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1 June 2020

Elexon's response to consultation on Heat Networks: Building a Market Framework.

We welcome the opportunity to provide our comments and share our observations on your consultation on building a market framework 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.

We support the consultation premises that heat networks are an integral part in the government and industry efforts towards a modernised and low-carbon energy sector of the future.

Building on our response[1] to your December 2018 policy paper on *Heat Networks: Ensuring Sustained Investment and Protecting Consumers,* we believe there are several electricity market design principles that can be applied to the future heat markets as heat networks expand and, potentially, become interconnected. We believe it is important to incorporate those tried and tested market design principles from early on (or bear them in mind so as not to preclude future developments) to allow the competitive heat market to emerge in order to drive efficiencies and, ultimately, wider choice and lower prices for consumers.

To summarize, we believe the following market design principles can be applicable and transferrable to heat markets:

- Metering and independent assurance of the metering equipment
- Central settlement performed according to universally accepted rules
- Dispute resolution
- Forecasting and profiling.

We explain in more details how we foresee these market design principles can be applied and transferred to the future heat markets in our answers to individual questions.

[1] https://www.elexon.co.uk/documents/industry-consultations/2019-industry-consultations/elexons-response-to-beiss-policy-paper-on-heat-networks/

We welcome the efforts undertaken so far by the government and industry in the development of a heat networks market framework; at the same time we understand that a fully developed competitive heat market will take time to fully form and establish. Therefore, we believe the UK could benefit from examples of the mature heat markets and heat networks from other European countries as well as working together and understanding proposals across the UK. In particular we would like to highlight the recently published Heat Networks (Scotland) Bill[2] that aims to introduce regulation and licensing for district and communal heating to accelerate the use of heat networks across Scotland and deliver low-carbon heating.

We understand that the global pandemic has resulted in lots of challenges for businesses and changed the normal course of operation for many businesses and subsequently altered their priorities. Similarly, the government has set out its revised priorities and we are supportive of those. When the time is right, we will be happy to explore our suggestions in more detail with you and assist your work in shaping future requirements and regulatory framework of the prospective UK heat 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 and suggestions helpful; if you would like to discuss any aspects in more detail, 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 Future Markets and Engagement

[2] https://www.parliament.scot/parliamentarybusiness/Bills/114590.aspx

DEFINITION OF "HEAT NETWORK"

Q3: Do you agree with our proposed approach to a definition of heat network, including that it should cover ambient temperature networks but not ground source heat pumps with a shared ground loop? Are there network arrangements you think would not be covered by this and which should, or vice versa?

1.1 We strongly agree with the proposed definition of a heat network. Whereas the existing definitions in the Heat Network (Metering and Billing) Regulations 2014 depict a rather simplistic view of heat networks, the proposed definition covers a wider range of network facets.

1.2 We believe the proposed definition should be forward-looking and future-proofed as the sector continues to evolve and new network technologies are being deployed. The definition does not seem to limit or exclude any potential technological developments; however, we believe it should also encourage low-carbon heat sources such as heat pumps and waste heat. In addition, we also agree with the inclusion of ambient temperature networks and the exclusion of ground source heat pumps for the reasons mentioned in the consultation.

1.3 The second half of the proposed definition states that thermal energy could be distributed from a central source, or a number of significant generation sites, to multiple buildings or consumers. A heat network system that sources heat from a number of generation sites with a dedicated operator responsible for the delivery/distribution of heat to consumers resembles existing electricity networks. We see a great number of opportunities arising from this. For example, development of larger heat networks within a geographic area/zone could see the formation of a heat grid. We envisage a heat grid to facilitate the connection of a number of sites (generation, distribution and end consumers) within the same grid and/or through interconnection points between zones as heat networks expand to accommodate increased generation. An interconnected heat network could bring a number of benefits, some of which we highlight below:

- **Competitive heat market.** As in other sectors (e.g. electricity and gas), creation of a competitive market could enable investment in both generation and distribution of heat. Enhanced competition could also result in lower prices for consumers, as there would be more consumer offerings, as this is the case in the competitive electricity and gas markets.
- **Consumer choice.** As the current arrangements remain unregulated, we understand that consumers are reporting that they sometimes pay unreasonably high prices for their heat supply. Unlike the electricity and gas sectors, heat network consumers are unable to look for another heat supplier, who could be offering a lower priced tariff. A potential heat grid with a number of connected generation sites delivering heat to consumers will allow greater choice and a variety of offerings.

