



# Pinnacle Power

Partnering to deliver Heat Networks



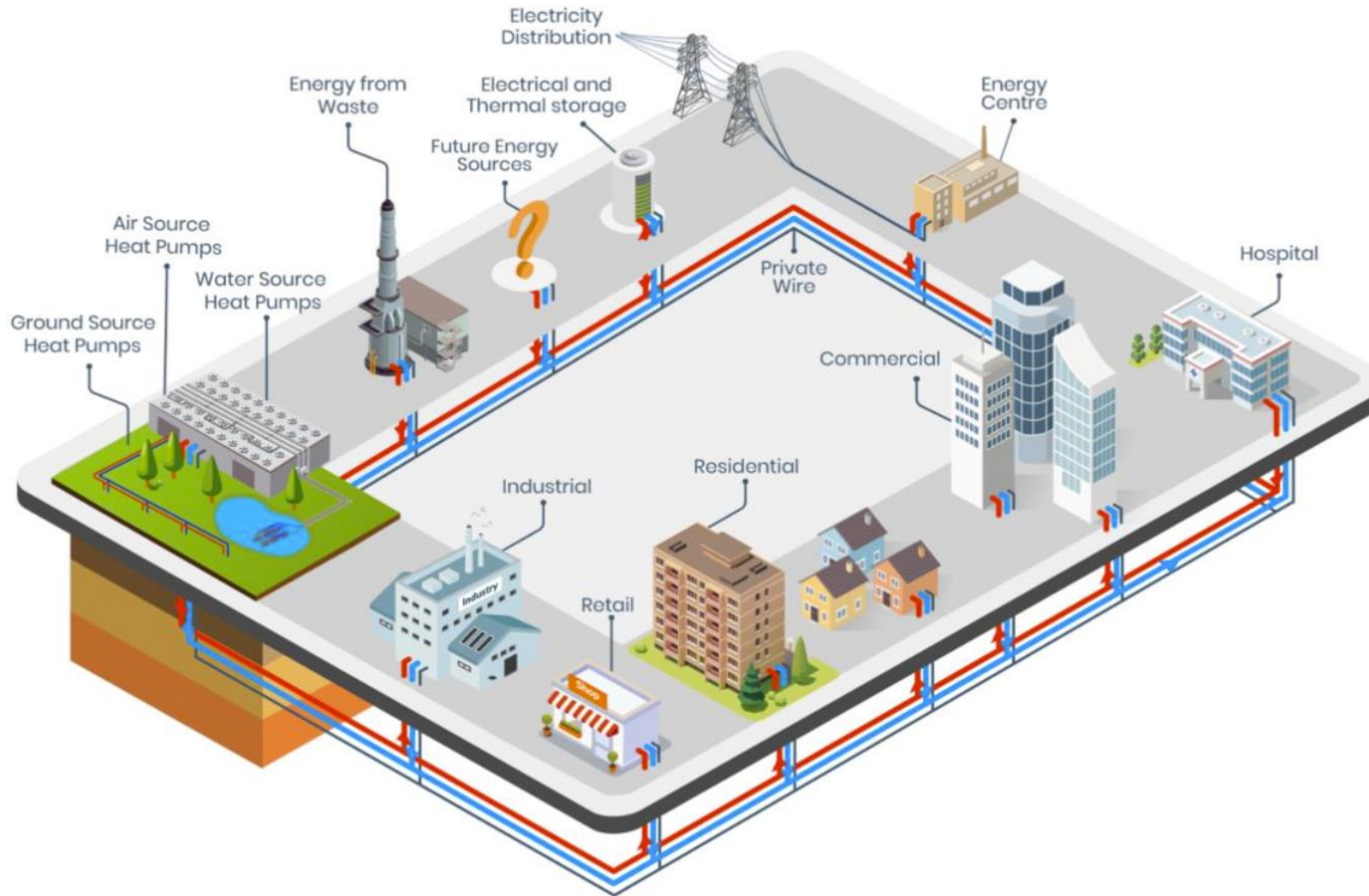
# What are we looking to see in the end?

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# What is a heat network? Not always clear!

