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Local delivery of heat and energy efficiency

Workshop 1: Heat Zoning and Strategic Planning

WORKSHOP OUTPUTS

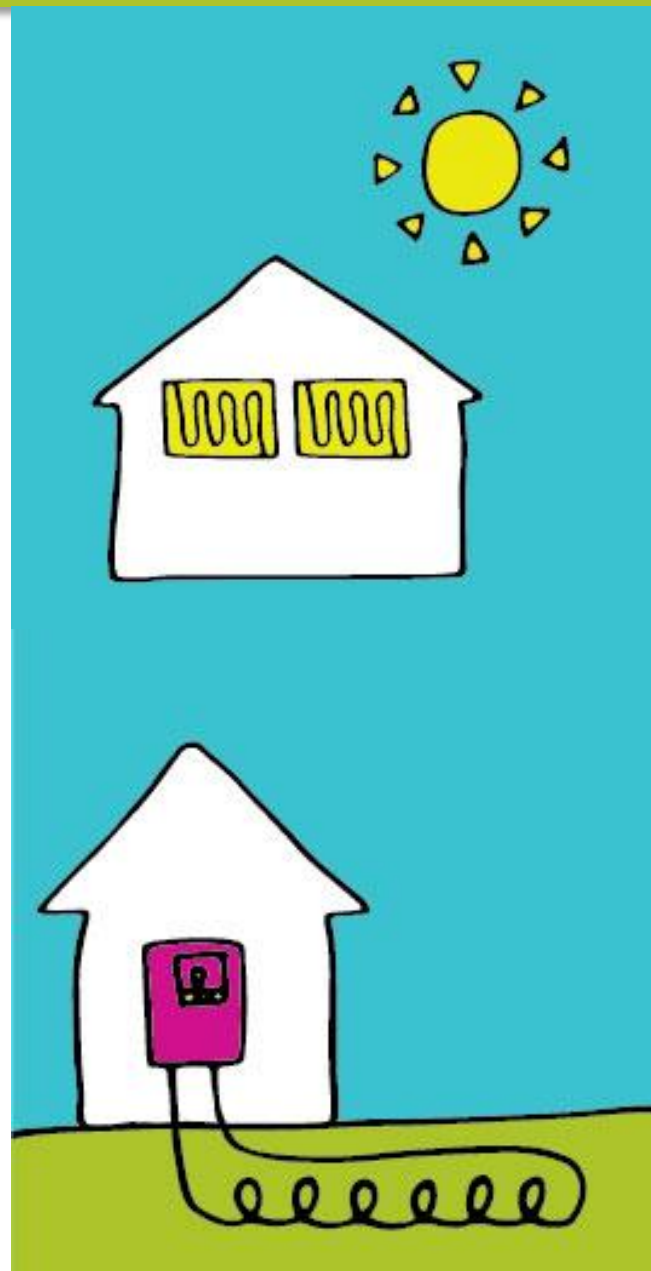
Key takeaways from session

What needs to be zoned?

- Not just heat networks. Zones need to be comprehensive for all areas.
- Critical would-be energy efficiency zones and targeting these to address fuel poverty.
- Other technologies including waste heat and hydrogen potentially are also important
- There could be a sliding scale of strength of policy applying in zones – ones with shared heat infrastructure needing stronger policy.

Who is best placed to do this zoning?

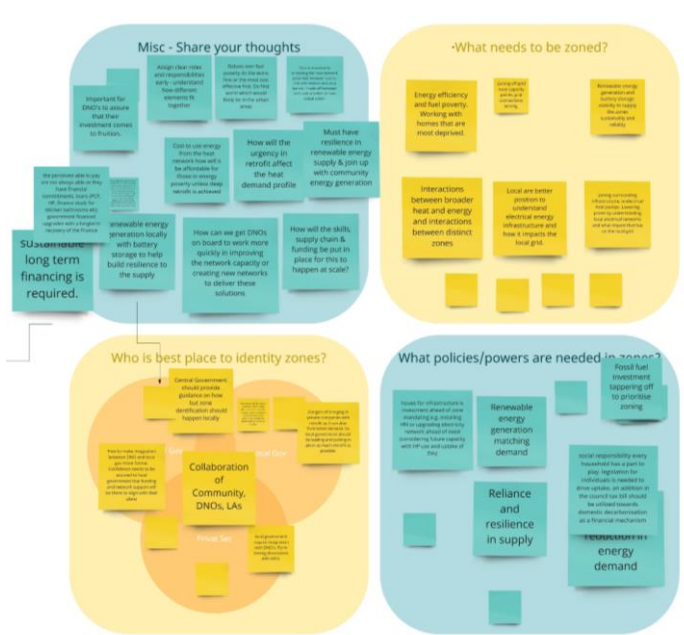
- National gov need to play a facilitating role.
- Local authorities should lead because of their reach to communities – the roles in the heat network consultation were a good start, noting that national government had a role in methodology and data.
- Communities should also have a role in 'bottom-up' zoning also – not just rely on a top-down designation.
- Community activity would need to be supported by a local authority and those that have engineering and heat experience.

