HOW TO DELIVER SUCCESSFUL HEAT NETWORKS

THE BASICS

The benefits of a heat network are the potential to be more efficient and provide lower cost heating with lower carbon emissions.

The disadvantages of heat networks are that they have to be designed and managed very carefully in order to deliver those advantages. There is also a significant shift of risk from utilities to housing providers compared to traditional individual gas or electric heating.

THE ISSUES

Existing and new regulations the existing metering and billing requirements mean the 'heat provider' which is most often the landlord requires them to register all their schemes, provide detailed information on the schemes and assess the use of meters. BEIS plans to put in place a full regulation framework for heat networks in 2019 which will bring them in to line with other energy utilities and will bring a much higher level of regulation responsibility to landlords.

Service charges and billing have come under more scrutiny with demands for more accuracy and transparency. This means that landlords must be clear on what is included in tariffs and how those charges are built up including fixed and variable charges, energy and management costs. The ability to change billing providers is important.

Technical challenges and efficiency – it's important that schemes are designed well in the first place and avoid issues such as over sizing, but there are some key things to look at in existing schemes that can have an enormous impact on scheme efficiency and cost effectiveness such as plant metering.

Customer satisfaction and communication – providing heat for customers present different challenges for housing providers so that customers fully understand how the schemes work and that communications including billing are clear, transparent and consistent to avoid complaints.

Managing networks – many schemes did not have management systems in place when they were commissioned or designed. This should include operation and maintenance, metering and billing and asset management. There is also a limited choice of providers in the market.

THE SOLUTIONS

There is a growing awareness that heat networks need to be more effectively managed than in the past. The compliance and cost risks have risen significantly, and unless addressed, schemes will fail to deliver on their potential.

Put in place a heat network management plan that includes the design of both new schemes and management of existing schemes. This needs to address the technical challenges, but also the challenge of bringing together the key players within the organisation that will ensure that schemes run well. These include procurement, finance, asset management, repairs and sustainability teams.

The key is to start the process and to focus on the key issues and priorities for your organisation and customers – this includes new and existing schemes, metering and billing compliance, efficiency, customer service, costs or repairs. The effective management of schemes is built over time not built over night.

HEAT NETWORKS – 10 THINGS HOUSING PROVIDERS SHOULD KNOW

1 System efficiency is the key to delivering heat networks that provide affordable and flexible heating. It is important that the overall system efficiency (i.e. from 'fuel in' to 'heat delivered') is understood, as should the single point of responsibility for achieving the efficiency.

2 Appropriate 'plant' metering: Meters must be provided in plant rooms as part of the regulations. A methodology must be available to determine overall system efficiency, together with the efficiency of the plant room and the heat distribution system.

3 The Housing Provider needs to be involved in, if not in full control of, the selection of the metering and billing provider. Selection of the operator will inform the choice of equipment and vice versa. This will specifically include the heat meters, but potentially also the Heat Interface Units.

4 Tariff structure – this is usually made up of fixed and variable elements. A heat network system can have a much higher element of fixed costs and might cover operational costs. The variable cost is set in reference to an external benchmark such as the retail or wholesale gas price. Higher variable charges can help to build in an incentive to reduce consumption.

5 Open protocols on metering are preferred to allow a change of provider later. Some metering and billing providers use 'open' (or at least 'shared') protocols – meaning that the operator can be changed without changing the equipment. Other providers use their own platforms (meaning, for example, that meters would need to be changed if the operator was changed)

6 Pay As You Go (PAYG) provides a good service to customers and protects housing providers from debt risk. There are two problems with credit meters. The first of these is that it can help customers budget and have access to a wide range of payments methods. The second issue is that housing providers would be exposed to significant debt risk if credit meters are used.

7 Metering and Billing must comply with the requirements of the Office for Product Safety and Standards and require landlords to to register all their schemes, provide detailed information on the schemes and assess the use of meters.

8 The metering and billing system must be operational before heating plant can be signed off. There are examples of projects being handed over, and tenants moving in, without the metering and billing being operational. This leads to a chaotic start to the billing process, and potentially the landlord paying for heat used by tenants.

9 Operation Process Map: There is significant operational detail to be established for heat network sites. This should be done in advance so that systems are smooth from the start - rectifying things afterwards is always more painful.

10 And finally…while heat networks represent a technical challenge and these elements must be got right, equally important is how this is developed and delivered internally by housing staff. They need to understand the issues, what their role is and how this all fits together to deliver low risk, high quality and affordable heating to customers.