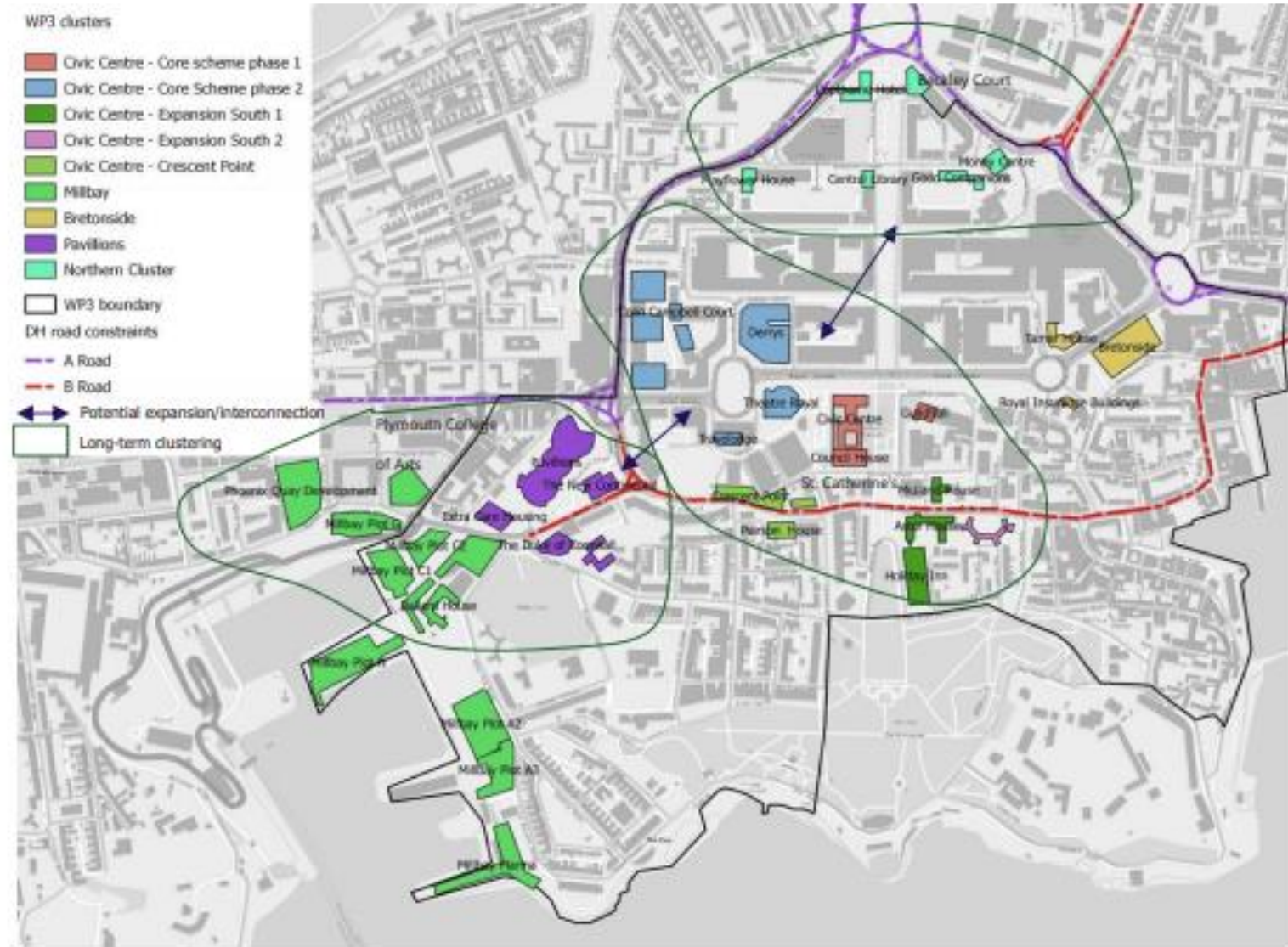


# Asset Class

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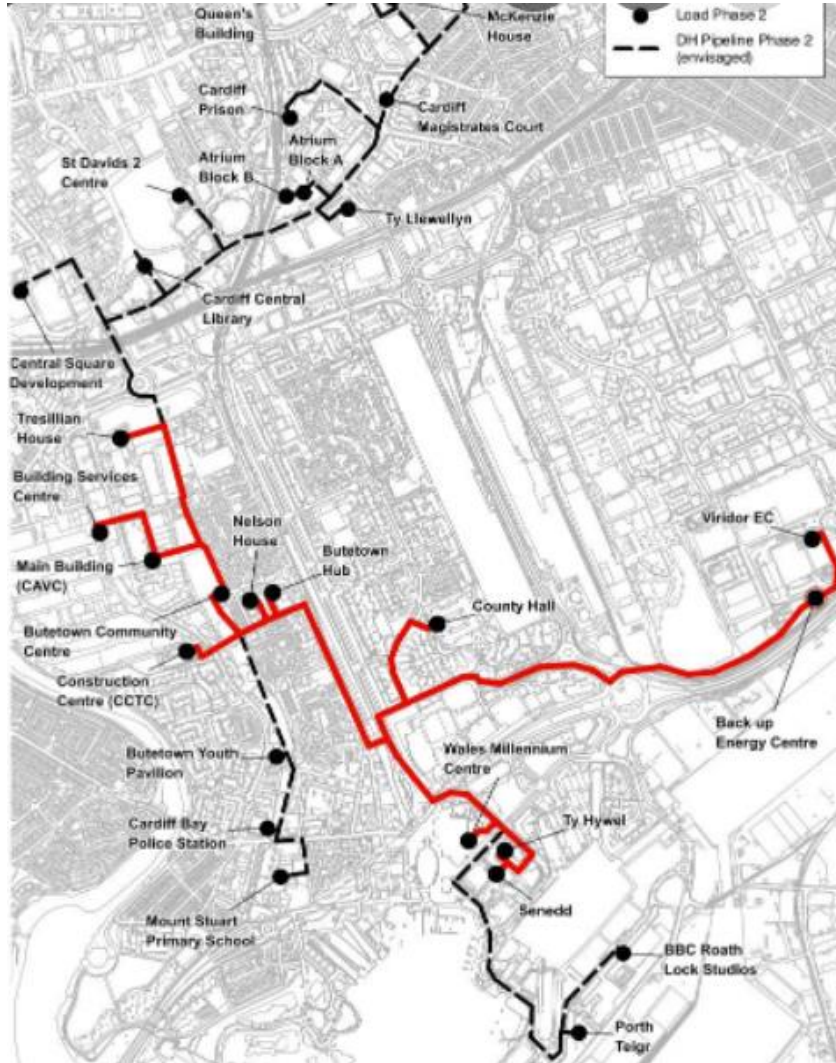
1. New Infrastructure class. We need to be seeing these as 100k connections per network.
2. Competing with individual ASHPs
3. The core of what is needed to drive these is connections – commercial deals with connections. It is not detailed engineering.
4. The bigger the potential size the more that can be invested in the front end...this is critical.
5. Planning systems and building in a preference for a connection early is very valuable.
6. Why do people connect? – we need all three.
  - Low carbon
  - Price of heat
  - Mandatory

