.0
Morland House	LW3	100.0	0.0	0.0
Talbot Grove House	LW3	60.0	40.0	0.0
Camelford Court	LW3	75.0	25.0	0.0
Camelford Walk	LW3	66.7	16.7	16.7
Clarendon Walk	LW3	75.0	18.8	6.3

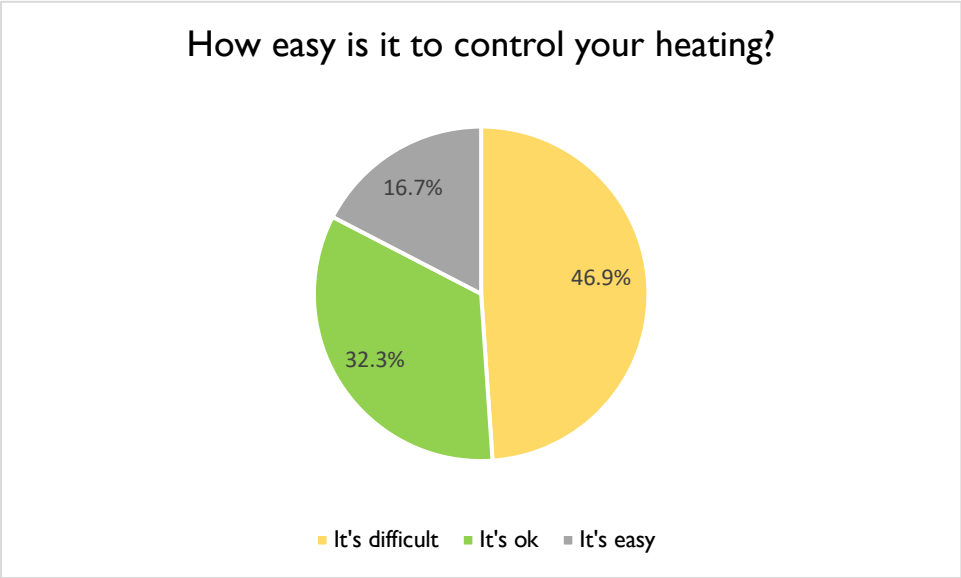
Q8: How do you keep your home cool in summer?
95 Comments Received

Residents at Lancaster West Estate are commonly using three different means of keeping homes cool: opening windows (70.8%), a fan (62.5%), or switching the heating off (56.3%).



Overall

Q9: How easy is it to control the heating in your home?
92 Comments Received



Priorities

Q10: Thinking about heating, what is most important to you?
77 Comments Received

Residents were asked to select a single priority for the renewable heat network to deliver/ Overall heating controls were identified as the number one priority for residents (47%), this was closely followed by the affordability of heating (38%), sustainability and environment (13%). Only one participant said that seeing how much energy they use, or who provides their heating was important to them.

	Number	%
Heating Control	36	47
Affordable Heating	29	38
Sustainability + Environment	10	13
Seeing how much energy you use	1	1.0
Simple payments	0	0.0
Who provides your heating	1	1.0
Other	0	0.0

RAW DATA

PARTICIPATION

By Block

Block	Participants (no.)	Participants (% of Total)	Households (no.)	Household Participation Rate (%)
Clarendon Walk	17	17.7	64	26.6
Camborne Mews	8	8.3	36	22.2
Verity Close	9	9.4	68	13.2
Barandon Walk	15	15.6	127	11.8
Camelford Court	4	4.2	26	15.4
Hurstway Walk	16	16.7	139	11.5
Talbot Walk	2	2.1	18	11.1
Testerton Walk	8	8.3	100	8.0
Talbot Grove House	5	5.2	45	11.1
Camelford Walk	6	6.3	99	6.1
Morland House	2	2.1	34	5.9
Treadgold House	1	1.0	39	2.6
Blank	3	3.1		
	96	**100.0**	**795**	

By Tenure

Participation by tenure aligned closely to the split of tenants, leaseholders and freeholders across the Estate.

Tenure	Number	Participants Tenure (%)	Estate Tenure (%)
Tenant	70	72.9	75
Leaseholder	23	24.0	23
Freeholder	2	2.1	2
Blank	1	1.0	
	96	100	795

By Boiler

There are three types of boiler present on Lancaster West Estate, two communal boilers (LW1 and LW3), plus individual gas boilers.

Boiler	Participants (no.)	Participants (%)
LW1	39	40.6
LW3	36	37.5
INDV	18	18.8
Blank	3	3.1

Q1: What do you like about your heating system today?

76 comments received there were a total of 90 likes and dislikes about heating systems today, 45 likes (50%) and 45 dislikes or issues (50%) mentioned as follows.

Building	Comment	Tone	Issue 1	Issue 2	Issue 3	Like 1	Like 2
Barandon Walk	It is really warm, but unable to independently regulate the temperature	Mixed	Heating control			Warm	
Barandon Walk	It's effective. When I am hot I can turn down the radiators, when it's cold I turn them up. No complaints at present.	Positive				Heating control	
Barandon Walk	its Ok	Positive				Ok	
Barandon Walk	Efficient having a central boiler (when it works).	Positive	Poor quality			Efficient	
Barandon Walk	Not much to be honest	Negative	Generally bad				
Barandon Walk	Easy to use	Positive				Easy to use	
Barandon Walk	Heating and hot water available day and night	Positive				Availability	
Barandon Walk	When it works, it is perfect	Positive	Unreliable			Generally good	
Barandon Walk	Not a ot	Negative	Generally bad				
Barandon Walk	Wants to have on/off heating control in each room	Negative	Heating control				
Barandon Walk	Old boiler was a lot better than the new one	Positive	Temporary boiler				
Barandon Walk	Nothing	Negative	Generally bad				
Camborne Mews	Nothing	Negative					
Camborne Mews	Ease of use	Positive				Easy	
Camborne Mews	Reliable, flat retains heat well	Positive				Reliable	
Camborne Mews	It is better than 40 years ago when i first moved here	Positive				Improved	
Camborne Mews	It is very good	Positive				Generally good	
Camborne Mews	Works well	Positive				Generally good	
Camborne Mews	I can control it. I like that when i need to switch it off i can	Positive				Control	
Camelford Court	Nothing, we are not in control. It's an awful environmental scheme, such wasteful homes.	Negative	Heating control	Unreliable	Inefficient		
Camelford Court	Heating system is good	Positive				Generally good	
Camelford Court	Nothing	Negative	Generally bad				
Camelford Walk	Nothing	Negative	Generally bad				
Camelford Walk	I don't. Unfortunately, It's not good.	Negative	Generally bad				
Camelford Walk	It is reliable	Positive				Reliable	
Camelford Walk	Has a new boiler and radiators work well	Positive				Generally good	
Camelford Walk	It is not hot. Heating was low when the weather is cold	Negative				Generally good	
Clarendon Walk	It's warm in winter	Positive				Warm in winter	
Clarendon Walk	Not bad	Ok					

