



Triple Point
HEAT NETWORKS
INVESTMENT MANAGEMENT

Heat Networks Investment Project Look Back - London and the South of England



Welcome



The session will be recorded. The video and slides will be available.



Turn off your camera unless you are speaking.



Please feel free to comment in the chat.



Type your question into the Q&A. We will answer these in the live Q&A session of the webinar.



Raise your hand if you have a question during a discussion.



Session	Speaker
A look back on HNIP – what did we achieve?	Andrew Cripps, Triple Point
Notting Dale Lancaster West	Shaun Haden, Kensington & Chelsea Council
Enfield Heat Network	Stephen Diver, Energetik
Swaffham Prior	Sheryl French, Cambridgeshire County Council
Live Q&A	Samantha Shea, Gemserv
Closing Remarks	Ken Hunnisett and Andrew Cripps, Triple Point

The Heat Networks Investment Project (HNIP) was a major Government project which has helped invest up to £320m of capital funding into heat network projects across England and Wales.

The scheme has now been succeeded by the Green Heat Network Fund (GHNF).

The aim of HNIP was to create the conditions for a **self-sustaining heat network market** that contributes to the decarbonisation of the UK energy system at the lowest cost to the economy by 2050 by:

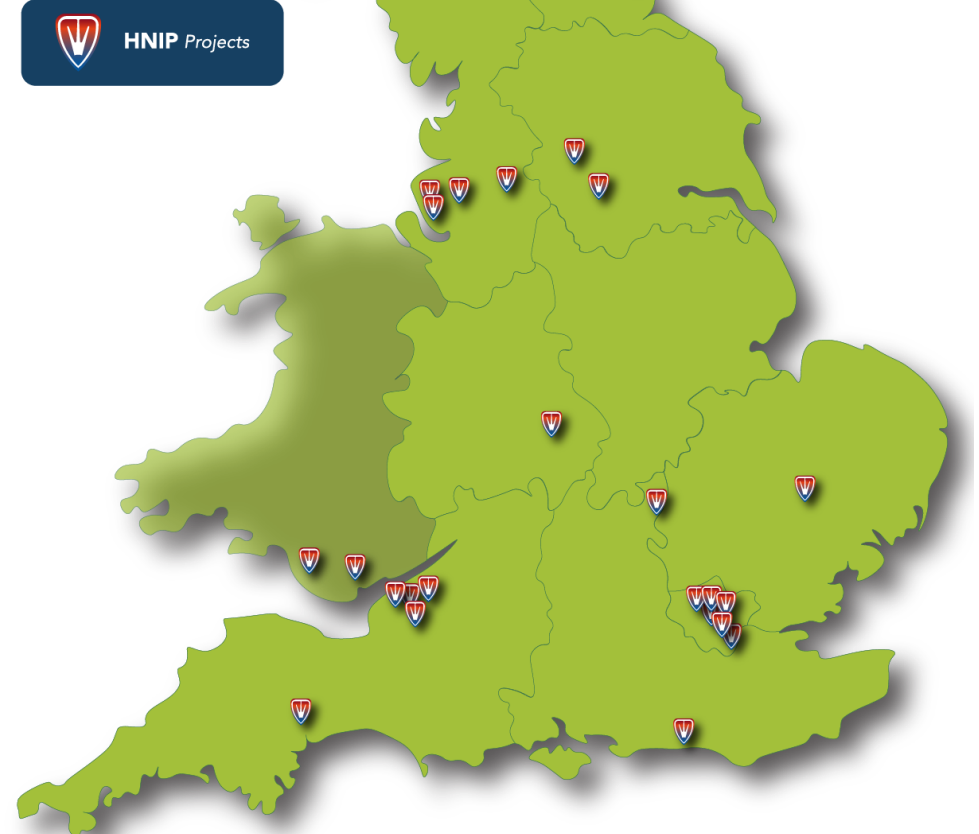
- Increasing the volume of strategic, optimised and low-carbon heat networks built through provision of central Government funding which will draw in significant additional investment;
- Improving the quality of heat networks that meet local infrastructure and consumer needs; and
- Building the capability of project sponsors and the supply chain to develop heat networks of the right type and quality.

- HNIP was launched prior to the UK's commitment to net zero, since then the political imperative has changed and the ambition to decarbonise even greater
- C£270 million was deployed to eligible projects under HNIP main scheme*
- Total CAPEX of schemes with HNIP support exceeds £700m across public and private sector projects
- More than 75,000 residential connections to be made

**subject to conditions being met*

HNIP Successes

Funded Heat Network Projects





Professionalising the Market

1



2



3





Energy from Waste -
Enfield



Mine Energy – South
Seaham



Energy from Waste -
Leeds



Gas CHP – Manchester



Ground Source Heat
Pumps –
Cambridgeshire



Air Source Heat Pumps –
Solihull



Water Source Heat
Pump - Liverpool



Mine Energy –
Gateshead



Notting Dale Lancaster West

Shaun Haden, Kensington & Chelsea Council



Notting Dale Heat Network

February 2024

Shaun Haden



THE ROYAL BOROUGH OF
KENSINGTON
AND CHELSEA

LANCASTER WEST
NEIGHBOURHOOD TEAM

WT11



Notting
Dale
heat

Our vision



Help the **Lancaster West Estate** become a model **21st century social housing estate** following Grenfell.



Be **carbon-neutral by 2030**, meaning that no carbon is produced through providing utilities including heating and hot water to the homes residents live in.



Co-design & co-deliver with residents and create opportunities for the whole community ensuring **new green jobs, skills and high levels of engagement**.



Turn **Notting Dale** into the UK's largest eco-neighbourhood, putting a green recovery at the heart of **Grenfell recovery**.

Lancaster West Estate

Local Context

People


- 826 properties
- 80% BAME communities
- 25% homes were overcrowded (now 9%)
- 10% accessibility issue with their home
- 5% households have at least one person who can't speak or read English

Properties

- 25% leaseholders (half of which are non-resident)
- Stock from 1930 – 2018
- **Notting Dale Ward** = 70% social housing
- Only two lift accessible blocks (of 15)



What's in our programme?



Refurbishment Programme
(Deep retrofit)
15 blocks
6 lots



Internal Refurbishment Programme



Notting Dale Heat Network



Landscape and public realm

Notting Dale Heat Network:

Why are we doing this?

- Deliver a **highly reliable** heat network: replacing two end-of-life networks
- Work in partnership with customers to deliver an **excellent customer experience**: resident co-design to design a heat network for its customers. Featured as a UK case study: [Guidance note for Green Heat Network Fund applications](#)
- **Protect customers from rising energy prices and fuel poverty**:
 - Using grant funding and public money, with a low return on capital, to provide competitively priced heating.
 - Energy advice to help residents save money, energy and carbon.
 - Heat network expansion.
- Support the Council to move towards **carbon neutrality** by 2030: energy retrofit plus 100% renewable heating.

Notting Dale Heat Network, Phase 1



Scheme profile

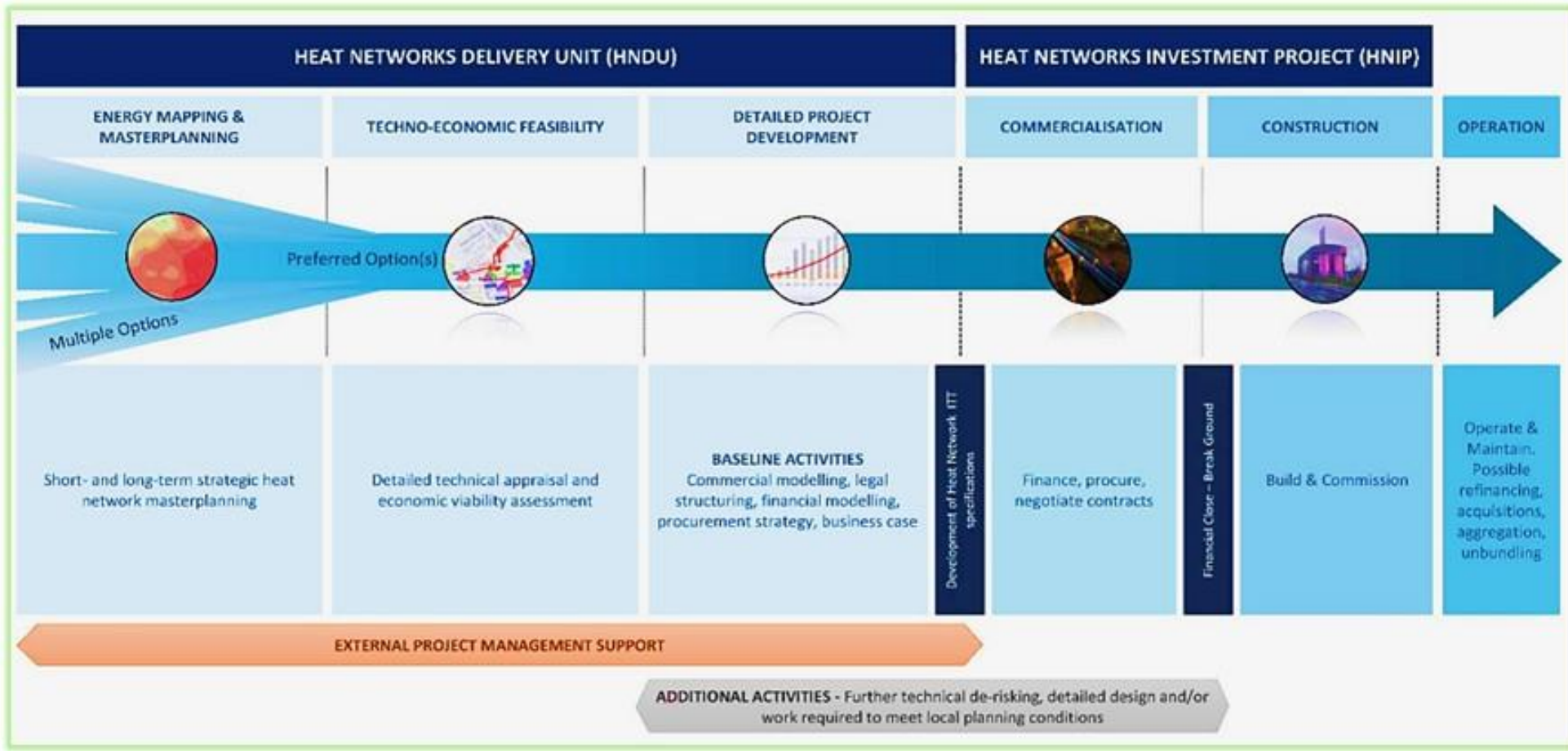
826 Homes
(75% tenants 25% Leaseholders) RBKC
Freeholder
80% Communal Heating
20% Individual Heating

