



THE ENERGY BILL

HOUSE OF COMMONS PUBLIC BILL COMMITTEE

Written evidence from the City of London Corporation

Submitted by the Office of the City Remembrancer

Introduction

1. The City of London Corporation, the governing body of the Square Mile, welcomes the heat network provisions in Part 7 of the Energy Bill. Around 8,000 people live in and 500,000 people commute daily to the Square Mile and require a reliable source of energy. The infrastructure of the Square Mile and its busy streets make laying new pipes a challenge. The Corporation strives to supply reliable, cost-effective energy, whilst meeting ambitious carbon reduction targets to build a sustainable future for the City.
2. The Corporation was an early adopter of heat networks with the establishment of Citigen, one of the largest heat networks in London, in the early 1990s. The Corporation has set ambitious carbon reduction targets to achieve net zero for its own estate by 2027, and to support the Square Mile achieving net zero by 2040.
3. Heat networks are a key measure in the effort to decarbonise buildings in the City. They are particularly well suited to dense urban environments such as the Square Mile, which has one of the highest heat demand densities in the UK. The Corporation's Local Area Energy Plan, which is in the course of completion, highlights the importance which heat networks will play in the City achieving net zero.

Measures taken by the Corporation

4. The Corporation supports the use of heat networks through the expansion and decarbonisation of Citigen, in partnership with E.ON, and supports the development of new heat network areas. The Corporation is currently undertaking a study funded by

the Department for Energy Security and Net Zero to develop a decarbonisation pathway for the Citigen network.

5. The Corporation is participating in the Government's Heat Network Advanced Zoning Programme (AZP), which aims to aid preparation for the heat zoning regulations to be made under the Bill and provide useful learning for the development of those regulations.
6. Development of a Utility Infrastructure Strategy, which aims to work with the government and Ofgem to consider opportunities from heat zoning regulations and requirements to connect to heat networks, is also advanced.

Citigen

7. Citigen, a non-visible tri-generation power plant below the streets of the Square Mile, is a key part of the solution for the City of London's environmental targets. This low carbon decentralised energy network covers over 6km of heating and over 4.5km of cooling to commercial and residential property in the Square Mile.
8. The Citigen network is supplied from gas fuelled high efficiency Combined Heat and Power (CHP) engines, gas boilers and electric chillers. The Corporation is working with Citigen to decarbonise the network and thereby provide low carbon infrastructure for the Square Mile. To this end, in 2022 E.ON upgraded the Citigen energy centre to incorporate significant electric heat pump capacity to draw low carbon heat and coolth from the underground London Aquifer. The installation is anticipated to reduce the networks carbon emissions by 30% and add supply heat to meet the demand equivalent of 2,300 homes.

Key considerations

The Corporation's role

9. Local authorities will have a role in the delivery of the heat network zone regulations under the Bill. For these regulations to be most effective, local authorities, and the Corporation acting in its capacity as a local authority, will need sufficient powers to support the needs of their areas.
10. There will be a need for careful consideration of the initial and ongoing resources required to effectively deliver the regulations, including the exercise of the Heat Network coordinator role. Clear guidelines, data management systems, and mapping

will be important. Clear guidelines will also be required where more than one existing heat network is located within a designated heat zone.

The regulations

11. The heat zone regulations will need to be effective both in their design and delivery. There will be a need to ensure that they facilitate rapid and significant expansion of low carbon heat networks within the Square Mile, sufficient to support the Corporation's 2040 net zero target.
12. Existing heat networks must be taken into consideration in the drafting of the heat zone regulations. Appropriate transitional provision must be made to ensure that existing heat networks are supported to transition to provide lower carbon heat and are not unfairly prejudiced for being early adopters. Consideration is needed on the approach towards heat network providers investing in the same or neighbouring heat zones and what impact this approach may have on existing networks and the potential long-term expansion of networks into neighbouring areas.
13. The Square Mile has a significant need to provide cooling for buildings, by the rejection of waste heat. The regulations are expected to cover waste heat and it will be important that their design and application in this respect is carefully considered.

Ensuring a strategic approach

14. The measures under the Bill should support existing heat networks, such as Citigen, to expand and decarbonise and enable them to fairly compete with alternative solutions.
15. The regulations should be informed by the experiences and challenges of applying existing local policies, such as the London Plan's heating hierarchy. This policy prioritises connection of new developments to local existing or planned heat networks. The key challenges have been around developer confidence in connecting to networks which need to expand, poor network carbon factors during their transition from existing gas CHP technology compared to alternative on-site solutions, and connection cost viability.
16. The Square Mile has a very high demand for heat and, while some of this can be provided from energy centres and low carbon sources within the Square Mile, due to the geographic limitations there will be a need to import heat from elsewhere.

Regulations will therefore need to support a long-term strategic approach to areas such as the Square Mile. This includes supporting opportunities to generate heat in the most cost-effective locations and allowing that heat to be transferred to where it is required. There is also a broader strategic picture to consider in order for the Square Mile to be able to export waste heat to neighbouring areas during times when it is not required locally.

17. Any network provider that is given a concession to develop heat networks in the Square Mile must be aligned with the Corporation's net zero targets, willing and capable of delivering the scale and pace of investment and works required, and able to deliver a solution which is competitive both in heat price and carbon reduction as alternative solutions for building owners.
18. A major barrier to the development of heat networks in the Square Mile is the lack of space for pipework in already busy highways. Heat network development needs to be supported as part of a wider strategy for facilitating the delivery of infrastructure and utilities.
19. The Square Mile has limited space for significantly sized Energy Centres. The regulations should consider how existing buildings and new developments can host energy plant to support the expansion and decarbonisation of an existing and new networks.

Conclusion

20. The Corporation welcomes the provisions under the Bill to regulate existing heat networks and establish heat network zones. It is hoped that these measures will assist the Corporation in its aims to expand Citigen and meet its ambitious carbon reduction targets.
21. The regulations under the Bill must be carefully considered in order to deliver strategic solutions. These include supporting existing heat networks, such as Citigen, and giving proper consideration to the unique needs and characteristics of the Square Mile. Local authorities must be provided with sufficient powers and resources for the measures under the Bill to be delivered effectively.