NOTTING DALE HEAT NETWORK
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.

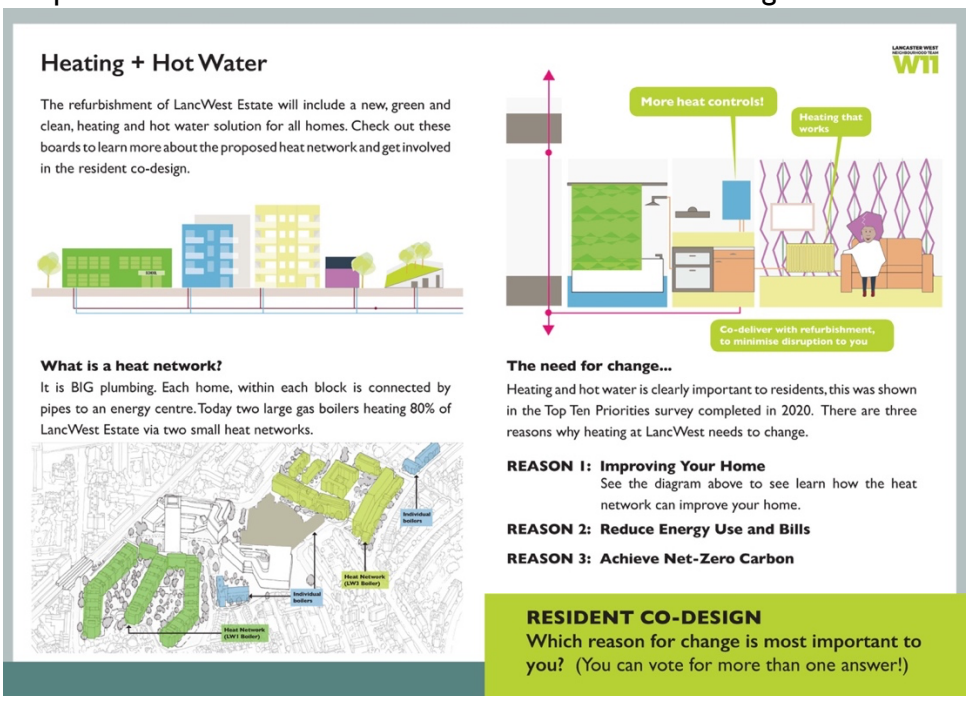
9. **Who is involved in the heat network project?**
   There is a specialist team recruited by the council to design the heat network. It includes a heat network programme manager, two stakeholder managers and office support. There are two engineering companies involved in designing the project, Ramboll 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.

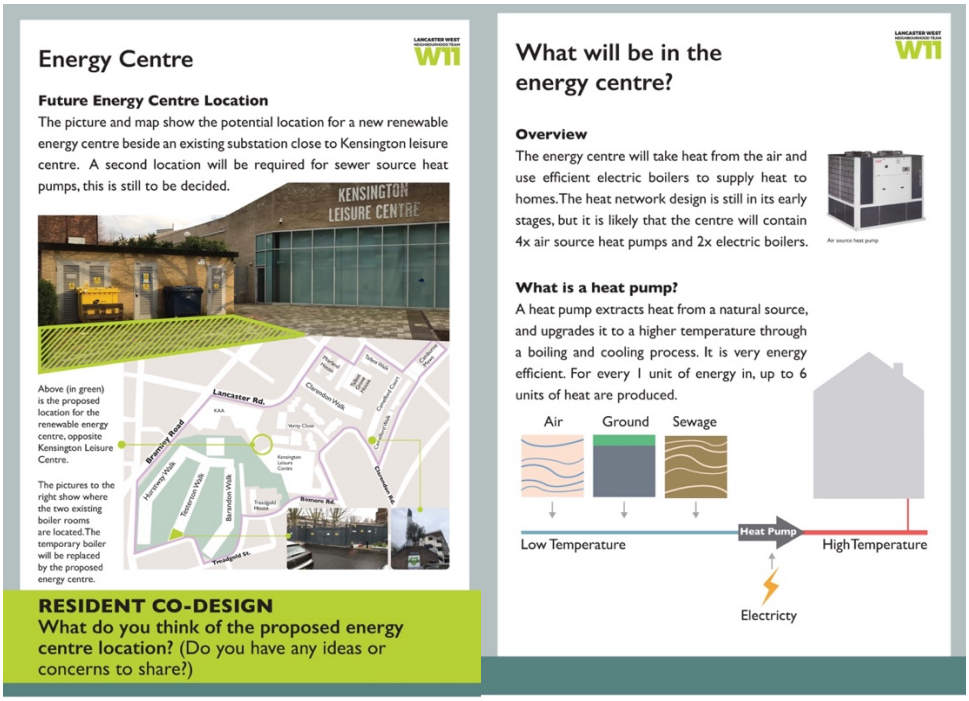
10. Who is providing advice on the project?

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...