Leisure Centre owned by RBKC run by GLL

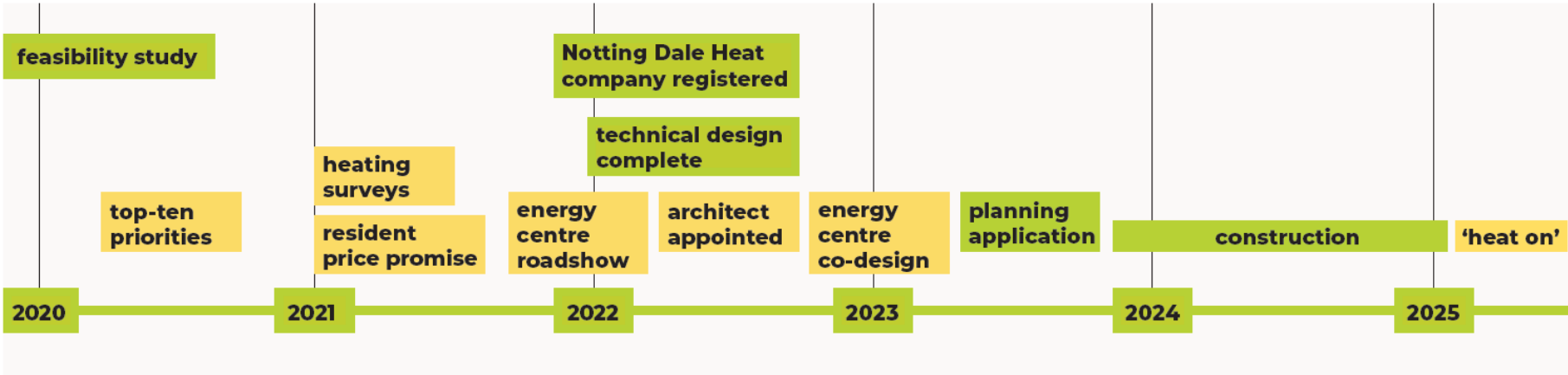
Local Independent Academy

41 Business units underneath one of the blocks rented from RBKC

If only the process was this clean



Resident Co-design



Heat survey 96

Webinars 50

Roadshow 50+
LWE comms campaign

EC Co-design 112
1,200+ letters issued

EC Co-design 50+
1,200+ letters issued



Door-knocking
Avondale Park
residents

Regular
communications with
LWE residents

Design review with
DLUC and Grenfell
memorial commission

The Tech - How will it work?



1 Air Source Heat Pumps (ASHP)
Converts heat in the air into heating for your home using electricity and a refrigerant.



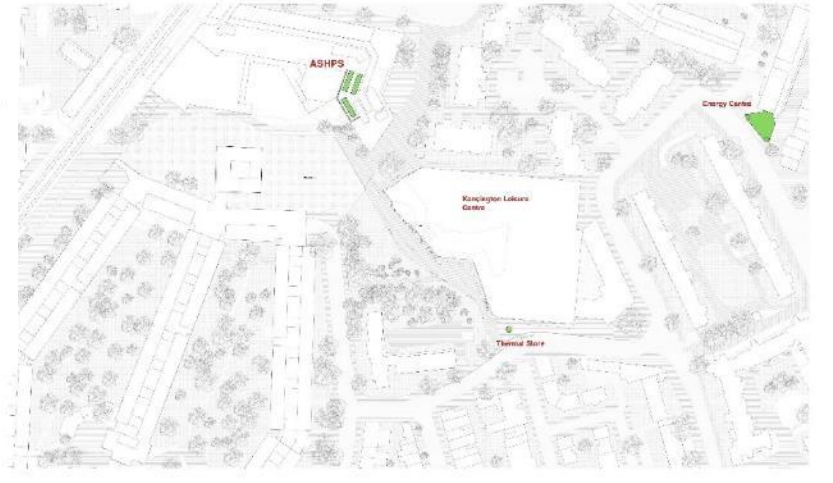
2 Electric boiler
A renewable electric boiler will provide top-up heat to the estate at peak heating times.



3 Warm water store
A hot water store tops up the heating supply when required. The stores are heated at night, making use of cheaper night-time electricity.

Renewable technology

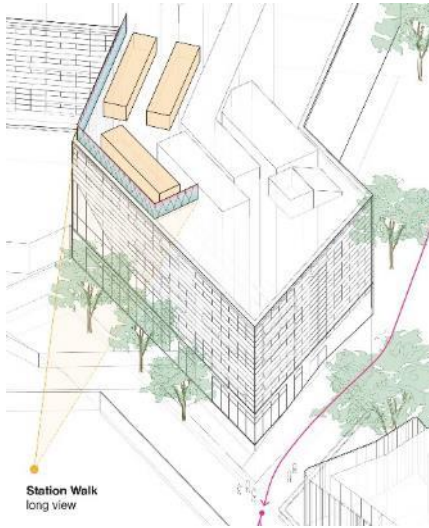
The renewable energy centre will use green electricity and an air source heat pump to supply heating and hot water.



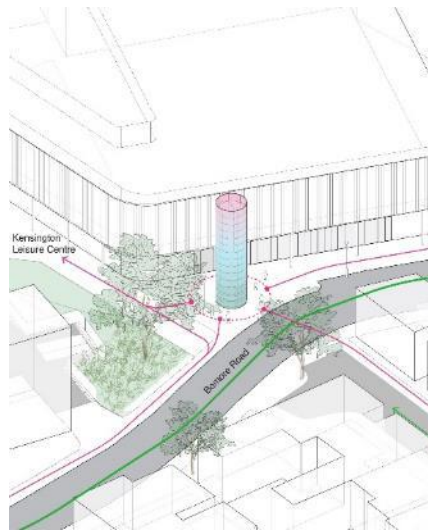
This is now a Heat Pump System, with:

- 2 x ASHPs
- 1 x WSHP

This system is more efficient than standalone ASHPs.



