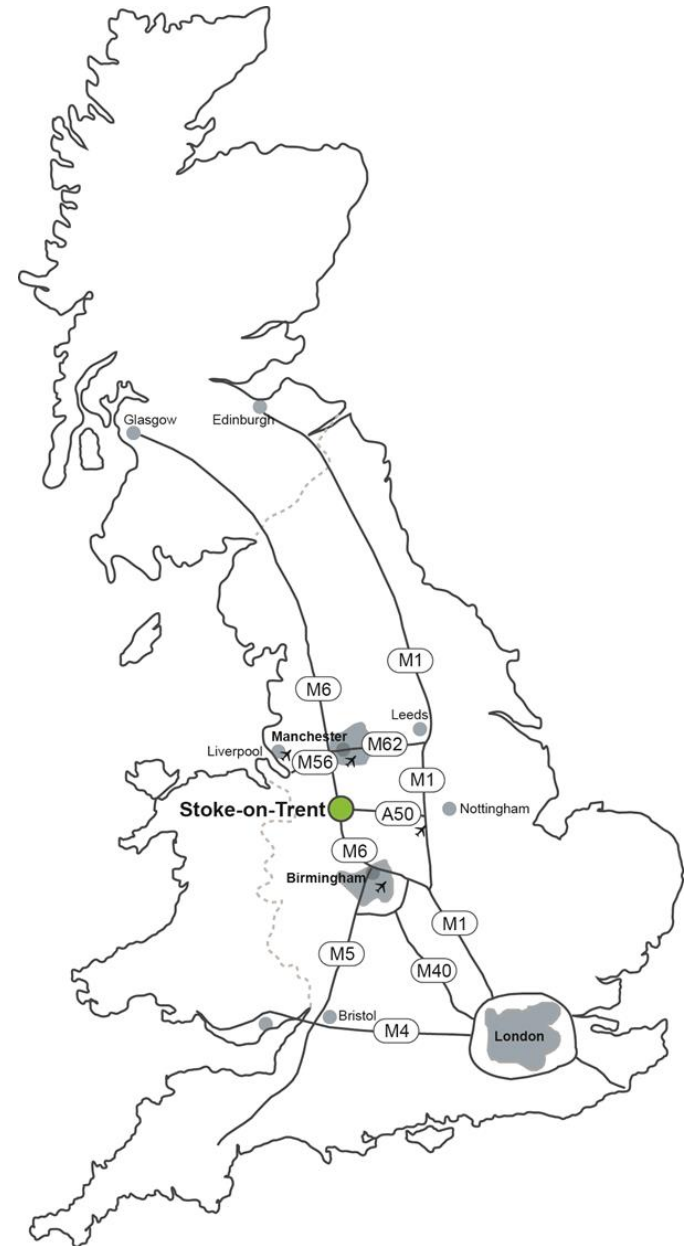


District Heating Network with a potential geothermal heat source



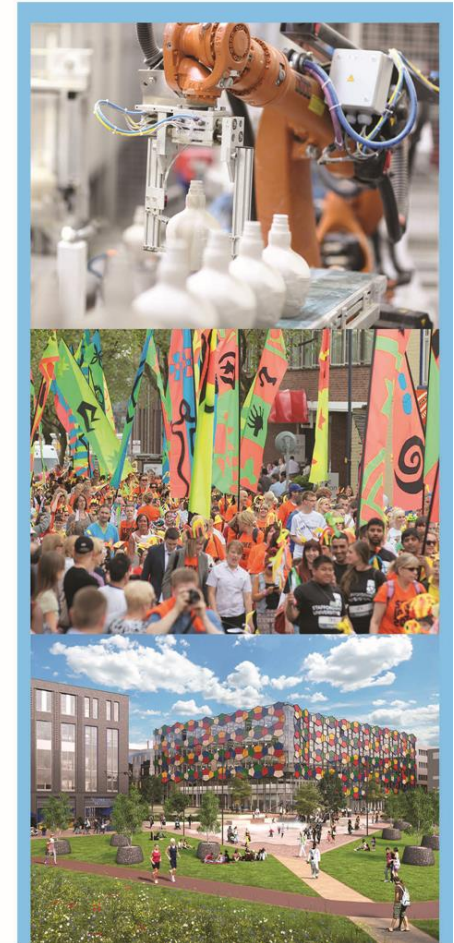
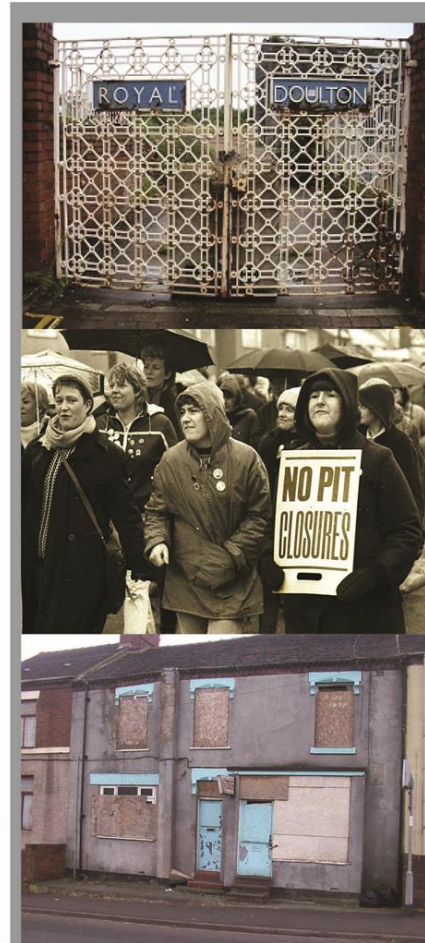
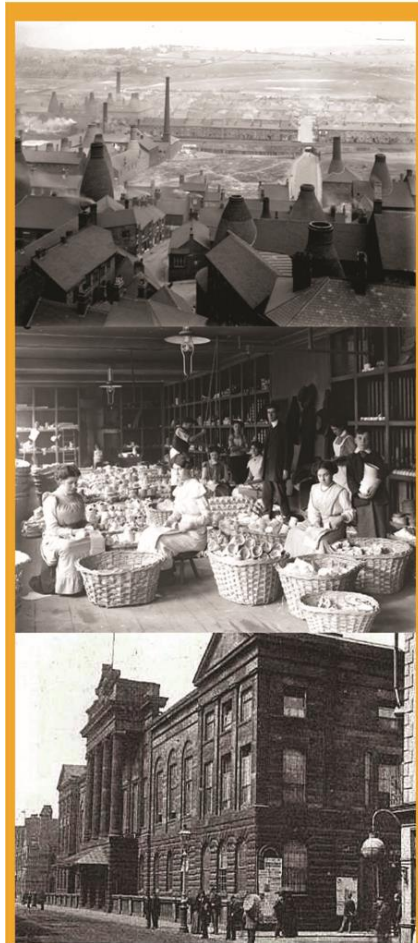
A stylized illustration of a town. In the background, there are grey houses with white windows and a blue cloud. In the middle ground, a red car is driving on a road. In the foreground, there is a body of water with a white swan, a green boat, and a small yellow buoy.

Railway network
Motorway network
4 airports – 1 hour



Stoke-on-Trent

The three lifetimes





The city council sees Stoke-on-Trent becoming a leading city for the production of decentralised energy.

The city council aims to develop local energy to ensure security of supply for our businesses and community, and to provide insulation from the wider international supply market. This is to be at prices that are predictable to encourage inward investment and affordable in order to address fuel poverty.



Nationally, after **power generation**, the next largest potential contributors to energy/carbon savings are domestic property and public sector buildings

