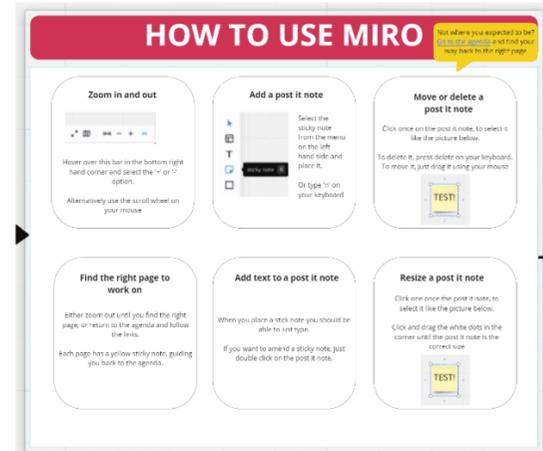


Shared ground heat exchange Workshop agenda

Time	Topic
12:30-13:00	Arrival, check out the case studies
13:00-13:05	Welcome, introduction
13:05-13:30	Overview of technology and research so far <ul style="list-style-type: none"> • Benefits and challenges
13:30-14:15	Breakout session 1: <ul style="list-style-type: none"> • Technical & design • Local implementation
14:15-14:45	Break and check out strategic policies & funding streams <ul style="list-style-type: none"> • Pin some notes • What do you think of the funding streams? Are they helpful? What's missing to make SGHE viable?
14:45-15:30	Breakout session 2: <ul style="list-style-type: none"> • Business models • Users / consumers • National policy & design
15:30-16:00	Summary of the day and open space for questions <ul style="list-style-type: none"> • What have we missed? • Next steps
16:00	Close

