

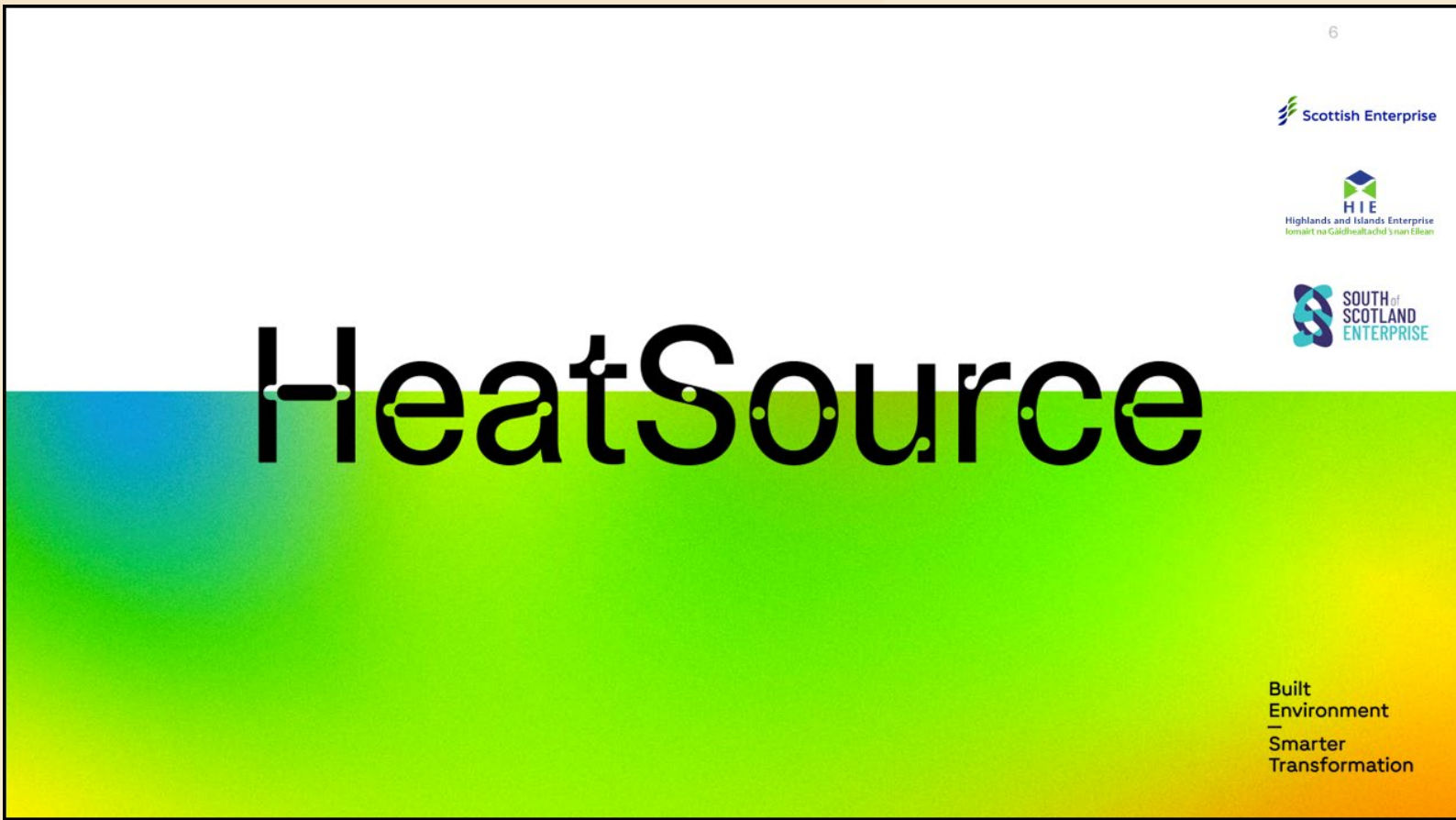


GREEN HOME FESTIVAL 2024

BROUGHT TO YOU BY THE 

The Community Heating Show 15th August 2024





Monthly newsletter
signup



HeatSource is a collaborative knowledge hub exploring opportunities in clean heat; bringing together knowledge, partners and resources in order to help ready the sector for net zero targets.

Find out more about low-carbon heat at <https://heatsource.org>



The Community Heating Show

Clean Heat Edinburgh Forum

Presentation to the Green Home Festival 15 August 2024

<https://www.cleanheatedinburgh.org.uk> cleanheatedinburgh@gmail.com

Clean Heat Edinburgh Forum (CHEF)



- Community led forum bringing civil society, researchers & industry together
- Focus on heat networks
- Since 2020 - Core team of 10-20 meet 3pm each Monday with 250 supporters mailing list
- Engaged in the Consultation on Local Heat & Energy Efficiency Strategy
- Now registered as a Scottish Charitable Incorporated Organisation - SC051287



Meeting at Edinburgh Climate Change Institute (May 2023)

Access the Climate Action Map



Link to the video: <https://www.youtube.com/watch?v=QsPEv2YLRnI&t=555s>

Link to interactive map: <https://experience.arcgis.com/experience/c2714dd1647449bca511d7f445b73f29/?draft=true>



