



Department for  
Energy Security  
& Net Zero

# UK Heat Networks Market overview



# Opportunities offered by heat networks

The UK is working toward a strong, resilient and zero carbon economy; heat networks offer more opportunities on this journey.

## What is a heat network?

Heat networks distribute heat or cooling from centralised sources to a variety of different customers, such as public buildings, shops, offices, hospitals, universities and homes. Whether they are supplying a few neighbouring buildings or entire cities, these highly efficient systems remove the need for individual boilers or heaters in each building connected.

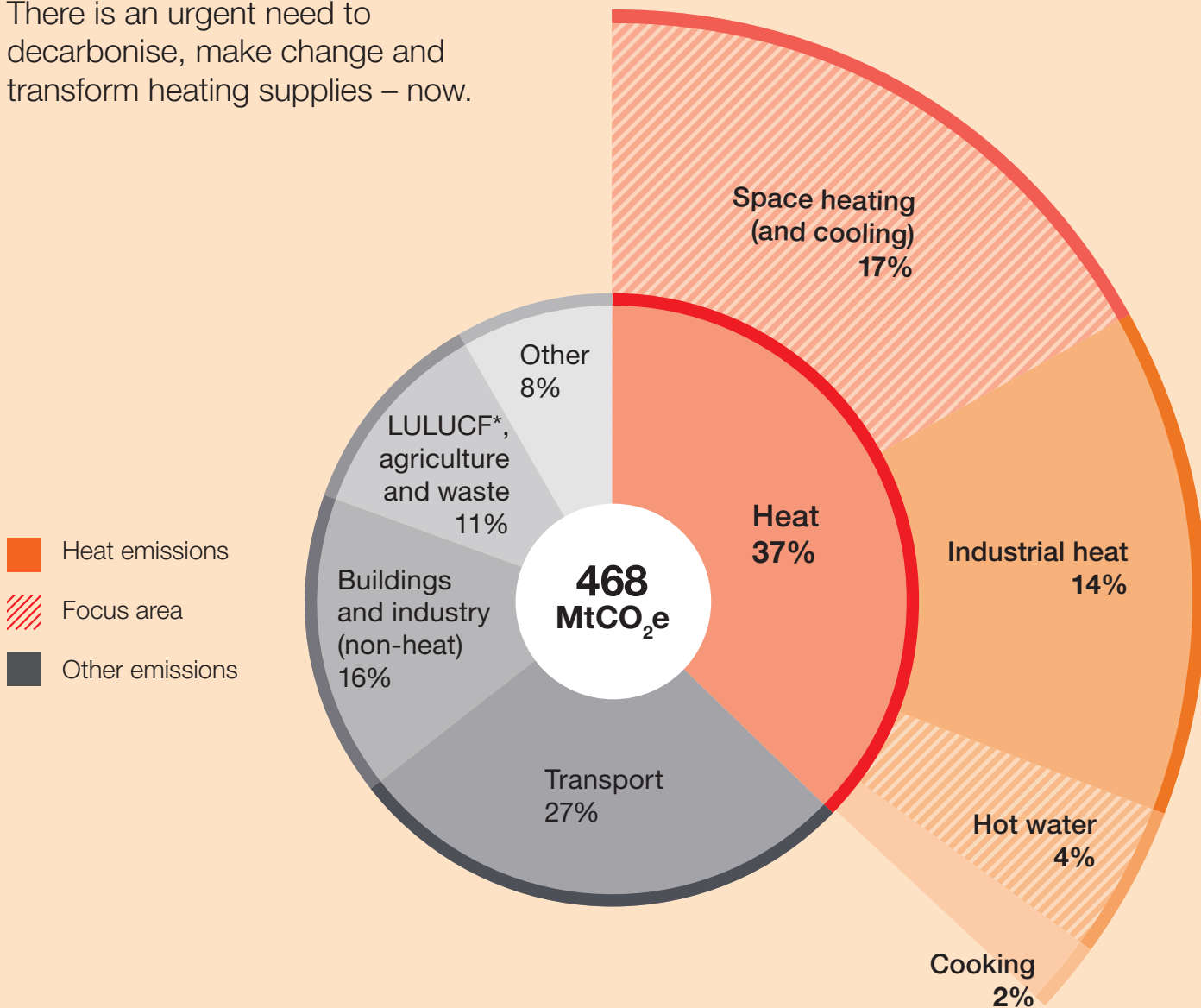
Inherently flexible, heat networks can take advantage of a wide array of different heat sources – including the recovery of low-carbon heat from resources that would otherwise be wasted – such as industry, energy-from-waste plants, or naturally-occurring sources such as geothermal or rivers.