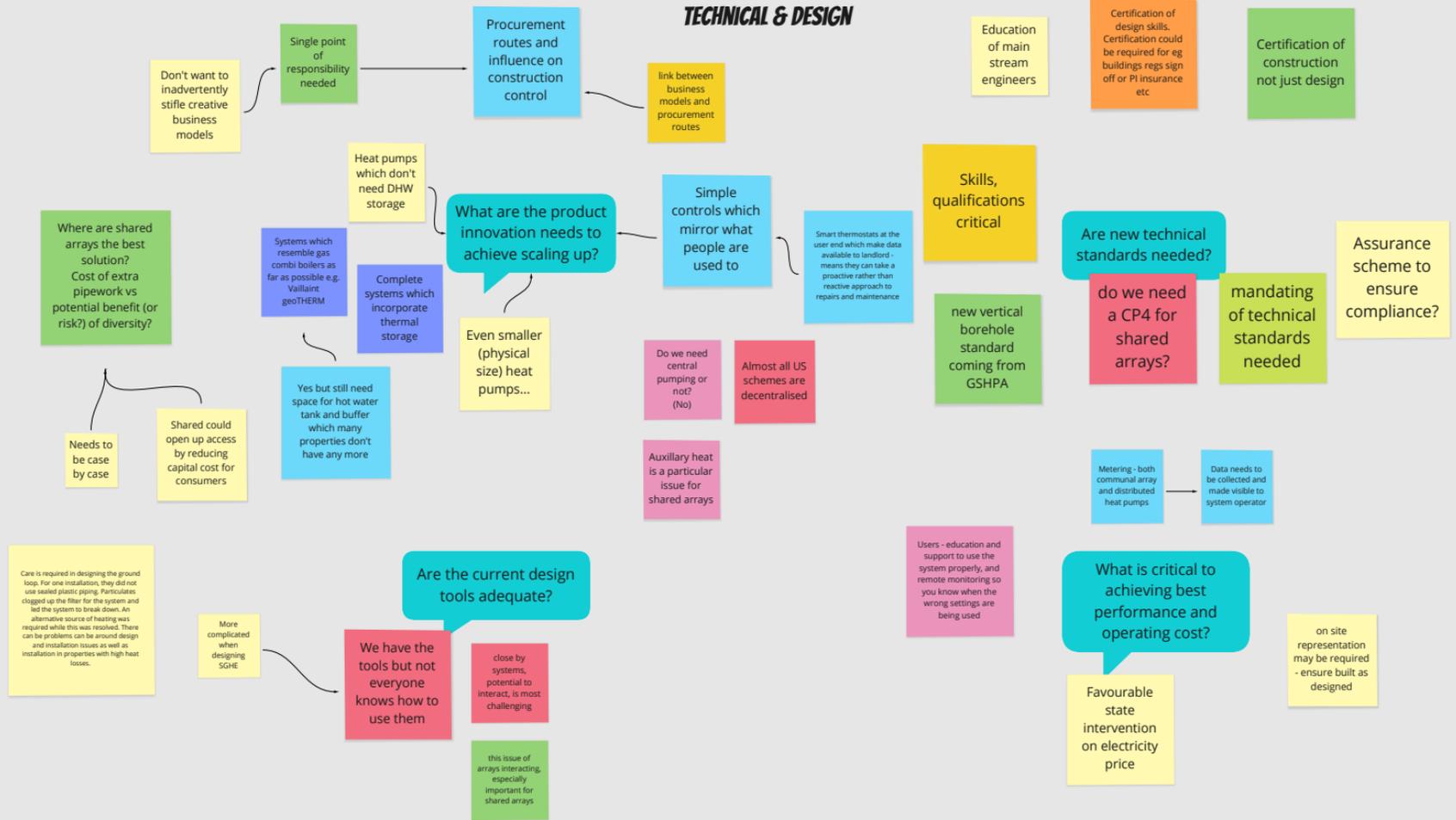


Shared ground heat exchange

Workshop agenda

Time	Topic
12:30-13:00	Arrival, check out the case studies
13:00-13:05	Welcome, introduction
13:05-13:30	Overview of technology and research so far <ul style="list-style-type: none">• Benefits and challenges
13:30-14:15	Breakout session 1: <ul style="list-style-type: none">• Technical & design• Local implementation
14:15-14:45	Break and check out strategic policies & funding streams <ul style="list-style-type: none">• Pin some notes• What do you think of the funding streams? Are they helpful? What's missing to make SGHE viable?
14:45-15:30	Breakout session 2: <ul style="list-style-type: none">• Business models• Users / consumers• National policy & design
15:30-16:00	Summary of the day and open space for questions <ul style="list-style-type: none">• What have we missed?• Next steps
16:00	Close

TECHNICAL & DESIGN



LOCAL IMPLEMENTATION

What are SGHE benefits for local authorities?

What do heat network zones mean for local authorities?

What do local authorities need to make it happen?

A "Street by Street" approach

removing barriers in planning process

How can local authorities support SGHE deployment?

(TC) Provide incentive and impetus to switch to low carbon heating

Installing infrastructure in the community potentially lead to greater buy in from consumers

When a landlord is currently providing heat with rent, there is the potential for households to pay for the heat which is used rather than a fixed amount

How do you ensure individual owners can control temperature to suit their needs when using a shared network?

How likely is it to work in private developments?

Consultation with local businesses and communities when designating heat network zones

May also involve enforcement re mandated connections

Perhaps HNZ could be joined up with local planning policies. In newly established HNZ, planning permission for properties that do not have to join a heat network could benefit from planning permission leeway on similar schemes for themselves

As a way of decarbonising local areas, part of LAs fulfilling climate emergencies

What about personal preference - elderly residents? Daisy field example

Need to ensure that households can monitor running costs in high rise blocks. Issues over access to electricity meters and smart meter HHDs not operating

Will likely mean very significant data collection if they act as Zoning Coordinators

More broadly, it may well be that zoning is eventually wrapped into/links up with broader Local Area Energy Planning and this may mean that LAs need to link their work on zoning with broader energy infrastructure planning locally

There's potential for local authority but not so for private development

Community infrastructure project can provide impetus to wider regeneration efforts

(CW) Potentially allows cross-subsiding of energy costs between users

(CW) Definitely has the potential to reduce the cost of local decarbonisation through shared energy across heating and cooling

In Leeds we have set up a Local Development Order so that the heat network can be installed smoothly without the need for many planning applications

Fabric first approach needed. EPC rating not reflective of actual conditions

Not necessary but it would obviously be natural for LAs to include their plans for their own estates in their work on designating zones

(CW) Has anyone come across the Energy Systems Catapult Local Area Energy Planning? This is a useful way to consider options in a collaborative manner.

Is it not very expensive? Yes, but not over the lifetime

Should we encourage and support communities to implement their own shared groundloops?