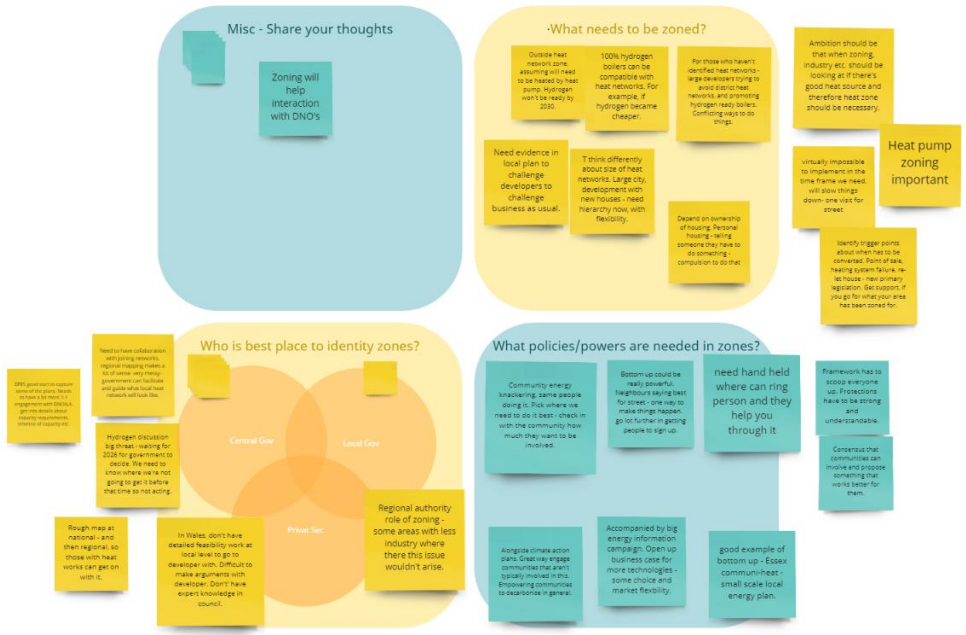


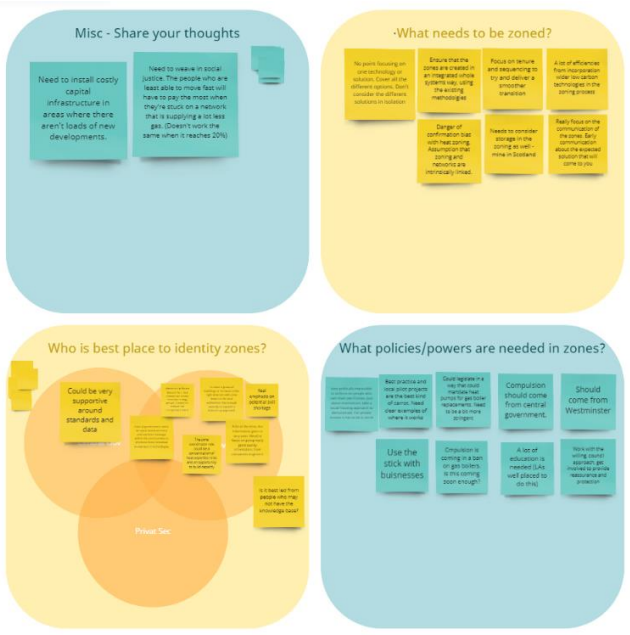
Miro boards from three break out groups

The three breakout groups' discussions were supported by live note taking on Miro boards.