# Look at the size of the prize - £150m-£multi billion





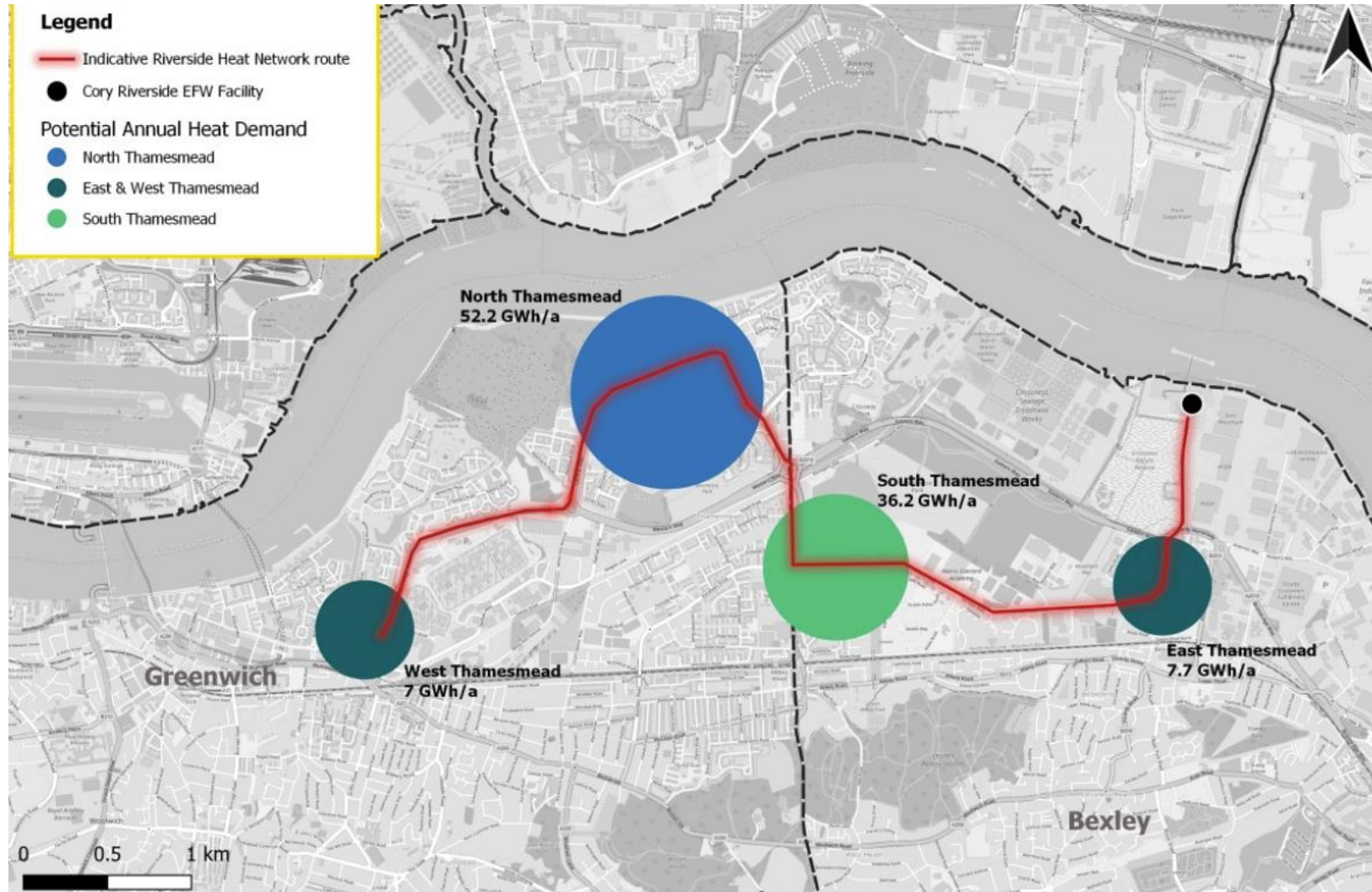
# Example of Council developed Network



- Not using the full investment opportunity, but own it. They can sell into the future.
- Council own the scheme and can sell in the future