EU roadmap, requires a **40% domestic carbon** reduction by 2030

Space heating represents **67%** of the energy for a typical domestic property



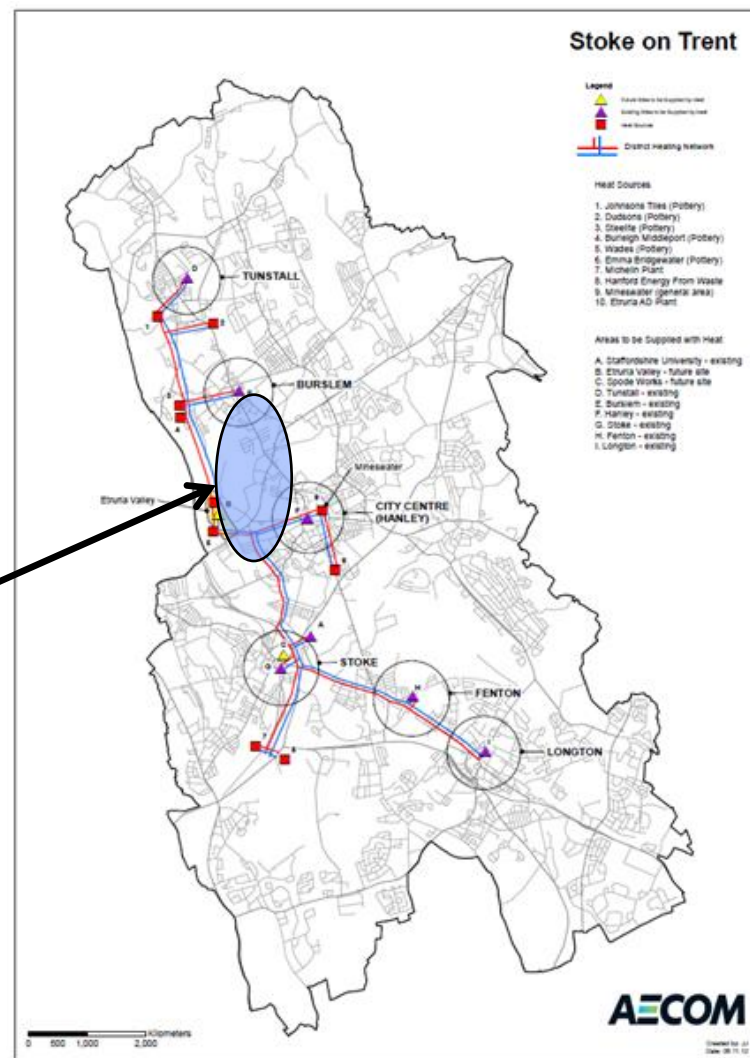
secure, price predictable, low carbon heat

But have high upfront capital costs need to focus not only on ROI but CO², local air quality/needs, local and wider legislation so designs are pragmatic a trade off against environmental and economic impacts.

City Deal, a strategic approach

Total current heat demand
in City Council area =
1907GWh from DECC
National Heat Map

Identifiable useful heat
load in primary area
identified is **170GWh p.a.**
9% of total city heat
demand.