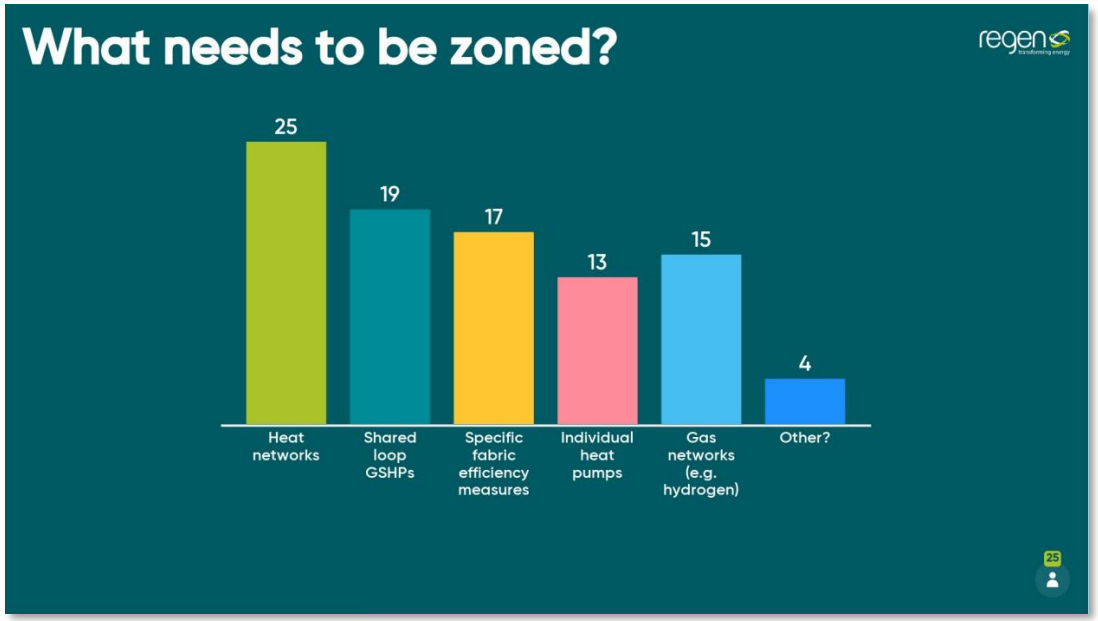
Delegates were invited to add their own post-its if they wished, and each session had their own note taker recording points too.

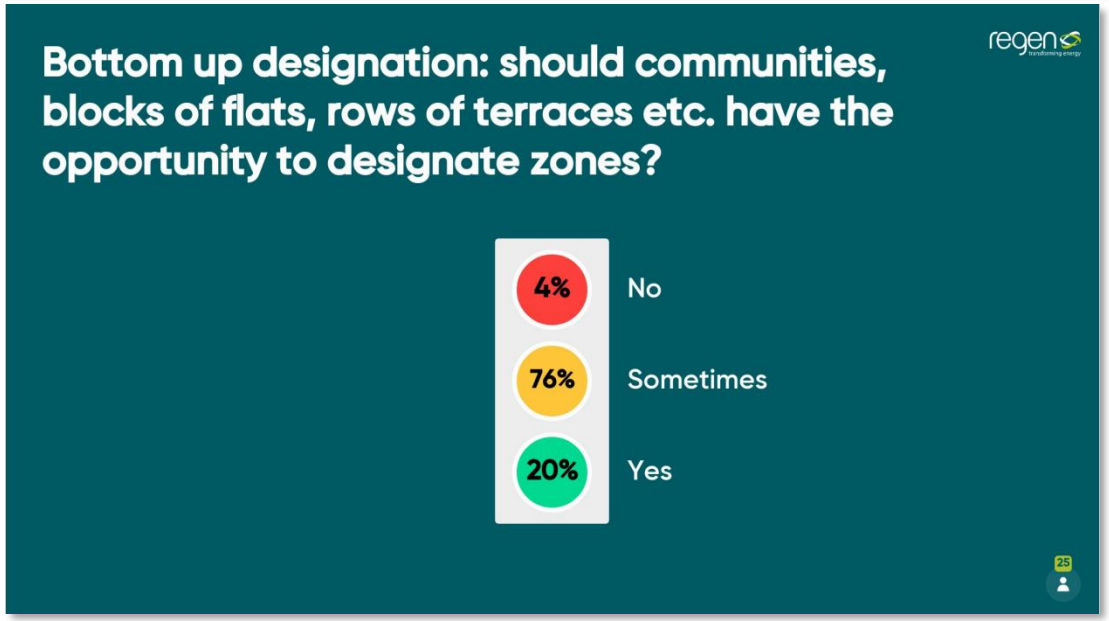






Voting results





1. As well as heat networks, the majority agree that shared loop GSHPs and some specific fabric efficiency measures need zoning.
2. 96% agreed that there should in some cases be an opportunity for ‘bottom-up’ designation of zones
3. 70% agreed there should be some cases where domestic buildings are required to connect (e.g. to heat networks or smaller shared infrastructure such as shared loop GSHPs)

