The voice of the energy industry

Energy UK Explains: Heat Networks

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Key Points

- Heat networks (also known as district heating) supply heat from a central source to connected buildings via a network of underground pipes carrying hot water. This definition includes a large range of systems, varying in size and design.
- Heat networks provide energy system benefits through thermal storage and flexibility services.
- New heat network infrastructure brings regeneration benefits, and supports the creation of new, technician-level jobs in the communities they serve.
- The Government is developing a new policy framework to support sector expansion, including heat network zoning, consumer protection regulations, and a Heat Network Technical Assurance Scheme (HNTAS).

What is a heat network?

- At its most fundamental level, a heat network supplies heat from a central source to connected buildings via a network of underground pipes carrying hot water.
- This includes a large range of systems, varying in size and design:
    - Residential schemes, such as a single boiler in the basement of a block of flats providing heat to its residents.
    - Large, district-wide schemes that stretch across city centres and connect to multiple buildings of different tenures, such as office blocks and hospitals.
    - Shared ground loop systems that connect properties with their own individual heat pumps to a system of bore hole infrastructure, harvesting waste heat from the ground. The individual heat pumps can be specially-designed small internal units that make this type of scheme viable for both space-constrained high-rise buildings, and those in low-density areas with larger outdoor heat pumps.
- Various technologies can generate the central source of heat, such as gas, industrial-scale heat pumps, deep geothermal heat, and energy from waste.
- Heat networks can also harvest waste heat, including from power stations or industrial processes like data centres, and from public infrastructure such as the London Underground.[1]

What are the benefits of heat networks?

- Depending on the heat source, heat networks can enable the decarbonisation of buildings, including large city-centre buildings such as hospitals or high rise flats.
- Heat networks benefit the energy system by providing flexibility services to the grid, helping to reduce demand at peak times. Heat networks can provide

[1] South Westminster Area Network (2025), Low carbon heating for Westminster

flexibility where thermal storage is installed alongside the power centre, or where they use multiple heat sources and can switch between sources. In this way, they also provide reliability and support energy security.

- Research by Innovate UK shows that, in a scenario where heat networks provide 30% of electrified heat demand, they can deliver system savings of up to £1.57bn per year.[2]
- The development of heat network infrastructure offers opportunities for regeneration and place-making within the communities they serve, and the industry has ambitions to invest £80 billion by 2050 in the UK.[3]
- Through the Green Heat Network Fund, every £1 million of grant invested in the sector generates 31 direct and indirect jobs, meaning hundreds of thousands of new jobs will be created by 2050 in line with the industry's investment ambitions.[4] With the industry set to invest tends of billions in the years ahead, the industry will create hundreds of thousands of new jobs over the next 25 years.
- The majority of new jobs in the heat networks sector are technician-level career opportunities in the fields of surveyors, meter providers and installers.

What is Government policy on heat networks?

- The Energy Act 2023 allows the Government take powers to implement heat network zones in towns and cities across England. Heat network zones designate where they are expected to offer the lowest-cost solution for decarbonising heat.[5]
    - Through the new role of Zoning Coordinator, local authorities and communities will have new tools to encourage the development of heat networks in their areas.[6]
- The UK Government is targeting 20% of space heating demand to be provided by heat networks by 2050, up from 3% in 2022.[7]
- The Department for Energy Security and Net Zero (DESNZ) is also working with Ofgem to design and implement a new consumer protections framework for heat networks.
    - These new regulations aim to raise standards across a range of services, including the prices customers pay for the heat they use, and the quality of communications they receive from heat network companies.[8]
- A new Heat Networks Technical Assurance Scheme (HNTAS) will introduce minimum technical standards for new and existing heat networks, including requiring all customers to have a heat meter installed where appropriate, and for all heat networks to eventually decarbonise their operations.
- The Government provides grant support for the development of new heat networks with the Green Heat Networks Fund, and grant support for the improvement of existing networks through the Heat Network Efficiency Scheme.

[2] Innovate UK (2023), Project Remedy
[3] UK Government (2024), UK Heat Networks: Market Overview
[4] UK Government (2024), Green Heat Network Fund Full Business Case
[5] Energy UK (2023), Towards a roadmap for heat networks
[6] Energy UK (2023), Why Zoning Coordinators should be collaborators
[7] UK Government (2024), UK Heat Networks: Market Overview
[8] Energy UK (2025), New heat network consumer protections: The launchpad for growth