Air-source heat pumps

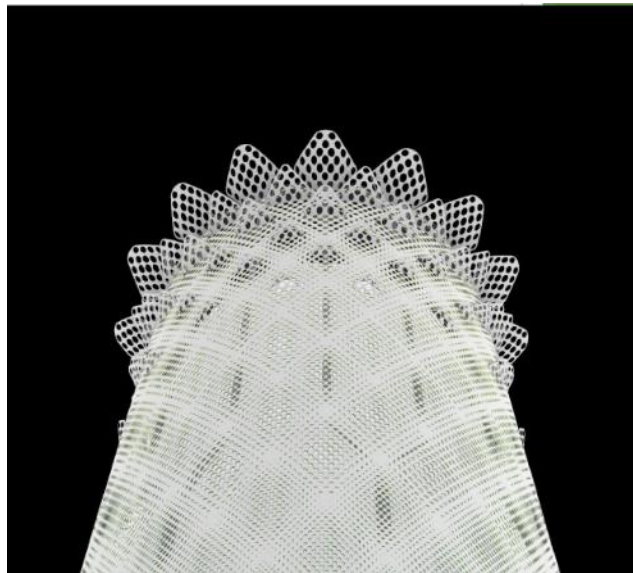


Thermal store



Renewable boiler room

Warm Water Store



Renewable Boiler Room



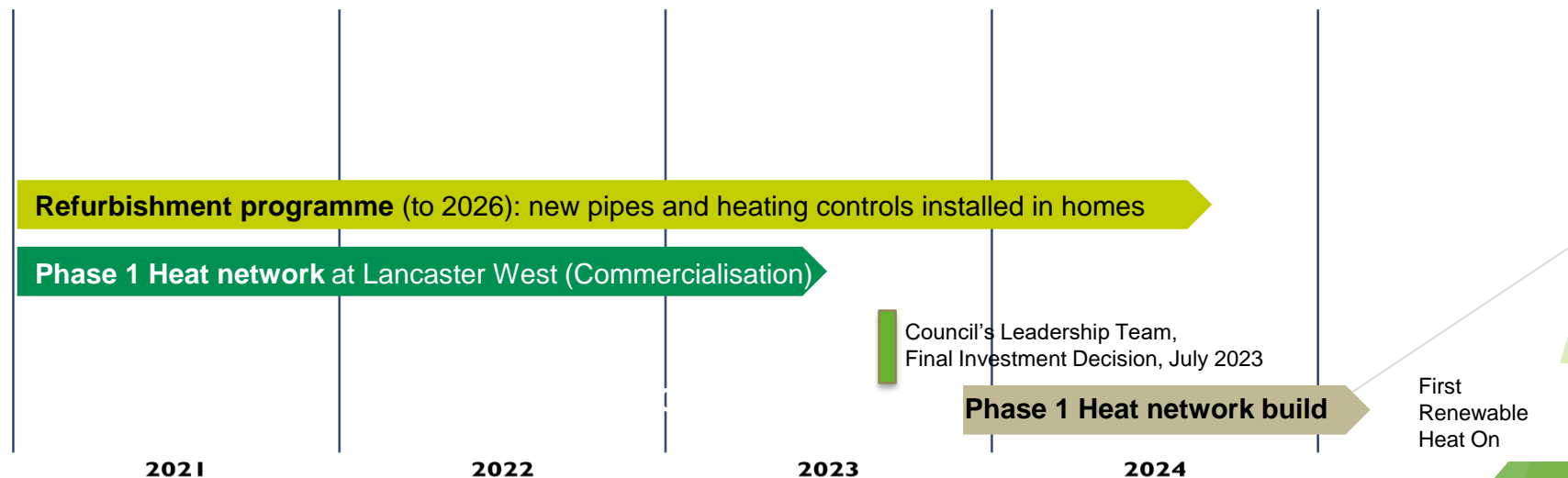
Who will deliver?



Contract 1
Design & Build - Primary network
Operate & Maintain entire network



Contract 2
Design & Build
Secondary & Tertiary network
inside residential blocks



Who will manage?

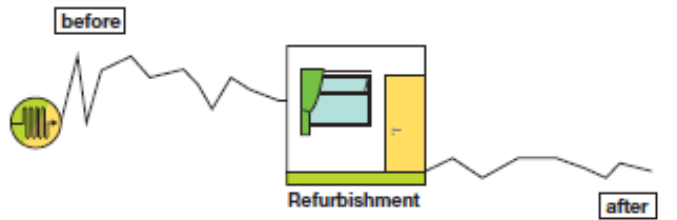
- 100% owned Council entity
- Established in 2022
- Overseen by Shareholder Committee providing strategic direction
- Board of 6
 - 2 residents,
 - 2 independents,
 - 2 council officers.
- Independent professional management
- 3-year business plan, clear objectives and focus

LANCASTER WEST
NEIGHBOURHOOD TEAM
WT11



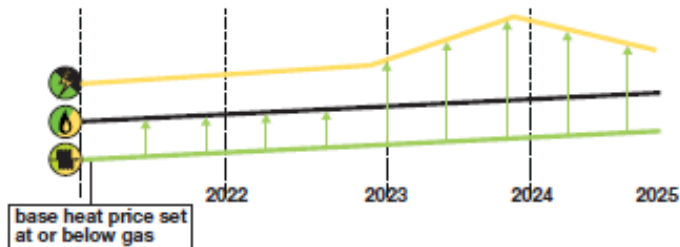
Notting
Dale
heat

Resident Price Promise



Price Promise 1

The Refurbishment Programme helps Lancaster West Residents reduce their heat usage by around 25%.

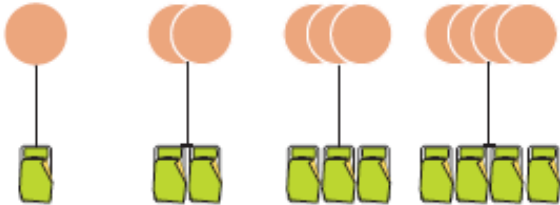


Price Promise 2

Up to 2030 you will pay the cheaper energy cost, either the cost of providing renewable heat or using gas.

Price Promise 3

A fair Standing Charge based on property size (no change to council tenant rent - charge included)



- The new heating system is based on fairness – residents pay for what they use.
- It aims to ensure residents don't pay a premium by doing the right thing and going green early, thereby incentivising the 20% of residents with individual gas combi boilers to connect.
- The Resident Price Promise subsidy is withdrawn on a phased basis through to 2030, as gas prices increase. It repurposes the existing subsidy used to provide the temporary gas boiler at the end of The Walkways, as a direct result of the Tragedy.
- The energy crisis has caused gas prices to significantly increase. Even though electricity prices has also significantly increased, this has been at a slower rate.
- As a result, we've passed the tipping point and no longer need the subsidy. Based on today's energy prices, Notting Dale Heat's 100% renewable Variable Charge is cost competitive compared to gas, removing the Council's financial liability.

How much is it costing?

Up to £26.87 million worst-case (excl.VAT), with **£1.1 million government grant from HNIP**

The total balance of £25.75 million is funded as follows:

- a) **£14.65 million** from the **Housing Revenue Account (HRA)**
- b) Up to **£3.47 million** from the **General Fund** for direct spending on the following:
 - Up to £1.14 million and £0.18 million Connection Charges for Kensington Leisure Centre and Baseline Studios, contributing their share of capital investment for the primary network and plant.
 - Up to £1.9 million for electrical import capacity upgrades
 - Up to £0.25 million for landlord works to upgrade Kensington Leisure Centre's secondary network.
- c) Borrowing provision for **£0.68m equity investment** into Notting Dale Heat, for which the Council is entitled to dividends on any distributable profits.
- d) Borrowing provision of **up to £6.95m** as a 40-year annuity loan, which is repayable at commercial terms to reflect the Council's underlying cost of borrowing, adjusted to ensure Subsidy Control compliance.
- e) Borrowing provision for a **£3 million 'Bridging Facility'** to Notting Dale Heat, which is repayable over 15 years on commercial terms.
- d) A **'Working Capital Facility'** of **up to £2.5 million** to be sourced from the General Fund for use by Notting Dale Heat, to provide short-term funding for up to 40 years on commercial terms.

Lancaster West and Beyond

Phase I Core Scheme: Lancaster West Estate



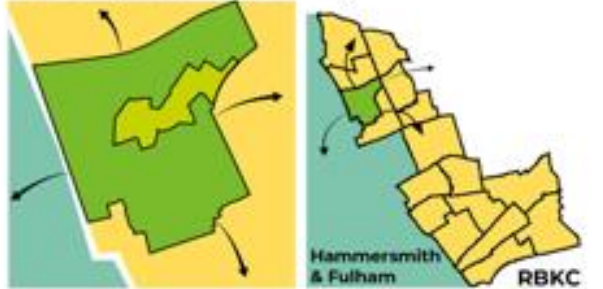
Phase I Core Scheme



Phase 2 Expansion



Future Expansion Opportunity



Successes

Navigating politics
Resident Co-Design
Triangulation and using lessons learned
from others
Building a winning team
Momentum - Speed of programme
Harnessing Gov grant & support
Seeing the project as more than an
infrastructure project
Questioning assumptions and accepted
wisdom

Challenges

Navigating politics
Interdependencies of a complicated
programme
Integration with wider refurbishment
works
Small scheme; finances finely balanced
Contract arrangements with residents
Uncovering the unexpected



Enfield Heat Network

Stephen Diver, Energetik

energetik

Tackling the climate emergency



SUPPORTED BY
MAYOR OF LONDON



EUROPEAN UNION
Investing in Your Future
European Regional
Development Fund 2007-13





Who are we?

We're 100% owned by Enfield Council. We'll eventually supply thousands of homes and businesses in north London with low carbon heating and hot water through a series of high quality heat networks.