## A growing sector

Investing in local heat and energy networks is a vital part of the transition to net zero by 2050. Local authorities have been declaring climate emergencies and looking for ways to decarbonise quickly and at scale. Heat networks can be a cost-effective way to reduce carbon emissions from heating and hot water. And as they expand, their carbon-saving potential increases – also enabling more sources of waste heat to be utilised. The sector needs to further accelerate its growth and this is an opportunity for you to enter an expanding market and help shape the future of UK energy.

# How big is the opportunity?

Heat in buildings is one of the biggest sources of UK emissions. There is an urgent need to decarbonise, make change and transform heating supplies – now.



\* Land use, land-use change, and forestry (LULUCF)

# Why get involved in UK heat networks?

Gas has played a vital role in helping reduce our carbon emissions by 38% since 1990. In our transition to zero carbon it will need to be replaced with low carbon heat across the economy.

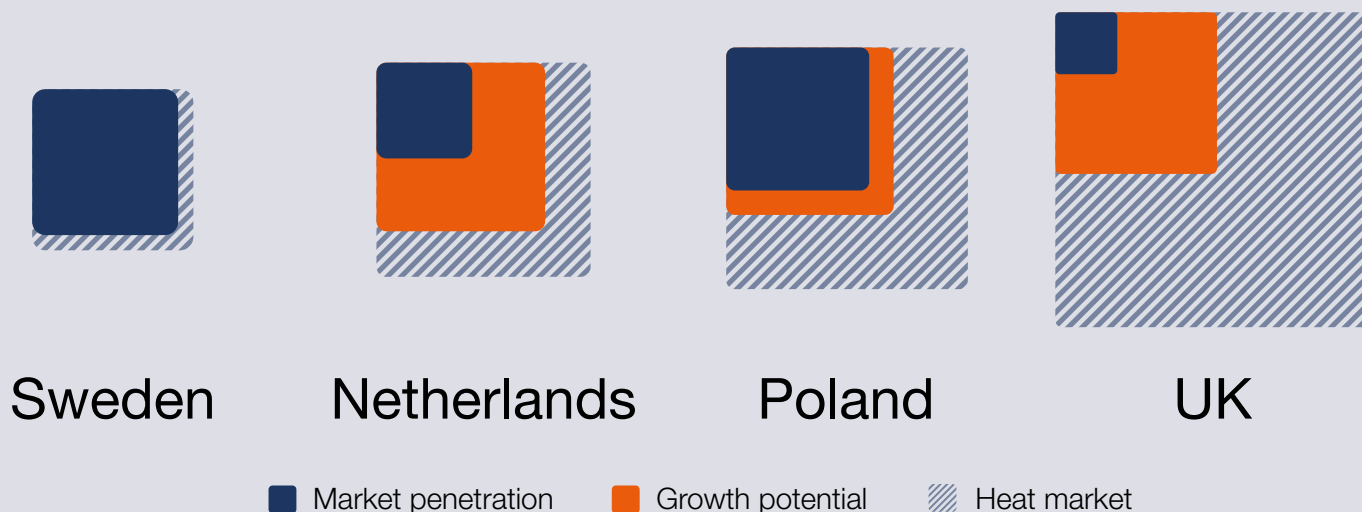
The UK consistently tops global rankings as the best place to invest and do business. Heat network investment potential is estimated to be £60 billion to £80 billion by 2050.

The UK government is creating a market framework to protect consumers, encourage low-carbon development, and promote investment. Government is also working with the Heat Networks Industry Council and trade associations to build a competitive and innovative UK market that delivers and sustains jobs, exports and economic benefits.

**Heat network zoning** is core to this growth and when launched in 2025, it will fundamentally transform the development of heat networks in towns and cities across England. Using new legislation under the Energy Act 2023, local communities will be empowered to accelerate the development of heat networks in their area.