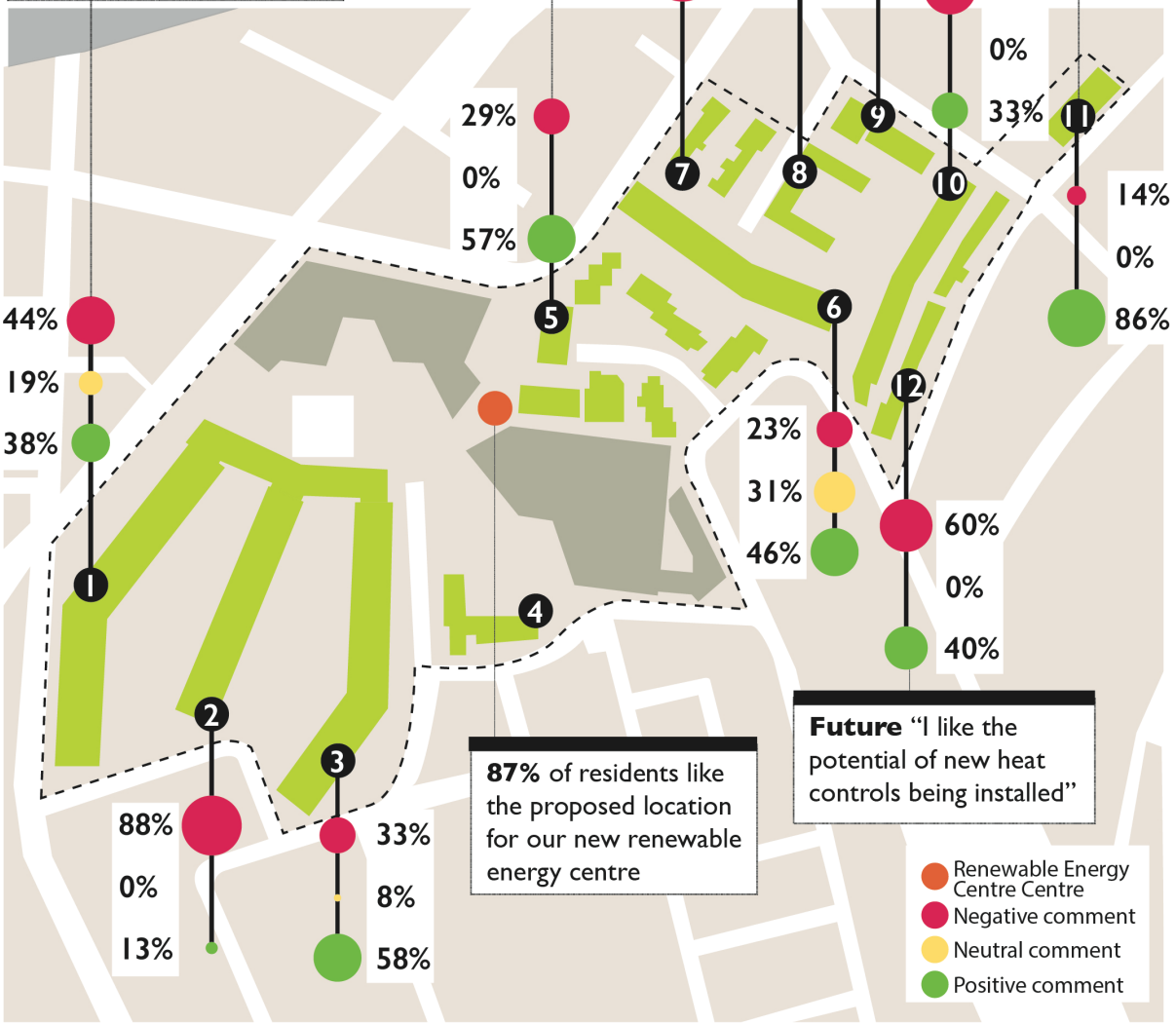
Residents at Lancaster West Estate have a mixed experience of heating today, depending on what block they live in. Key comments from individual residents highlight important points that a future heat network should consider.

Future "How will works align to the other refurbishment? Can they be minimised?."

Future "Will the heating system remain the responsibility of the council?"

Today "I would rather use electric radiators than the communal network as it is today, but it is too expensive."

Future "I am more concerned about the price of heating than the technical aspects"



87% of residents like the proposed location for our new renewable energy centre

Future "I like the potential of new heat controls being installed"

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

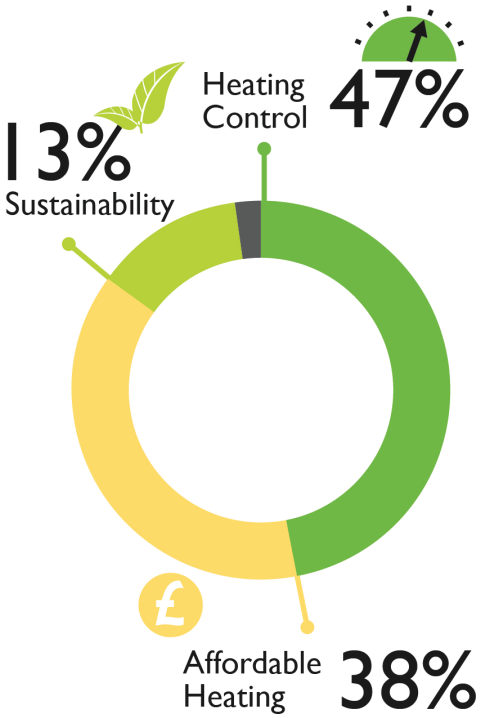
17%
Did not respond...

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