Clarendon Walk	Works well in winter	Positive			Warm in winter
Clarendon Walk	It keeps the flat warm enough	Positive			Generally good
Clarendon Walk	Flat is well heated	Positive			Generally good
Clarendon Walk	Our heating is working, but haven't had hot water for years	Negative	No hot water		
Clarendon Walk	Pleased to have heating	Positive			Generally good
Clarendon Walk	Heating is Ok, but in summer it is far too hot	Ok	Heating control		Heat supply
Clarendon Walk	Not bad	Ok			
Clarendon Walk	N/A				
Clarendon Walk	Keeps the flat warm in winter	Positive			Warm in winter
Clarendon Walk	Nothing	Negative	Generally bad		
Clarendon Walk	Nothing	Negative	Generally bad		
Clarendon Walk	The heating is great as most of the time it is on & warm but new radiators are needed	Mixed	Poor quality		Warm in winter
Hurstway Walk	I have had a new megaflo tank and connected radiators put in in September 20. It works significantly better than the previous system. I also like that I can set a thermostat to control the tempting the flat	Positive			Heating control
Hurstway Walk	Nothing, very poor quality	Negative	Poor quality		
Hurstway Walk	I'm not happy with my heating	Negative	Generally bad		
Hurstway Walk	Generally it is good.	Positive			Generally good
Hurstway Walk	Heating not working	Negative	Unreliable		
Hurstway Walk	Not a lot	Negative	Generally bad		
Hurstway Walk	Lives on east side of hurstway which has better heating and hot water than the West	Positive			Generally good
Hurstway Walk	It works very well	Positive			Generally good
Hurstway Walk	It is very warm and cozy	Positive			Heat supply
Hurstway Walk	Does not have constant heating in last 3 years	Negative	Unreliable		
Hurstway Walk	Nothing - there is not enough hot water to have a bath	Negative	Generally bad	No hot water	
Hurstway Walk	It has become better since it has been fixed	Positive			Improved
Hurstway Walk	That, when it is working properly, the radiators are very hot	Mixed	Unreliable		Warm in winter
Hurstway Walk	Keeps the house warm but is expensive and we cannot control usage therefore also energy waste	Mixed	Expensive	Inefficient	Warm in winter
Hurstway Walk	Not a lot	Negative	Generally bad		
Hurstway Walk	The heating is working again after recent disruption	Mixed	Unreliable		

Morland House	Nothing	Negative						
Morland House	Nothing	Negative	Generally bad					
Talbot Grove House	Communal heating							
Talbot Grove House	Nothing because it doesn't work	Negative	Generally bad					
Talbot Walk	Reliable mostly and on during winter months	Positive				Reliable		
Talbot Walk	Have full control	Positive				Heating control		
Testerton Walk	The system in my flat is too old, valves leaking all the time and all stick.	Negative	Poor quality					
Testerton Walk	It's on all through the winter	Positive				Warm in winter		
Testerton Walk	Some. Times. Work. Some. Time doesn't	Negative	Unreliable					
Testerton Walk	Not much, it is pretty basic and difficult to regulate	Negative	Heating control					
Testerton Walk	I don't like my heating system	Negative	Generally bad					
Testerton Walk	Heating is out of control, sometimes very hot and at times no heating.	Negative	Heating control	Unreliable				
Testerton Walk	Too hot in the summer. Radiators tend to break down in winter	Negative	Heating control	Unreliable				
Testerton Walk	Cannot control temperature, not enough pressure for a shower.	Negative	Heating control		No shower pressure			
Treadgold House	We have individual boilers in treadgold house							
Verity Close	It's Ok.	Ok					Generally good	
Verity Close	Nothing, only the provider	Negative					Provider	
Verity Close	We have complete control over it. Not affected by the frequent outages affecting the current district heating system.	Positive	Not hot				Heating control	Reliability
Verity Close	It provides heating and hot water when I need them	Positive					Heating control	
Verity Close	Very little	Negative	Generally bad					
Verity Close	It works efficiently and keeps warm in winter	Positive					Warm in winter	
Verity Close	Very efficient	Positive					Efficient	
	yes							
	Very nice	Positive					Generally good	
	no complaints about present heating system	Ok					Generally good	
		No. Comments	**38**	**6**	**1**	**44**		**1**

Q2: Do you heat your home to the level you would like?

Block	Boiler	Responded 'No'	Participants Total	Participants (% of Total)	Overall %
Morland House	LW3	2	2	100.0	5.9
Talbot Grove House	LW3	3	5	60.0	8.8
Camelford Court	LW3	2	4	50.0	5.9
Hurstway Walk	LW1	8	16	50.0	23.5
Testerton Walk	LW1	4	8	50.0	11.8
Camelford Walk	LW3	3	6	50.0	8.8
Clarendon Walk	LW3	6	17	35.3	17.6
Barandon Walk	LW1	4	15	26.7	11.8
Verity Close	Individual	2	9	22.2	5.9
Camborne Mews	Individual	0	8	0.0	0.0
Talbot Walk	LW3	0	2	0.0	0.0
Treadgold House	Individual	0	1	0.0	0.0
Blank		0	3	0.0	0.0

Do you heat your home to the level you would like?	No.	%
Yes	50	59.5
No	34	40.5
Blank	12	12.5
	96	

No Comments

32 Comments Received

- Heating Controls, 13 comments, 40.6%
- Old system, doesn't work, 8 comments, 25%
- Radiators, 5 comments, 15.6%
- Poor windows / Insultation, 5 comments, 15.6%
- Cost, 1 comment, 3%

No Comment
There is a problem with draught. Better insulation would solve the currently problem and it would be less expensive in the long run.
There is no wall thermostat to control the temperature, it' too hot or too cold
old system, unpredictable heating level, too hot, or cold
Because all the radiator valves are sticky, and you can't regulator the temperature
It's already too hot
Because the heating dose not last on the east
Windows let all the heat out
Heater's hardly work especially in winter
The cost is too high
I am not in control of my heating w11 is
Either too hot or too cold no in-between.
Unfortunately, my heaters do not work very well.
Radiators don't work
I do not have control of the heat. Either it is on or off nothing in between.