Diff. levels of LA and in different regions have different levels of resource to put to it - will need more. Good evidence comes from LAs' current ability/capacity (or lack thereof) in enforcing Minimum Energy Efficiency Standards

We want to avoid loss of green space and impacts on biodiversity

Possibility to use carbon offsetting mechanism within planning policies to fund projects

I would commend PAS2035 as plan for retrofitting homes including heat pump installations

Facilitate area selection, appropriate housing profile, value option to consumers

How can local authorities support SGHE deployment?

removing barriers in planning process

Likely to be easiest to focus on high rise blocks and other flats where a communal group loop is a better option than the alternatives

We need more info about the energy storage requirements, where would that go?

Need a strategy for locations with mix of private and social housing and factor this into ownership/maintenance discussion

Scottish Govt has gone down the route of formally creating duties to effectively zone for heat networks. Some debate about whether this is needed in England but certainly, LAs do not feel clear on the powers they have in this area

Ensure public/ resident education and engagement is part of the process early on. Getting people to understand that how they heat their home and their heating routine will need to change is key to it being successful

Adopt long-term view on payback of capital projects

Clear national policy - not currently differentiated from other heat pumps, also hydrogen question

(CW) Amend planning policy so that consideration of this is included in local energy planning, e.g. alongside the need to consider traditional local heat networks

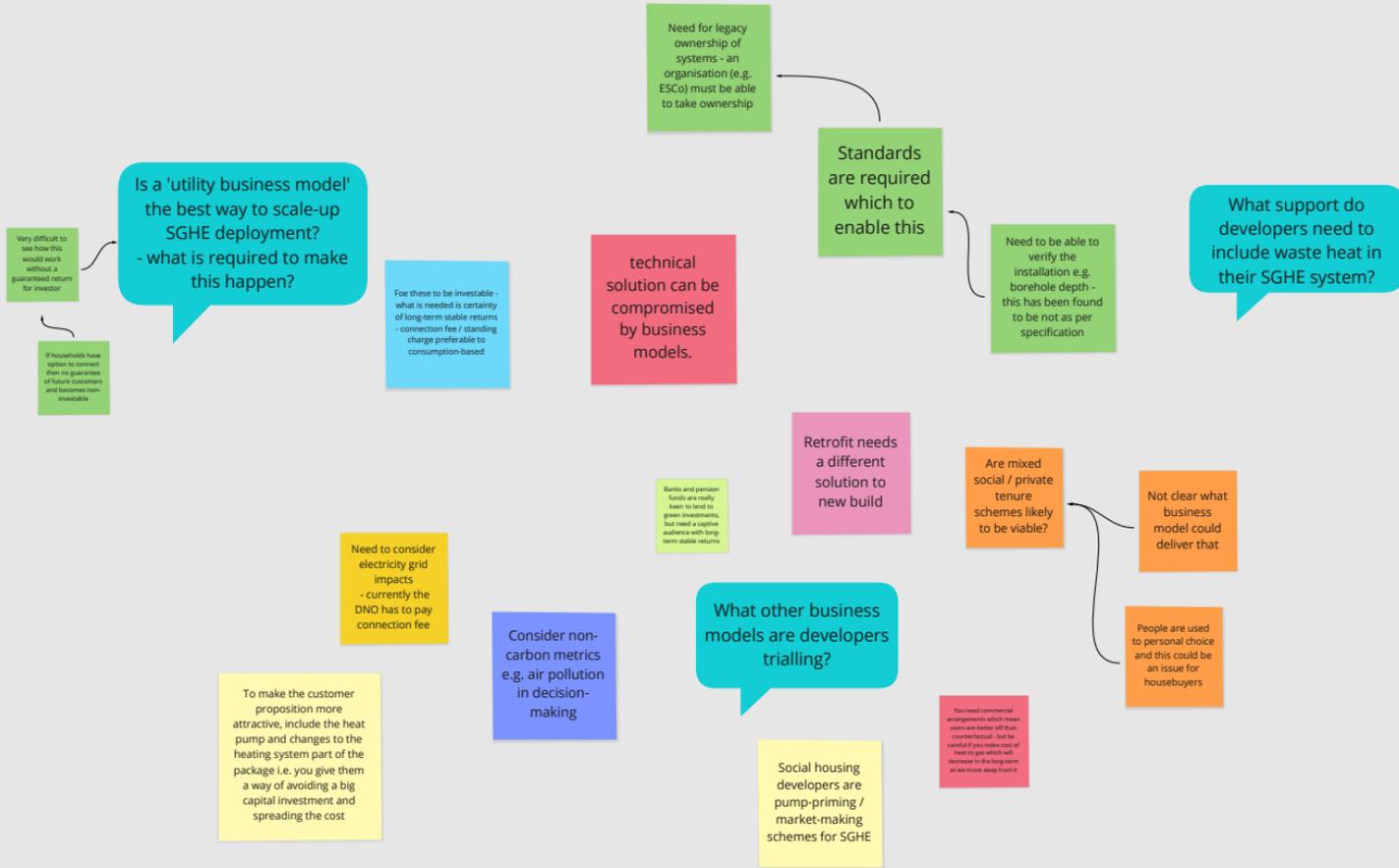
(CW) Use government pump-prime DH funding to appraise the potential - e.g. the scale of whole life cost savings, potential anchor loads etc.

