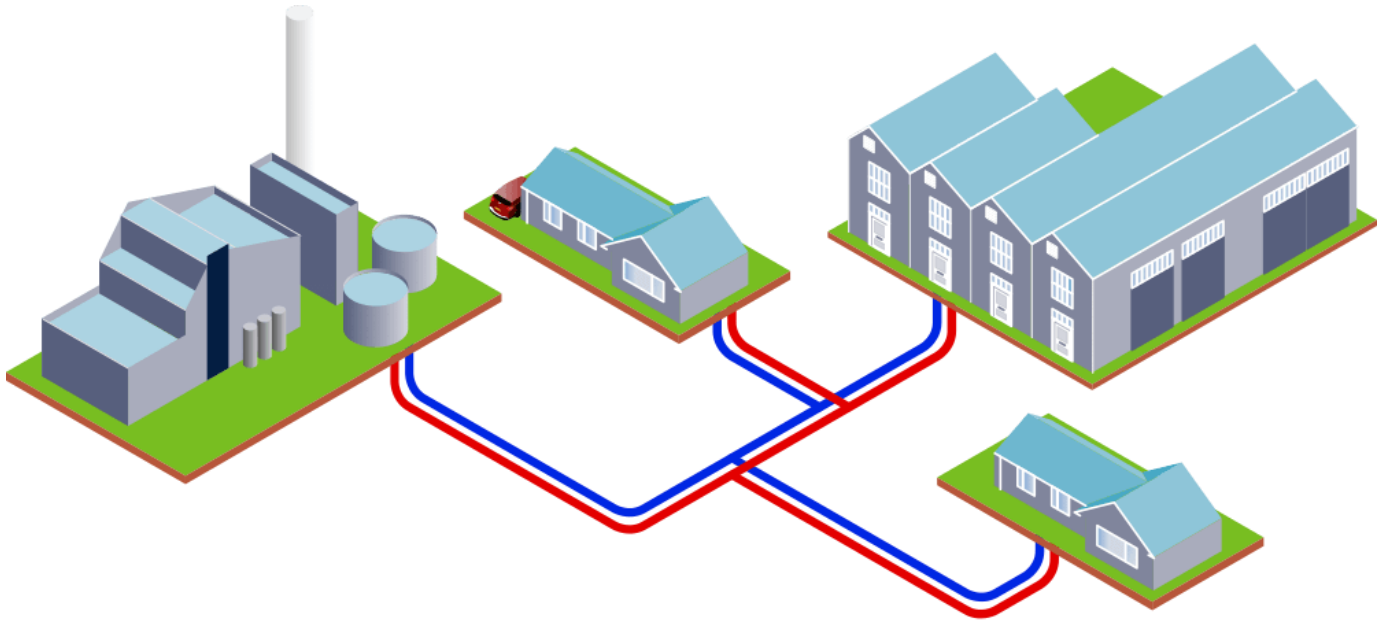
What’ s the DEAL (with heat networks)