No, my flat is usually to how. When it is cold, I have to supplement heating with fan heaters
Because the system is inefficient. Have to turn the boiler dial to max to get any benefit of heat.
Because it is communal heating
Can't turn the heating down as otherwise it turns off completely
Problems with heating and hot water for one year
We control with the radiators
Not under my control
Heat is lost due to draft; bathrooms have no radiators
We have no control over it
Thermostat and the heat control are in one until, cannot make manual changes
Because home is old. Afraid of fires.
Radiators not getting warm enough, no valves to regulate temperature. When running a bath, the hot water runs out, can't do a full bath.
The heat in the kitchen has never worked. Windows and draughts.
The level of heat is inconsistent, and some radiators do not work at all
We cannot control the heat in the house. you can switch radiators off, but pipes run under floor still hot
It is too hard to control
Drafts from windows as they are aged
Very old system not in tune properly

Yes Comments

16 Comments Received

- Can control, 7 comments, 43.8%
- Too hot, can't control, 3 comments, 18.8%
- Have children, heating is essential, 2 comments, 12.5%
- Radiators used to control (not all positive comments), 2 comments, 12.5%
- Can't control heating, 1 comment, 6.3%
-

Yes Comment
Because it is easy to do
I have 2 young children, so we need to put it on sometime
The flat can get very hot even with the heating switched off
What the weather is cold
Has to turn down heating due to it being too hot
Has children, it is essential home is heated properly
Every room is well heated
Level is at top, for place to be warm
So, it is comfortable
Heating is out of control
Having to open windows and doors, due to no thermostat control.
I can lower it down if too hot.
Only use 3 radiators, as the others leak. Must wait for hot water to heat up to have a bath, would like a shower
We can adjust the level of heating in central heating
But need better radiators as they are old, and some are rusty
i take medication that leaves me susceptible to hypothermia
Turn radiators on or off to likeness

Q3: Is your home warm enough in winter?

Block	1 Never	2	3	4	5 Always
Morland House	0	0	0	1	1
Talbot Grove House	1	1	2	1	0
Camelford Court	0	0	0	1	3
Hurstway Walk	0	5	2	7	2
Testerton Walk	1	3	1	0	3
Camelford Walk	1	1	0	2	2
Clarendon Walk	5	0	2	7	2
Barandon Walk	1	3	3	2	6
Verity Close	1	4	2	1	1
Camborne Mews	0	2	2	1	3
Talbot Walk	0	1	0	1	0
Treadgold House	0	0	0	1	0
Blank	0	0	1	0	2
Total Responses	**95**				

Q4: Is your home cool enough in summer?

Block	1 Never	2	3	4	5 Always
Morland House	2	0	0	0	0
Talbot Grove House	1	2	2	0	0
Camelford Court	2	1	1	0	0
Hurstway Walk	4	3	7	2	0
Testerton Walk	4	1	3	0	0
Camelford Walk	2	2	1	0	1
Clarendon Walk	7	5	3	0	1
Barandon Walk	2	4	8	1	0
Verity Close	3	1	2	1	2
Camborne Mews	1	1	3	2	1
Talbot Walk	0	2	0	0	0
Treadgold House	1	0	0	0	0
Blank	0	0	1	0	2
Total	**95**				

Q5: On a normal day, how many showers / baths does your household take?

	Numbers	Responses	Average
Showers	155	95	1.63
Baths	91	95	0.96

LANCASTER WEST NEIGHBOURHOOD TEAM
W11
part of Kensington and Chelsea Council

Blank		1	
Total	246	95	2.59

Q7: Any further comments?

Comment
There is low water pressure, they have installed a twin water pump at their expense.
Survey not laid out well. The lack of heating the building. Window insulation
The exposed pipe work
Often gets phonecalls from residents on Bramley-side of Hurstway asking if heating is working.
Radiators need a clean
Doesn't like that they have no control as to when the heating switches between summer and winter mode
Not enough hot water pressure to have a shower
Water pressure is so low, I can't have a shower
Pipe configuration wastes lots of heat
9 Comments

Q8a: How do you keep your home warm in winter?

Device	Number	% Resident Use
Closing windows	65	67.7
Closing doors	43	44.8
Thermostat	29	30.2
Draught stopper	22	22.9
Insulated curtains	19	19.8
Standalone electric heater	11	11.5
Opening windows	9	9.4
Switch the heating off	10	10.4
Standalone gas heater	2	2.1
Fan	1	1.0
Other	0	0.0
Total Responses	95	

Q8a: How do you keep your home cool in summer?

Device	**Number**	**% Resident Use**
Opening windows	68	70.8
Fan	60	62.5
Switch the heating off	54	56.3
Curtains / Blinds	13	13.5
Thermostat	5	5.2
Standalone electric heater	1	1.0
Other	0	0.0
Total Responses	95	

Q9: How easy is it to control the heating in your home?

	No.	%
It's difficult	45	46.9
It's ok	31	32.3
It's easy	16	16.7
Blank	4	4.2
Total Responses	96	

Q10: Thinking about heating, what is most important to you?

	Number	%
Heating Control	36	47
Affordable Heating	29	38
Sustainability + Environment	10	13
Seeing how much energy you use	1	1.0
Simple payments	0	0.0
Who provides your heating	1	1.0
Other	0	0.0
Total Responses	77	

APPENDIX D: Treadgold House Heating and Hot Water Survey

1. Do you use any of the following appliances?

Device	%	No.
electric heater	18.2	2
gas fire / similar	18.2	2
electric hob	45.5	5
electric oven	54.5	6
gas hob	45.5	5
gas oven	45.5	5
electric shower	9.1	1
wifi (24hr/7days)	81.8	9

2. How comfortable do you find your home?

	0 Very Poor	1 Poor	2 OK	3 Good	4 Very Good
Number	1	0	5	4	1
%	9.1	0.0	45.5	36.4	9.1

3. How do your rate your home's energy efficiency?

	0 Very Poor	1 Poor	2 OK	3 Good	4 Very Good
Number	1	3	4	0	2
%	10	30	40	0	20

4. Do you heat your home to the level you would like?

	Yes	No
Number	8	3
%	72.7	27.3

5. How do you heat your home?

	All Rooms	Whenever I am cold	Only when home
Number	5	5	1
%	45.5	45.5	9.1

6. How do you keep heat in rooms?

1 Resident responded 'close doors'

7. A: How many showers does your household have daily?

	0	0.5	1	2	3	4	5	6
Number	3	0	5	2	0	0	1	0
%	27.3	0.0	45.5	18.2	0.0	0.0	9.1	0.0

B: How many showers does your household have daily?