(CW) Seek support/partnerships with private parties, so the private sector brings the technical expertise and the LA brings the potential customers

Take advantage of access to large land space and building clusters in their housing portfolio

Monitor schemes and share findings to provide evidence base and consumer confidence - for residents and other councils

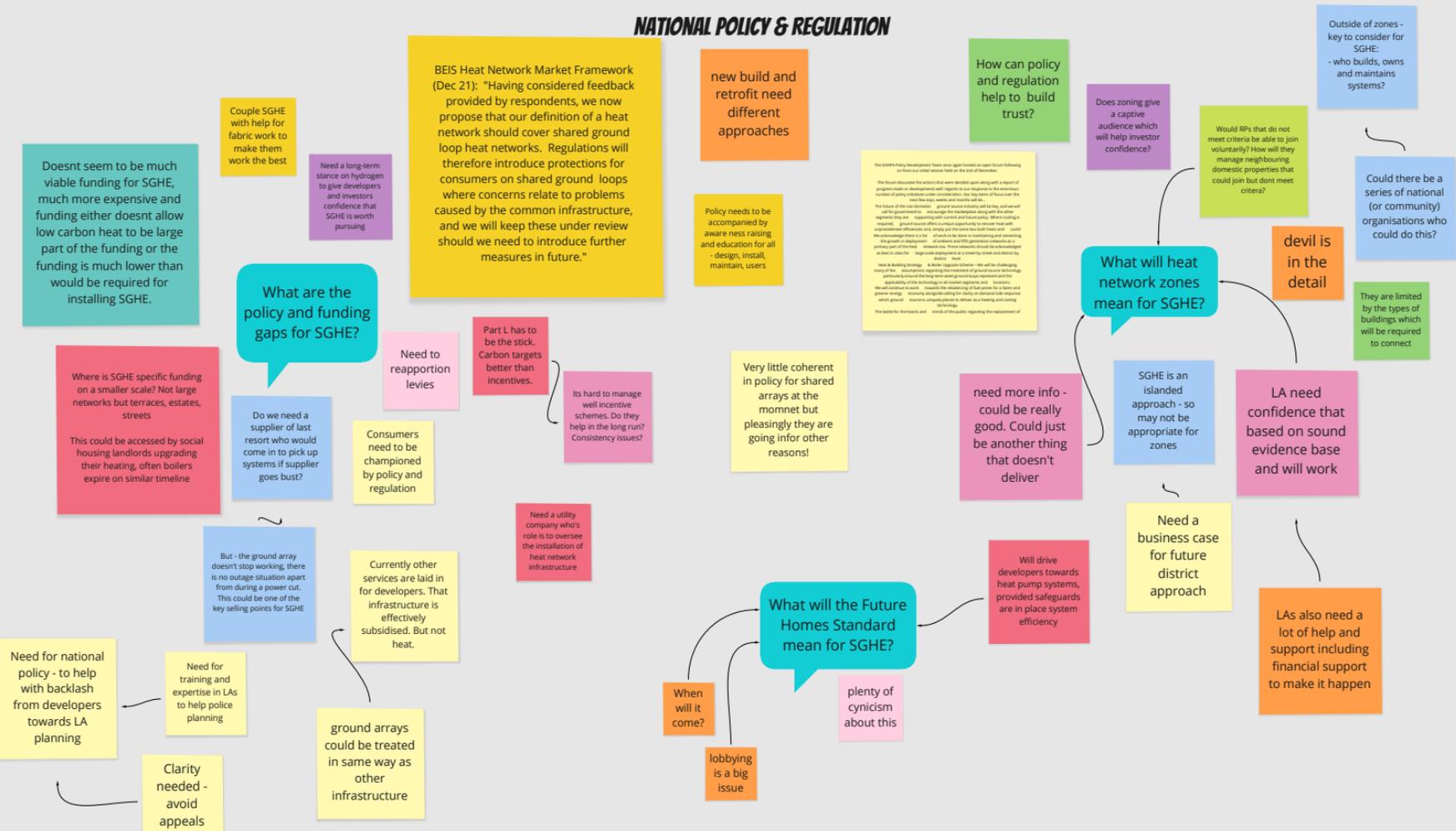
BUSINESS MODELS



USERS / CONSUMERS



NATIONAL POLICY & REGULATION



SHARED GROUND HEAT EXCHANGE CASE STUDIES



Daisyfield Towers, Blackburn

Project details

Blackburn Council are a new Counciling body and have been awarded a Shared Ground Heat Exchange (SGHE) contract for the Daisyfield Towers, Blackburn. The SGHE contract is for the installation and commissioning of a Shared Ground Heat Exchange (SGHE) system for the Daisyfield Towers, Blackburn. The SGHE system will be used to provide heating and cooling for the building.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Daisyfield Towers, Blackburn.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Blackburn Council](#)



Oberry Fields, Warwickshire

Project details

Oberry Fields is a new residential development in Warwickshire. The development consists of a mix of residential units, including flats, houses, and bungalows. The development is located in a prime location, close to the city center and the railway station.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Oberry Fields, Warwickshire.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Oberry Fields](#)



Enfield, London

Project details

Enfield is a new residential development in London. The development consists of a mix of residential units, including flats, houses, and bungalows. The development is located in a prime location, close to the city center and the railway station.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Enfield, London.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Enfield](#)



Bromford, Shropshire

Project details

Bromford is a new residential development in Shropshire. The development consists of a mix of residential units, including flats, houses, and bungalows. The development is located in a prime location, close to the city center and the railway station.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Bromford, Shropshire.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Bromford](#)



Albion Towers, Manchester

Project details

Albion Towers is a new residential development in Manchester. The development consists of a mix of residential units, including flats, houses, and bungalows. The development is located in a prime location, close to the city center and the railway station.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Albion Towers, Manchester.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Albion Towers](#)