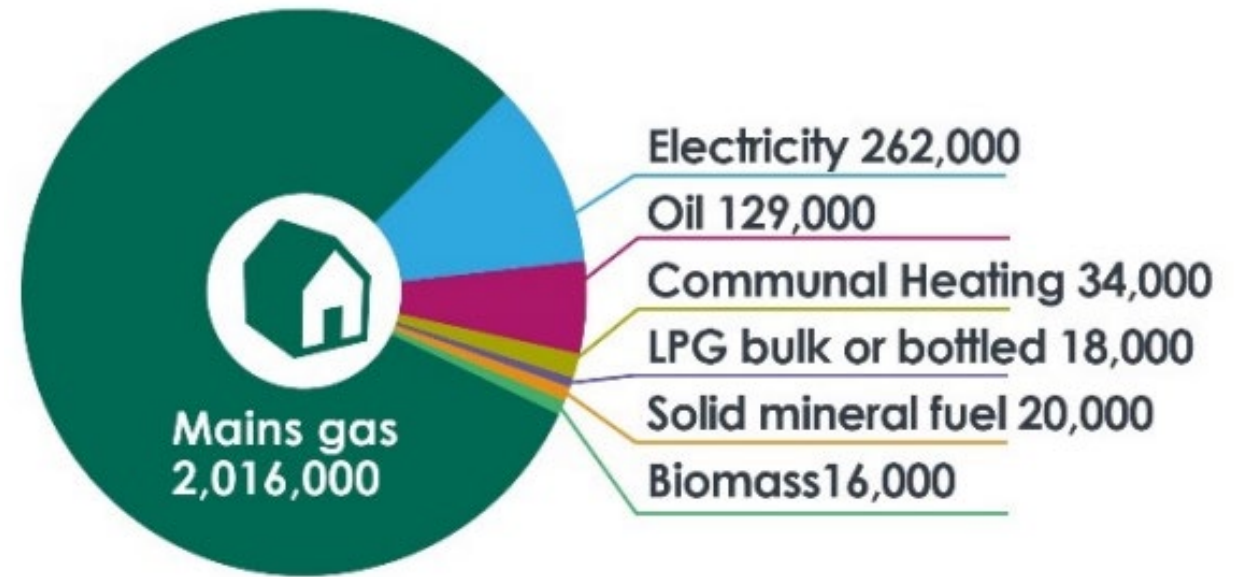
Why a Heat Network?

Kira Myers, Climate Partnerships Team at Edinburgh Climate Change Institute

Decarbonising Heat



- Scotland has a legal target to reach 'net zero' greenhouse gas emissions by 2045
- There is no way to meet our legal obligation to reach net zero without changing the heating systems in the vast majority of our buildings
- By the end of 2045, all building owners will need to have ended their use of fossil fuel heating systems.



Domestic heating by fuel type in Scotland

[Heat in Buildings Bill: Consultation](#)



Direction of Travel for Scotland

- Heat Networks currently provide just under [2% of Scotland's heat](#). They could grow to [17% - 32%](#) of delivered heat
- Scotland's Heat Network Fund (SHNF) is a [£300 million fund](#) available to support the development and roll out of Heat Networks across Scotland
- [Heat in Buildings Bill: Consultation](#) proposed providing local authorities and the Scottish Ministers with powers to require buildings in a Heat Network Zone to end their use of fossil fuel heating systems (by a certain date, and with a minimum notice period).

Local Heat and Energy Efficiency Strategies (LHEES)

- [Local Heat and Energy Efficiency Strategies \(Scotland\) Order 2022](#)
 - required each local authority to publish a Strategy and a Delivery Plan for 2024-28 by end of 2023
- One of the required outputs of each LHEES was identification of prospective Heat Network zones.

Edinburgh Local Heat and Energy Efficiency Strategy Dec 2023 Draft

Clean Heat Edinburgh:
Decarbonising for Net Zero



[Draft Edinburgh LHEES Dec 2023](#)



Access the Climate Action Map





Impact on Householders

Simon Kerr, SAV Systems

Retro Fit HIUs

The Path to Net Zero



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Heat Interface Unit (HIU)

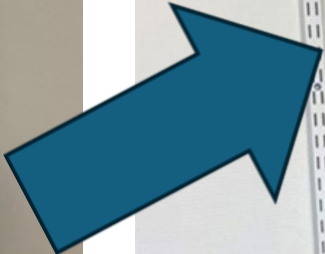
Direct replacement for your gas boiler & DHW cylinder.

Typical residential unit

- H 710 x W 530 x D 270mm
- Heating up to 30kW
- DHW up to 50kW



Big old gas boiler with slow response hot water cylinder beneath it



New compact Heat Interface Unit (HIU)
NB. with bare pipework before it was insulated!



Why would I want to connect?

