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Department for Business, Energy and Industrial Strategy
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ELEXON's response to consultation on Heat Network (Metering and Billing) Regulations 2014 Proposed Amendments

We welcome the opportunity to provide our comments and recommendations to your consultation with regards to the proposed amendments to the 2014 Metering and Billing Regulations for Heat Networks.

ELEXON is the Code Manager and Delivery Body for the electricity industry's Balancing and Settlement Code (BSC). We are responsible for managing and delivering the end-to-end services set out in the BSC and accompanying systems that support the BSC. This includes responsibility for the delivery of balancing and imbalance financial settlement and the provision of assurance services to the BSC Panel and BSC Parties. We manage not just the assessment/analysis, but also the development, implementation and operation of changes to central systems and processes.

In addition, through our subsidiary, EMR Settlements Ltd, we are the Electricity Market Reform (EMR) settlement services provider, acting as settlement agent to the Low Carbon Contracts Company (LCCC), for Contracts for Difference (CfD) and Capacity Market (CM). EMR services are provided to the LCCC through a contract and, like the BSC, on a non-for-profit basis.

The Heat Network (Metering and Billing) Regulations 2014 is undoubtedly a useful guidance to heat networks operators and to an extent their metering agents. Furthering the requirements for metering and hence billing to provide more accurate readings at an individual level would improve individual heat usage and eventually incentivise energy savings and lower bills. We therefore support the proposed amendments to the existing regulations and would like to offer some additional input through our response to some of the consultation questions we believe our experience and expertise is most relevant.

At this point we would like to reflect on [our response](#) to your policy paper on Heat Networks: Ensuring Sustained Investment and Protecting Consumers. We would particularly like to stress the overall similarity between heat networks and electricity and gas in terms of system operability and shape of demand and in turn present an opportunity to explore these sectors further with the possibility of exemplifying different areas (i.e. metering, settlement, profiling) to a potentially new heat model. We are keen to assist you in identifying the synergies between the design of the electricity market and the design of a decarbonised heat market.

In addition, both the electricity and gas industries are administered by a number of codes which define a set of rules and guidelines for the different processes that underpin each industry. In the longer term, given the scale and complexity of heat networks, codifying the various processes around heat generation, supply and metering will ensure an adequate level of consistency across systems and services. Although there are a number of voluntary codes currently in the sector such as the CIBSE and ADE Heat Networks Code of Practice, an obligatory code could mandate best practice in the operation of heat networks. As experts in Code Management and Delivery, we would be happy to

explore this opportunity and collaborate with you in the future given the requirements and regulatory framework of the prospective UK heat networks market.

The views expressed in this response are those of ELEXON Ltd and do not seek to represent those of the BSC Panel or of Parties to the BSC.

I hope you find these thoughts helpful and if you would like to discuss any aspects, please do not hesitate to contact Thomas Demetriades, Strategy and Market Advisor on 020 7380 4135, or by email at thomas.demetriades@elexon.co.uk.

Yours sincerely,

Angela Love
Director of Strategy and Communications

ELEXON'S RESPONSES TO THE CONSULTATION QUESTIONS

TECHNICAL FEASIBILITY AND COST EFFECTIVENESS

Q1. Do you agree with adopting a system using building classes?

- 1.1 We agree with your proposal and believe that the introduction of building classes would be a sensible system to put in place to identify the need for installing individual heat meters or heat cost allocators at buildings. We support this approach as it will not only allow cost-effective installation of meters but help deliver a number of benefits for heat network stakeholders, particularly, customers and operators. However, in order to support efforts towards energy demand reduction, more focus needs to be placed to the benefits customers would receive from having individual heat meters installed at their premises. We recognise, in particular, benefits such as behaviour change from billing based on individual consumption that would effectively prevent cross-subsidisation and induce cost savings from a more economic use of heat.

Q7. If you consider metering and billing requirements to be a significant issue for social housing, please provide specific evidence that would justify a different approach to assessing feasibility of meter installation and billing based on consumption in these dwellings.

- 1.2 Social housing should undoubtedly be viewed more closely in terms of cost-effectiveness and how beneficial it would be for these residents to install individual heat meters. Matters such as building/flat/dwelling condition and overall insulation should be further inspected to evaluate the necessity for heat meters and/or heat cost allocators.
- 1.3 Nevertheless, we would like to suggest exploring the possibility of establishing different concession or subsidy schemes (e.g. Warm Home Discount scheme applicable for heat network users) for vulnerable customers. Where applicable (i.e. social housing heated by communal heat networks and/or heat suppliers) and given the cost-effectiveness assessment result, installation of heat meters could be subsidised by local councils and/or offered in discount in accordance with heat suppliers requirements.

Q10. Do you agree with the proposed tool's approach to estimating heat demand for buildings? Do you have suggestions for a different approach?