	0	0.5	1	2	3	4	5	6
Number	7	2	0	0	1	0	0	1
%	63.6	18.2	0.0	0.0	9.1	0.0	0.0	9.1

8. In summer, is your home cool enough?

	0 Very Poor	1 Poor	2 OK	3 Good	4 Very Good	0 Very Poor
Number	2	0	0	4	3	2
%	18.2	0.0	0.0	36.4	27.3	18.2

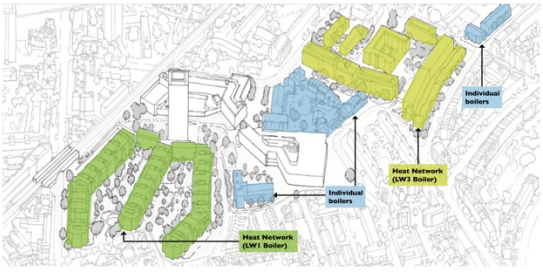
APPENDIX E: Co-Design Pop-Up Boards and Comments

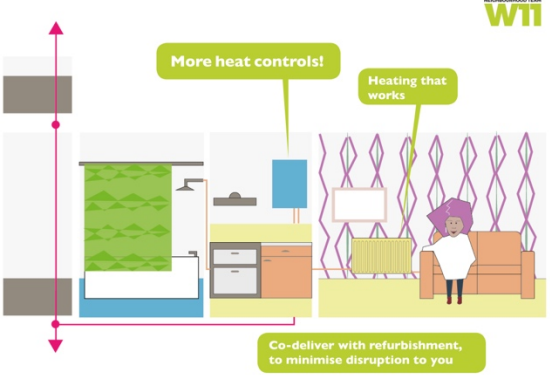
Heating + Hot Water

The refurbishment of LancWest Estate will include a new, green and clean, heating and hot water solution for all homes. Check out these boards to learn more about the proposed heat network and get involved in the resident co-design.

What is a heat network?

It is BIG plumbing. Each home, within each block is connected by pipes to an energy centre. Today two large gas boilers heating 80% of LancWest Estate via two small heat networks.





The need for change...

Heating and hot water is clearly important to residents, this was shown in the Top Ten Priorities survey completed in 2020. There are three reasons why heating at LancWest needs to change.

REASON 1: Improving Your Home
See the diagram above to see learn how the heat network can improve your home.

REASON 2: Reduce Energy Use and Bills

REASON 3: Achieve Net-Zero Carbon

RESIDENT CO-DESIGN
Which reason for change is most important to you? (You can vote for more than one answer!)

In Your Home

Heat Interface Unit

This box, is similar in size to a boiler. It tranfers heat from the network to radiators and provides hot water.

Heating Controls

New heating controls will be included, so you can keep your home comfortable

Instant Hot Water

The Heat Interface Unit (HIU) can provide hot water to taps instantly!

Radiators

New radiators will be installed, these will have heating controls too.

All images are only examples of items to be installed

WHERE In Your Home

RESIDENT CO-DESIGN
Do you have any concerns or suggestions about the location of a Heat Interface Unit in your home?

A Heat Interface Unit will be installed in each home connecting to the heat network pipes. The HIU dimensions are 62cm(w)x 85cm(h)x30cm(d), which is about the same size as a modern boiler. The location of the HIU will vary in each home and block within the estate. It will be designed to work most efficiently with the heat network and to fit within the layout of your home.

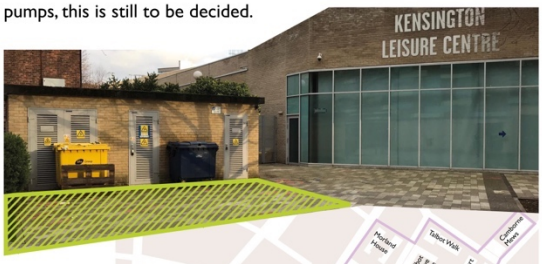
Concern	Suggestion

LANCASTER WEST NEIGHBOURHOOD TEAM W11
part of Kensington and Chelsea Council

Energy Centre

Future Energy Centre Location

The picture and map show the potential location for a new renewable energy centre beside an existing substation close to Kensington leisure centre. A second location will be required for sewer source heat pumps, this is still to be decided.



Above (in green) is the proposed location for the renewable energy centre, opposite Kensington Leisure Centre.

The pictures to the right show where the two existing boiler rooms are located. The temporary boiler will be replaced by the proposed energy centre.

RESIDENT CO-DESIGN
What do you think of the proposed energy centre location? (Do you have any ideas or concerns to share?)

What will be in the energy centre?

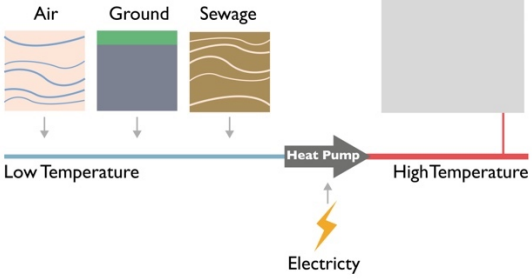
Overview

The energy centre will take heat from the air and use efficient electric boilers to supply heat to homes. The heat network design is still in its early stages, but it is likely that the centre will contain 4x air source heat pumps and 2x electric boilers.

Air source heat pump

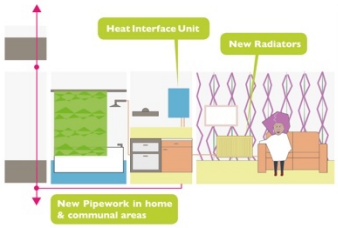
What is a heat pump?

A heat pump extracts heat from a natural source, and upgrades it to a higher temperature through a boiling and cooling process. It is very energy efficient. For every 1 unit of energy in, up to 6 units of heat are produced.



Project Development

The heat network would be delivered in two stages across LancWest.



Stage 1

Heating installations will be made in your home and building during the external refurbishment works. These will work with the current big communal boilers in place.

2021 - Onwards

Stage 2

The 'primary network' will connect each building with new pipes to the renewable energy centre from 2023.

Will the heat network go-ahead?

The delivery of the heat network has not yet been confirmed. There are three things that need to happen first:

1. Residents agree collectively to go ahead
2. The business case adds up
3. The project gains political support

RESIDENT CO-DESIGN
Do you have any ideas on how we can support residents during project delivery?