Martin's Field, Caerphilly

Project details

Martin's Field is a new residential development in Caerphilly. The development consists of a mix of residential units, including flats, houses, and bungalows. The development is located in a prime location, close to the city center and the railway station.

Key project information

Project highlights

- Installation of a Shared Ground Heat Exchange (SGHE) system for the Martin's Field, Caerphilly.
- The SGHE system will be used to provide heating and cooling for the building.

References & further information

[Martin's Field](#)

FUNDING POLICIES



Social Housing Decarbonisation Fund

Elites lead by example of installing carbon-reducing and heating heat pumps in social housing

Scheme details
The funding is aimed at social housing providers who are looking to improve the energy efficiency of their properties. The fund will support the installation of energy-efficient heating systems, such as heat pumps, and other measures to reduce carbon emissions.

Key scheme information
The fund is managed by the Energy Efficiency Committee (EEC) and is open to all social housing providers in England. The fund is expected to be available from 2023 to 2025.

Scheme highlights
• Focus on providers with ambitious plans to decarbonise their portfolios
• Support for providers to improve energy efficiency and reduce carbon emissions
• Support for providers to install energy-efficient heating systems, such as heat pumps

References & further information
[Social Housing Decarbonisation Fund](#)
[Energy Efficiency Committee](#)

Good for providers who want to lead by example and install heat pumps in their social housing. Funding is available for providers who are looking to improve the energy efficiency of their properties.

Doesn't address the issue of providers that need support to move expensive for residents.

Mostly this is being used for fabric efficiency works.



Heat Pump Ready Programme

Supporting landlords, industry and installing heat pumps in residential heat pump ready-to-go units in high buildings

Scheme details
The programme is aimed at high-rise residential buildings that are heat pump ready-to-go. The fund will support the installation of heat pumps and other measures to improve energy efficiency.

Key scheme information
The fund is managed by the Energy Efficiency Committee (EEC) and is open to all high-rise residential buildings in England. The fund is expected to be available from 2023 to 2025.

