

District Heating Connection Note. Waterfront Square.

Feasibility overview

At the outset of the project the client and the design team undertook a review of the options available that could be considered to provide heating and domestic hot water to serve the development. These were appraised from an operational, practical, spatial, commercial, efficiency, CO₂ emissions and infrastructure perspective, and considered feasibility from both an 'on-site' perspective as well as considering the infrastructure that would be required outside of the Site boundary to accommodate such services. The appraisal included a comparison between an area wide district heating network, a local communal heat network and local heat generation within each apartment.

Connectivity to a District Heating Network

- Investigations confirmed that there was no district heating system within the local area.
- Whilst there is suggestion within the emerging Local Plan for future developments to consider connectivity to a District Heating Network, it is unknown when connectivity would be available or indeed whether this is at all deliverable, both practically and/or financially.
- It is considered that the deliverability of the Network would be extremely low having reviewed the significant infrastructure and associated funding that would be required to be delivered by the Local Planning Authority to facilitate connection between the 'central core' of the network and the Site
- The likelihood of the proposed development having the opportunity to connect to a District Heat Network is therefore low, especially given the Site is located outside of the central area.

Existing Infrastructure

- A key fundamental driver that determined the selected strategy (local heat pump for domestic hot water and electric space heating) was also the limited availability of the electrical supply serving the local area. A rigorous process was undertaken with the local network operator (SSE) and they confirmed power was limited to less than 1 MVA which would not have been sufficient to serve a centralised heat network with Air Source Heat Pumps (ASHP's).
- Based on the above approach of a decentralised strategy, and the fact that there is no evidence that an area wide District Heating Network will be forthcoming, there is no benefit in allowing spatial provisions for a future connection.

Feasibility within the Site boundary

- A centralised heat network within the development would require considerable external (roof top plant) and internal space for central plant & distribution which when reviewed had a significant impact on the overall massing and appearance of the development.
- This would result in considerably reduced numbers of residential units, putting further pressure on the viability of the proposed development.
- Due to the nature of the development, it also became apparent that connectivity would result in unsustainable operating costs, maintenance responsibilities and capital cost which would have had an impact on the overall developments viability.
- The end user (private renters) would experience the impact of this as this would drive rents higher.

Sustainability - Negative Carbon Impact

- As demonstrated in the Energy Strategy, the development will generate significant carbon savings that exceed the minimum requirements set out in the Building Regulations and planning policies as shown below.
- Connecting to a future District Heating Network would create have an unknown impact on CO₂ emissions meaning the scheme would be undeliverable as long-term Funders need certainty on ESG performance.

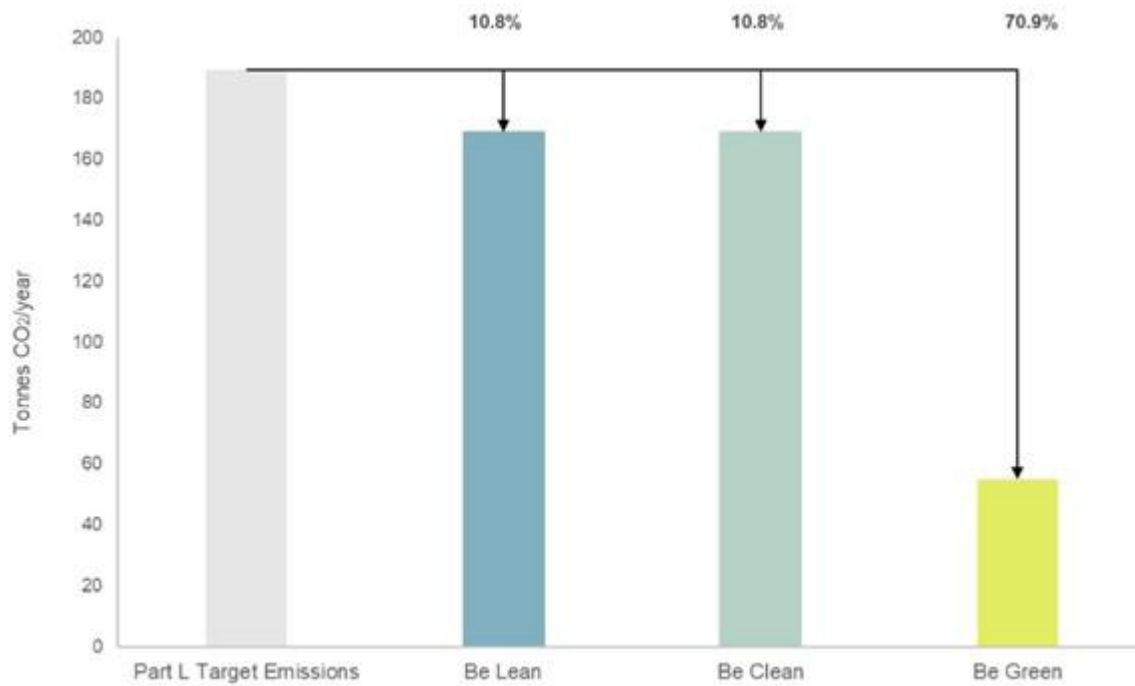


Figure 0.1: Sitewide carbon reduction summary.

For the many reasons set out above, it was concluded that a connection between the proposed development to a Central District Heating Network was not possible. This option was therefore discounted.