Attendees

Alex McCann, Bath & North East Somerset Council
John Christopher, BEIS
Stephen Mirkovic, BEIS
Emily White, Bristol City Council
Jon Sankey, Bristol City Council
Antony Littlechild, Dorset Council
Stephen Mcdonald, Durham County Council
Vilislava Ivanova, E3G
Jake North, Energy Systems Catapult
Tom Elliott, Energy Systems Catapult
Brenda Boardman, Environmental Change Institute, University of Oxford
Amy Baker, EQUANS
Harry Cove, EQUANS
Carole Randall, Essex County Council
Jonathan Morris, Essex County Council
Tom Day, Essex County Council
Joshua Emden, IPPR
Nick Porter, Local Government Association
Tony Lawson, Local Partnerships LLP
Alejandro Garcia, Midlands Energy Hub
Jorge Luis Aguilar-Santana, Midlands Energy Hub
Anjuli Davies, Neath Port Talbot County Borough Council
Nathan Gambling, NJV LTD BetaTeach/BetaTak
Mark Saunders, North Devon Council
Marissa Granath, North East Local Enterprise Partnership
Paul Woods, North Northants Council
Liz Powan, NPT
Louise Marix Evans, Quantum Strategy & Technology Ltd
Jonathan Lamont, Regen
Prina Sumaria, Regen
Robert Evans, Regen
Simon Gill, Regen
Hannah Stanley, Regen
Hazel Williams, Regen
Poppy Maltby, Regen
Sophie Whinney, Regen
Jennifer Sjoberg, Sic
Adam Williams, South Hams/West Devon Councils
Cara Naden, SSDC
Karen Barrass, UK100
Hannah Lewis, Western Power Distribution
Sharon McGuffie, Western Power Distribution
Cuan Rowlands, Western Power Distribution
Neil Johnson, WYCA

WORKSHOP SESSION SLIDES

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Project overview

- We need heat decarbonisation at **scale** and **speed.** Delivery needs to be **efficient to minimise cost.**
- The Net Zero Strategy accepts the need for a **national/local partnership to deliver this**.
- What is the **role for Local Authorities** in this? What powers, funding and capacity are needed?
- **What is most efficient** to be delivered at a national level? Methodologies, regulation etc.

Project based around three themes where relationship between national and local roles will be **key to efficient delivery**:

Heat zoning and planning

Citizen/community engagement

Skills and supply chain development

Agenda

10:10 **The story and key elements of planning and zoning**
Poppy Maltby, head of cities and regions, Regen

10.20 **Lessons from Local Heat and Energy Efficiency plans in Scotland**
Simon Gill, associate director, Regen

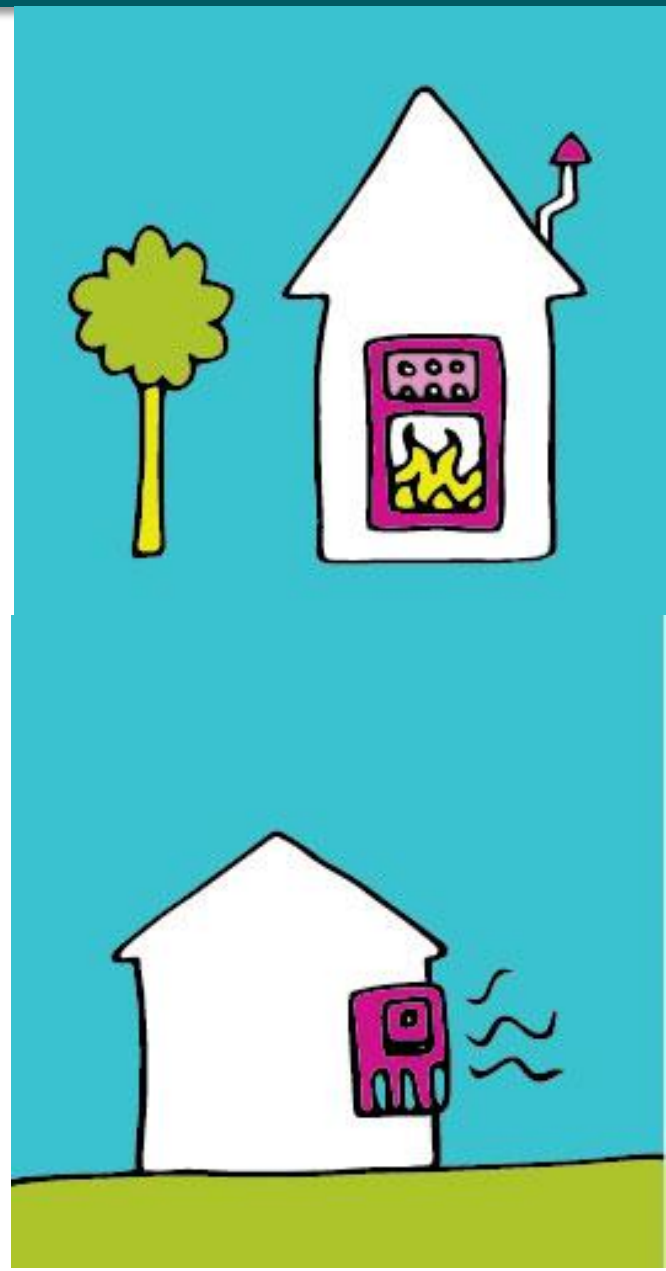
10:30 **Heat network and zoning in Bristol: issues, challenges and lessons**
Emily White, climate change project manager, Bristol City Council

Break

11:00 **Facilitated break-out groups**

11:45 **Review and feedback from breakout groups**

12:00 **Close**



POPPY MALTBY
HEAD OF CITIES AND REGIONS, REGEN

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Heat zoning and strategic planning

"Zoning is the process of identifying areas of land upon which specific policies, laws, regulations or powers apply…" Heat and Energy Efficiency Zoning: A framework for net zero for new and existing buildings, ADE

Recent changes in policy:

- Heat network zoning consultation
- Ofgem as a heat regulator
- Green heat network grants

How far does this take us?