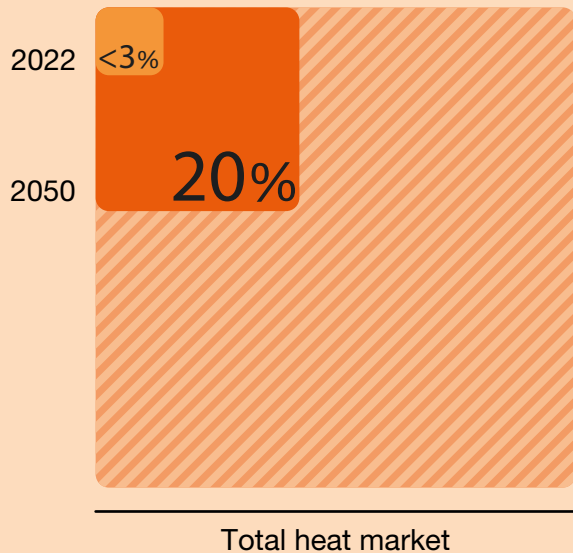
## Comparison of heat network capacity growth potential

Estimated growth potential of installed district heating capacity in a Heat Road Map Europe 2050 scenario



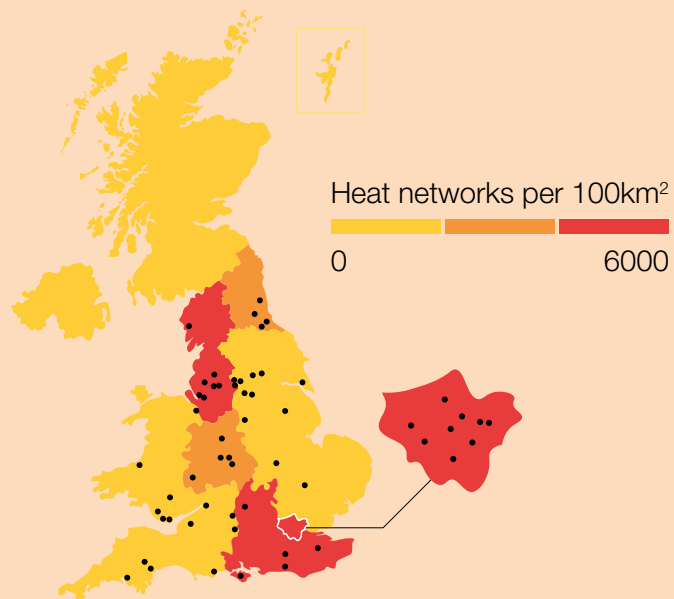
## National heat market

Current market share vs future market share (%)  
in the Climate Change Committee, Net zero scenario



## Existing networks and planned projects

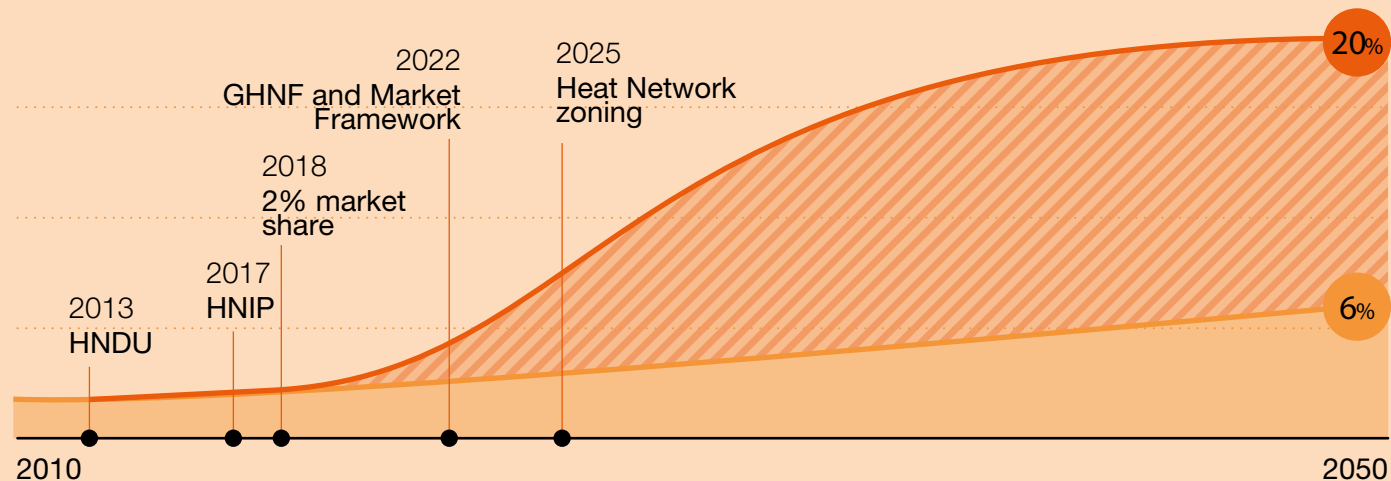
Number of heat networks by region and type (in 2021)



## Estimated annual heat network growth

Ambition: increase heat from networks to 20%

— Steady growth    — High growth scenario



# Areas of opportunity

There are opportunities across all areas of heat network growth. From alleviating fuel poverty to zero carbon targets, you can help us move the sector forward.