1.4 The concept of interconnecting heat networks has been previously explored by the Mayor of London office. The 2014 report *London Heat Network Manual*[3] outlines how heat networks within London could be interconnected to form larger scale networks to enable access to a variety of heat sources and provide greater efficiency and flexibility in heat supplies. The report

[3] https://www.london.gov.uk/sites/default/files/london_heat_map_manual_2014.pdf

also supports that 'where networks are interconnected, a genuine heat market may develop allowing competition and lower costs'.

PREFERRED REGULATOR

Q4: Do you consider Ofgem to be the appropriate body to take on the role of regulator for heat networks? If not, what would be an alternative preference?

1.5 Yes, we agree that Ofgem is the appropriate body to take on responsibilities for regulating heat networks (both existing and future developments). We would also note that Ofgem has experience of developing energy markets, as they have overseen the development of competition in connections and network extensions in the gas and electricity networks, which resulted in the evolution of Independent Gas Transporters and independent Distribution Network Operators.

1.6 Ofgem has been developing and maintaining regulatory regimes/practices for both gas and electricity sectors and it has gained significant expertise in these markets. That said, the consultation document recognises that the heat networks market is considerably different from the gas and electricity markets in terms of competition. While we agree with this statement, we also believe there are a number of similarities in operational/technical matters i.e. pipes and metering. Ofgem could apply or extend a number of existing practices used in the electricity and gas markets and deploy them in the development and operation of heat networks and future heat grids.

1.7 We would also like to touch on Ofgem's Decarbonisation Action Plan that was published in February 2020. In this plan Ofgem has committed to a number of actions and programmes geared toward achieving net-zero including a reference to the potential of heat networks as an option to deliver low-carbon heat.

1.8 We are therefore supportive of your recommendation to extend Ofgem's responsibilities to heat networks, including developing and enforcing consumer protection mechanisms and measures.

REGULATORY MODEL OPTIONS

Q5: Do you agree that the proposed regulatory model is appropriate for the regulation of heat networks?

1.9 In our view the proposed regulatory model is appropriate for both the regulator, which we propose is Ofgem, and the participants of the heat networks sector.

1.10 Due to the large number of heat networks currently in the UK we agree that a general authorisation model would be most appropriate instead of a full licensing regime. This will allow a more flexible approach, however at the same time we would promote that regular reporting from authorised parties should be mandated. It is important that once operational, heat networks should follow the regulators' consumer protection guidelines on pricing, transparency and quality of service.

1.11 Your proposed Option 2 follows a more stringent approach as it calls for full compliance from licence holders. The same model is currently in use for gas and electricity markets. We support your reasoning for not proposing to follow this regime fully at this stage of the heat market development.

1.12 We believe there is significant merit in considering a combination of regulatory measures between Options 3 and 4. We will examine this point further in our responses to the following questions.

Q6: Which entity should be responsible and accountable for regulatory compliance, particularly where the heat supplier and heat network are not the same entity? Please explain why you think this.

1.13 We believe that there is a requirement for regulatory compliance for both the heat supplier and the network operator. A heat supplier, as the customer facing entity, can be held responsible for reporting on prices, transparency and quality of service. Network operators on the other hand should ensure they meet the minimum technical and delivery standards and are responsible for any decarbonisation targets.

1.14 The equivalent entities in the electricity market are regulated separately as each entity is bound by a specific licence. We believe the same should apply to the heat networks but under the general authorisation model. We see a possibility that different entities are separated in the future according to their activities (e.g. heat generation and heat distribution) as individual heat networks become interconnected to form regional heat grids (as explained in question 3). Separation of these activities from a single entity could also ensure a level playing field in the heat networks sector as this is also the case in the gas and electricity markets.

