

Transforming uncertainty into confidence

How our technical expertise optimises heat network delivery, from design to operation.



Heat networks are central to low carbon urban development, yet for many property developers they're unfamiliar territory. Cost, deliverability and operational risk are important to consider, but clear and reliable information can be difficult to find.

At Vattenfall, our end-to-end technical expertise turns this uncertainty into confidence. We partner with developers looking for forward-thinking energy solutions in UK cities; we design, build and operate and maintain large-scale, low carbon heat networks which are reliable, comply with local planning, and maximise developers' return on investment.

As an experienced energy services company (ESCO), we take on full responsibility for delivering the heat network and managing its associated risks. This allows our partners to focus on their developments and strategic project goals, knowing the energy infrastructure is in safe hands.



In this guide, we share practical insights from our end-to-end support to the Brent Cross Town heat network - showing how we can deliver certainty and confidence at key stages of a heat network's delivery.

Our end-to-end expertise across project delivery



In north London, we're the partner for the **Brent Cross Town** heat network, supporting a major new town by master developer Related Argent and Barnet Council. We have a 47-year concession agreement to deliver heating and cooling to the town's 6,700 homes and 3 million sq. ft of commercial space. Our technical expertise has reduced risk throughout the heat network's delivery, securing long-term benefits for the town's community.

Clarity and control throughout the entire lifecycle

As a piece of major infrastructure, complexities are likely to arise during the delivery of a heat network. Without clear oversight of the entire lifecycle, these complexities can risk impacting key objectives: budgets can be exceeded, timelines can overrun, or the quality of supply to customers can be reduced.

As a heat network operator, we ensure that the heat network meets key objectives and achieves its full potential. We ensure all works support essential commitments in our concession agreement: long-term reliability, cost-efficiency, carbon reduction, and a high-quality experience for residents and tenants.

At **Brent Cross Town**, it's essential for the heat network to deliver a fairly-priced and reliable heating and cooling supply to the town's homes and businesses. Related Argent also have a proud ambition for the town to be net zero carbon.

The heat network will be a key part of achieving this. Through our technical expertise and project experience, we've ensured that key stages of the delivery of the heat network supported these outcomes – from how we design the infrastructure to how we operate the network.



In this guide, we've broken down the **Brent Cross Town** heat network's delivery into three major phases, and explored how our technical expertise has helped deliver confidence at each important stage.





Stage 1: Confidence from the outset with a robust design

Heat networks need to be well-designed to function efficiently. When key aspects of the design aren't correct, they can be costly to fix; the wrong width of pipe, for example, can impact the efficiency of the system and the cost and quality of heat delivered to end customers, leading to customer dissatisfaction.

As an experienced heat network developer, we help bridge knowledge gaps, offering practical design guidance on feasibility, innovation, cost and delivery timelines.

At **Brent Cross Town**, we supported Related Argent to secure a robust design for its Main Energy Centre. The Main Energy Centre is crucial to the heat network achieving a reliable, fairly-priced, and low carbon heating and cooling supply for customers. An incorrect design risks impacting the delivery of this vital utility for the whole town, causing substantial cost and reputational damage. Our experience secured a feasible route forward, negotiating challenges such as a constrained site.

Leveraging our experience in large-scale heat networks, we developed a design for the Main Energy Centre that provides a reliable supply for customers – with over 99% reliability – at a fair price. The design will also deliver against the town's net zero goals. Our all-electric solution will generate heating and cooling from low carbon sources, such as capturing heat from the air around us. It also ensures that heating and cooling generated will meet carbon limits specified in our concession agreement with Related Argent.

Our partners can rely on us to deliver a feasible heat network design which will successfully achieve important considerations: efficient supply, delivered within budget and on-time, in support of wider development goals. With this confidence, our partners can confidently integrate our designs into their wider development plans and the design can be progressed to the next stage of delivery.

Stage 2: Third-party management to maintain high standards

As a heat network developer and operator, we often oversee works completed by third parties.

Having multiple stakeholders involved in a project introduces room for error: inconsistencies can arise between suppliers, or a lack of communication can build with important steps being missed. For a heat network, these errors can cause delays to occupiers moving in, or, if unnoticed, compromise the quality of heating received by customers.

With extensive experience in supplier management, we oversee all stakeholders to ensure that everyone – from contractors to our own teams – delivers a heat network that meets our high standards.



At **Brent Cross Town**, we collaborate with third parties in several ways to minimise opportunity for error. During the commissioning phase – when heat network equipment is installed into properties and tested by third-parties – our team deliver on-site support. This involves both observing installations and running tests on equipment to confirm that installations have been completed correctly. This early intervention instils confidence in the network, and provides the opportunity to resolve errors quickly.

As major infrastructure, multiple parties deliver heat networks. Our collaborative hands-on approach as an ESCO ensures that high standards are met by all, reducing opportunity for error, and delivering a stronger network performance for customers.



Stage 3: Drawing on our involvement to optimise operation

Once the heat network has passed commissioning tests, we take over responsibility for day-to-day heating and cooling operations, performance and supply. As we operate and maintain the heat network, and continually look for ways to optimise its performance, our knowledge of the heat network's delivery to-date brings important value.

At **Brent Cross Town**, because we've been involved in the project from the very beginning, the heat network has been designed and installed to our exacting standards. We know every detail of the system. This allows us to operate it efficiently and reliably, providing a high-quality, fairly-priced supply to our customers. When an operator isn't familiar with a network's design and installation, it can be harder to run the infrastructure smoothly, which may affect performance or costs.

When we are involved at every stage of a heat network's lifecycle, we bring valuable insights and hands-on expertise to our role as operator. This, combined with our substantial track record in heat network operation, means we can deliver a reliable, robust supply to customers, giving our partners peace of mind knowing their residents and businesses are being served well.



A partner to deliver confidence

As energy infrastructure, heat networks deliver a crucial service to customers and also secure important benefits, such as large-scale decarbonisation. They therefore need to be designed, installed and run capably; developers like Related Argent look to our end-to-end expertise for this.

Considering a heat network for your future development?

Speak to our team to learn how our end-to-end expertise transforms uncertainty into confidence:

heat.uk@vattenfall.com