## 1 Environment

**Drive clean energy innovation towards:**

- achieving net zero carbon by 2050
- improving air quality
- increasing resource efficiency

## 2 Innovation

**Lead the way in:**

- smart heating
- using big data
- linking into wider energy systems

## 4 Finance and investment

**Join a growing market with access to:**

- government support
- positive return on investment
- future revenue opportunities

## 3 Infrastructure

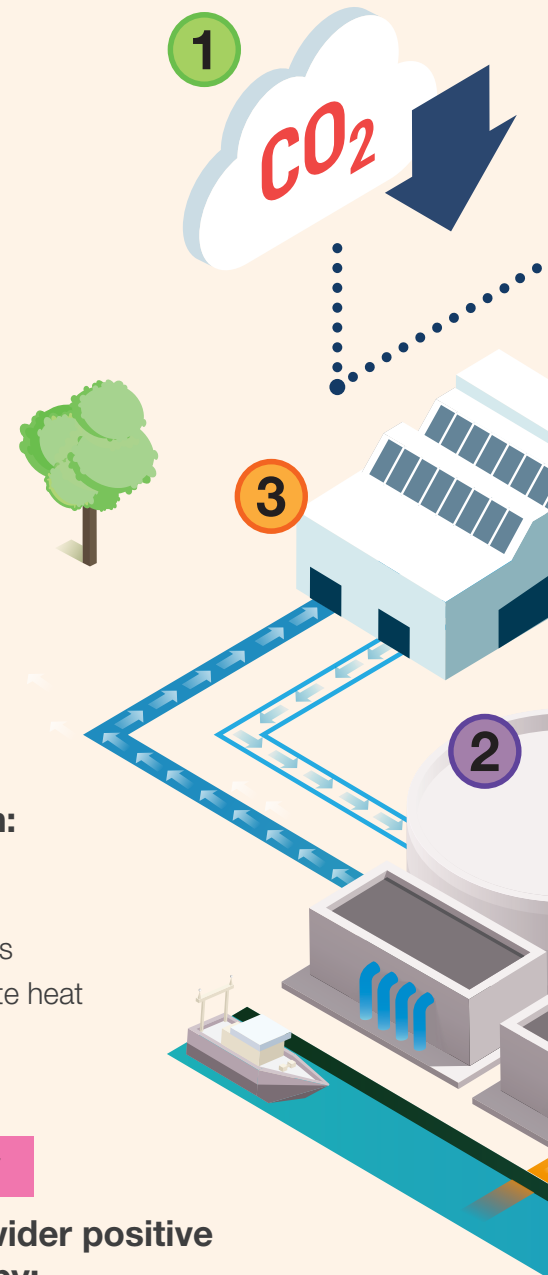
**Play a critical part in:**

- constructing large scale, high-value projects
- creating long-term assets
- using industrial and waste heat

## 5 Society

**Create wider positive change by:**

- developing local regeneration areas
- creating jobs
- improving health and wellbeing