- Unlimited hot water 24/7
- Simple compact Heat Interface Unit
- Future proofed
- Peace of mind
- Supplied by a heat network managed by professionals



Options for paying for the new equipment

- A new Heat Interface Unit and Heat Meter cost ?£1,800 inc VAT
- Option to pay for it up front
- Or opt for **Heat-as-a-Service** with a monthly subscription like a mobile phone or TV streaming service



Connections options

- Heat Networks are often started off small and then inter-connected
- Examples are potential to extend the University heat networks around George Sq, Pleasance and King's Buildings?



- Small pipes into the home
- Larger pipes around the neighbourhood



Gas conversion in Denmark - Political ambition



	2018- 2022	2022-2035
Political ambition	<p>2018 Energy agreement</p> <p>2020 Climate agreement for energy and industry</p> <p>2021 Agreement on subsidies</p>	<p>June 2022 Climate agreement on green power and heating</p> <ul style="list-style-type: none">• 450.000 gas/oil conversions• No gas for space heating in 2035• Speed up on district heating rollout• Heat pumps in sparsely populated areas• 1st Jan 2023 gas/oil heated homes should be informed if district heating will be possible
Result	<p>40.000 gas/oil conversions</p>	<p>Status 2023:</p> <ul style="list-style-type: none">• 45.500 dwellings on the way to get district heating• 113 gas conversion projects

In the era of global boiling... ...we're still freezing in our homes.

Power stations, factories, wastewater plants and data centres are just a few industries generating incredible amounts of waste heat.

We boast a proud heritage of canals, railroads, and mines: visionary infrastructure projects that elevated our economy – not to mention our quality of living. If we're serious about making our heating green, affordable, and sustainable, we can bolster our green economy and continue this tradition by building expansive, inter-city Heat Highways. These share and harvest waste heat from commercial and industrial customers, transporting it directly to large population centres.

We have a remarkable opportunity to make fuel poverty a thing of the past.

How long can we afford to keep dumping heat to atmosphere?