Very low carbon heat networks built to a high specification, and to expand over time

Established to provide better value energy that's reliable and environmentally friendly

Council ownership means any profits stay in the borough

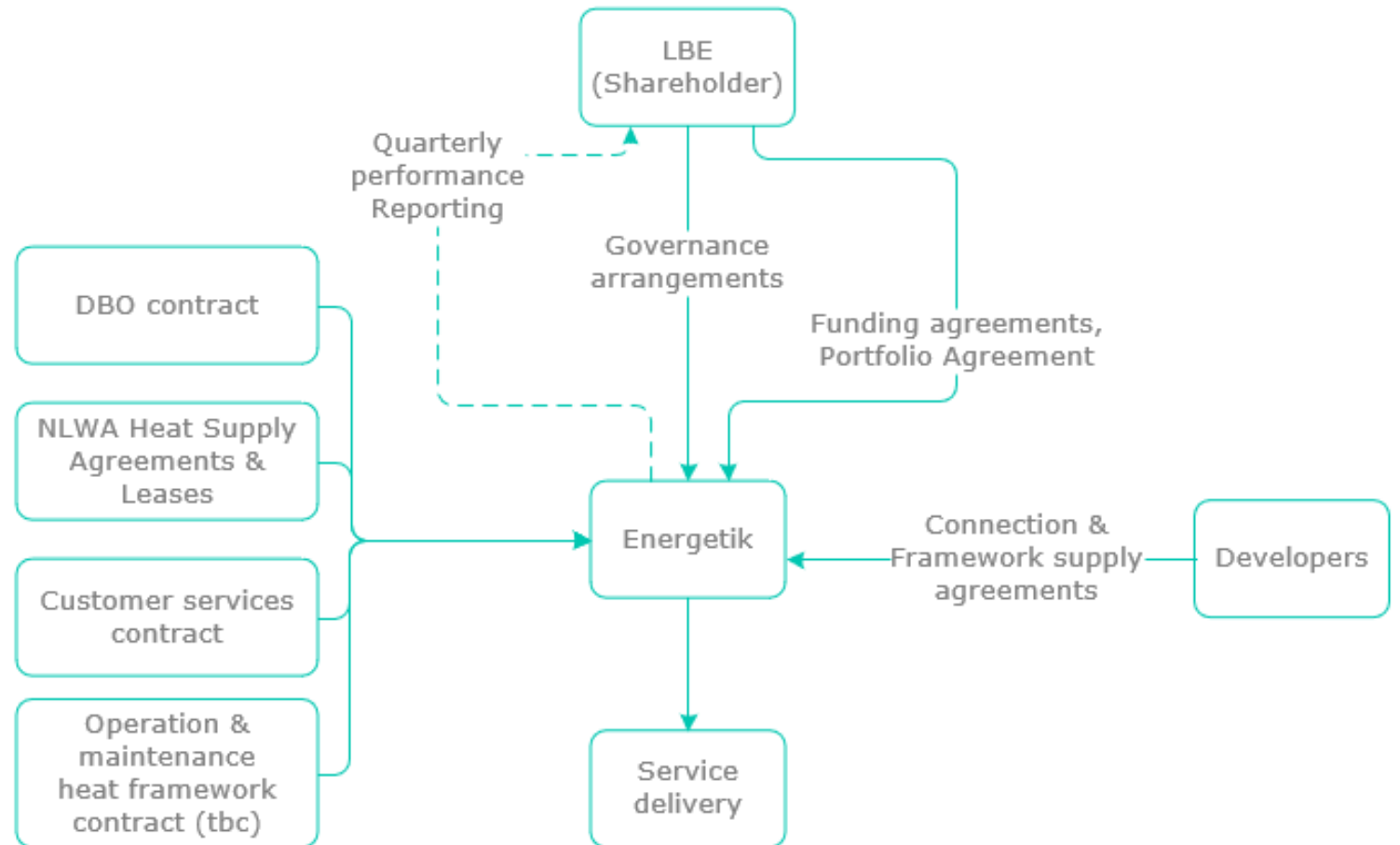
Small, highly experienced team – 100+ years' experience





Our model

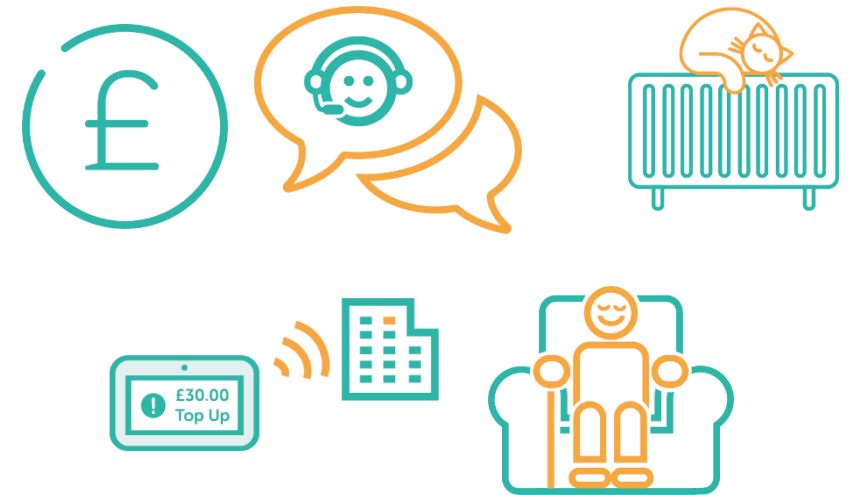
- Publicly owned, privately operated
- Realistic customer-centric business model
- Designed & built to expand maximise carbon saving potential
- Strong focus on quality





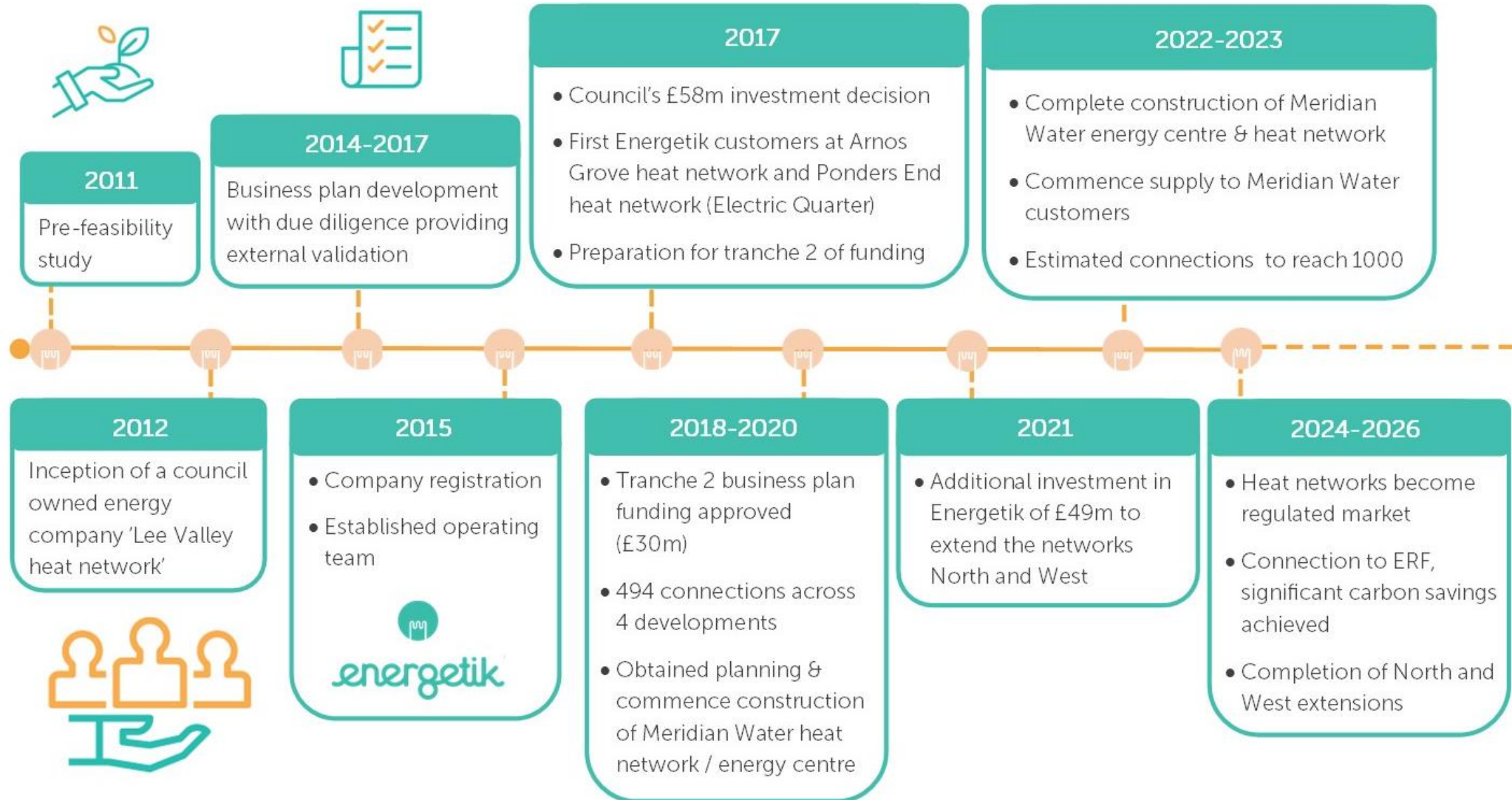
Quality focused, hands-on approach

- **Long-term, customer focused business plan**
 - 40-year model – long term, sustainable
 - Single residential customer tariff based on long-term cost of waste heat – stable pricing
 - Early and detailed stakeholder engagement – informed customers
- **Involved from design to service delivery**
 - Approval of developer designs, monitoring of installation, detailed takeover (quality police!)
 - Hands on approach at all stages
- **Bespoke Customer service offering**
 - Contract and service requirements based on in-house operating knowledge
 - Strict KPIs designed to ensure good customer outcomes