What are the gaps?

Recent policy

BEIS Heat Network Zoning Consultation

Aim to develop governance structures which identify and designate areas within which heat networks are the **lowest cost solution** for decarbonising heating

Local refinement to be carried out by **local authorities as "zoning coordinator"** along with engagement and enforcement

Ofgem as heat regulator

Enforcement powers will match current powers within gas and electricity market

Domestic & micro-businesses are protected under the consumer protection.

Green Heat Network Fund

Aim to incentivise heat network market transition to low carbon heat sources via targeted financial support

For urban networks, a minimum end customer demand of 2GWh/year. For rural (off-gas-grid) networks, a minimum number of 100 dwellings.

Heat Network Zoning consultation

- Aim to identify and designate areas within which heat networks are the **lowest cost solution** for decarbonising heating.
- Central Authority (central government) roles to include **standardise methodology** for zoning, level of 'compulsion' and **Data Custodian**.
- Local refinement to be carried out by **local authorities as "zoning coordinator"** along with engagement and enforcement
- In a heat network zone all new buildings, large public sector and large non-domestic buildings - 'Required to connect' threshold of annual heat demand of over 100 MWh.
- Heat sources 'required to connect'.
- Sets out a series of delivery models from LA owned networks and developed, to open market delivery.
- Suggests consumer protection, pricing and quality requirements by regulator (Ofgem) also covering large customers required to connect.

Questions:

- Lowest total cost or theoretical lowest technical cost? Bottom-up considerations.
- Zoning only for heat networks? Do other technologies have zones?
- Do LAs have capacity to take on 'zoning coordinator' and how big should the role be?
- Is it right there is no mandating of domestic properties? Off-gas areas for example without large commercial or public sector loads.
- How should these requirements change re: size/scope - distinction between district, communal heating, shared ground loops.
- Together is this enough to make the infrastructure and heat networks 'investable?'

Ofgem as the heat regulator

- Ofgem designated as the heat regulator, enforcement powers will match current powers within gas and electricity markets.
- Domestic & micro-businesses are protected under the consumer protection, with possible expansion to larger types.
- Ofgem, Energy ombudsman and Citizens Advice to work closely to tackle compliance issues within the market.
- Authorisation regime for entities supplying and operating networks with a mandated minimal technical standards.
- Consumer provided with a minimum level of guidance and information at pre-contractual stages of a property.
- Price cap will not be imposed in the short term, however likely to be introduced as the sector matures.
- Minimum quality standards are outcome based to account for smaller networks.

Issues raised include:

- Exclusion of ground source heat pumps with a shared loop.
- Larger schemes undergoing more detailed regulation and scrutiny.
- Regulatory cost recovery regime, (undergoing further consultation).
- Exclusion of non-domestic consumers from protections.
- Resounding support for robust & well thought-out step-in arrangement should a network fail.
- Price cap should be under constant review but in the short-term will not be introduced to deter from investment.

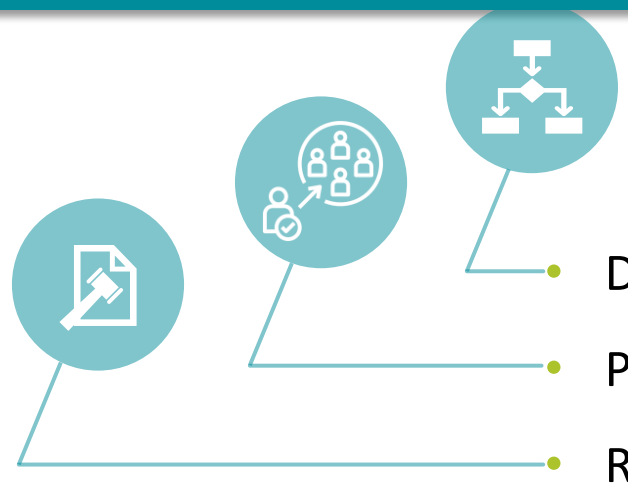
Green Heat Network Fund

- Aim to incentivise heat network market transition to low carbon heat sources via targeted financial support.
- 3-year £288 million capital grant fund with quarterly rounds.
- 50 % of a project's total combined commercialisation and construction costs.
- Market Transformation Commitments to use funding to support UK supply chain and new market entrants.
- For urban networks, a minimum end customer demand of 2GWh/year. For rural (off-gas-grid) networks, a minimum number of 100 dwellings.
- Ambient loops are eligible for grant support but Shared Ground Loops (SGL) are not (subject to some exceptions). SGLs will be supported when they form part of either aggregated communal networks or rural heat networks.
- Communal heating systems or shared loops only funded if part of heat decarbonisation strategy or Local Energy Strategy.