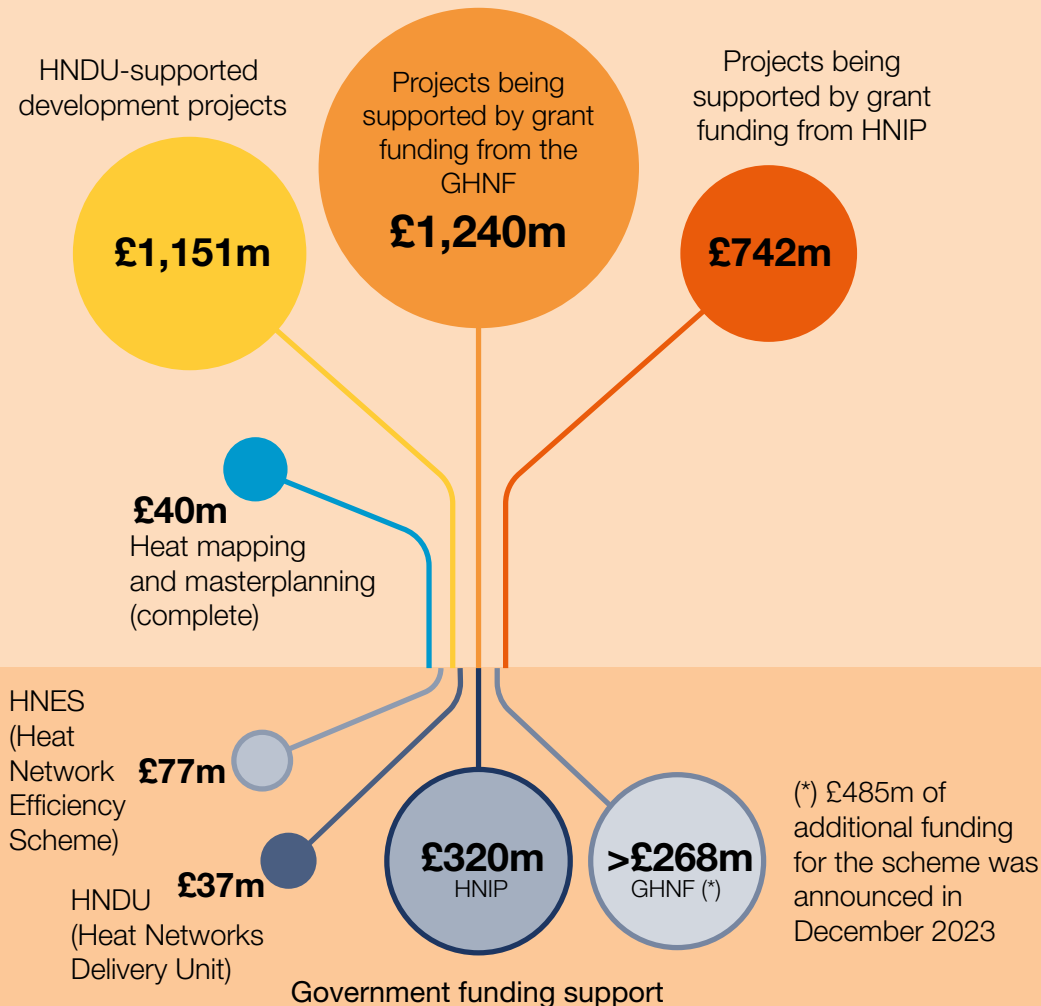


# The current picture

Change is underway: government is supporting heat network market growth with over half a billion pounds in investment.

## Near-term investment pipeline of heat network projects and their current stages of development

Total project capex in millions



Growing number of people in government focusing on heat networks



2022+



2017



2013



2012



## Case study of heat networks being built across the UK

Examples of projects that have been developed with the support of the government's Heat Network Delivery Unit (HNDU) and HNIP capital support (2023 figures).

### Liverpool Liverpool Waters Heat Network

- £7.6m
- 41GWh
- 4,200t(\*)
- 9,000 homes plus commercial space

### Bristol Heat Network

- £22.5m
- 14.9GWh
- 968t
- 19 buildings (mixed use)  
2,080 homes

### Gateshead Gateshead District Energy Scheme

- £8.6m
- 15GWh
- 1,933t
- 13 buildings  
350 homes

### London Meridian Water Heat Network

- £17m
- 122GWh(\*)
- 25,000t(\*)
- 20 commercial buildings (by 2025)  
10,000 homes (by 2030)

Grant (£)   Heat (GWh / yr)   CO2 (Tn / yr)   Size

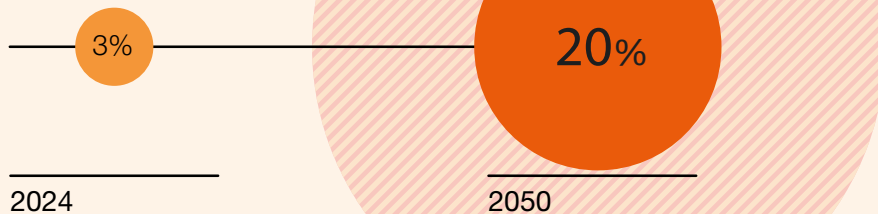
\* When completed

# The 2050 vision

We are committed to creating the market conditions to accelerate deployment of reliable, decarbonised heating and cooling networks, enabling us to unlock the sector's potential and achieving our net zero commitments.