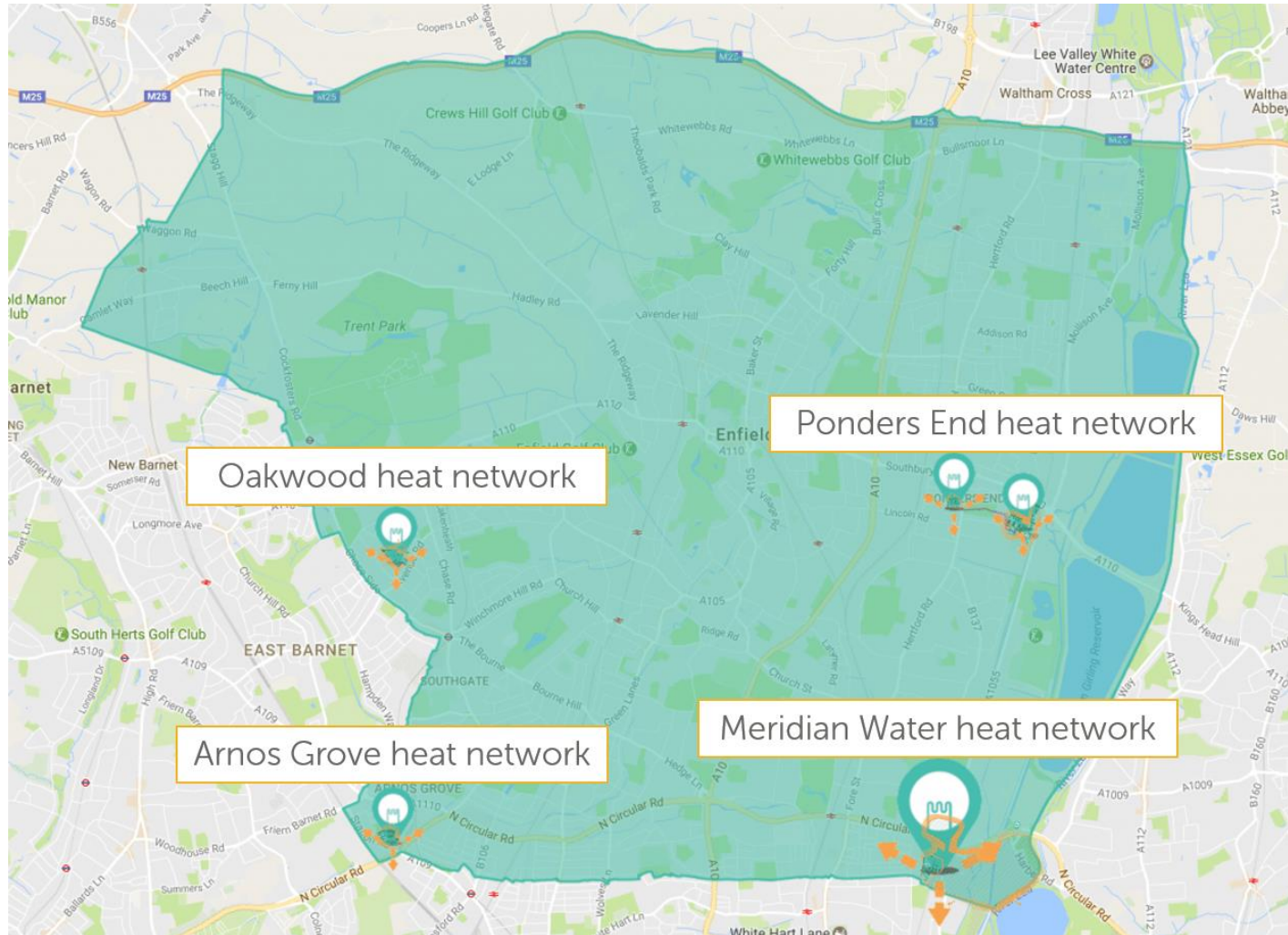


Brief timeline of Energetik





Network summary



- 4x operational heat networks currently serving ~1000 customers, all built with spare capacity
- Satellite networks will serve ~2000-2500 once fully built out
- 60MW Meridian Water network will serve the development & wider afield as phases are delivered
- Planned expansion of network into Haringey (subject to approvals)



HNIP funding

Funding round 1 - 2019

Funding received	£5m grant (equity) / ~£10m project loan (via Enfield Council as borrower/on-lender)
Scope	Delivery of Meridian Water energy centre, installation of phase 1 pipework, extensions at satellite networks
Reason	Crucial in securing business plan approval, match funded with other low-cost loans (MEEF) to achieve internal hurdle rate



The Meridian Water Heat Network

- Up to 60MW low carbon waste heat supply from NLWA once complete in 2026/7
- 6km of initial pipework (phase 1)
- Capacity to supply up to 100,000 homes with heat / hot water from waste heat
- First homes at Meridian Water online in September 2023
- Waste heat means no new energy production i.e.
 - electricity to run a heat pumps
 - gas to run a boilers