www.energiraven.com/highways



- Clean
- Heat
- Edinburgh
- Forum



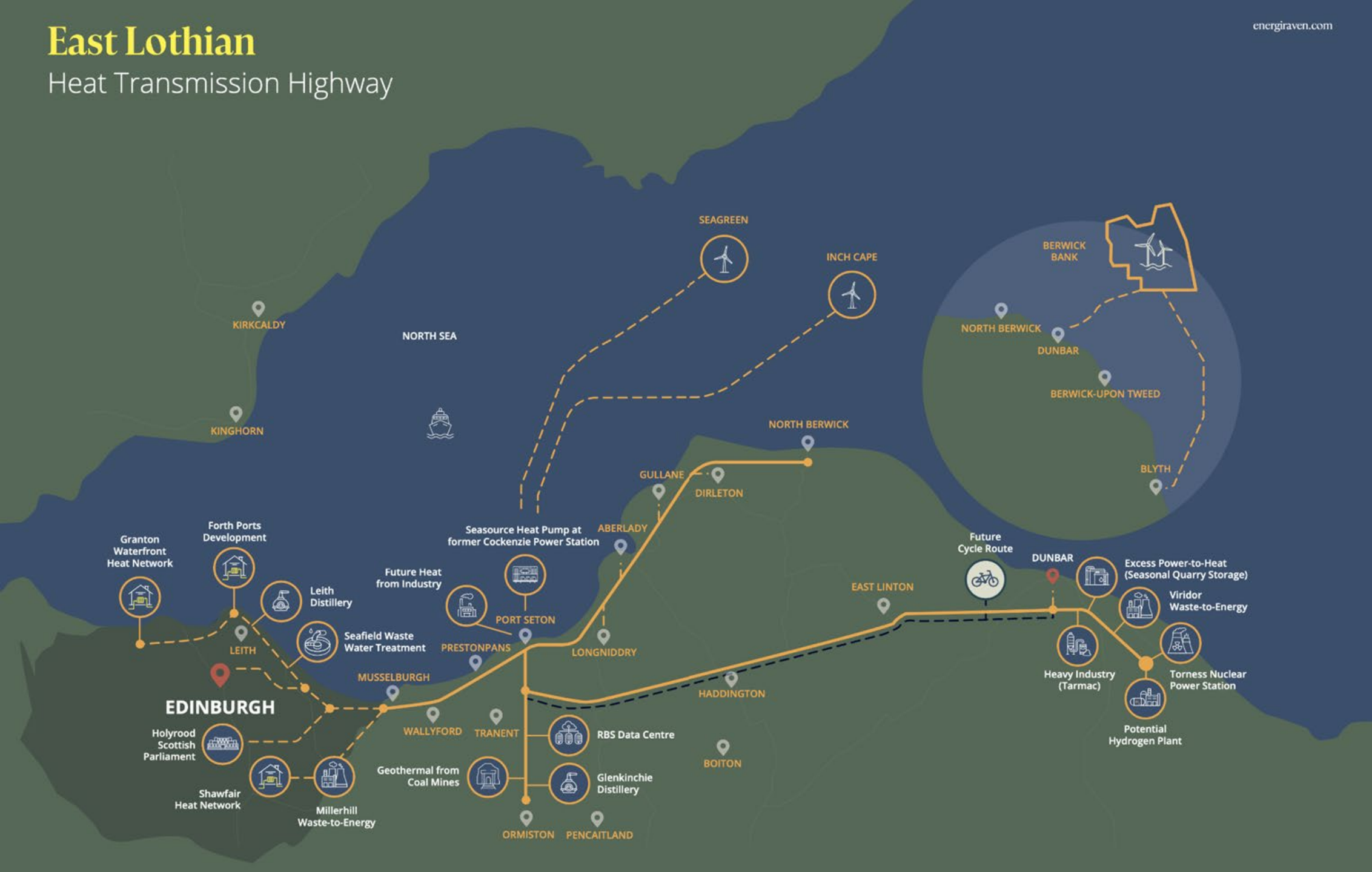
EnergiRaven

Rev 1 2023

East Lothian

Heat Transmission Highway

- Clean
- Heat
- Edinburgh
- Forum





Thank you!

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Latest Developments: Edinburgh Local Heat and Energy Efficiency Strategy

**The Community Heating Show
Green Home Festival 15 Aug 2024**

Hilary Blackman, Energy Officer

LHEES@edinburgh.gov.uk

•EDINBURGH•
THE CITY OF EDINBURGH COUNCIL

What is an LHEES?

- A long-term (20-25 years) plan for decarbonising heat in buildings and improving energy efficiency across Edinburgh that:
 - Sets out how each segment of Edinburgh's building stock needs to change.
 - Identifies "strategic zones" for heat decarbonisation within Edinburgh and sets out "pathways" for reducing the emissions of buildings in each zone.
 - Prioritises areas for delivery.
- Draft LHEES & Delivery Plan published Dec 2023, followed by public consultation.