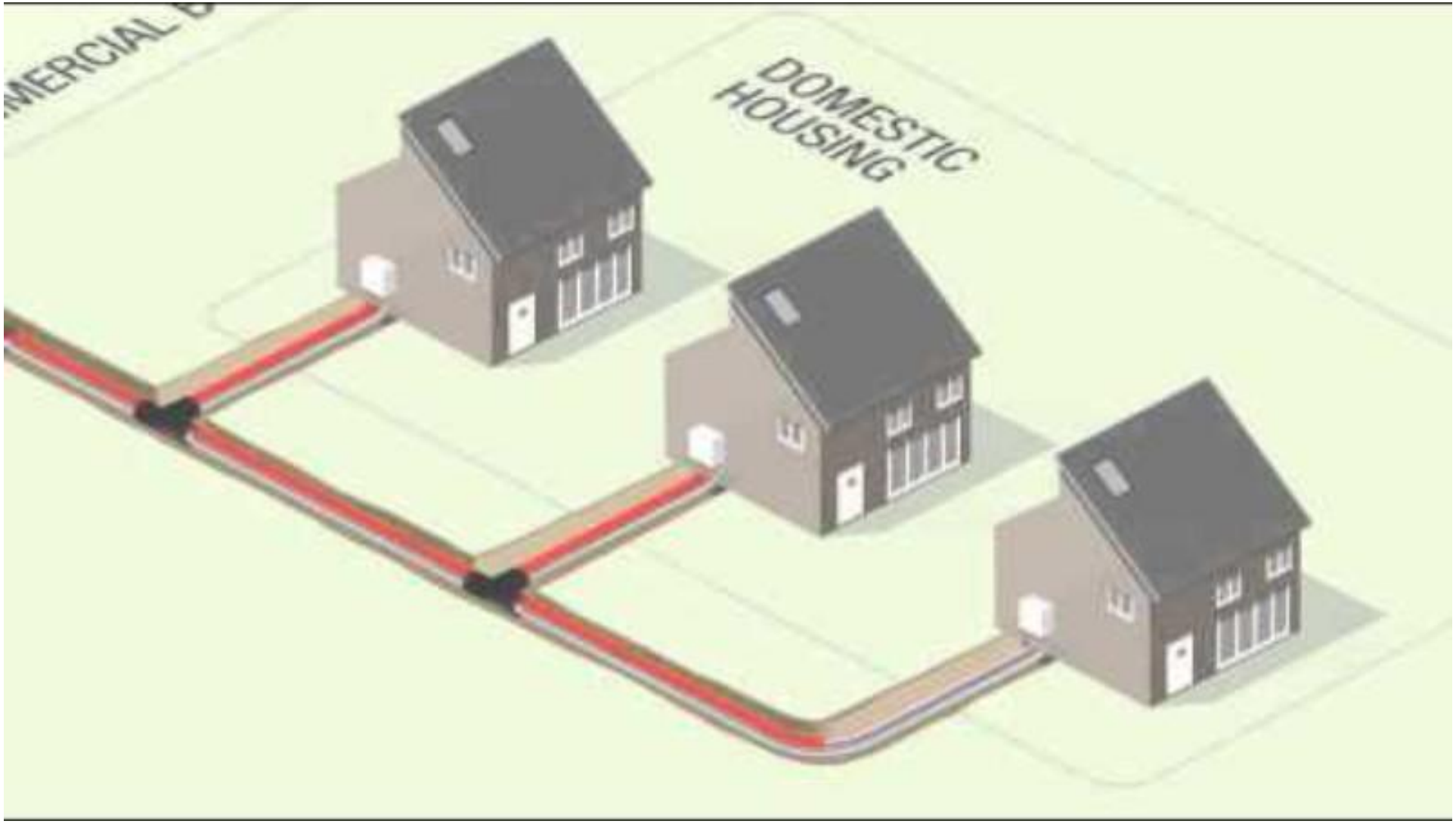


~ 5,500 district heat networks in the UK

UK gov see as most cost-effective way to decarbonise heating in dense urban areas

Target to increase UK buildings heated by heat networks to 20% by 2050

What is a District Heat Network?



Heat Network Zoning Regulation

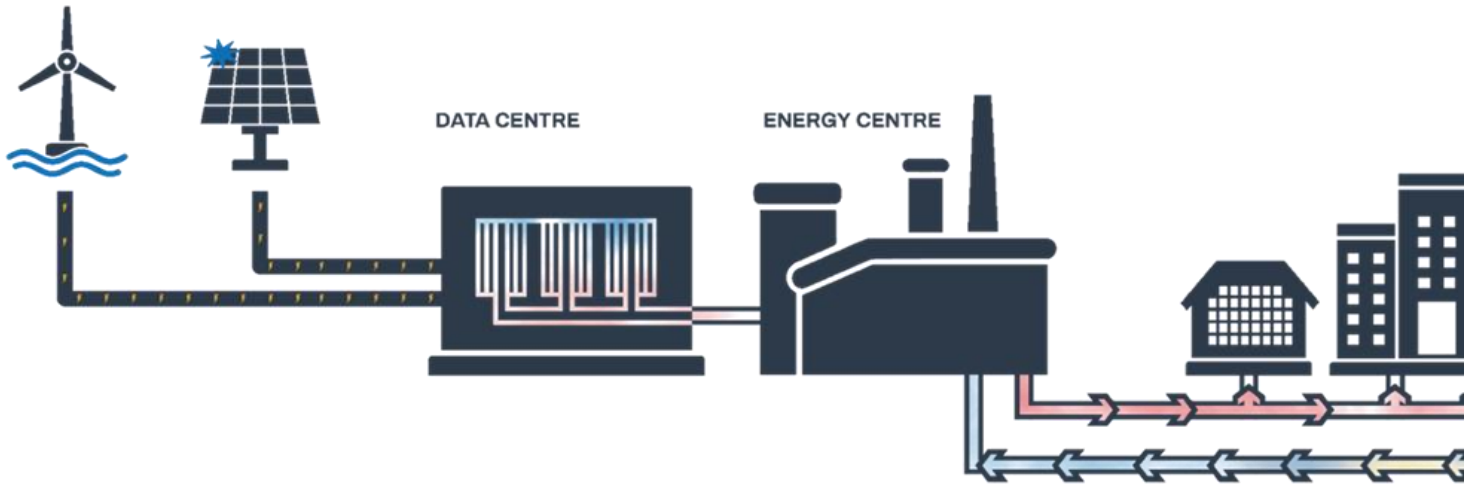
Regulatory framework designed to accelerate the development of district heat networks

If an area is designated a zone, certain buildings within the zone will be required to connect.