Questions:

- Focused on commercial and large networks - what support is available for smaller schemes?
- Is 100 homes too high for rural off-gas networks?
- Why are Shared Ground Loops not supported?
- Importance of Local Energy Strategies and heat decarbonisation plans to communal heating schemes.

Some key discussion points for today



- Designation process – top down and *bottom up*?
- Policies/powers to compel – level of compulsion?
- Reporting, monitoring and enforcement – who does this?

The Zoning

Foundations

- Local resource and capacity
- Energy data – household, community and regional

Consultation

- Energy networks consultation
- Statutory resident consultation

Gaps identified in
heat zoning and strategic planning

SIMON GILL
ASSOCIATE DIRECTOR SCOTLAND, REGEN

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The Scottish context

Net Zero by 2045

75% reduction in GHG by 2030 against 1990

Fuel poverty to be no more than 5% of households in 2040

At least 1 million gas-grid homes to decarbonise by 2030 (and all off-gas-grid)

Emissions from heat in building to reduce by 2/3 between 2020 and 2030

Local Heat and Energy Efficiency Strategies (LHEES)

- **Local Strategies** for long-term heat decarb and energy efficiency across an entire local authority area
- Likely to be a **Statutory duty** on LAs
- Will include a **'Strategy'** and a **'Delivery Plan'**
- Show how **each segment of the building stock** needs to change to meet national objectives
- Identify **strategic heat decarbonisation zones**,
- **Prioritise areas for delivery**
- LHEES to be published for all local authority areas by the **end of 2023.**

Heat Network Act

- **Scale:** HN use in Scotland to quadrupole by 2030
- **Zoning:** Local Authorities to identify areas suitable for HNs
- **Regulation:** introduces powers for Scottish Government to regulate heat networks including licensing HN providers.
- **Permitting:** Offering long term permits to developers to attract lower-cost provision.
- **Rights for developers:** Wayleaves, compulsory purchase

LHEES Trials – lessons learnt

How have pilots benefitted local authorities?

The pilot programme has generated a range of benefits and positive outcomes for participating local authorities.

Data & understanding
Local authorities improved their data skills and understanding of decarbonisation through the pilots

Strategic priority
Undertaking pilots has raised the strategic priority of decarbonisation within local authorities

Support & collaboration
External support & stakeholder collaboration have been essential for LHEES, and in realising benefits

Funding & guidance
Scottish Government funding and guidance have also been crucial in realising benefits for authorities

What challenges have affected LHEES development?

LHEES pilots have been impacted by a number of challenges and issues, arising across all aspects of LHEES development.

Buy-in, skills & resourcing
Securing the required skills and resources has been a key challenge, in part dependent on buy-in from senior officers and elected officials

Data sourcing & analysis
Many pilots found the wide range of data sources and analysis skills required to produce LHEES a significant challenge

Stakeholder engagement
Local authorities were concerned about the resources required for effective stakeholder engagement, and some were unclear about the role of stakeholders

Delivery planning
Data access challenges limited scope for options appraisal and delivery planning through pilot LHEES

What does this mean for the LHEES roll out?

- **Legislation and regulation:** Establishing LHEES on a statutory basis and providing stronger regulation around heat decarbonisation to incentivise stakeholders.
- **Guidance and support:** provide additional LHEES guidance and support, particularly around data and stakeholder engagement.
- **Resourcing:** provide additional resourcing for local authorities for LHEES rollout – including implementation of LHEES Delivery Plans.
- **External support:** Support local authorities to access and make best use of external consultants and other support.
- **Strategic positioning and buy-in:** Ensure LHEES is given sufficient strategic priority, and is effectively integrated with wider local authority strategies and plans.

Ongoing discussions

Support from National (Scottish) Government:

- £1.8 Bn for heat decarb and energy efficiency over the next 5 years (Around £350 per person in Scotland)
- Setting up an 'Energy Agency' that will support delivery – deliver funding to LAs and others
- Some part of the LHEES methodology likely to be carried out on a national basis (e.g. possibly initial review for heat networks)

What are the powers?

- All new buildings to have zero carbon heating from 2024 – required in order to receive a building warrant
- Heat networks consultation expected this year on:
  - possibility of requiring connection of non-domestic anchor loads in areas identified as heat network zones or,
  - Use of non-domestic rates to encourage connection
- How to mandate decarbonisation and energy efficiency of privately owned buildings (e.g. at change of tenancy for private rented, at change of ownership or change of heating system, or major upgrage).
  - Consultation to come.