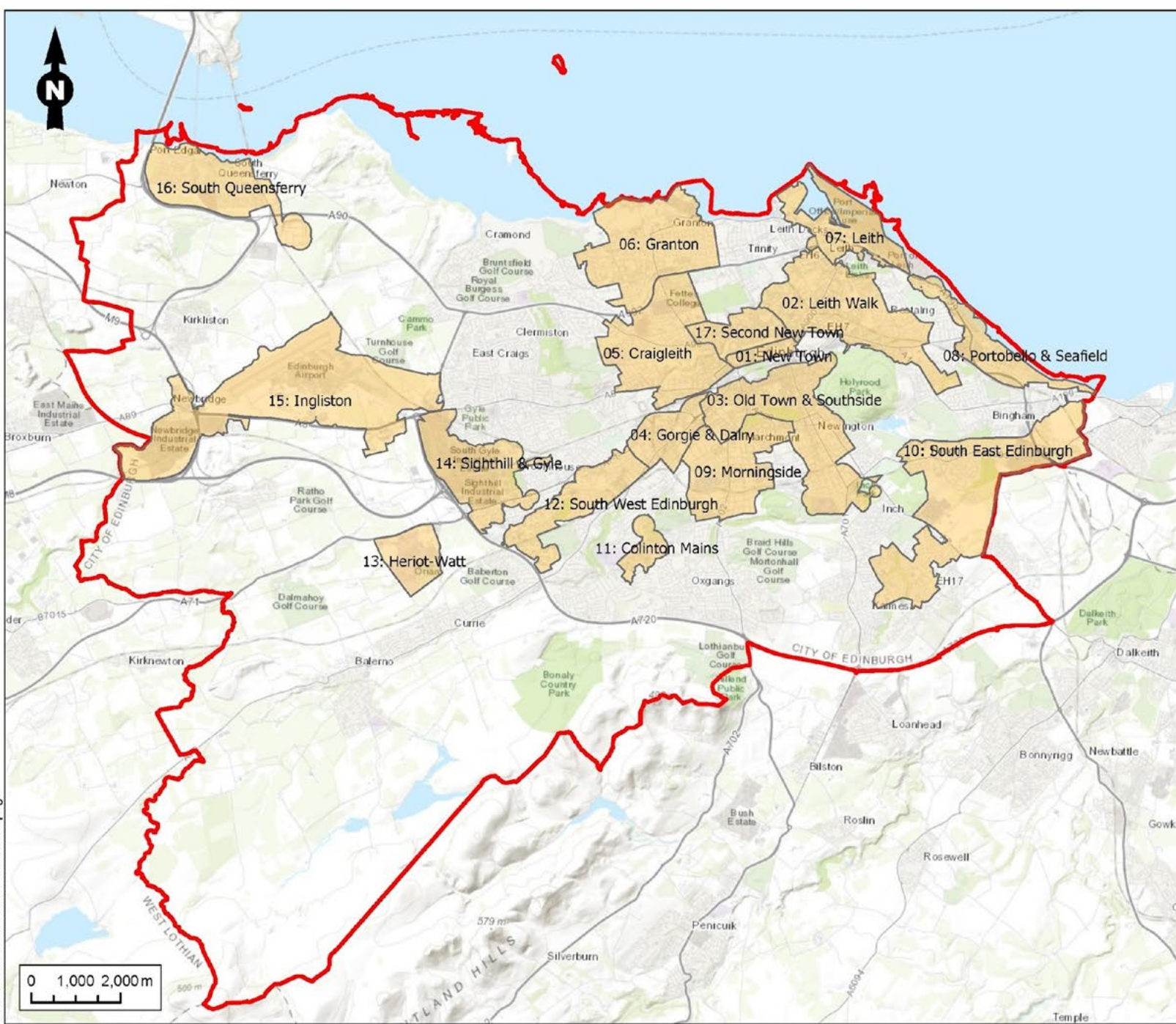
Key targets / regulations

- Decarbonise the heating of **all** buildings in Scotland by 2045
- All homes in Scotland to use zero emissions heating systems by 2045
 - Prohibiting the use of direct emissions heating systems in new buildings in Scotland from 1 April 2024
 - All publicly owned buildings to use zero emissions heating systems by 2038.
- All residential properties to achieve a minimum EPC rating 'C' by 2033
 - All privately-rented homes in Scotland to achieve a minimum EPC rating 'C' by 2028 (2025 for homes marketed to new tenants)
 - All social housing to achieve a minimum EPC rating of 'B' by 2032.
- To achieve decarbonisation of heat, 229,798 homes in Edinburgh will need their existing fossil fuel-based heating systems replaced, the vast majority of them (227,550) homes currently heated using gas boilers.

Heat Network Zones

- 17 Zones are identified as having the greatest potential for heat networks
- Selected on the basis of demand analysis, with refinements to reflect practical considerations such as railway lines.

- New Town
- Leith
- Heriot-Watt
- Leith Walk
- Portobello & Seafield
- Sighthill & Gyle
- Old Town & Southside
- Morningside
- Ingliston
- Gorgie & Dalry
- South East Edinburgh
- South Queensferry
- Craigleith
- Colinton Mains
- Second New Town
- Granton
- South West Edinburgh