1.15 According to the consultation both these entities are most likely to interface directly with consumers. However, we do not see heat suppliers being heavily involved with the technical standards for networks. As such, we believe that the entity holding a larger amount of information for both consumer and technical arrangements should be the regulated entity i.e. network operators.

1.16 A transparent communication between the two entities (in case it is not the same entity) should be pursued and regularly monitored by the regulator.

Q7: Do you agree that consumer protection requirements during the operation and maintenance project stage should be regulated, such as pricing, transparency and quality of service?

1.17 Yes, we believe that it is essential for these requirements to be regulated during the operation and maintenance stage.

Q8: Should there be a de minimis threshold below which a) very small domestic schemes and/or b) non-domestic schemes with very few domestic consumers are exempted from any of the regulatory requirements proposed in this framework? Please explain why you think this.

1.18 The CMA, in their 2017 report[4], concluded that 'a statutory framework should be set up that underpins the regulation of all heat networks'.

1.19 We also believe that all heat networks, regardless of their size and business model, should be authorised accordingly. It is important that all schemes are regulated on consumer protection especially in the case of over-inflated prices passed on to consumers to cover the scheme's costs (operational and/or regulatory).

1.20 We strongly support the view that the regulatory requirements should apply to all heat networks in order for all networks to have a future opportunity to expand, connect to other heat networks and/or improve their schemes/networks as the industry standards develop. We will discuss this point further in our response to question 34.

Q9: Should there be a size threshold above which larger schemes are subject to more detailed regulation and scrutiny? If so, what type of threshold would you consider most appropriate?

1.21 Our response to this question follows on from our response to question 5.

1.22 Following the CMA 2017[5] study we can see that the nature of the heat networks market is mostly monopolistic. As observed in this study, a number of consumers face prices that are above normal average rates; effectively, consumers remain locked in such contracts, as they are not able to change their heat supplier. For this reason, it is important that a more detailed regulatory regime should be applied to larger suppliers who, according to the consultation, are likely to have greater impact on consumer outcomes.

1.23 We believe that Options 3 and 4, proposed in the consultation, provide adequate consumer protections. We understand your reasoning behind withholding from Option 3 for now as an obligatory licence might unintentionally incentivise asset owners to restrict the size of their portfolios below the proposed threshold. However, the compulsory licensing under Option 3 could provide a higher level of consumer protection, as schemes captured by the indicative size threshold will fall under more scrutiny than others particularly during the operation and maintenance phase.

1.24 Option 4 on the other hand does not guarantee that bigger players in the market would want to obtain a licence. There is a potential risk that these larger size schemes might exercise more power over consumers in terms of price and quality of service. Should Option 4 be chosen, we believe heat networks above the threshold need to be subject to more detailed regulation regardless of obtaining a licence or not.

1.25 Based on your findings from other European markets[6], the regulatory regime in the Netherlands seems to be closer to what thee consultation document proposes. At the moment, the Netherlands Authority for Consumers and Markets (ACM) runs a licensing regime under which it performs checks (organisational, financial and technical) on licence holders for meeting their obligations under the Heat Act. ACM licensing is based on a threshold where it issues a license to heat network providers supplying more than 10,000GJ to more than 10 customers – about 30 licences have been granted. We believe a closer look into these established, operational market

[5] CMA Heat Networks Market Study – Final Report 2017
https://assets.publishing.service.gov.uk/media/5b55965740f0b6338218d6a4/heat_networks_final_report.pdf

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/863937/international-review-of-heat-network-market-frameworks.pdf

arrangements in the Netherlands could lend useful lessons to apply to the UK arrangements to make sure larger heat suppliers/operators in the UK are regulated appropriately.

EMERGING BUSINESS MODELS

Q13: Do you consider our proposed approach sufficiently flexible to accommodate emerging business models, including unbundling of different components of a heat network? If not, please suggest ways in which we could ensure alternative business models are not precluded.

1.26 As mentioned above, the chosen regulatory regime model needs to be forward-looking and future-proofed in order to enable a number of new business models to emerge and remain viable. We believe that your proposed approach covers these elements and that it will eventually be able to expand to accommodate new ideas and technologies as the heat sector evolves

1.27 We strongly support unbundling different components of a heat network. This is what we initially touched upon within our response[7] to your December 2018 consultation in order to de-risk both demand and investment in the sector. Open and competitive business models (similar to gas and electricity markets) would allow heat to be generated, transmitted and distributed on a market price basis and under contractual agreements between sector participants.