LANCASTER WEST NEIGHBOURHOOD TEAM W11
part of Kensington and Chelsea Council

Any further comments?	Any further questions?	"Q1. Which reason for change is most important to you?"	"Q2. Do you have any concerns or suggestions about the location of a heat interface unit in your home?"	"Q3. What do you think of the proposed energy centre location"	"Q4. Do you have any thoughts on how we can support residents during project delivery?"
No	No	Reduce energy bills	No	Good	Videos, updates, newsletters
Concerned about existing heating issues	No	Improving your home	Not sure where it would go, or if there is enough space	Good	
Not really, looks good	No	All	Looks good	Reasonable and fair placement	Everything - a - go
Wants control of heating. Sooner the better, delivery	No	Improving your home	Kitchen	Good	N/A
No	No	Improving your home	No concern	Satisfied	Reduce the impact on residents
Home has already been refurbished, so is worried about the floors being damaged	How do you install pipes into concrete floors / would it just run on the outside of walls?	Reduce energy bills			Works, and doesn't want anyone in property without being present
No	No	Reduce+ Improve	Where would it go? How big would it be?	It doesn't effect me if it is hidden	
I am looking forward to the improvements on heating	Sooner the better	Reduce+ Improve	No	Good	Keep residents updated
Efficiently and longivity are paramount	No	Reduce+ Improve	Yes	50/50	Involve them
No control over the current system	No	Improving your home	Cupboard in the living room or kitchen	Good idea	To understand / be informed about moving out.
	No	Improving your home	Not to take up too much room	Fine	Keep engaging with residents
Concerned about disruption for Verity, since there is no external infrastructure	No		Where the existing combi boiler is	Providing it is not too loud, the location is ok	Communication is key. Engage as much as possible.

APPENDIX F: General Comments from Residents

81 Comments received

Comment	Type	Theme
Wants to book BTS monitoring. Will share bills to be photographed when getting BTS monitors installed	N/A	
Consider warm homes discount - whether residents are receiving support for heating	Suggestion	Billing
Costs may be done an a monthly, quarterly or annual basis - adjust forms as required	Suggestion	Billing
Difficult resident choice to make on: windows open, radiator on = comfortable; windows close, radiator off cold = can't breathe Good understanding of insulation, ventilation, how to maintain a household - but currently cannot do so building condition	N/A	Health
finances (£40max spend on pre-pay electricity) Under severe pressure to make utility payments presently	Information	Costs
Would like to move to a one bill, pays all utilities system, and to know how much they will have to pay throughout the year Had good sense of energy and cost management, personal planning	Suggestion	Billing
Feels that residents don't understand or are not interested in 'green' and sustainability discussion. That they want yes / no decisions, and that now isn't the best time to engage because people are financially struggling. Their opinion was 'just do it', make a proposal and get the residents to say yes/no.	Suggestion	Delivery
They cannot afford electrical heating substitute which would be their preferred choice, so HN would be switched of unless for HW, and heating control can be supplied by secondary device.	Suggestion	Other
Doesn't want central heating system, because of risk associated with boiler. Very keen to be on a network.	Positive Comment	Technology
Regarding costs, doesn't know why someone with one radiator pays the same prices for a home with five. Believes that resident heating bills have gone down since Grenfell. Likes the billing system as it is, predictability, simple.	Suggestion	Billing
Also enjoys the warm of being the middle flat. Finds the home fine to ventilate. Does sometimes need to heat during summer, which isn't possible on network.	Information	Other
Would like to see solar panels in place.	Suggestion	Technology
New boiler installed two years ago, paid outright. Despite this is will to make change to network, see's this as the future. Difficult to get to shared gas meters. Would prefer manual controls to mobile phone controls, or would like the choice of both. Notes also how heating needs have changed due to age / menopause. Would prefer to pay for energy used that a fixed monthly prices with annual adjustment. Likes that the price paid today, is competitive, has changed energy provider as required.	N/A	N/A
LWRA Priorities Identified 1. Tariff Price Control - how fair pricing will be delivered	Question	Billing
LWRA Priorities Identified 2. Fuel Poverty - how to ensure that all are paying a price they can afford (leaseholders and tenants), this isn't the case today	Question	Billing
LWRA Priorities Identified 3. Concern around Council ownership. That a council-owned infrastructure will not always be managed in residents favour. Considerations: - Funding risk and responsibility. Who is best placed to take that risk on. - The business case is not built as a profit-making asset, its aim will be to make ends meet, to cover its own costs. The current business model has a very low investment return rate, so it is unlikely to make a profit. This is one reason that a private funding option has not been included. - If the heat network did make a profit, are there ways in which this profit could be managed to benefit residents? Could resident ballot / resident representation / other governance become part of the profit processes?	Question	Delivery
LWRA Priorities Identified 4. Resident Governance / Ownerships Can resident governance / representation without ownership be incorporated into the future governance model? Community agreement: I have recently been involved with a Community Agreement for a heat network, which gives a CLT and Parish Council representation on the annual tariff review and makes their consultation essential on future procurements, disposal of the asset etc. I think it also makes commitments on local consultation for certain changes. Has a similar legal document been considered for the project? 2. Heat Trust - consumer protection and cost comparator 3. New legislation is on its way	Question	Delivery
LWRA Priorities Identified 4. Project security. Something that is built to last, is managed well.	Question	Delivery
LWRA Priorities Identified 5. Technology, general questions around sewage heat pumps.	Question	Technology
Future Messaging Walkways - Restore working heating, acknowledging that the heating did previously work Pick up the positive experiences that residents have fo being on a heat network Share the opportunities that a model heat network offers; heat control, reliability, prevention of fuel poverty, save some carbon Consider sensitivity around council ownership, particularly the timing of that question in relation to other co-design inputs. LWRA Priorities Identified	Suggestion	Delivery