Legend

- Prospective Heat Network Zones
- LA Boundaries

Figure Title
LHEES CEC - Zones Refinement

Project Name
LHEES CEC - Heat Networks

Project No./File ID
1620015872 / REH2023N00624

Date	Figure No.	Revision
October 2023	2	1

Prepared By	Scale
PDAGS	1:120,000 @A4

Client
LHEES CEC

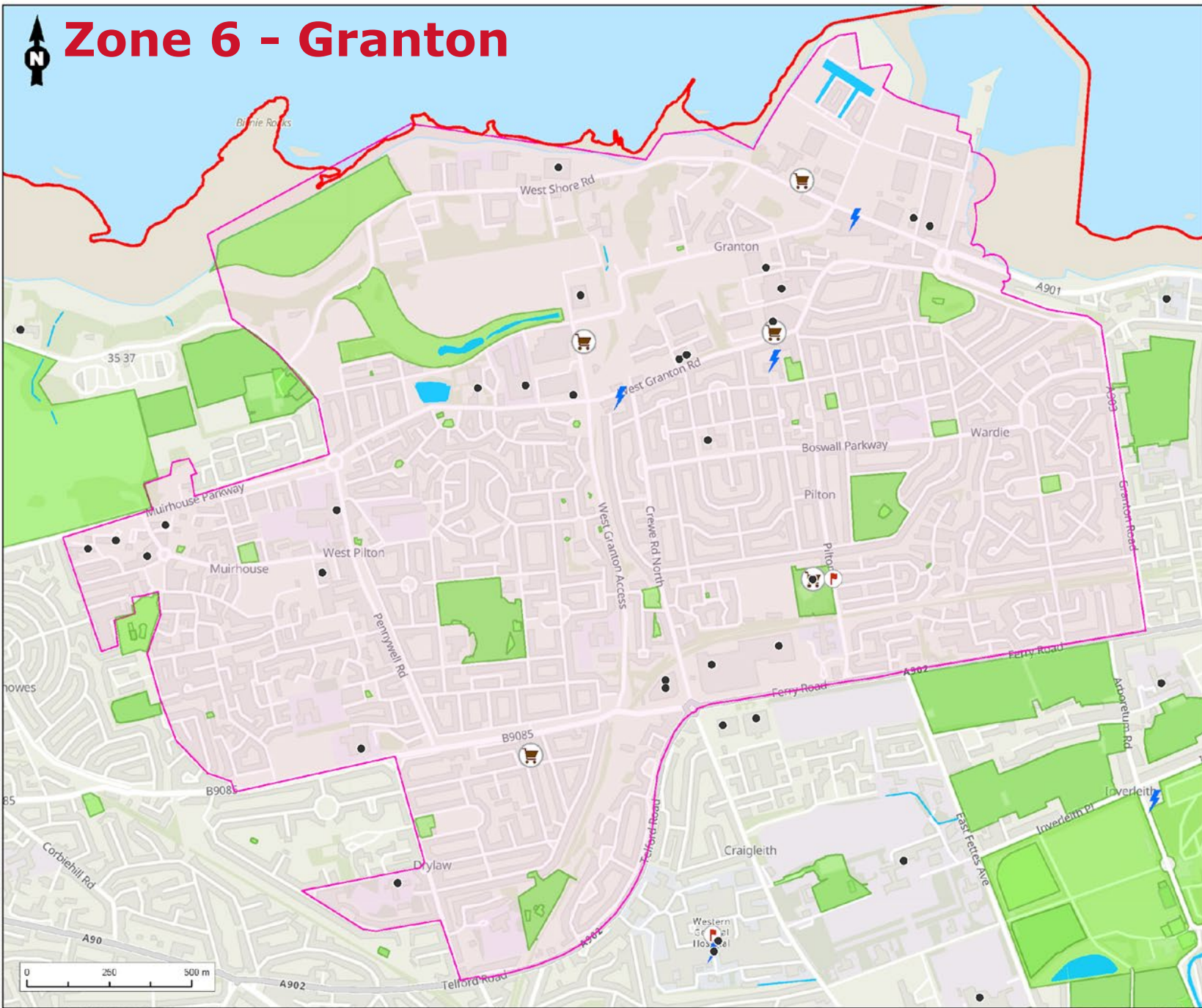


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Granton Waterfront

- Financial viability – the project is self-supporting with a positive NPV and IRR although it is recognised that the project will require capital grant funding to be investable.
- The cost of heat supplied would be in line with both gas and low carbon alternatives – relatively affordable to consumers.
- No or very limited Council funds are required (except potentially Scottish Government grant funding) in the delivery of the network.
- Funding may still be required from the Council and its public sector partners as customers to meet connection charges.
- As the project is being facilitated by the Council and public sector partners, the intention would be to ensure that returns are capped with surpluses beyond this cap are used to offer cheaper heat tariffs to customers, or to support community initiatives.

Zone 6 - Granton



- Legend**
- Prospective Heat Network Zone
 - Edinburgh Local Authority Boundary
 - Anchor Load (500MWh)
- Renewable Heat Opportunities**
- Greenspace
 - Surface Waterbodies
- Waste Heat Opportunities**
- Process Load
 - NAEI Large Emitter
 - ⚡ Energy Supplier

Figure Title
Zone 6 - Granton

Project Name
LHEES - City of Edinburgh Council

Project No./Filey ID
1620015872 / REH-2023N00624

Date	Figure No.	Revision
October 2023	1.6	1.0

Prepared By CT	Scale 1:11,000 @A3
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Client
City of Edinburgh Council



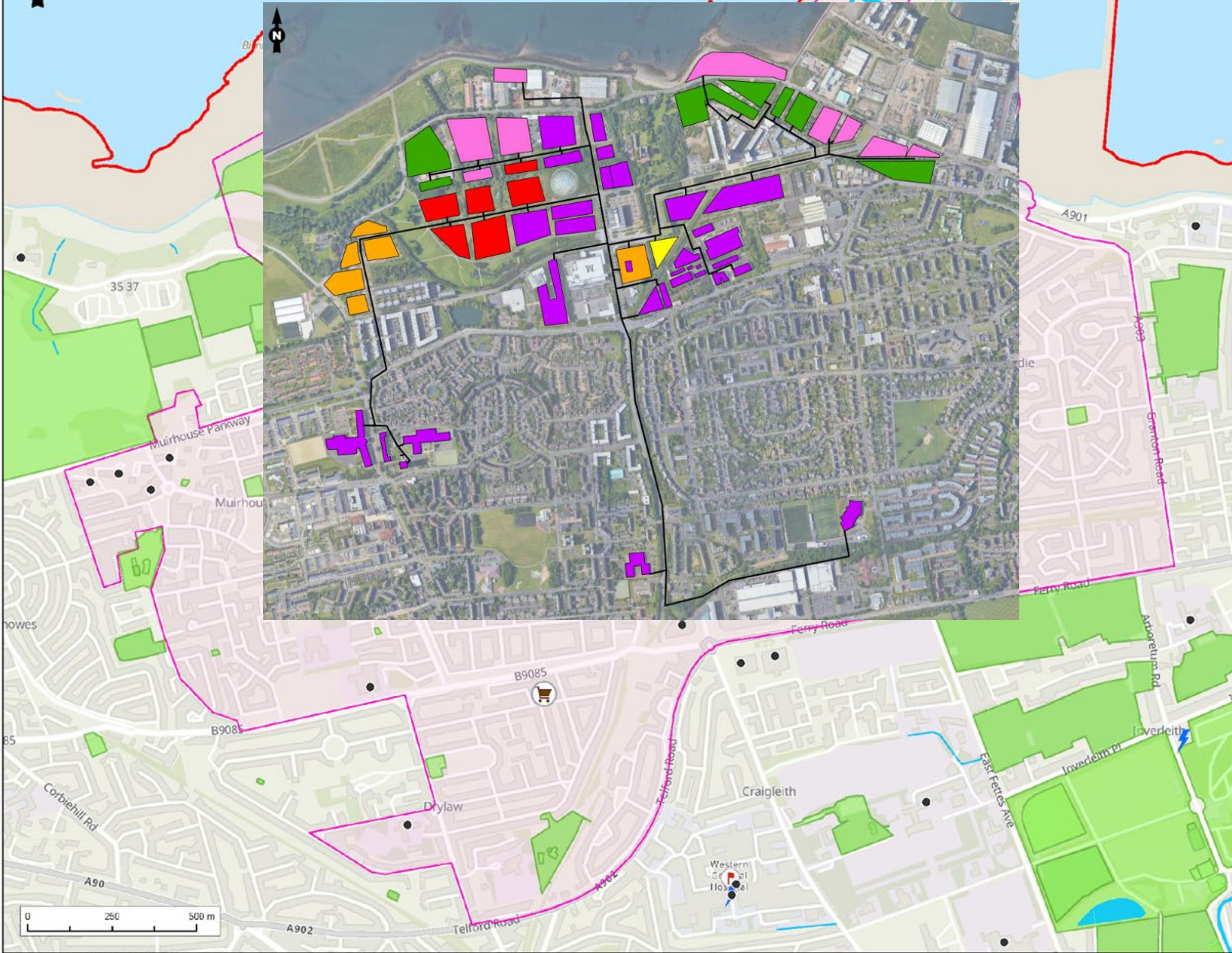
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City of Edinburgh Council