Zone coordination bodies will coordinate the development

Buildings with annual demand over 200 MWh

Silicon Sands – Our Vision



Benefits to Businesses

Energy Centre – Gateshea

Heat networks can:

- Save on energy bills and operational costs
- Help achieve net-zero targets
- Provide Energy Independence from fossil fuel ma

However:

- Networks are only realised with strong business cases.
- Need to improve the availability and accuracy of real-world data on heat demand and efficiency of customers.
- Without reliable data multi-million £ decisions on heat network design made using generic standards and assumptions.
- This is driving unnecessary costs for heat network operators and customers

What’ s the DEAL (data efficiency of anchor loads)

Address non-technical barriers to heat network adoption and heat decarbonisation

Two data sets:

Phyre Energy Shift - Sensors

xRI - Town Scan

Use datasets to support heat network development and improve internal heating system efficiency and performance

Service aimed primarily at heat network developers, LA’s and zone coordinator’s

UKRI Innovate UK

Phyre Shift Solution

Deployment of temporary sensors within a building

Currently installed in Big hotel

Approach reduces uncertainty around the decarbonisation of heat, compared with modelling based on assumptions and one-time surveys.

The extended monitoring of actual heating system performance enables:

- Right-sized design of new heat generators or sources
- Identification of efficiency improvements in heating systems
- Design assumptions to be validated

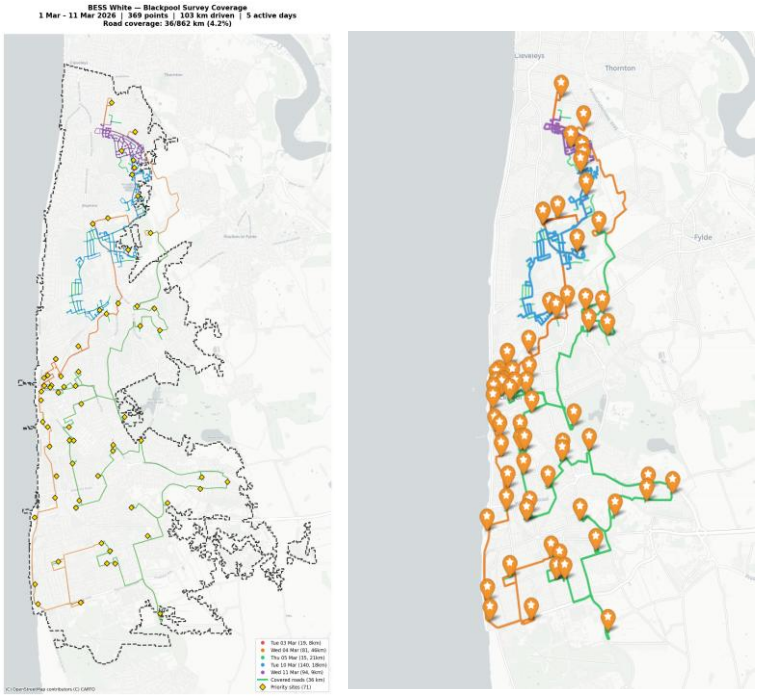
Once improvements are implemented, the benefits of the service include:

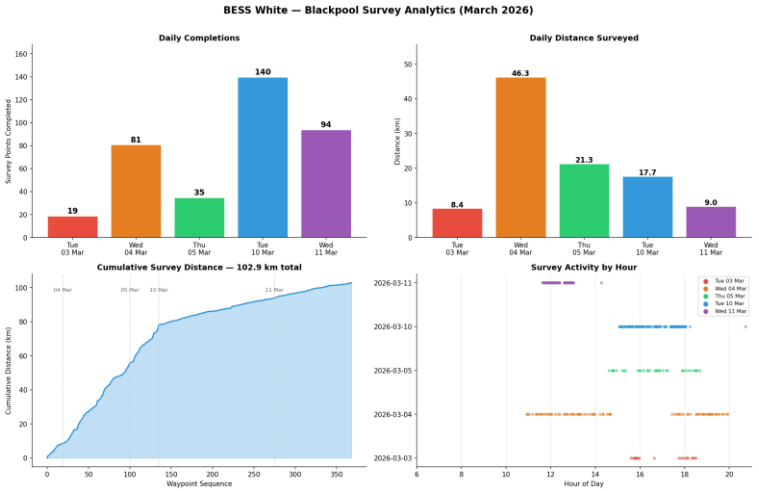
- Improved confidence in heating decarbonisation
- Reduced CapEx / OpEx
- Reduced carbon emissions

Example: Monitors installed at a leisure centre to improve heating efficiency, expected savings of £150k p.a. once improvements are implemented.