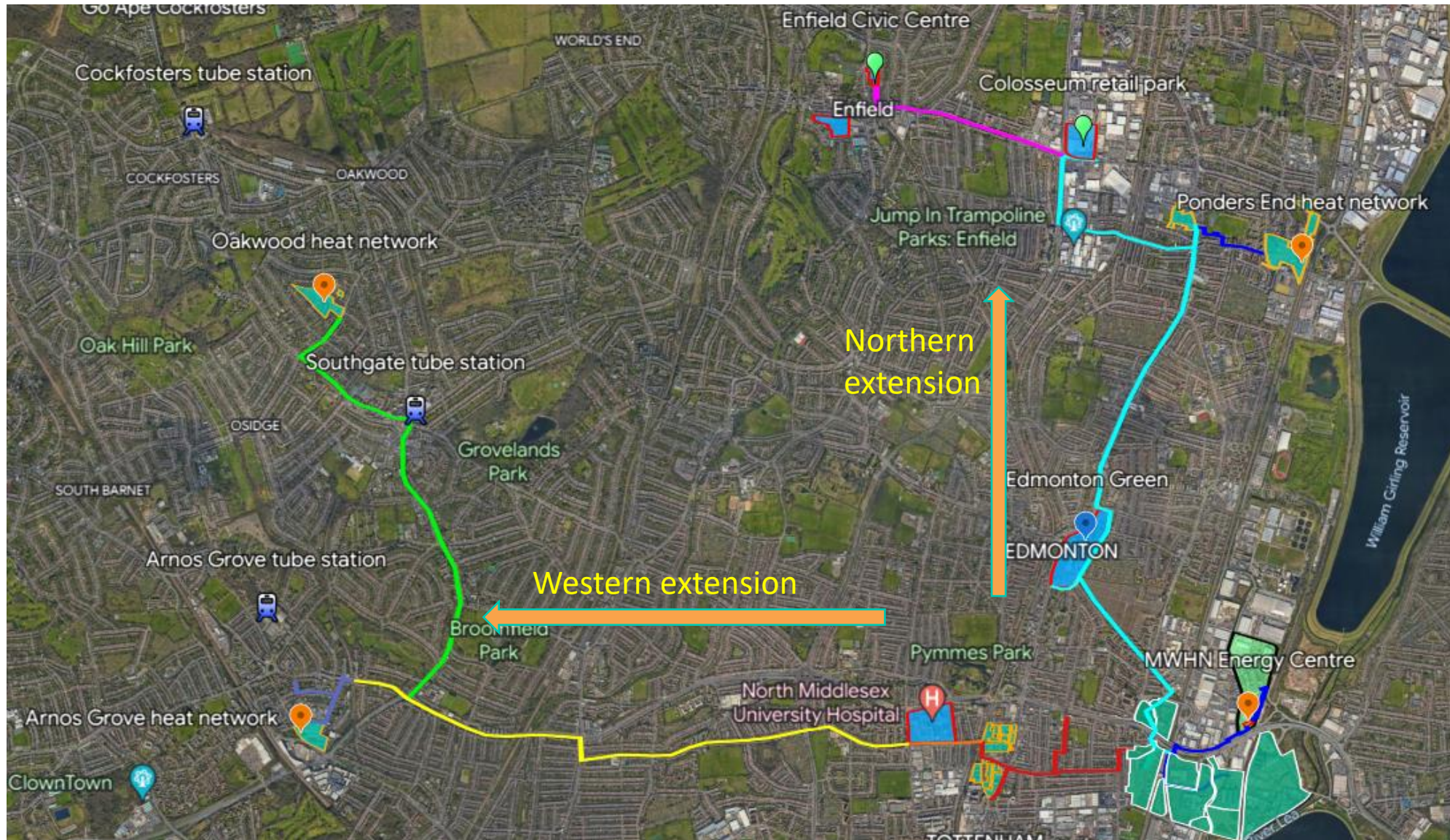
HNIP funding – part 2

Funding round 2 - 2021

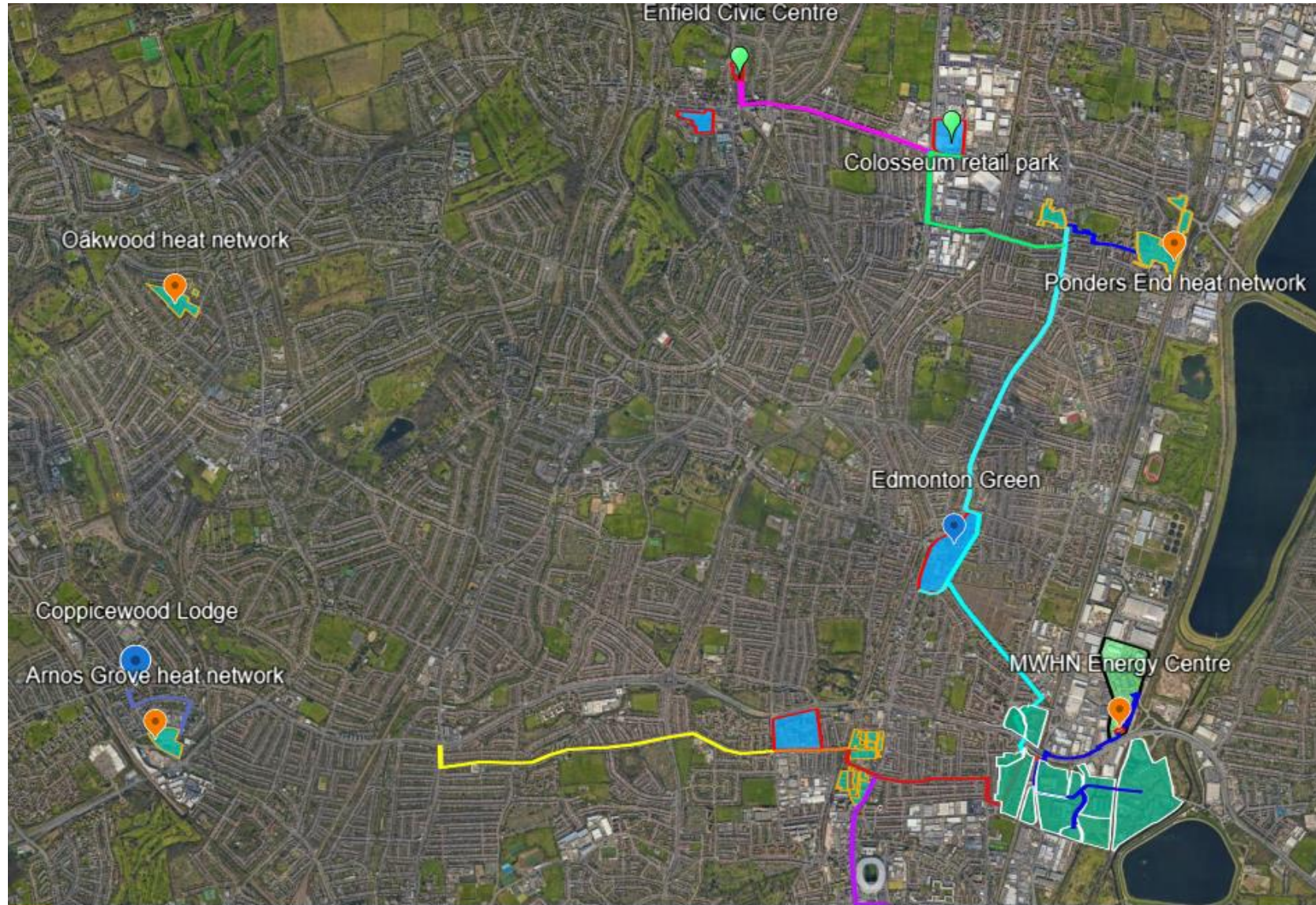
Amount received	£12m grant (equity) / ~£12m loan (via Enfield Council as borrower/on-lender)
Scope	Pre-purchase of significant % of pipework needed for project. To date installation is taking place north from Meridian Water towards Ponders End.
Reason	supported business case approval for ambitious expansion plans to extend Meridian Water network to interconnect satellite networks and lay pipes capable of supplying 30k homes per leg (north & west)



Original expansion funding scope – ‘Tranche 3’



Our network(s) – redefined scope being discussed





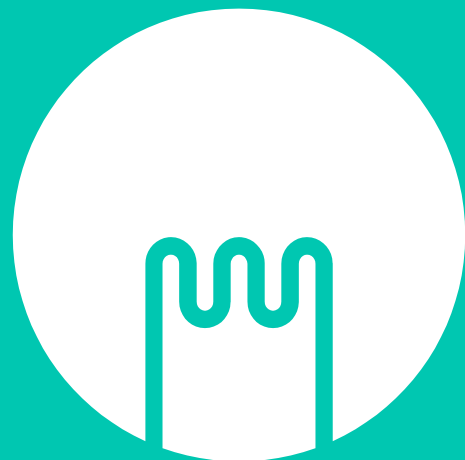
Key successes

- HNIP funding helped unlock our business plan and ensure the project went ahead
- HNIP funding helped unlock a significant expansion opportunity that would otherwise have been lost
- Generally increased the scale / reach we could aim for
- Our novel approach to procurement for Tranche 3 starting to develop some competition / new market entry
- Procurement of materials up front saved significant amounts (30% increase the day after!)



Lessons learned

- Early engagement with HNIP was key to making use of available support.
- Inflationary pressures since pandemic have been impactful on everyone, delays caused by interest rate rises (impacting second funding) – knock on effects
- Ensure lots of programme float/account for optimism bias:
 - *nobody could have predicted a global pandemic wars and resulting inflation, which have impacted on scope and budget envelope, but staying engaged with the support teams to work through solutions has helped a lot.*



Thank you



Swaffham Prior

Sheryl French, Cambridgeshire County Council



Cambridgeshire
County Council

Swaffham Prior Community Heat Network

HNIP Look Back 15th February 2024

Sheryl French,

Assistant Director Climate Change and Energy Services

Swaffham Prior Heat Network

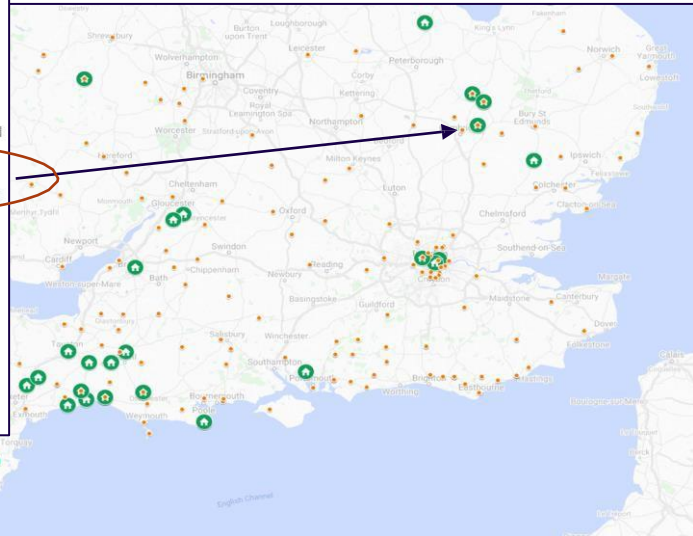


Swaffham Prior
Community Land Trust



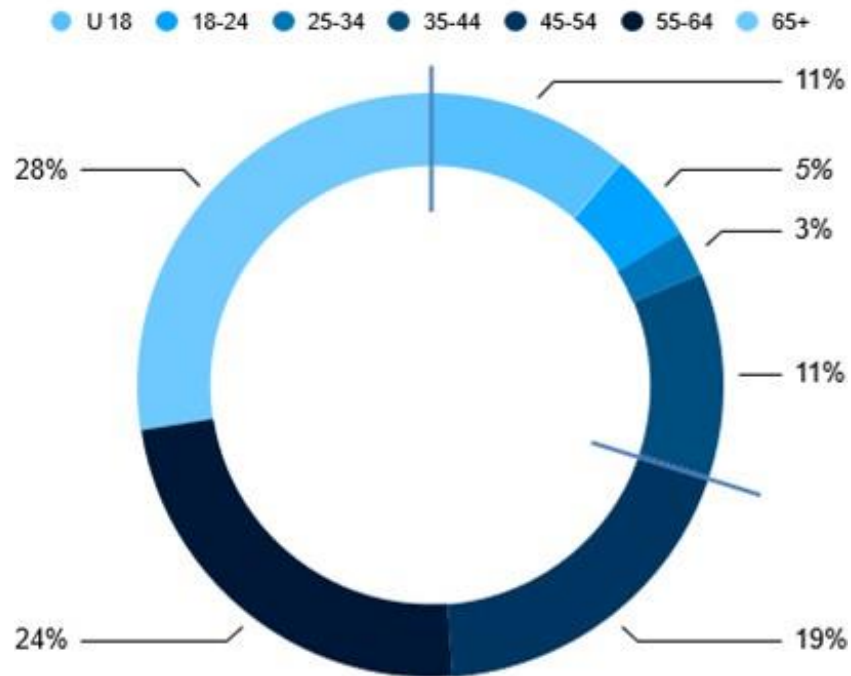
- 8 miles east of Cambridge
- 300 homes
- Conservation area
- 40+ Listed homes
- 45+ Affordable Homes
- Reliant on oil heating