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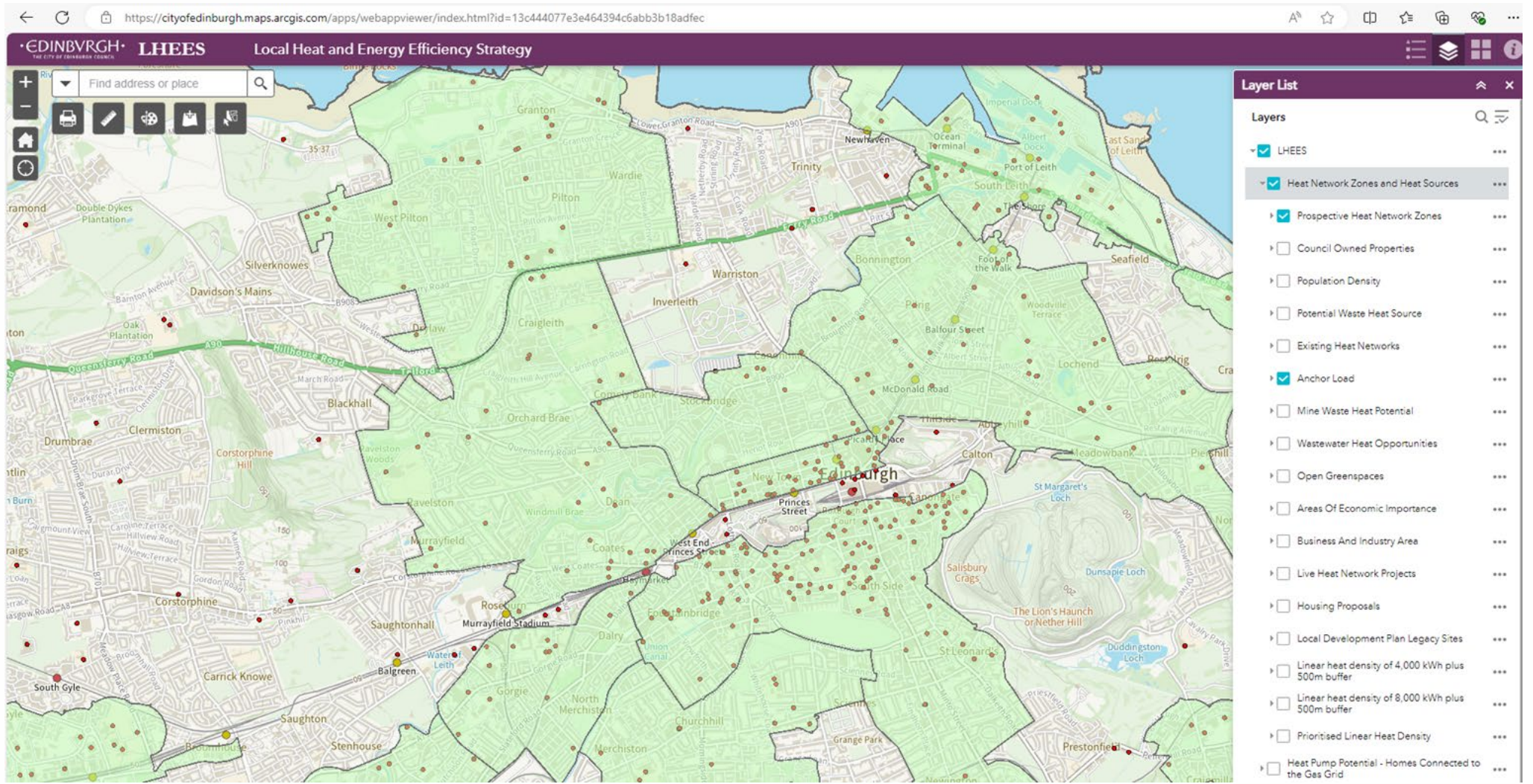
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Delivery Model – examples

- The Scottish Futures Trust published their report: [“Heat Networks Delivery Models”](#) in February 2024
- The supplier will be asked to consider the following models:
 - In-house delivery
 - Joint venture – with a sliding scale of Council stake e.g. 5-50%
 - Models involving a form of energy partnership with a private sector partner, potentially involving other public sector bodies in the area
 - Service concession.
- The options appraisal will consider the scope for the following to play a role in the optimal delivery model:
 - Energy for Edinburgh, the Council’s arm’s length energy services company, e.g. as the vehicle for a joint venture
 - The community, e.g. via community ownership shares.