## % of heat from heat networks

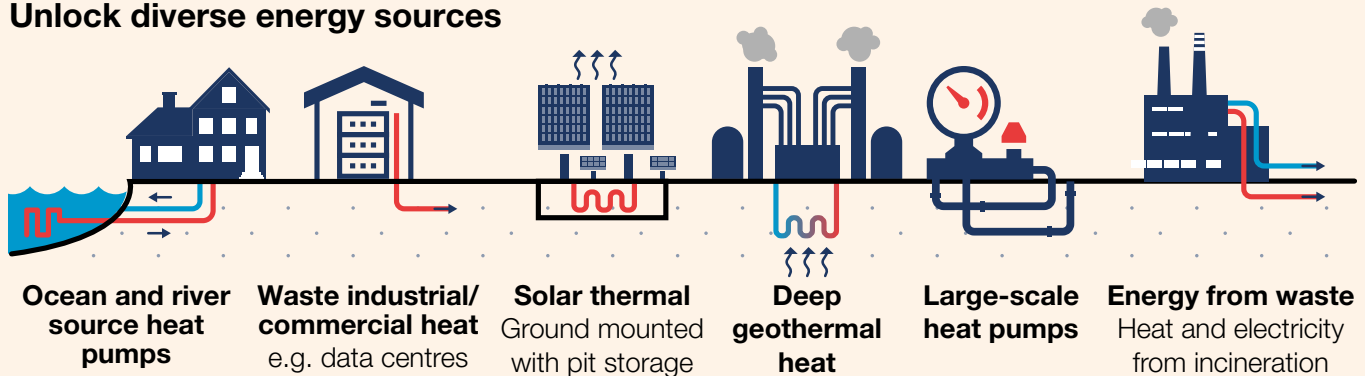
Relative to existing size of heat market



## Potential investment(\*)

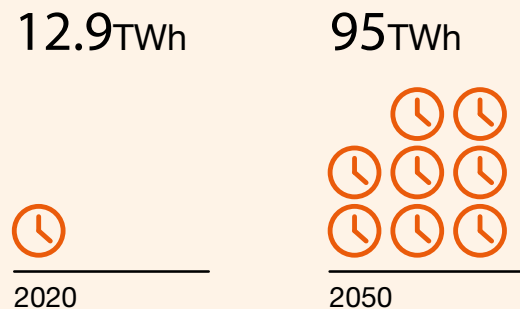


## Unlock diverse energy sources

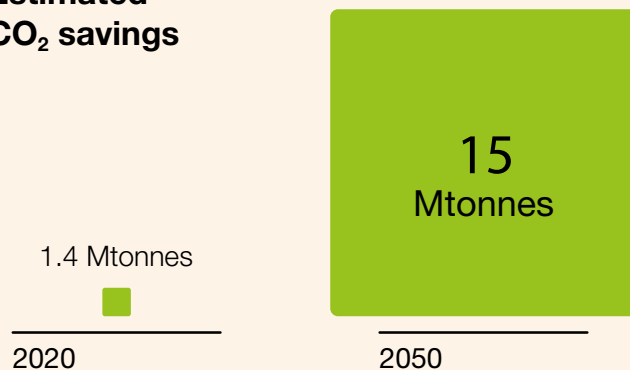


## Supplied terawatt-hours

Estimated increase



## Estimated CO<sub>2</sub> savings



(\*) Estimated by the Heat Networks Industry Council

## Sources

Clean Growth, Transforming Heating, 2018

Committee on Climate Change, Net Zero: The UK's Contribution to Stopping Global Warming, 2019

Department for Business, Energy and Industrial Strategy, Clean Growth Strategy, 2018

Department for Business, Energy and Industrial Strategy, Energy Trends: Experimental Statistics on Heat Networks, 2018

Department for Business, Energy and Industrial Strategy, Opportunity areas for district heating networks in the UK: second National Comprehensive Assessment, 2021

Element Energy, Research on District Heating and Local Approaches to Heat Decarbonisation, 2015

Heat Networks Project Pipeline: January to March 2020

Heat Roadmap Europe 4 2018

Institute for Public Policy Research, Piping Hot: The Opportunity for Heat Networks in a New Industrial Strategy, 2017

# Are you ready?

Be part of the future of UK energy.

- Decide your role in the UK heat networks market.
- Develop your market offer.
- Get started with DBT support: [www.great.gov.uk/international/invest](http://www.great.gov.uk/international/invest)
- Bring your offer to market.

Contact [\*\*heatnetworks@energysecurity.gov.uk\*\*](mailto:heatnetworks@energysecurity.gov.uk)



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