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# HEAT NETWORKS CONSUMER SURVEY

Executive Summary

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# HEAT NETWORKS CONSUMER SURVEY EXECUTIVE SUMMARY

## A report for BEIS by Kantar Public

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# Executive Summary

## Introduction

Heat networks, sometimes called district heating networks, are distribution systems of insulated pipes that take heat from a central source(s) and deliver it to a variety of different customers such as public sector buildings, offices and domestic flats. There are around 5,500 district scale and 11,500 communal scale heat networks in the UK, together providing 10TWh per year (around 2% of UK buildings heat demand).<sup>1</sup>

Heat networks have a number of features of “natural monopolies” - they can require a relatively large initial capital outlay during construction and installation and operators derive income from this over long periods of time through billing end-users of heat, and potentially raising entry barriers for other operators. Additionally, once installed end-users have limited ability to switch to an alternative heat supply.

There have been a number of qualitative research projects looking into the consequences of this on domestic end-user consumer experiences. In December 2016, The Department of Business, Energy and Industrial Strategy (BEIS), appointed Kantar Public to deliver a large scale postal survey to quantify consumer experiences of heat networks in England and Wales for the first time. This report summarises findings from the survey.

## Methodology

A systematic random sample of properties thought to be on a heat network, stratified by variables of interest, was produced for this research mostly from regulatory data. Selected households received a paper questionnaire and follow-up reminder packs, and were offered the option to respond online. A comparison group was also drawn to match as closely as possible the demographics and characteristics of heat network respondents, except for being on a heat network – this is to compare ‘like with like’.

Survey responses were received from 5,502 consumers, including 3,716 where the household was identified as being served by a heat network (HN), and a comparison sample of 1,786 non-heat network consumers (non-HN). The heat network sample included consumers from both district (multiple buildings) and communal (one building) heat networks. This reflects a 21% response rate. Responses were received from consumers across 2,218 different heat networks.

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<sup>1</sup> Heat Metering and Billing Regulations (2014), Notification Data, <https://www.gov.uk/guidance/heat-networks>.

## Results

### Profile of heat networks and heat network consumers

Compared with census data for the general population in England and Wales, heat network consumers were much more likely to live in: flats and maisonettes, smaller and generally newer homes, homes rented from a local authority or housing association and larger urban homes (particularly in London).

In terms of economic activity, the main difference between heat network consumers and the wider population was the proportion of people who were retired. More than four in ten (44%) heat network consumers were retired; compared with 14% in the wider population.

Around half (48%) of heat network consumers identified as being served by a communal network (covering only their building). Three in ten (30%) identified as being served by a district network (covering other buildings as well). However, consumer knowledge of network type was limited. Nearly one fifth of heat network consumers (19%), didn't know whether they were served by a communal or district scheme.

The rest of this summary uses survey findings to address the main research questions.

### Technical service

#### **How satisfied are consumers with their heating and hot water system? Is it performing as they expect?**

Overall, heat network consumers were just as satisfied with their heating systems as non-heat network consumers. Nearly three-quarters in both populations said they were 'satisfied' or 'very satisfied'. Among heat network consumers, the key drivers of satisfaction were: the reported reliability of system, the perceived fairness of price, satisfaction with the level of information provided about their system, experience of under-heating, experience of over-heating, and satisfaction with handling of complaints.

#### **What level of control do consumers have over their heating system? What controls do they have installed?**

The survey shows heat network consumers have less control over their heating, compared with non-heat network consumers. They were more likely to report having and using thermostatic radiator valves (TRVs) but were less likely to have a central thermostat or heat programmer. Only 26% of heat network consumers had a heat programmer that they used (compared with 46% of non-heat network consumers).

Lack of control seems to be driving wasteful cooling behaviours; heat network consumers were more likely than non-heat network consumers to open windows (HN: 87%, non-HN: 79%), and use electric fans to cool their homes when they experienced over-heating (HN: 49%, non-HN: 44%). Lack of control also seems to be a cause of over-heating in the heat network sector (see discussion below).

### **How many consumers feel they should have greater control?**

Despite differing levels of control, heat network consumers were no more or less satisfied in general with their level of control. However, heat network consumers who were struggling financially were more likely to be dissatisfied with their level of control (20%, compared with 10% who were not struggling financially).

### **How many consumers feel their dwelling is over-heated/under-heated?**

Levels of reported over-heating were higher among heat network consumers – 39% had been uncomfortably warm in the last 12 months, compared with 22% of non-heat network consumers. There was also evidence of persistent over-heating in the heat network sector, with heat network consumers around four times as likely to say their home was ‘always’ too warm (HN: 13%, non-HN: 3%).

Common reasons given for over-heating among heat network consumers included lack of control (HN: 23%, non-HN: 19%) and not being able to turn the heating off (HN: 11%, non-HN: 7%). This was consistent with the relatively low incidences of heat programmers and central thermostats in the sector.

Heat network consumers were less likely than non-heat network consumers to report under-heating (HN: 16%, non-HN: 29%). But, when under-heating did occur it was more likely to be because the heating system had stopped working; 37% of heat network consumers who experienced under-heating gave this as a reason, compared with just 15% of non-heat network consumers. In contrast the most common reason for under-heating among non-heat network consumers was the cost of heating the home (non-HN: 55%, HN: 24%).