- East Cambs Community Land Trust
- SAVE Community Land Trust
- Thrift Soham Community Land Trust
- Streham & Wilburton Community Land Trust - Manor Farm
- Swaffham Prior Community Land Trust**
- Haddenham Community Land Trust
- Kennett Community Land Trust
- Swaffham Bulbeck Community Land Trust
- Witchford Community Land Trust
- Fordham Community Land Trust

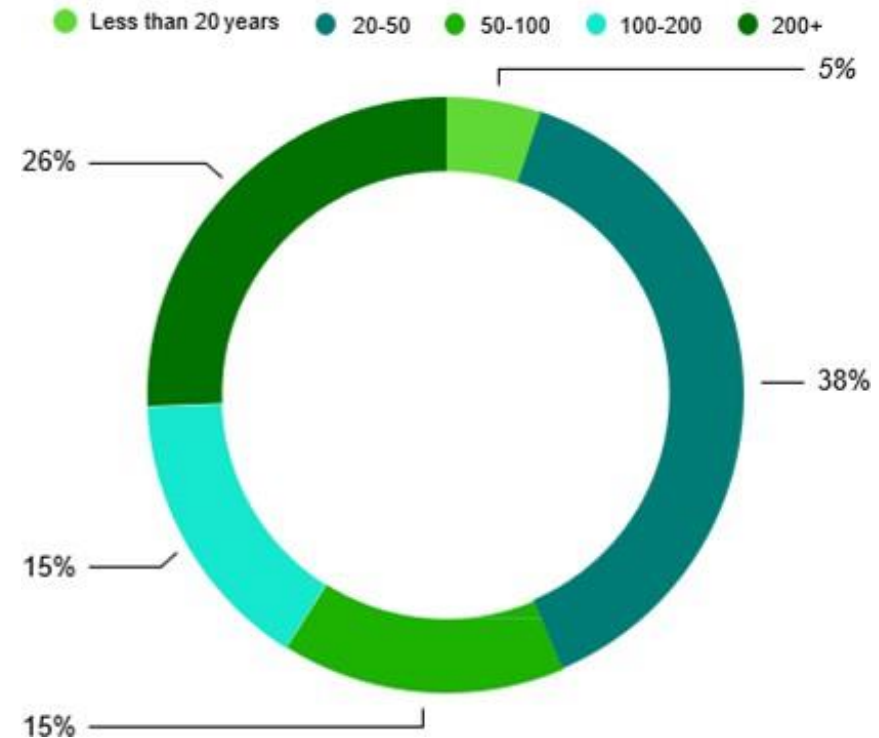


Swaffham Prior – where people and buildings matter

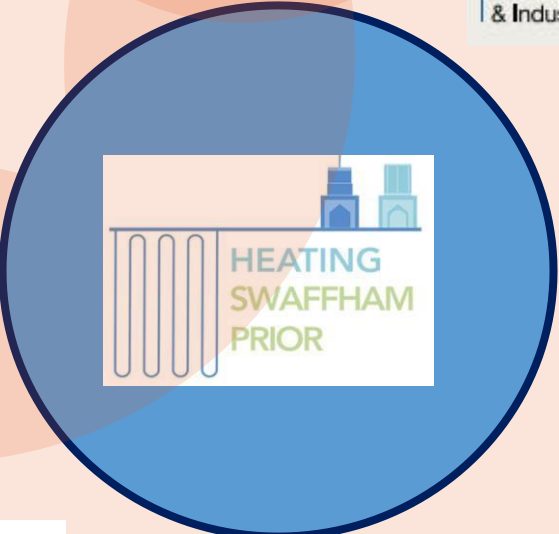
Demographics



Building Age



Collaboration was key to success



Funding the development of the scheme	Grant scheme	Investment	Match funding	Date	Output
Investment 1	Rural Community Energy Fund	£20,000	-	Dec 2017	Bioregional high level options
Investment 2	Heat Network Delivery Unit (HNDU)	£40,200	£20,000 CPCA	Dec 2018	Techno-economic modelling of options
Investment 3	HNDU	£100,300	£29,700 Cambridgeshire County Council (CCC)	March 2019	Risk management e.g boreholes, utilities
Investment 4	HNDU	£232,000	£66,000 CCC	Jan 2020	Design scheme, submit planning, legal work, etc
Investment 5	HNIP commercialisation	£348,000		Jun 2021	DB/OM Contracts, Heat Supply Agreements, etc
Investment 6	HNIP capital grant	£2.92m in Heat Network	CCC investment £5.4m in energy centre	2021	Capital investment



1.5 MW Ground Source Heat Pump

0.5 MW Air Source Heat Pump

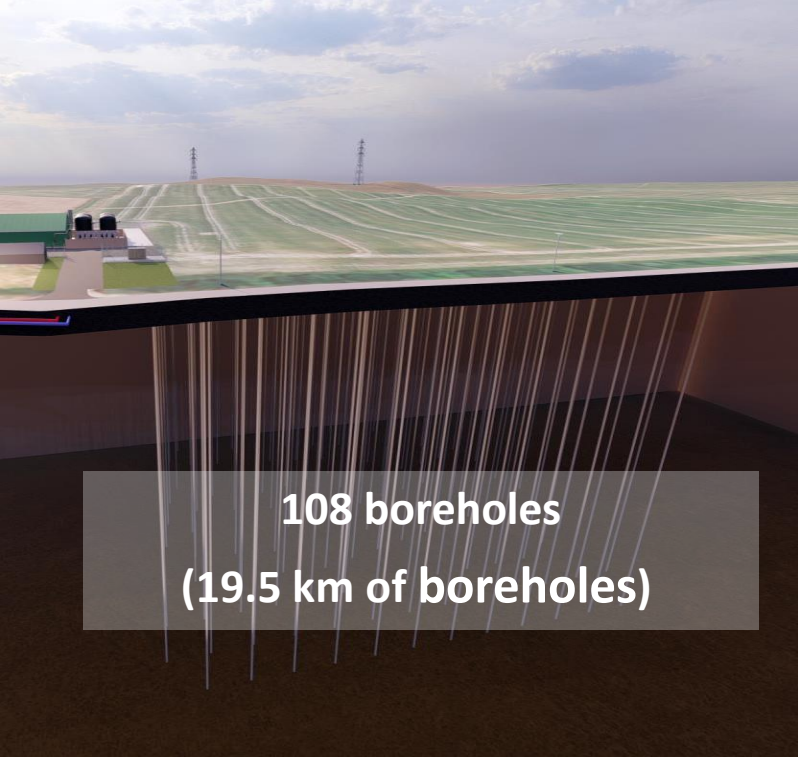
4 x 50 m³ hot water storage tanks



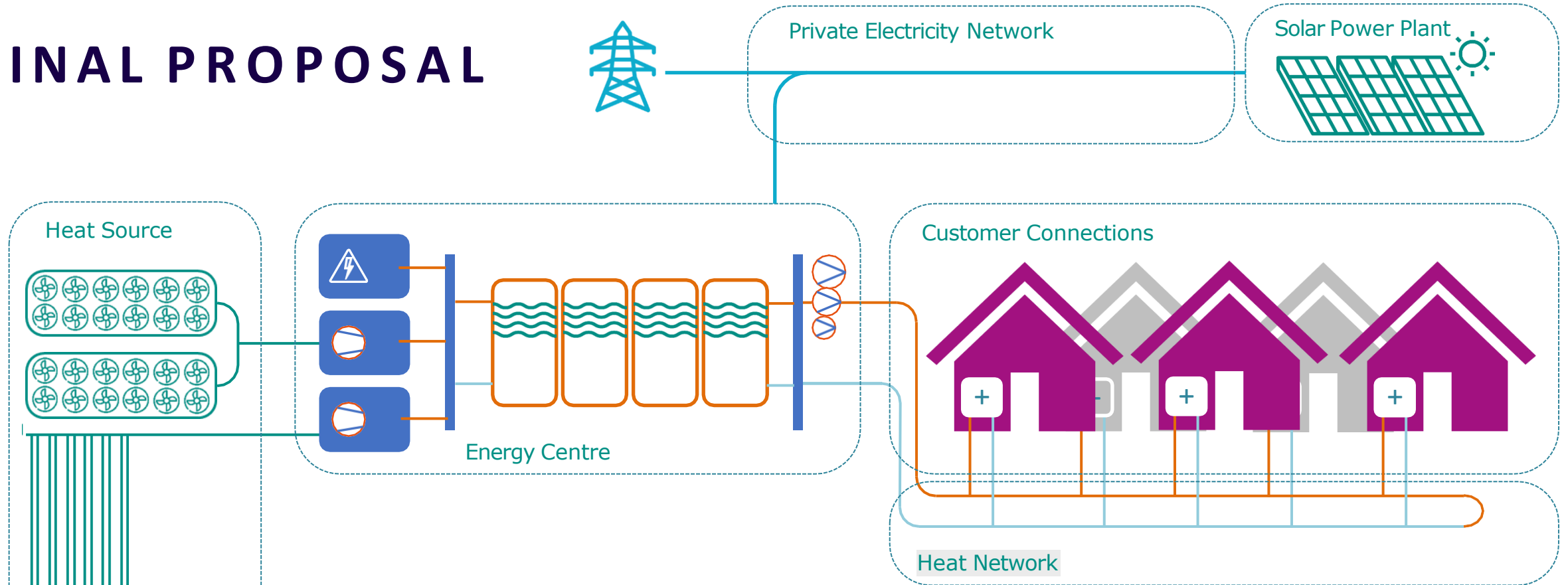
7km of pipework installed



108 boreholes
(19.5 km of boreholes)