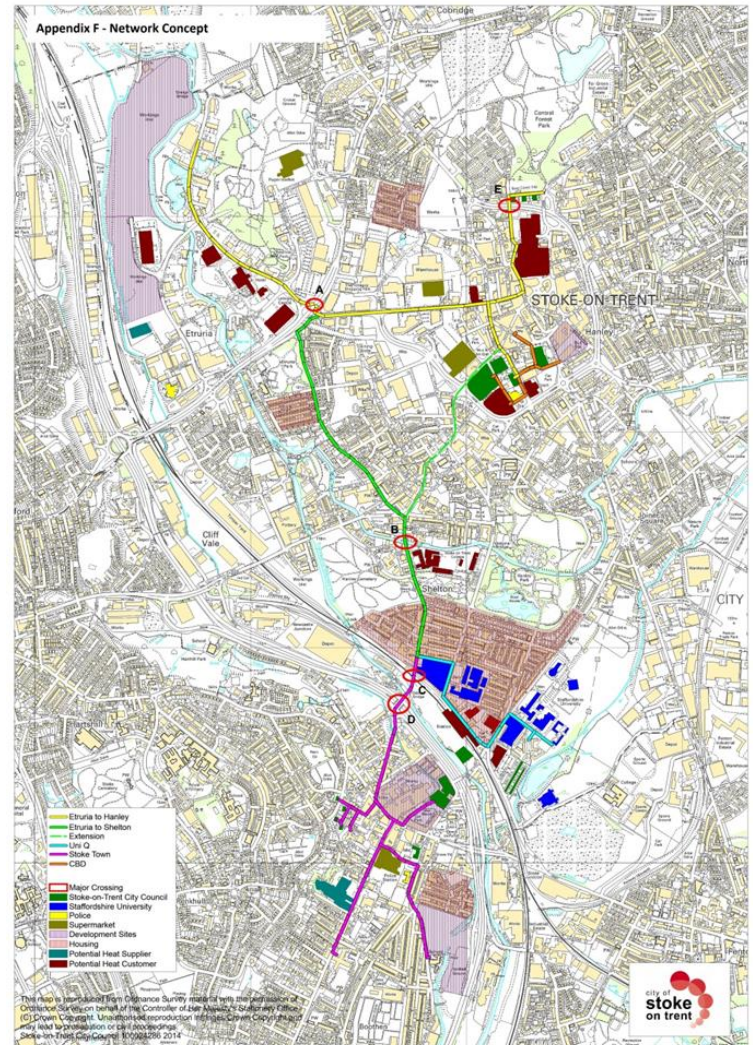


Demand led development

Potential demand identified along the route of the City Centre Spine

To make the project viable for the first geothermal well 45 GWh p.a demand is required.

An anchor load of 31GWh can be provided by the public sector.



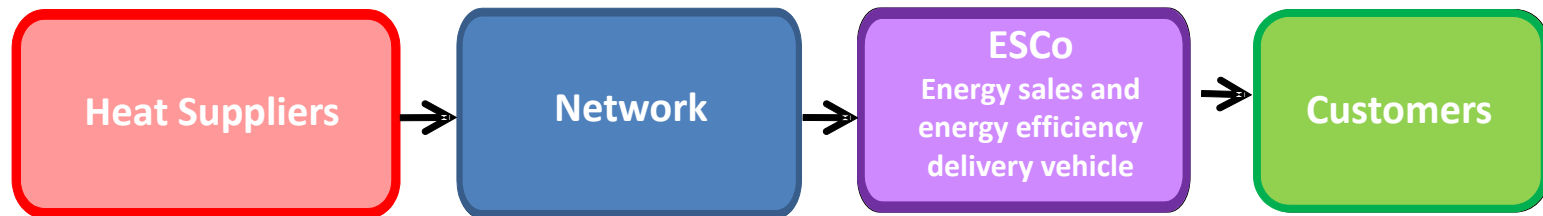
Heat?