### **How many consumers have experienced interruptions in service? How frequently?**

Service interruptions are relatively common in the HN sector. More than a third of heat network consumers reported experiencing an interruption/ loss of heating in the last 12 months (HN: 37%, non-HN: 24%) and were also more likely to have experienced multiple interruptions in the last 12 months (HN: 21%, non-HN: 11%). Whilst more frequent, service interruptions experienced by heat network consumers were more likely to have been resolved within 24 hours. However heat network consumers were also more likely to have experienced outages lasting a week or more compared with non-heat network consumers. This suggests that the experience can differ greatly for heat networks consumers.

### **Billing arrangements, price, and consumer perceptions of price**

#### **How much do Heat Networks consumers pay?**

There is evidence of great variation in pricing in the heat network sector, with pockets of heat network consumers paying high annual prices, including consumers paying more than £1,000, or even £2,000, per year. The mean average price reported was similar on heat networks and domestic gas heating systems, however the median price suggested that heat network consumers paid, on average, around £100 less for their heating and hot water compared with non-heat network consumers.

### **How many Heat Network consumers think they pay a fair price compared to others? To what extent is this due to over-pricing?**

Heat network consumers who paid a separate heating and hot water or combined energy bill were as likely as non-heat network consumers to say they paid a fair price. However, among heat network consumers, those who were struggling financially were far more likely, than those who were not to say the price paid was not fair (50%, compared with 19%).

There is little evidence that perceived fairness is linked to over-pricing. *On average*, heat network consumers and non-heat network consumers reported similar annual prices. And, there is only a weak correlation between price paid by heat network consumers and perceived fairness. Heat network consumers who paid based on actual or estimated use (35%) were more likely to say they felt that pricing was *not* fair, compared with consumers who paid a set fee (22%).

### **How are their heat bills calculated? How many bills are based on actual consumption?**

A large proportion of heat network consumers were billed in way that does not incentivise energy-saving behaviours. Only 27% reported paying based on actual use, compared with 53% of non-heat network consumers. Relatively large proportions of heat network consumers reported paying based on overall building use (20%), or paid a set price that didn't vary with use (18%).

### **What billing information do consumers receive? Are consumers aware of what they are paying for? What is the level of billing transparency in the sector?**

There is evidence of relatively poor transparency in the heat network sector. Heat network consumers reported that they were less likely to receive any form of bill, account summary or statement, compared with non-heat network consumers (HN: 62%, non-HN: 81%).

Heat network consumers' bills, summaries and statements also tended to include less information compared with those of non-heat network consumers. For example, heat network consumers were around half as likely to be informed of: the amount of heating they had used (kWhs) (HN: 30%, non-HN: 61%); the per-unit price (HN: 28%, non-HN: 57%); or any standing or set charges (HN: 26%, non-HN: 47%). Despite this, heat network consumers were no less satisfied with the level of information they received.

The Heat Trust's service standards seem to be aiding progress in this area as consumers on Heat Trust registered schemes received more comprehensive billing information.

### **How many consumers would like to receive more information?**

A fifth of heat network consumers (20%) said the amount of information provided on their bill was 'too little'. This was moderately higher than among non-heat network consumers (14%). Heat network consumers on heat networks that were not yet registered with the Heat Trust and consumers without a meter tended to be the least happy about the level of billing information they received.

### Customer service: information and complaints

#### **How many have raised a complaint about their Heat Network? How many would like to? / Was it resolved to their satisfaction?**

A relatively high proportion of heat network consumers had either complained, or had reason to complain about their system; 32%, compared with 26% of non-heat network consumers. Heat network consumers who did complain were less likely to be satisfied with how the complaint was resolved (HN: 45%, non-HN: 55%).

#### **What information have consumers been given/do they have access to?**

Heat network consumers were less likely than non-heat network consumers to have received information about: the type of heating system they had (HN: 41%, non-HN: 47%), maintenance and servicing arrangements (HN: 28%, non-HN: 32%), and how to change the temperature (HN: 30%, non-HN: 37%).

Despite this, the majority of heat network consumers (59%), and non-heat network consumers (60%), said they were satisfied with the quality of information they received about their heating and hot water system.<sup>2</sup>

#### **Limitations and scope for future research**

This research goes a long way to addressing the research questions and adds significant new insights to the evidence base. A key limitation of this work derives from the lack of a reliable comprehensive source of population data for heat networks in England and Wales. Therefore our survey's representativeness cannot be guaranteed with absolute certainty. Nevertheless, we are confident that this survey covers a robust cross-section of the market to produce highly reliable findings (acknowledging this inherent limitation). We believe this survey to be the most reliable source of data on domestic heat network consumer experiences to date, with quality assured by virtue of the large sample size, randomised sampling methodology, and demographically-matched comparison group.

Secondary limitations arise, as with all survey research, from a reliance on the accuracy of responses received. This is particularly relevant in our research to the discussion of pricing and billing, where we found that such information was not consistently provided to heat network consumers (such as the size of standing charges, and what is or isn't included in bills). Finally, our analysis of system performance and to some extent billing is necessarily based on *consumers' perceptions* rather than *direct observation* of bills or performance.

Despite these limitations, this research represents a substantial expansion of knowledge on heat network consumer experience and quantifies, for the first time, the prevalence of consumer issues only previously uncovered through qualitative studies.

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<sup>2</sup> This difference is not statistically significant.



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