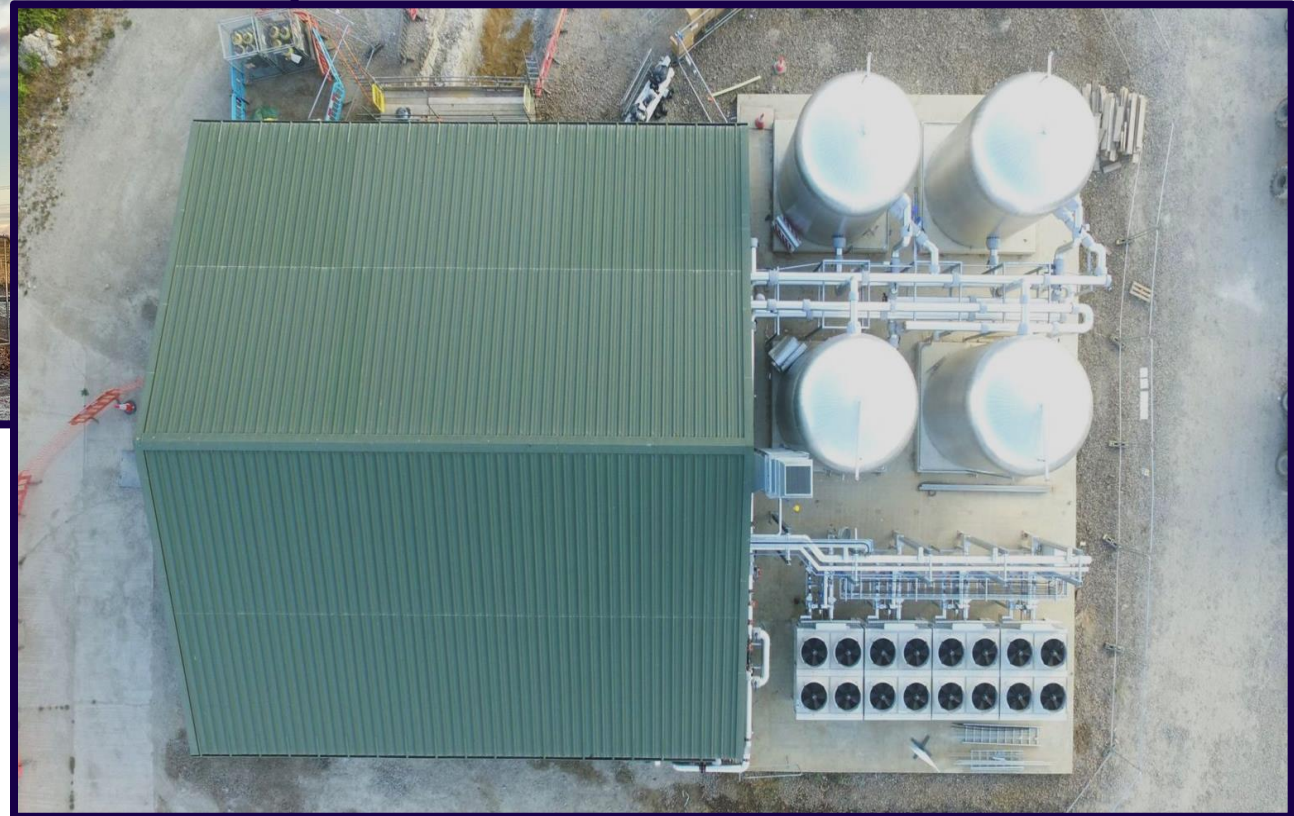


FINAL PROPOSAL



- **2 X 750kW High-Temperature GSHP**
- **1 X 500kW High Temperature ASHP**
- **3 X 400kW Electrode Boilers**

Energy Centre



Borehole field



Primary connection and connection to homes



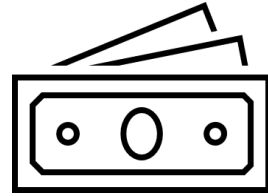
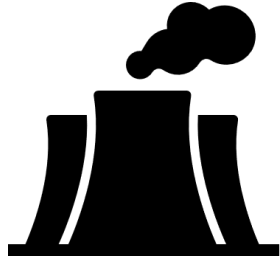
Internal installation



External installation



Overall Project Impact



Carbon

Net-Zero heating & hot water

1,100 tonnes saved annually

Reduced oil deliveries

Cost (in 2023)

Neutral for oil boilers

Benefit for electric heaters

No big upfront cost to homes

Precedent

Cambridgeshire look to bring 25,000 homes off oil

Over 40 villages interested

UK flagship project

Inspiring others



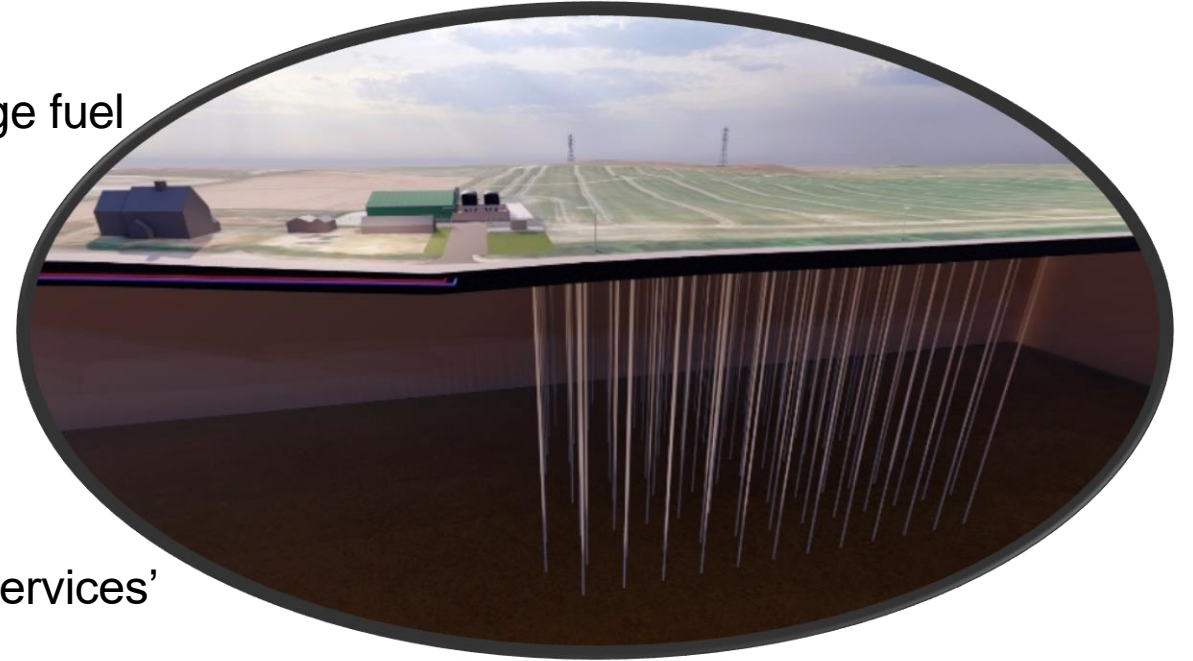
Swaffham Prior Community Heat Project – CASE STUDY

Ambitions:

- Reduce carbon footprint, find new business model for rural communities
- Provide a solution for all, not just the able to pay, manage fuel poverty
- Whole village retrofit – place based solution- scale

Income:

- 19 years income stream from RHI tariff
- Heat customers
- Optimisation of income to include exploring ‘flexibility services’



Positives

- Positive feedback from connected customers on level and quality of heat
- Demand from community to connect to the system
- Interest and support from Government and communities for replication as part of retrofit of existing homes



Lots of challenges and learning to share – Brexit, Covid, Inflation, Supply Chain, Demand etc



Cambridgeshire
County Council

Any questions?



Triple Point
HEAT NETWORKS
INVESTMENT MANAGEMENT



Q&A

Thank you



Visit our website and fill in the contact form to receive updates from us



Email us with any questions or to be added to the mailing list
enquiries@tp-heatnetworks.org



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