Concern about the timing and alignment with the internal refurbishment, which is ahead of these plans.	Concern	Delivery
Will gas cookers be available to leaseholders / tenants in the furutre?	Question	Gas
Worried about instances of multiple disruption	Concern	Delivery
Question on how the HIU works, whether gas or electricity is required within the home.	Question	Home impact
Will this system apply to Treadgold House?	Question	Delivery
Thinks it is a good idea, aware of the tech.	Positive Comment	Technology
Wants to know how much it will cost to connect	Question	Costs
Previous Hurstway resident, had a very bad experience of heating and hot water when living there. Unable to take baths or shower when desired. Does not want to join a communal experience following that experience.	Negative comment	Technology
Wants to know how much it will cost to connect	Question	Costs
Wants to know what the money from Government (the £17.5m) is for?	Question	Costs
Mixed feelings, worried about what happens if the system goes wrong. What back-up is there? Likes having control of their own system today.	Question	Technology
Internal refurb - will al be done at once, including the heating installation? Where will I stay when this work is happening?	Question	Delivery
Suggestion for Lancaster West's 'Urban Eden' project	Suggestion	Other
Hot water pressure is currently very low	Concern	Technology
Overheating was a common problem mentioned - especially for CC residents	Concern	Home impact
Would we pay the council for heating	Question	Billing
Why can't we use solar panels to heat our homes?	Question	Technology
Will the scheme go ahead even if residents oppose / don't opt in?	Question	Delivery
Will it be for the whole borough?	Question	Delivery
More concerned about the price of heating than the technical aspects	Concern	Costs
How is it all knitted together - any impact on the building?	Question	Home impact
How will renewable source affect the quality of heating?	Question	Technology
Impact on pricing, compared to today	Question	Billing
Would I still have to pay an amount even if I am not using the heating because I'm away?	Question	Billing
Is the level of heat pricing going to be the same for everyone on the estate?	Question	Billing
How big would the boiler / HIU be?	Question	Home impact
Currently happy with heat quality and pricing, potentially concerned about the changes to that.	Concern	Billing
Sceptical about the heat level that could be produced	Concern	Technology
Despite sceptic of the technology, the resident is very keen to have the renewable option on offer	Positive Comment	Other
This resident has done some work to their property, including insulation upgrade. They query whether this will be enough to plug into the system.	Question	Home impact
How much will I save and when will the savings come through? As refurbishments start to happen and individual heat meters are installed, what will happen to my energy bills? Will my Service Charge change? (Jeff via new Working Group)	Question	Billing
What % of electricity needed to run the ASHP can be generated through solar pv installed on the Estate? (Evagelos)	Question	Technology
Will the new thermal stores be located in the new energy centre? (Evagelos)	Question	Technology
What's the COP of individual gas boilers and large gas boilers? (Evagelos)	Question	Technology
Will there be timers on the new heating controls, so residents can save energy and only turn their heating on at certain times of the day? (Nigel)	Question	Home impact
Are we planning to keep the hot water tanks in people's homes? Getting rid of them and creating extra space is seen as a major benefit for residents. (Nigel)	Question	Home impact
Are residents in Hackney happy with their CIC? (Mike K – please can you develop a couple of case study slides on this. This could form the basis of interesting new content for EMT)	Question	Other
Satisfaction score of 80%, will there be a threshold - how will this be measured? When will it be reviewed?	Question	Customer service
Radiators choice - teams that are doing pilots (plasma, are these compatible?) Double disruption	Question	Delivery
How much infrastructure needs to be replaced?	Question	Hone
Would only residents who want to have works in their flat would need to have this installed. Tenants / Leaseholders	Question	Delivery
Treadgold / Verity / Camborne Mews - what would the offer be, is the heating system would remain the responsibility of the council? Does it remain so?	Question	Delivery
Leaseholder - Would connections be required?	Question	Delivery

Leaseholder - Will works be delivered alongside refurbishment or can leaseholders determine connection period (ie. when they are doing works within their home / replacing floors etc.) or could leaseholders opt in within a period to align to other works, or home upgrades they are making?	Question	Delivery
Leaseholder - What notice period would leaseholders be given if required to connect?	Question	Delivery
Leaseholder - What notice period would leaseholders be given if there are any costs?	Question	Costs
Leaseholder - Need to define what the costs are to leaseholders (if any), whether it is part of major works / essential works / something else.	Suggestion	Delivery
LWRA Would like to see that leaseholders not having to pay for the new heating	Question	Costs
Would flooring be taken up? What is the impact of leaseholder? When, why, and how process for bringing leaseholder onto the project.	Question	Home impact
What happens about gas stove (leaseholder) will they be required to get rid of it?	Question	Home impact
It's not just costs associated with the major works regarding heating, but in the potential disruption to flooring and decor.	Suggestion	Home impact
How much of the grant funding covers its total costs and what are the ongoing costs	Question	Costs
How much electricity will be generated onsite?	Question	Technology
Would be better to homogenising to simplify the costs.	Suggestion	Costs
Morland House - Average temperature 25c, kitchen 24, bedroom 23, bathroom 27; when radiators off throughout	Information	Home impact
LWRA: Need a 6pm or later zoom meeting	Suggestion	Other
LWRA: Fine consulting now, but would be worried that not enough information is tied down and may be confusing to people	Suggestion	Other
Would we get a separate heating bill for the new communal system?	Question	Billing
Has new Nest thermostat, which the resident doesn't know how to use. No instrutions provided.	Information	Home impact
Asks whether the new system is compatible with the unvented cylinder installed	Question	Home impact
Likes the potential of new heat controls being installed	Information	Home impact

Analysis – By Comment Type

Comment Type	No.	%
Suggestion	14	17
Question	48	59
Concern	7	9
Positive Comment	3	4
N/A	3	4
information	5	6
Negative Comment	1	1
	81	

Analysis – By Theme

Theme	No.	%
Billing	13	16
Technology	14	17
Delivery	18	22
Home Impact	15	19
Costs / Affordability	10	12
Other	6	7
Health	1	1
Gas	1	1
Customer Service	1	1
N/A	2	2
Blank	0	0
	81	

APPENDIX G: Frequently Asked Questions

Question	Answer
Your home…	
How / why will this be better than the existing heat network?	A number of changes should improve your experience of heating in the future: 1. Control over your heating; HIW installation will give control of heating for your home, in the event of any system fault it will also isolate your home to prevent heat issues in one home effecting other homes Insulated pipe installation: will prevent overheating 2. Improved pipe sizing and pressure through use of pumps: will make sure that all homes, in all blocks receive quality heat 3. Smart pipes: the heat network pipes will also be 'wired in', these can detect any possible leaks between the energy centre and building
How will it change the heating control (radiators + thermostats)?	The new heating system will give you better heating and hot water control in every room in your home, all year round. Radiators, a Heat Interface Unit (HIU) and control panel will help you control the temperature of your home. The system can be turned off completely, if you do not need heating. It will have timing and remote controls available.
Who is designing the future heating system in my home?	Engineers will design the new heating system, working with the architects appointed to design the external refurbishment of each block. The system (radiators etc.) that the engineers design will connect to a Heat Interface Unit in your home. The Heat Interface unit marks the boundary between your internal heating system, and the communal heating system.
What is a Heat Interface Unit?	A Heat Interface Unit transfers heat from the block's pipes to your heating system. It heats up the liquid flowing through radiators and can also provide instant hot water. It does this via a 'plate heat exchanger', a metal honeycomb plate which allows heat to be transferred without the liquid in each system (block and your central heating system) mixing.
How big will the Heat Interface Unit be?	Just like a standard wall mounted boiler. Approximately 60cm wide X 85cm high X 30cm deep.
Where will the Heat Interface Unit be installed?	Each home will have a Heat Interface Unit (HIU) installed in a service cupboard within your property, it will be placed as close to the building connection point as possible.

