

Reading Town Centre

Heat Network Feasibility Study



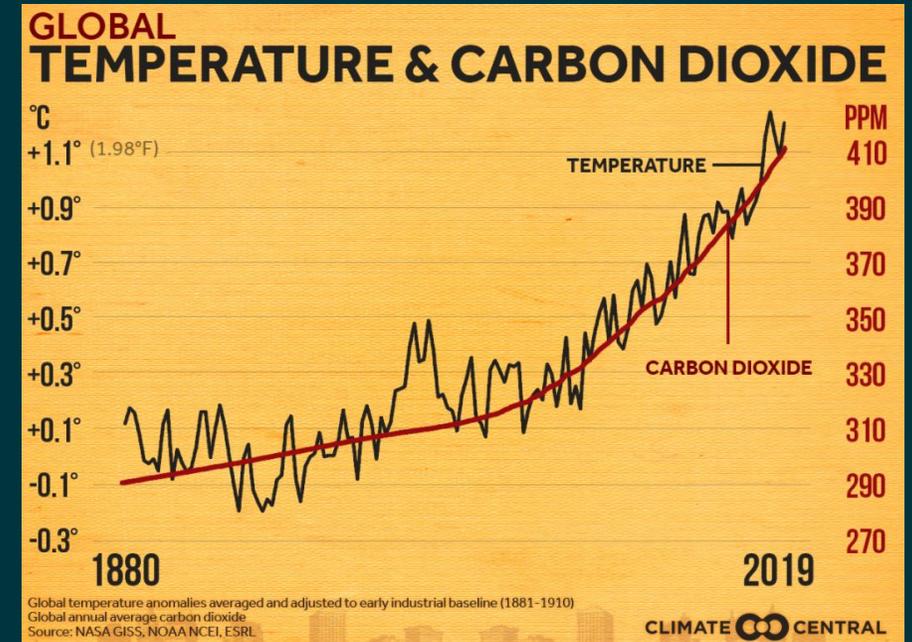
14th December 2021

Delivering a better world

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Global and UK Context

- ➔ A rapid reduction in global carbon emissions is required if global temperature rises are to be limited to 1.5°C of warming by 2050.
- ➔ The Climate Change Committee (CCC) have estimated that by 2050, approximately 18% of UK heat will need to come from **Heat Networks**, if the UK is to meet its carbon targets. This currently sits at approx. 2-3%.
- ➔ Almost 1 in 3 of the UK's largest companies have committed to **Net-Zero targets**, with a number aspiring to do so early as 2030.



Local Context

➔ Reading Borough Council declared a **climate emergency** in February 2019 and committed to a goal of a **Net-Zero** Reading by **2030**.

➔ Reading has successfully **reduced** total emissions by **47% since 2005**.

➔ The burning of natural gas to produce heat is responsible for 42% of Readings emissions. The **decarbonisation of this heat** is a key driver in the shift away from fossil fuels that is needed to achieve Net-Zero.

How can this be done?

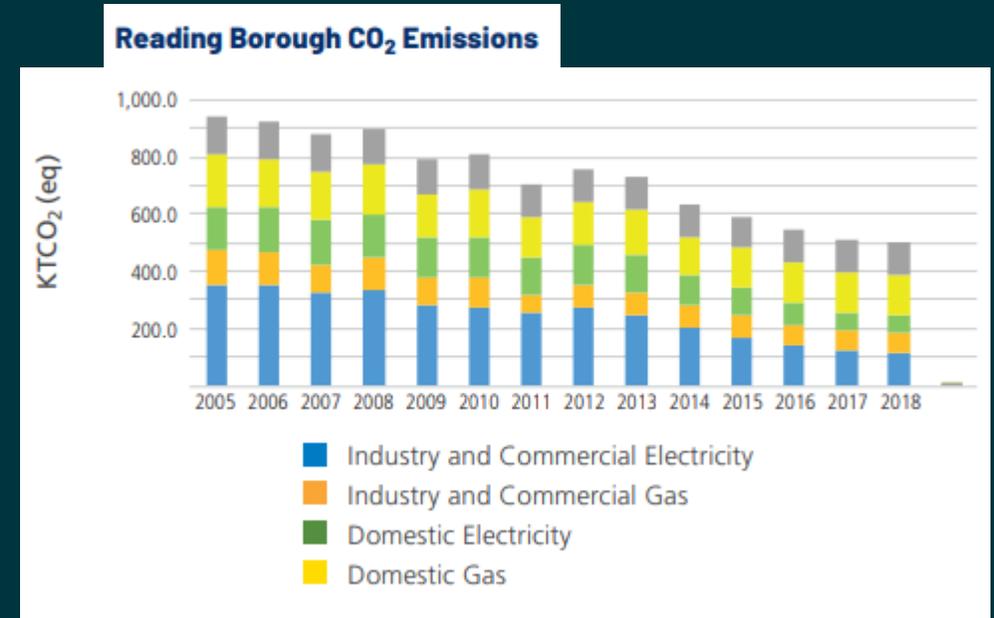


Fig 3 from *Reading Climate Emergency Strategy 2020-25*

What are the options for decarbonising heat?



Business as usual — gas led solution

Average heat tariff: Low
Capex: N/A
Carbon savings: 0%

Short term cost savings.

Fails to meet carbon targets.

No route to Net Zero resulting in **risk and cost exposure** such as carbon taxation.



Individual building heat pumps

Operating cost: High
Capex: High
Carbon savings: 80 – 90%

Opportunity for certain buildings to **decarbonise** but:

High-cost solution which may be **infeasible** for many buildings due to space and exorbitant grid constraints costs.



Heating Network

Operating cost: High but below heat pumps
Capex: High
Carbon savings: 90 – 95 %

Provides the **lowest whole lifecycle cost** and **lowest carbon solution**.

Compatible with **existing heating systems**. **No additional plantroom** space is required and **no upgrades** to building electrical supplies required.

Heat Network Overview



A Heat Network (sometimes referred to as District Heating) enables individual buildings to **utilise the resources** of a wider area by tapping into low carbon heat sources, which would otherwise be **inaccessible**.

In this way, Heat Networks are much like a gas network or an electricity network in the manner in which **heating or cooling**, which has been **generated remotely**, is delivered to your front door.

Benefits of Heat Networks

- ➔ An excellent solution for **decarbonising existing buildings**
- ➔ Benefits **local air quality** by replacing combustion equipment
- ➔ Utilises modern, **highly efficient technologies** which are unsuitable for installation at the building level
- ➔ Energy prices (£/kWh) are typically **lower than the alternative low carbon options**, such as air source heat pumps
- ➔ On site maintenance is greatly reduced

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Next Steps

To get involved in this study, we would kindly request that you complete the adjoining **Request For Information** form with as much information as is available to you.