Scheme highlights
• Focus on high-rise residential buildings that are heat pump ready-to-go
• Support for providers to improve energy efficiency and reduce carbon emissions
• Support for providers to install energy-efficient heating systems, such as heat pumps

References & further information
[Heat Pump Ready Programme](#)
[Energy Efficiency Committee](#)

Good for trials less so for wider deployment



Together these don't represent a coherent joined up strategy



Green Heat Network Fund

Capital grants to support development of new and existing heat networks

Scheme details
The fund is aimed at supporting the development of new and existing heat networks. The fund will provide capital grants to providers to cover the costs of installing heat networks.

Key scheme information
The fund is managed by the Energy Efficiency Committee (EEC) and is open to all providers in England. The fund is expected to be available from 2023 to 2025.

Scheme highlights
• Support for providers to develop new heat networks
• Support for providers to improve existing heat networks
• Support for providers to reduce carbon emissions

References & further information
[Green Heat Network Fund](#)
[Energy Efficiency Committee](#)

Policy Leads

Good for providers who want to lead by example and install heat pumps in their social housing. Funding is available for providers who are looking to improve the energy efficiency of their properties.



Sustainable Warmth Fund

Supporting providers to improve energy efficiency and reduce carbon emissions in residential buildings

Scheme details
The fund is aimed at supporting providers to improve the energy efficiency of their residential buildings. The fund will provide capital grants to providers to cover the costs of installing energy-efficient heating systems, such as heat pumps.

Key scheme information
The fund is managed by the Energy Efficiency Committee (EEC) and is open to all providers in England. The fund is expected to be available from 2023 to 2025.

Scheme highlights
• Support for providers to improve energy efficiency and reduce carbon emissions
• Support for providers to install energy-efficient heating systems, such as heat pumps

References & further information
[Sustainable Warmth Fund](#)
[Energy Efficiency Committee](#)

Good for providers who want to lead by example and install heat pumps in their social housing. Funding is available for providers who are looking to improve the energy efficiency of their properties.



Boiler Upgrade Scheme

Capital grants for landlords and providers to install low carbon boilers

Scheme details
The scheme is aimed at supporting landlords and providers to install low carbon boilers in residential buildings. The scheme will provide capital grants to providers to cover the costs of installing low carbon boilers.

Key scheme information
The scheme is managed by the Energy Efficiency Committee (EEC) and is open to all providers in England. The scheme is expected to be available from 2023 to 2025.

Scheme highlights
• Support for providers to install low carbon boilers
• Support for providers to improve energy efficiency and reduce carbon emissions

References & further information
[Boiler Upgrade Scheme](#)
[Energy Efficiency Committee](#)

Policy Leads



Public Sector Decarbonisation Scheme

Capital grants for public sector bodies to improve energy efficiency and reduce carbon emissions

Scheme details
The scheme is aimed at supporting public sector bodies to improve the energy efficiency of their buildings. The scheme will provide capital grants to public sector bodies to cover the costs of installing energy-efficient heating systems, such as heat pumps.

Key scheme information
The scheme is managed by the Energy Efficiency Committee (EEC) and is open to all public sector bodies in England. The scheme is expected to be available from 2023 to 2025.

Scheme highlights
• Support for public sector bodies to improve energy efficiency and reduce carbon emissions
• Support for public sector bodies to install energy-efficient heating systems, such as heat pumps

References & further information
[Public Sector Decarbonisation Scheme](#)
[Energy Efficiency Committee](#)

Policy Leads

WHAT'S MISSING?

Together these
don't represent
a coherent
joined-up
strategy

WHAT HAVE WE MISSED / ANYTHING ELSE?

Potential gap: In our discussions with stakeholders on Local Area Energy Planning and zoning, the complexity of LA governance came up as a key theme. Responsibilities and resources significantly between Mayoral authorities, district LAs, county etc. This probably needs to be looked at in more detail

Potential gap: We are getting responses from industry and others that there may be other regional actors who take on the role of Zoning Coordinators. This might be, for example, the LEP or Mayoral Authorities.

Benefit of SGHE - control of DHW & SH separately
Low temps for SH & higher efficiencies

General comment: Lack of awareness/ understanding of heat pumps means all systems being considered as 1 entity

Little to no understanding of distinction between ASHP and GSHP. let alone open vs closed, shared etc.

Example given: "if washing machine breaks, 'oh it's a zanussi, i'll replace it with a bosch' whereas with a HP malfunction it's 'oh, heat pumps are rubbish'

Non domestic RHI - reason for increase in small scale SGHE systems? -

Perhaps not the best technical solution for all - but driven by financial model