	Walkways homes – may have the Heat Interface Units installed within the communal walks, not in individual homes. This will be considered through the architect design process.
Will the same Heat Interface Unit be installed in every home?	Some of the larger homes on the estate may require a heat interface unit with a higher power rating. All the heat interface units to be fitted in homes will be a similar size, whatever the power rating is.
Heat Interface Units were installed in some homes during 2020, will these heat interface units be installed in the same way?	The Heat Interface Units that were previously installed in some homes, these were not successful due to the summer / winter cycle of the existing boilers. The new Heat Interface Units will be installed into a system that operates all-year-around, and is capable of heating your home throughout the year.
Will there be a cooling system / air conditioning installed?	There will be no cooling system included as part of the heating installation.
How will homes be ventilated?	Mechanical Ventilation Heat Recovery (MVHR) will be installed in each home. This system replaces stale air with fresh air, whilst also preventing heat lost during winter. This means less energy is lost from the home than when a window is open. The architect led team for each block will outline the MVHR design.
How will hot water be delivered?	For blocks where the refurbishment and heat network will happen at the same time, Heat Interface Units will be installed to provide instantaneous hot water. Back-up will be provided by the thermal store at the new energy centre.
What if I've already had a hot water cylinder installed as part of the internal refurbishment?	For internal refurbishments that are happening soon at Morland House, Talbot House, Cambourne Mews and Verity Close, we will remove the old cylinders and replace them with a more modern version that can improve hot water pressure and provide a guaranteed hot water supply. We'll also provide pipework from outside of the home into the storage cupboard, to allow future connection to the new heat network. Future disruption will be minimised by limiting works to the storage cupboard (where available). Once the heat network connection happens, a Heat Interface Unit will be installed, and the cylinder could be removed or retained.

Is there a limit on the number of baths and showers we can take? Will hot water always be available?	How water is instantaneously available, so there's no limit on the number of baths or showers. You simply pay for what you use. The Heat Interface Unit supplies hot water in a similar way to that of a gas 'combi' boiler.
How does the water stay hot in the pipes?	All the pipes from the boiler to your home will be highly insulated.
How hot will the heating be?	The heating system will be designed so that rooms can be maintained at 21DegC on a winter day (up to 70DegC will be delivered to radiators).
How hot will water from taps be?	Water temperatures will be up to 60Deg C.
How big will the radiators be?	The new central heating system within your home will be designed through the internal refurbishment. This will include the radiator, size, design and selection, they will be similar to your existing radiators but will have additional controls.
How will I be able to see what energy I use?	Each Heat Interface Unit will have a touch screen control unit that will display energy use and heat control options. There will also be thermostat controls made available, so that residents can control the comfort heating level of each room. A separate control panel will be provided for this.

Your block…	
What work will be required in communal areas?	New pipes will be delivered as part of the refurbishment of each building. All residents will be given notice ahead of these works.
How has the system been designed ahead of the refurbishment of each block?	To design a heat network, there needs to be an understanding of how much heat is needed by homes. The heating need for the Estate has been calculated by assuming that all homes will achieve and improve on Building Regulation "Part L" standards. This sets out the minimum "U'-value", the measure for prevention of heat loss.
How has the system been designed to cope with peak hot water and space heating demand?	The system has been designed to keep homes at a comfortable temperature (18-21Deg C) on a cold winters day (down to -4Deg C), and for all homes on the Estate to be able to run hot water for a bath.
Does the system work on a very cold day?	Yes, the system has been designed to work at -4DegC, it will work in very cold temperatures also (below -4DegC). The retrofit will also ensure that temperatures are comfortable during exceptionally cold days.
Are communal areas to be heated?	Most communal areas, that are covered, will be heated.
Will there be any changes to the building?	

	There will be some external works required to each block to install the new heating system. This will include external risers, and pipework in communal areas or fixed to the external facades (where there is no indoor communal area). These works will be designed with the architects for the building retrofit, to make sure they are unseen where possible.
The Estate and local area	
Are there any environmental risks associated with the technology proposed?	There are no known environmental risks in the delivery of heat within your property.
Are there other examples of a successful heat network refurbishment similar to Lancaster West?	Heat Networks are used throughout London, and many will have been refurbished over the decades. What is special about the Notting Dale Heat Network, is that the system will use renewable energy. The Danish use renewable heating for around 50% of their heat networks. The UK is just starting to switch to renewable energy for its heat networks. For example, the Cory Riverside project in East London will connect 10,000 homes to a system recovering from household waste. A similar project has also been outlined for Kingston it will use waste heat from sewage.
Why has it been decided to include the school and sports facility?	The school and sports centre will be joining the heat network. These two buildings use a lot of heat and will make a big impact on reducing pollution in the local area by converting from gas to renewable energy.
The Energy Centre	
What type of renewable energy will be used?	It is proposed that two large air source heat pumps and energy efficient electric boilers are used to supply heat to homes. The existing gas boiler in Camelford Court will be kept as a back-up energy supply. In the longer-term sewage source heat pumps could also be used, taking heat from a trunk sewer that runs under the Estate. Heat would be drawn from wastewater and converted into heat within a plant room.
What will be the quality of the renewable heating?	The new heat network will use multiple energy sources (air, electric and gas back-up until 2030), it also has a spare heat pump built in, plus thermal stores which act as a large water battery. This means that there is a lot of extra back-up built into the heating, more than is provided by just having gas boilers as the Estate does today.
What back-up will there be for the new heating system?	The new heat network will be a lot more robust than the current system:

	1) If something goes wrong with the heating in one flat it can be isolated, so that the heating in every other flat isn't affected. 2) The new smart pipework to be installed will make it easy to identify where there are any leak or problem if it does happen. 3) There are many energy sources used by the renewable energy centre, so the heating doesn't rely on a single large gas boiler.
Where will the plant room be located?	The plant room is likely to be built where an existing substation is located, on land to the rear of Kensington Leisure Centre.
Will solar panels be used to provide electricity to the energy centre? How much energy can they provide?	Roof-top solar panels may play a role in supplying electricity to communal areas (eg. For Lighting) and the heat network. A study is currently underway to review what buildings could support solar panels.
The Design Process	
How will the heating design work with the refurbishment planned?	A 'fabric first' approach is to be taken for all blocks on the estate. That means that reducing the level of energy required to heat homes is the first priority. The aim is that each block will achieve a maximum 25-50kWh per metre squared heat loss requirement. This is pushing the limits of what is technically possible and is a good goal for refurbished properties to achieve. The architects designing the external refurbishment of each block are working with project engineers to achieve this target.
How will the pipe network between each building be designed?	A survey will be carried out to identify the routes of existing utility pipes underground. This will inform the route planned between buildings to the new zero-carbon energy centre.
How long will the heat network be designed to last?	The minimum lifespan for the pipes and ducts is 50 years, the mechanical equipment required should last at least 20 years, with a budget provided to provide new replacement equipment.
Delivery	
How will this heat network be delivered?	A new heating system for homes and blocks will be installed as part of the internal refurbishment programme, which for LW1 and LW3 networks will initially connect to the existing large gas boilers. Treadgold House will connect to its own large air source heat pump and be future-proofed for connection the new heat network by 2030. The final step is to build the new energy centre (by July 2024) and external pipework in the ground, which each block then connects into. The details of this plan will be developed with designers and the residents of each block.