EMILY WHITE
CLIMATE CHANGE PROJECT MANAGER, BRISTOL CITY COUNCIL

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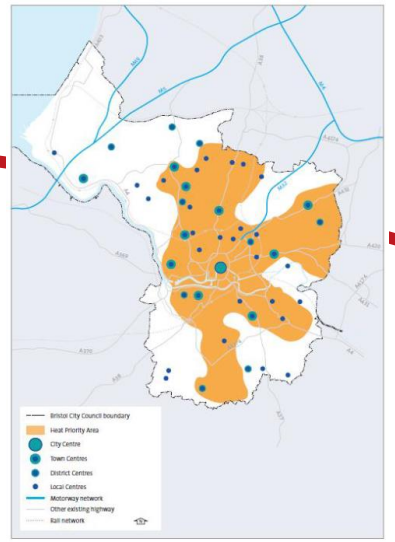
Bristol Heat Zoning, Mapping and Planning

Emily White

Bristol City Council

Bristol's Story So Far

2009



New development will be expected to demonstrate that the heating and cooling systems have been selected according to the following heat hierarchy:

1. Connection to existing CHP/CCHP distribution networks
2. Site-wide renewable CHP/CCHP
3. Site-wide gas-fired CHP/CCHP
4. Site-wide renewable community heating/cooling
5. Site-wide gas-fired community heating/cooling
6. Individual building renewable heating

2016

BRISTOL city leap

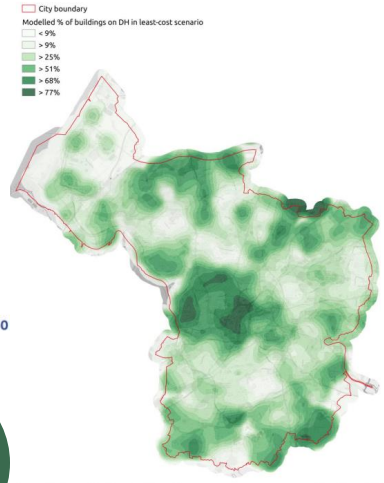
2022

A strategy for a carbon neutral, climate resilient Bristol by 2030

95k HPs

65k on HN

2019



Bristol's Heat Network

Key building blocks

Political support

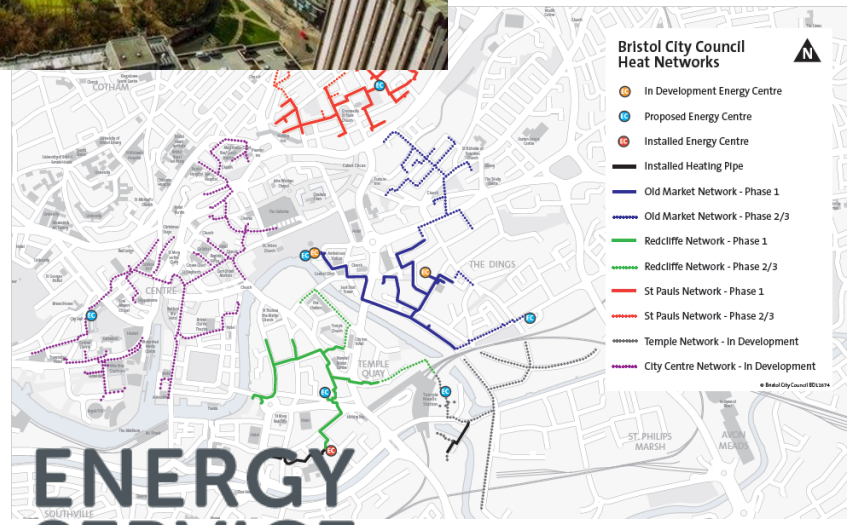
Heat hierarchy

Working with BEIS

Bristol's Heat Network

Approach

- Large in-house Energy Service
- Technical support from consultants (e.g. Sustainable Energy Ltd)
- Working with new developments to comply with planning policy
- Proactive outreach to existing buildings to connect
- Taking opportunities to make mistakes