Clay and Coal



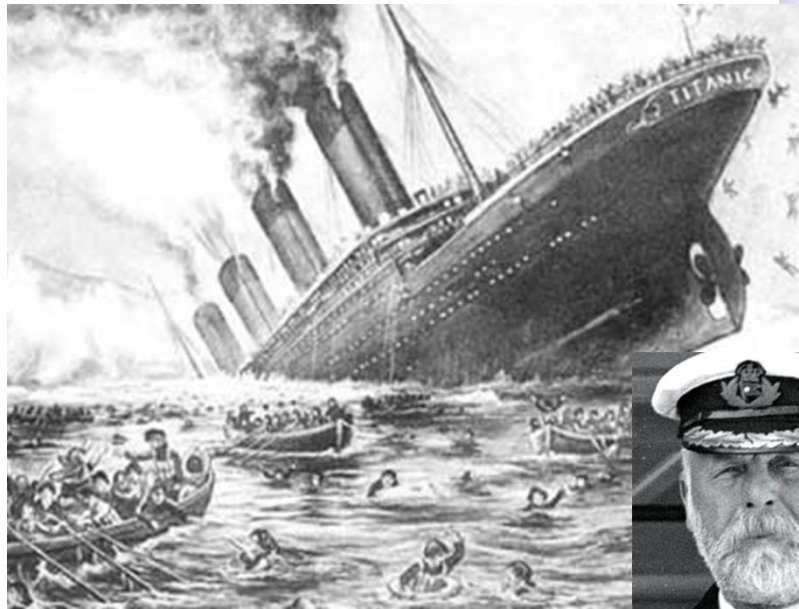
A whole system DHN scheme

1. Heat Suppliers
2. Network
3. Energy Supply Company (ESCo)
4. Customers



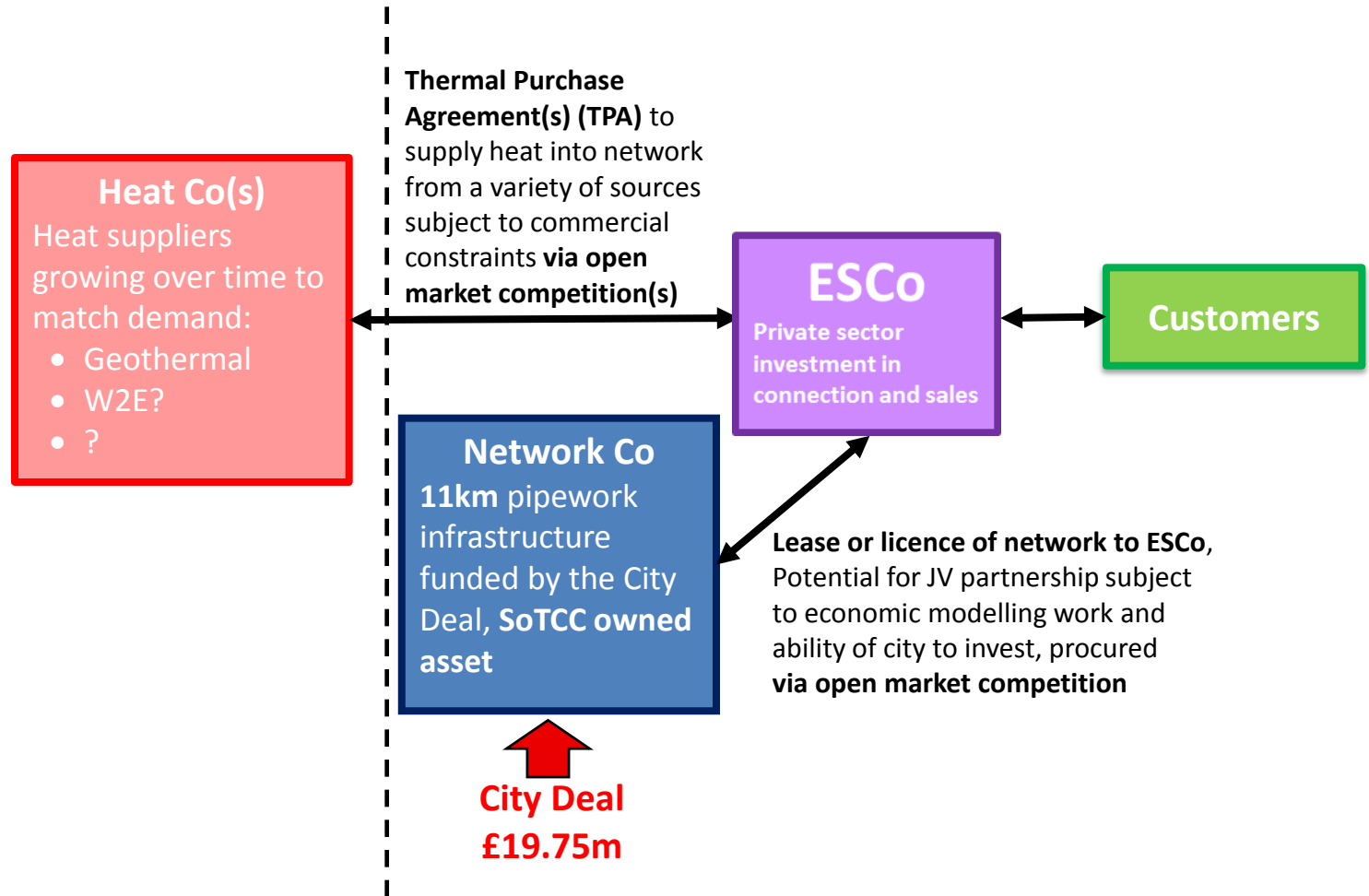
Addressing market failure

Economic decline



Energy policy?
State Aid.....
Patient money?

What's the role of SoTCC?



This will lever an estimated £28.25m of private sector investment required to complete the project.

Economic benefits	Social Benefits	Environmental Benefits
<ul style="list-style-type: none"> • £99.72m • 210 direct jobs • 1350 indirect safeguarded and created jobs 	<ul style="list-style-type: none"> • £6.13m cost saving for domestic heat • 400 houses and 578 flats taken out of fuel poverty 	<ul style="list-style-type: none"> • 11,695 tonnes of CO2 per annum saved valued at £39.6m