1.28 We believe the PipeCo example from the consultation document (page 40) correctly depicts the future of heat networks in terms of the opportunities that could arise from establishing a competitive market. Through our experience[8] in the competitive electricity market we have fully understand the many benefits and opportunities an open market can bring to both market participants and end consumers. As the most recent example of the continued evolution of the market principles, we would like to highlight one of the BSC modifications aimed at expanding competition at the supplier end of the market. Elexon has been working closely with the industry to design a code modification that would allow consumers to have multiple electricity suppliers at the same time (BSC Modification P379[9]).

1.29 We recognise that unbundling of the heat sector may not be within the government's immediate plans, however we believe that a future opportunity of doing so needs to be kept in mind, especially, once the heat sector expands and grows.

1.30 Heat networks tend to be local and mostly found at densely populated cities and regions; therefore, we do not expect the creation of a national heat grid that would serve the entire country. However, interconnections between localised heat networks to form regional heat grids are possible in the future. When this happens, advanced business models are likely to emerge that will facilitate the creation of competitive heat markets and will contribute further to decarbonisation of the energy sector.

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[7] https://www.elexon.co.uk/documents/industry-consultations/2019-industry-consultations/elexons-response-to-beiss-policy-paper-on-heat-networks/

[8] Elexon has been operating as a code manager since the inception of the NETA (New Electricity Trading Arrangements) and later on BETTA (British Electricity Trading and Transmission Arrangements) when the wholesale electricity market was open to competition.

[9] https://www.elexon.co.uk/mod-proposal/p379/

1.31 Option 4 provides more flexibility than the other options as it covers a targeted approach for notifying the regulator in terms of new networks or plans for expansion of existing networks. This targeted approach of notification will ensure that any project regardless of scale is compliant prior to becoming fully operational.

1.32 We can see efforts to unbundle heat sector from other European nations10. For example, in Finland and Norway third parties (TPA) are allowed limited access to heat networks. We believe that once the heat sector matures, the UK market will need to explore unbundling heat generation and heat transmission as well.

STEP-IN ARRANGEMENTS

Q20: Do you agree that step-in arrangements are necessary both to cover the risk of stranded consumers and as a deterrent against sustained failure to meet the regulatory requirements? If not, why?

1.33 Yes, we agree that the regulator should "step-in" in cases of stranded consumers upon failure of heat networks to meet the regulatory requirements.

1.34 We welcome your ideas on final "step-in" arrangements. In question 21, we provide an example from the electricity market as Elexon supports Ofgem and industry in managing supplier defaults.

Q21: Do you have any examples of approaches we should be considering as we develop the step-in arrangements?

1.35 Elexon has been actively involved in managing many supplier failures in the electricity market over the past three years working closely with the BSC Panel, BSC Parties and Ofgem. We already operate one of the most stringent and transparent credit requirements (under the BSC) of any code body in order to protect industry parties from the costs of failure. In 2018, a challenging year for electricity suppliers, Elexon managed 31 events of default of which there were 10 instances of suppliers exiting the market under the Supplier of Last Resort (SoLR) arrangements. In order to limit financial risk to industry participants in the event of a SoLR, we hold credit cover from all suppliers and also ensure that there is a prompt process for alerting key stakeholders in case of a supplier default. If you would like to find out more about the BSC Defaulting Party and Failing Supplier Process please visit Section H of the BSC as well as contacting us with any questions you may have regarding this matter.

1.36 Elexon's Performance Assurance Framework (PAF) is another example we would like to bring to your attention. Part of our responsibilities as manager of the BSC is to monitor the compliance of all BSC parties to the BSC rules. We do this by undertaking a number of performance assurance activities. Each year, Elexon works closely with the BSC Panel and the Performance Assurance Board (PAB) and the industry to deploy the PAF mechanisms to identify, manage and resolve

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/863937/international-review-of-heat-network-market-frameworks.pdf

any settlement risks. Under the electricity market arrangements, the PAF is in place to provide assurance that:

- Energy is allocated between Suppliers efficiently, correctly and accurately;
- Suppliers and Supplier 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.