Blackpool – Big Blue Thermal Imaging

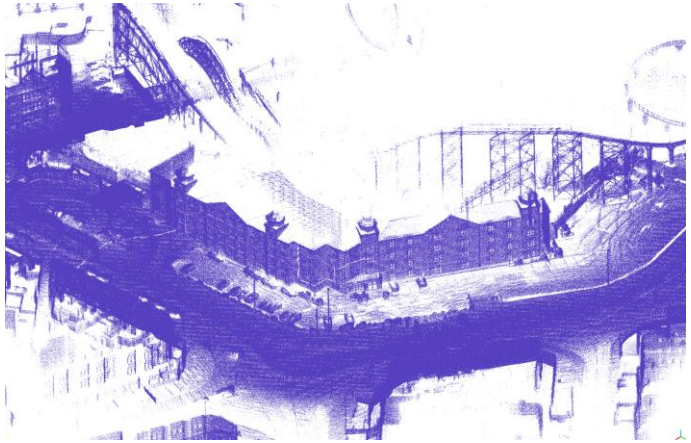
Blackpool Survey – 103km across the city with ~68 unique locations with 133 observations across 5 day/evening





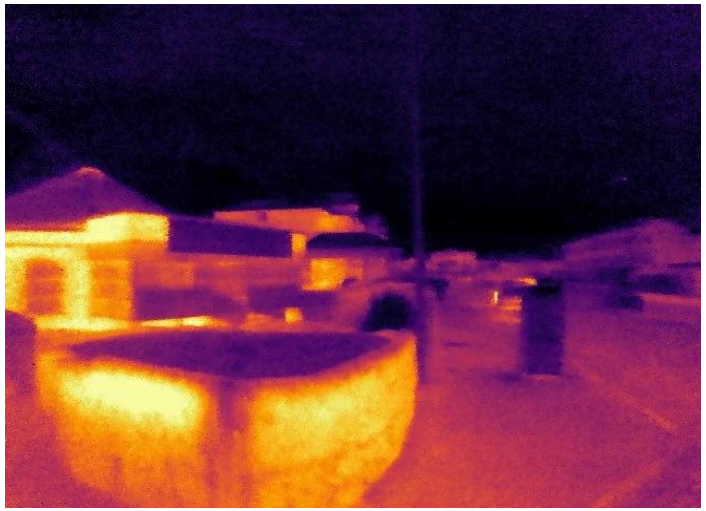
Big Blue Hotel – multiple observations across varying conditions.

LiDAR:



Thermal imaging:

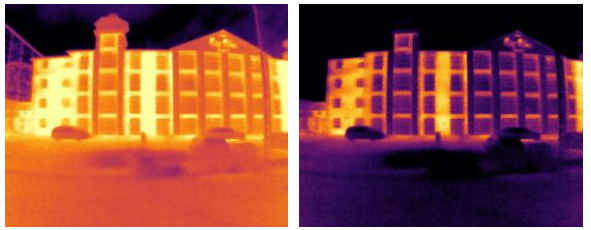
Big Blue – thermal imaging sequence



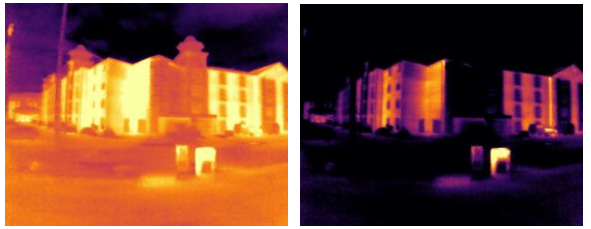
Enables enhanced understanding of *individual building heat loss* – localisation and targeting

Scales up to cover city-scale heat loss.

Examples from Big Blue.



Uniformly heated/large anchor load



Prominent wind effect

Lower/ground floor utilisation?

Entrance hallway – door system?

Mentimeter

It’s important your voice is heard!

How to take part:

- Scan the QR code
- Type your answer
- Click “Submit”
- Select “Next question”

Thank you!

Code: 5721 4687