- 1.4 We acknowledge the reasoning behind the proposed tool's approach to estimating heat demand for buildings. The new tool establishes a number of real-life parameters to derive the heat/cooling demand for the units and hence the building. We believe it allows for more data to be utilised. Also, we see benefit in combining user-supplied data with benchmarking data under the proposed tool as calculations would become more credible and provide more accurate results.
- 1.5 Furthermore, we would also like to bring your attention to the concept of Profiling as a method to forecast heat and cooling demand with greater accuracy. Profiling is currently used in the energy markets as a method of forecasting usage for specific classes of customers and in particular for Settlement purposes under the BSC in electricity and the Uniform Network Code in gas. Likewise under the BSC, a load profile will give the pattern or 'shape' of usage across a day (Settlement Day), and the pattern across the Settlement Year, for the average customer of each of the eight profile classes. Profile classes 1 and 2 refer to domestic premises whereas profile classes 3 to 8 are for non-domestic premises. However, the four generic profile classes that represent large populations of similar customers are:

- Profile Class 1: Domestic Unrestricted Customers
- Profile Class 2: Domestic Economy 7 Customers
- Profile Class 3: Non-Domestic Unrestricted Customers
- Profile Class 4: Non-Domestic Economy 7 Customers

The load profiles are estimated from carrying out a sampling exercise. Profile samples consist of energy supply customers drawn from the wider market and are split by Profile Class, consumption band and region. We recommend that this method could be replicated to creating different profile classes for heat users according to their current usage and location (for example areas with high heat demand density). Once different consumer (load) profiles are created these could replace the benchmark demand data and be applied to the cost-benefit assessment calculation. These profiles could also be updated seasonally to reflect consumer usage based on weather and temperature fluctuations. In addition, what could be further explored under this space is the case to establish energy saving profiles based on the respective consumption and supply of heat; this would reflect the 'Energy Saved' part of the calculation. Although the proposed tool will be using a more modular approach, the different parameters such as building fabric information and regional temperatures could be embedded into consumer profiles based on building classes and location.

- 1.5.1 In case you require additional information on Profiling or should you wish to discuss this further we are keen to sharing our experience and knowledge on this matter with you. In the meantime, you can visit the [Profiling](#) section of our website to find out more.

COMPLIANCE DEADLINE AND SCOPE OF AMENDED REGULATIONS

Q28. Do you agree with the assumption that from October 2020 most newly installed metering devices should be remotely readable? If you disagree, please provide additional information.

- 1.6 Yes, we agree with this assumption and believe that installation of remotely readable metering devices could bring a number of benefits both for consumers and heat suppliers. An essential aspect for installing such metering devices (e.g. Automated Meter Reading – AMR meters) would be the saving of administrative costs and removing the effort of heat suppliers (and/or their respective meter agents) having to visit user premises to record meter readings. Similar to the electricity metering devices, we believe remotely readable meters will ensure both timely and accurate readings. These devices may also facilitate readings from groups of users that are otherwise less likely or not capable to record and send readings to suppliers.

Q29. Should heat suppliers ensure that all installed meters and heat cost allocators accurately measure, memorize and display consumption?

- 1.7 We believe that heat meters and other metering devices should be technologically capable of performing a number of built-in functions such as memorising and displaying consumption. Being able to accurately display consumption would help heat users better understand their energy usage and how they could take control of it and change their behaviour towards energy and cost savings. Equally, memorizing consumption could facilitate more detailed billing by outlining dated costs and provide reasoning for late payments or over/under charging (especially when charging is being disputed and complaints are being made to the respective body/organisation).
- 1.8 Although this sector is still undergoing substantial development, various options should be considered in modernising different aspects of it, if the UK wants to transform its heat network

market. For example, BEIS could explore the use of smart meters for heat in the same way that they are used for monitoring electricity and gas consumption domestically. As you are aware, smart meters are continuing to be rolled out nationwide with a proportion of users becoming more familiar with digitalisation. Given the outcomes of the smart meter consumer uptake in the electricity sector, BEIS could apply any lessons learnt to a potential future rollout of smart heat meters. Moreover, development of smart meters in the longer term could see future specifications of smart meters displaying and processing all utilities e.g. including heat supplied from heat networks.

Q30. Should heat suppliers ensure, so far as possible, that all meters and heat cost allocators installed are (a) continuously operating, and (b) properly maintained and periodically checked for errors?

- 1.9 Yes, continuous operation and proper maintenance should be mandated to heat suppliers as already mentioned in the consultation document. This could either be performed remotely for remotely readable devices and/or through visits to premises of the heat users. We also agree with your statement with regards to extending the requirements linked to accuracy, operation and maintenance to both mandatory and voluntarily installed heat meters and heat cost allocators.
- 1.10 We see great benefit in the inspection and assurance practices of metering systems as these are already mandated in the electricity sector and under the [BSC \(Section L\)](#). We would therefore like to highlight the importance of metering assurance and the option to mandate metering requirements within an obligatory heat networks related code. As previously mentioned, CIBSE and ADE voluntary Codes of Practice could be further reviewed with an opportunity to develop a mandatory set of technical and operational requirements.

Moreover, the [BSC Performance Assurance Framework \(PAF\)](#) service is applied to BSC Parties to identify and help manage Settlement risks including metering systems. More specifically, the PAF is in place to provide assurance that:

- Energy is allocated between Suppliers efficiently, correctly and accurately;
- Suppliers and their Agents transfer Metering System data efficiently and accurately; and
- Calculations and allocations of energy and the associated trading charges are performed within the BSC requirements.

[Technical Assurance of Metering Systems \(TAM\)](#) is one of the techniques currently used within the assurance framework. TAM monitors compliance of metering systems against the respective BSC requirements and any subsidiary documents particularly the metering Codes of Practice. This procedure aims to ensure that the metered values submitted for Settlement purposes represent actual consumption. ELEXON currently performs assurance services to Settlement meters, however, recent industry developments could potentially require ELEXON (under its BSC remit) to carry out assurance for secondary meters at a domestic level.

We would be keen to explore this option of codifying heat metering requirements with you and with the related industry bodies and offer our assistance as experts in Code Management and Delivery.

Q31. Do you agree that billing should be based on consumption for all installed meters and heat cost allocators where this is technically possible and economically justified?

- 1.11 Yes, we agree that billing should be based primarily on consumption as it will signal the appropriate change in heat usage and, in turn, the respective cost savings.