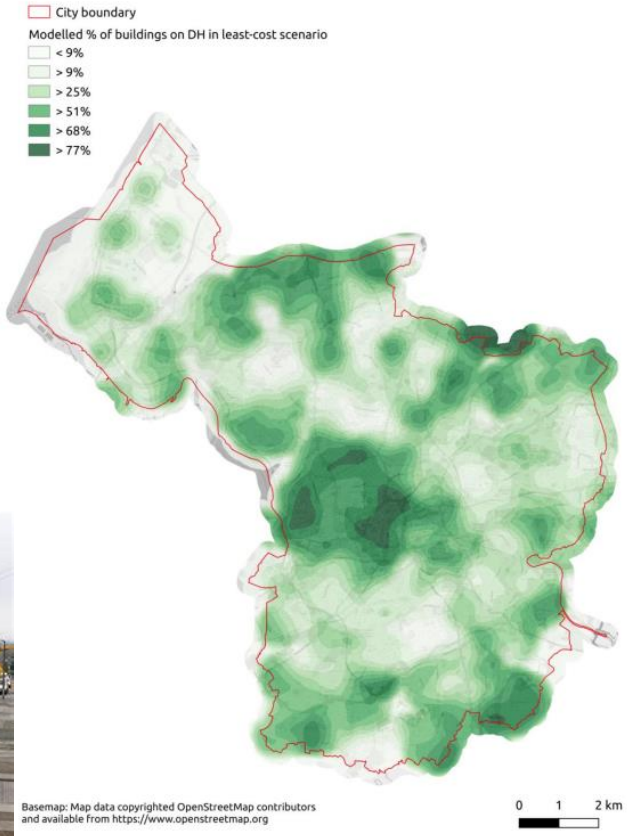


BRISTOL CITY COUNCIL

ENERGY SERVICE BRISTOL

Challenges for heat planning

- Sporadic funding and limited resource
- Approach led by new build development
- Building ownership vs management vs tenancy
- Electricity network capacity and DNO engagement
- Building suitability
- Staff capacity and coordination



CSE, Bristol Net Zero by 2030: the evidence base

The role of local authorities and government

Local Authority

- Strategic oversight
- Local data and stakeholder input
- Local standards

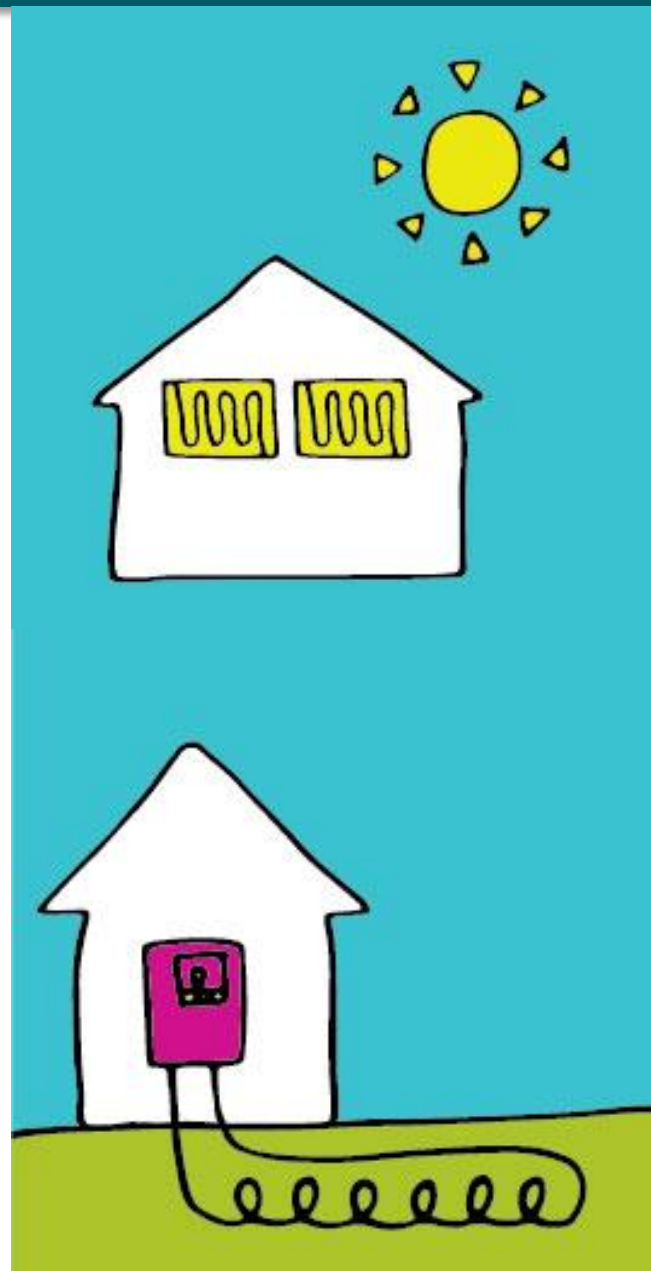
Government

- Set methodology
- Define and collate data
- Set minimum standards

BREAKOUT SESSIONS

Discussion at breakout groups

1. **What actually needs to be zoned?** – is it only areas involving new shared heat infrastructure?
2. **Who is best placed to identify zones?** Is there a gap around communities and bottom-up designation?
3. **What policies are needed in those zones?** – what is needed to encourage infrastructure investment?
4. **Should there be a domestic 'compulsion'?** – what is the carrot and stick in these areas?



Reminder of workshops

10th March, 10 – 12pm

Workshop 1: Heat zoning and strategic planning

5th April, 10 – 12pm

Workshop 2: Citizen and community engagement

4th May, 10 – 12pm

Workshop 3: Supply chain and skills development

: Bradninch Court, Castle Street, Exeter, EX4 3PL
: 01392 494 399

11 March, 2022