LHEES Interactive Map



Key next steps

- Agree a preferred model for supporting the wider roll-out of Heat Networks in Edinburgh
- Create a Heat Network Customer Charter
- Feasibility study for a Heat Network in the Old Town
- Feasibility review of the prospective Heat Network Zones
- Audit and analysis of low/zero carbon heat sources in and around Edinburgh
- Identification of an optimal spinal pipe serving a city-wide network, or linking multiple networks
- Statutorily designate Heat Network Zones and develop a consenting regime for Heat Networks.

Thank you

Hilary Blackman LHEES@edinburgh.gov.uk

Call to Action:

How citizens can get involved!

Tell us how you feel about heat networks in your area.



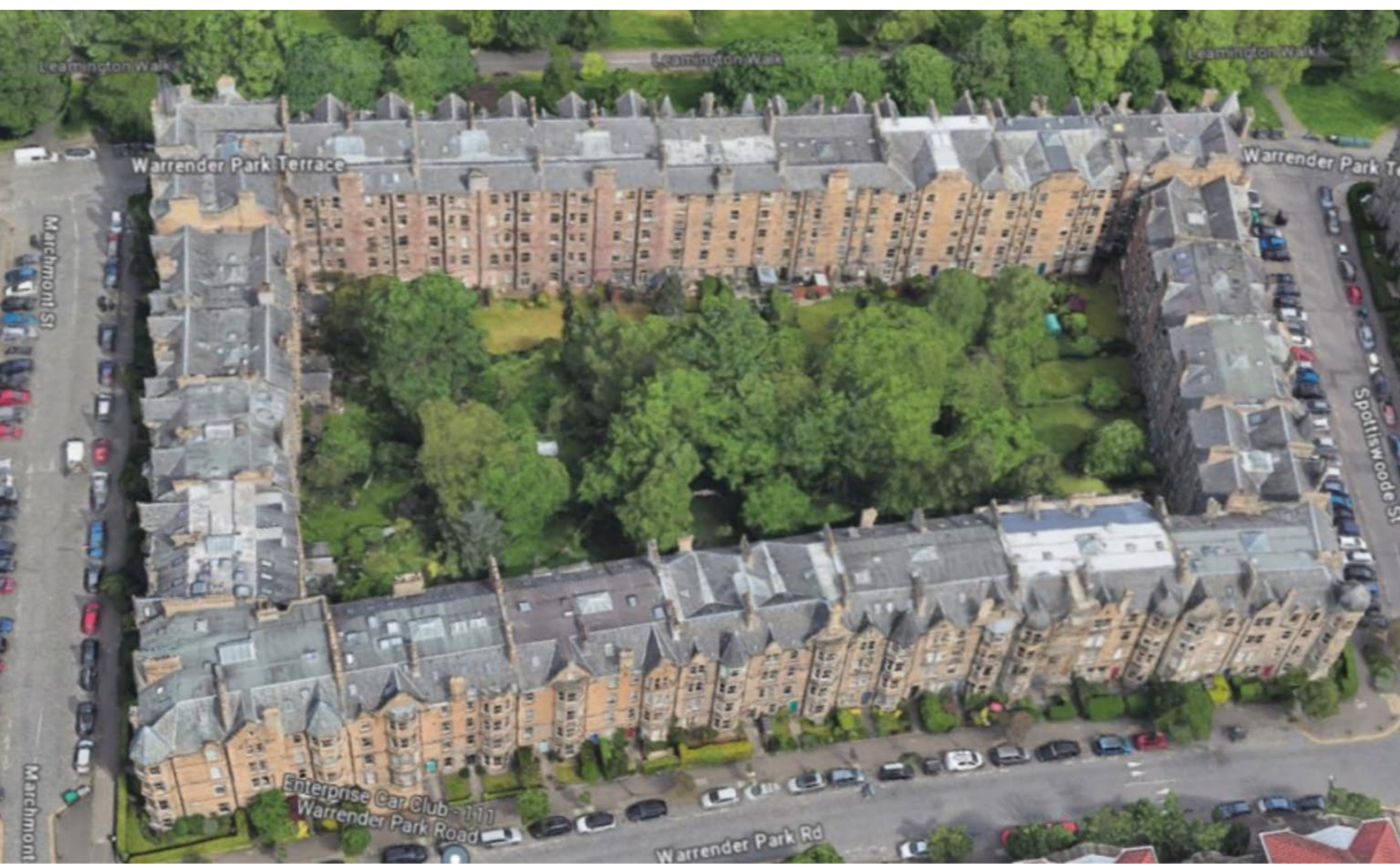
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Sign up online: <https://bit.ly/joinchefnow> or by the application.
Members Inaugural Meeting 4pm Mon 23 Sept at ECCI





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CABLES WYND HOUSE

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