How will disruption be minimised?	The new heating system within homes are to be installed as part of the refurbishment in each home. Where possible, the replacement of existing heating systems will take place in summer, when heating is not generally required and won't be missed by residents. We are carrying out as much work as possible as part of the internal refurbishment, so that we can connect externally at a later date, without further disruption to residents.
My home has already been refurbished; will it work with the new heat network?	Some homes that have already been refurbished have had a large hot water cylinder installed to provide hot water to homes. These cylinders can work with the new heat network.
What is the £17.5m received going to pay for?	This money from the Housing Revenue Account, is to be invested to improve the heating systems and pipe work across Lancaster West Estate. This money will need topped up by a Government Grant, to help us to go renewable.

APPENDIX G: Co-Design Survey Results

12 Comments Received

Any further comments?	Any further questions?	"Q1. Which reason for change is most important to you?"	"Q2. Do you have any concerns or suggestions about the location of a heat interface unit in your home?"	"Q3. What do you think of the proposed energy centre location"	"Q4. Do you have any thoughts on how we can support residents during project delivery?"
No	No	Reduce energy bills	No	Good	Videos, updates, newsletters
Concerned about existing heating issues	No	Improving your home	Not sure where it would go, or if there is enough space	Good	
Not really, looks good	No	All	Looks good	Reasonable and fair placement	Everything - a - go
Wants control of heating. Sooner the better, delivery	No	Improving your home	Kitchen	Good	N/A
No	No	Improving your home	No concern	Satisfied	Reduce the impact on residents
Home has already been refurbished, so is worried about the floors being damaged	How do you install pipes into concrete floors / would it just run on the outside of walls?	Reduce energy bills			Works, and doesn't want anyone in property without being present
No	No	Reduce+ Improve	Where would it go? How big would it be?	It doesn't effect me if it is hidden	
I am looking forward to the improvements on heating	Sooner the better	Reduce+ Improve	No	Good	Keep residents updated
Efficiently and longivity are paramount	No	Reduce+ Improve	Yes	50/50	Involve them
No control over the current system	No	Improving your home	Cupboard in the living room or kitchen	Good idea	To understand / be informed about moving out.
	No	Improving your home	Not to take up too much room	Fine	Keep engaging with residents
Concerned about disruption for Verity, since there is no external infrastructure	No		Where the existing combi boiler is	Providing it is not too loud, the location is ok	Communication is key. Engage as much as possible.

Q1. Which reason for change is most important to you?		
Improving your home	45.5	5
Reduce energy bills + Improve your home	27.3	3
Reduce energy bills	18.2	2
All options (Improve, reduce, achieve)	9.1	1
Achieve Net Zero	0	0
	100.0	11

Q2. Do you have any concerns or suggestions about the location of a heat interface unit in your home?		
No	33.3	4
Uncertain about location, or size	25.0	3
Yes	16.7	2
Cupboard or kitchen	16.7	2
Existing location	8.3	1
	100.0	12

Q3. What do you think of the proposed energy centre location		
Good	45.5	5
Reasonable / Satisfied	36.4	4
50/50	9.1	1
Ok, if not too loud.	9.1	1
	100.0	11

Q4. Do you have any thoughts on how we can support residents during project delivery?		
Regular updates and communications	40.0	4
Keep engaging residents as much as possible	30.0	3
Reduce impact, and organise works well	20.0	2
Videos, updates newsletters	10.0	1
	100.0	10

APPENDIX G: Customer Service Data

LW1 – Customer Service Issues

	Hurstway Walk
Radiators	36.51
No Heating	31.75
No Hot Water	20.63
Emergency Heating	9.52
Engie	1.59
Boiler	0.00
HIU	0.00
Noise	0.00

	Barandon Walk
Radiators	36.71
No Heating	24.05
No Hot Water	18.99
Emergency Heating	7.59
Engie	5.06
Boiler	5.06
HIU	2.53
Noise	0.00

	Testerton Walk
Radiators	26.32
No Heating	23.68
No Hot Water	23.68
Noise	10.53
Engie	5.26
HIU	5.26
Emergency Heating	5.26
Boiler	0.00

LW3 – Customer Service Issues

	Camelford Court
Radiators	37.50
No Heating	25.00
No Hot Water	25.00
Emergency Heating	12.50
Engie	0.00
Boiler	0.00
HIU	0.00
Noise	0.00

	Talbot Walk
Radiators	40.00
Emergency Heating	40.00
No Heating	20.00
Engie	0.00
Boiler	0.00
HIU	0.00
No Hot Water	0.00
Noise	0.00

	Clarendon Walk
No Hot Water	35.29
No Heating	29.41
HIU	11.76
Radiators	7.84
Engie	5.88
Emergency Heating	5.88
Noise	3.92
Boiler	0.00

	Talbot Grove House
No Hot Water	38.00
No Heating	30.00
Radiators	22.00
Engie	4.00
Emergency Heating	4.00
Boiler	2.00
HIU	0.00
Noise	0.00

	Morland House
No Heating	50.00
Radiators	33.33
Emergency Heating	16.67
Engie	0.00
Boiler	0.00
HIU	0.00
No Hot Water	0.00
Noise	0.00

	Camelford Court
Radiators	34.21
No Hot Water	31.58
HIU	13.16
No Heating	13.16
Emergency Heating	5.26
Engie	2.63
Boiler	0.00
Noise	0.00

Individual Boilers

	Verity Close
No Heating	38.71
Boiler	29.03
No Hot Water	12.90
Emergency (heating only)	9.68
Radiators	6.45
Noise	3.23
Engie	0.00
HIU	0.00

	Camborne Mews
No Hot Water	47.37
No Heating	36.84
Radiators	15.79
Engie	0.00
Boiler	0.00
HIU	0.00
Noise	0.00
Emergency (heating only)	0.00

	Treadgold House
Boiler	58.82
No Heating	17.65
No Hot Water	17.65
Emergency (heating only)	5.88
Radiators	0.00
Engie	0.00
HIU	0.00
Noise	0.00