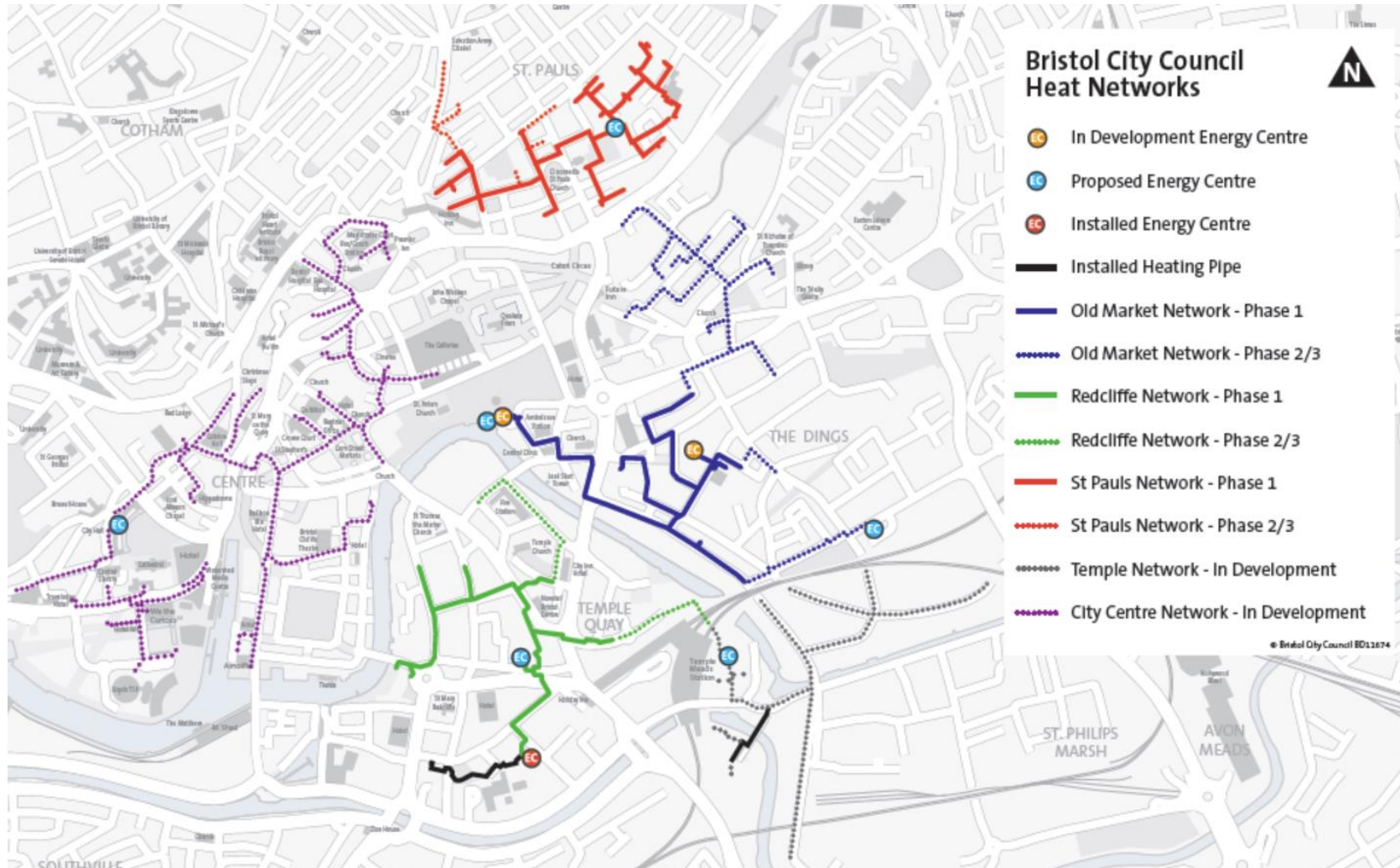
# More hands off partnership



- 500k connections at £11k/ connection is £5.5bn



# Start then sell





# How can partnering work?

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# Council Drivers?

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1. Climate Emergency
2. Cost of heat?
3. Cost of decarbonising?
4. Air quality?
5. Jobs?
6. Council buildings and other large users?
7. Investment?

## Our objective is to:

Develop renewable energy generation and storage, and renewable/district heating schemes.

## Renewable energy generation and storage



### Strategic Objective

Develop renewable energy generation and storage, and renewable/district heating schemes

# Low Carbon Framework



# How does the infrastructure develop

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## Development Phase:

1. Do a deal with the base heat users – Anchor loads
2. Confirm the first heat source to come onto the network (Energy from Waste plant or heat pump energy centre)
3. Continue to have a “development presence” in the town to allow for further connections wanting to connect to the low carbon network are able to. SALES!

## Pioneer Network

4. Fund and install the Pioneer Network, connecting up the anchor loads and anchor generation sources

## Zoning legislation:

5. Heat zoning is enacted and all major heat users in zone are forced to connect to low carbon network.

## 2025 onwards:

6. Gas has no future as a heat source going forward (Heat and buildings strategy) so the network is the obvious low cost and low carbon solution. This allows a rapid development and further connections .
7. Now network is established further low carbon sources (data centres, power plants etc) are trying to connect to the network. This brings the heat cost down dramatically.
8. Progressively all larger heat users and then smaller and smaller heat users connect to network.

# Costs vs Revenue Sources

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## Costs:

1. Development of networks (commercials, legals and BD)
2. Pioneer network install costs inc connections to generation and supply sources
3. Cost/kWh for buying the heat from generation source.
4. Ongoing OPEX

## Revenues:

1. Connection charges – we expect this to be 50+% of the cost depending on connections (£9-15k per home equivalent)
2. £/kWh of heat.

## Core model improvers are:

1. Bringing down heat cost by use of proper waste heat (data centres, grid balancing etc)
2. Deploy more load onto network as UK decarbonizes and it becomes mandatory
3. Competing with electric (Heat pump) heating, waste heat is considerably cheaper.
4. Grid balancing opportunities



# How does the partnership happen?

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1. Local Councils have different ambitions for involvement in heat networks.
2. Routes available for involvement:
  - i. Totally hands off – provide council buildings heat supply contracts (potentially in a package)
  - ii. Totally hands on – council owns, develops, pays and then can sell as a secondary asset (Bristol)
  - iii. Involved as a passive partner – SPV delivered by Private Sector but council retains an interest in customer service and heat price (both will be regulated in next 2 years), would like to be a passive shareholder. Potential for passive equity stake
  - iv. Involved as an active partner – SPV delivered by Private Sector with council wanting to be a board member, with an investment stake (typically including the work already done on early work of a network). Roles to be defined.

# Procurement routes for partner

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There are various levels of procurement possible at the beginning of a project:

1. Full city project
2. Procure “financial partner” for a network – potentially through BHIVE. No need for OJEU.
3. Procure the best heat supply deal for a group of buildings (local authority or otherwise) – allowing PS to ascertain the best heat sources and deliver the network.
4. LA does a chunk of work, puts all into a company, inc heat supply contracts. This is put to the market with a series of controls (on customer price and service). PS offers different things for the company.



# Journey to Net Zero