1.37 We believe that a similar approach could be adopted for future heat networks with multiple heat suppliers using the same network to supply heat to multiple customers. Such a framework could enable a closer inspection into the performance of heat networks sector participants which would in turn provide more information to the regulator and individual suppliers/operators. We are keen to share more details and insights about the BSC PAF with you if and when you would find this useful. Meanwhile this PAF page of our website can provide more information.

QUALITY OF SERVICE STANDARDS

Q32: Do you agree that consumers on heat networks should have comparable levels of service and protection as consumers in other regulated utilities? How do we ensure the associated compliance costs of such protections remain associated?

1.38 We agree with the CMA and your argument that consumers on heat networks should have comparable levels of service and protection as consumers in other regulated utilities. However, the inability of heat networks consumers to switch heat suppliers calls for potentially increased level of monitoring and compliance. We are aware that this might result in higher compliance and enforcement costs but at the same time it is likely to eliminate any practices based on monopolistic nature of heat supply, especially for the consumers who are locked in longer-term contracts.

1.39 We see more scrutiny on consumer protections to be applied in the immediate future once the regulatory framework has been established. However, in the mid to long-term future, as heat networks continue to grow, the regulator might opt for a more flexible regulatory regime. In particular, if heat networks evolve into a competitive market the level of regulatory scrutiny could be reduced, as consumers will be presented with more options at better prices and quality of service and competitive market pressures provide consumers with more leverage.

Q33: Do you agree that minimum standards should be outcome-based to allow the regulator scope to implement these flexibly and proportionately depending on the size and nature of different schemes? Are there other ways these outcomes could be achieved?

1.40 Yes, outcome-based minimum standards will allow the regulator to extend compliance requirements more flexibly and proportionately depending on the size and nature of different schemes. As mentioned in our response to the previous question, we feel that particular attention should be given to the large heat network suppliers/operators.

1.41 We also agree with your argument that minimum service standards should be mandated and not remain voluntary as they are now. Mandated standards would provide a single uniform view of

the requirements on a national level but at the same time these could be adapted according to the size and nature of different schemes.

TECHNICAL STANDARDS

Q34: Do you agree that all new schemes should be subject to minimum technical standards (once developed), given the potential impact on system performance and end consumers?

1.42 We agree that all new schemes should be subject to minimum technical standards. We also believe that these technical standards should also be extended to existing heat networks that propose to expand. This ties closely with your proposed regulatory regime (Option 4) where, as the consultation suggests, technical standards should apply to both new and expanded schemes. As it would be impractical to impose retrospective minimum build requirements to existing heat networks we agree with your approach to consider the option to phase in minimum technical operating standards to existing networks.

1.43 Mandating technical standards will help ensure there is a positive impact on system performance and end consumers. We support the CMA view that standards needed to be mandated in order to ensure compliance across schemes and protect consumers. It also seems sensible to extend these standards to developers' agents (third parties) to ensure full compliance.

1.44 We further believe that the components of these technical standards should apply to all heat networks, irrespective of size, in line with question 9. It will be important to ensure that no network is unintentionally limited or precluded from expanding their operations in the future or joining in with a regional heat grid. We have discussed the potential for heat networks to form regional heat grids earlier in our consultation response. There are also opportunities for heat networks to diversify their operations in the future. For instance, heat networks operators that source their heat through CHP (Combined Heat and Power) plants could offer any excess power to the electricity grid when needed through flexibility services., It is important to retain to the ability to use existing and also new network assets in multiple ways.[I"M NOT SURE WHAT THE POINT IS HERE – THE HEAT NETWORK COULDN'T BE USED FOR ENERGY – OR IS THAT NOT WHAT WE ARE SAYING?]. Both regulations and standards should be future-proofed and able to facilitate a whole-systems approach.

1.45 We support your reasoning for mandating technical standards. We would also like to see decarbonisation targets embedded in these standards. Option 4 of the regulatory frameworks suggests that decarbonisation targets could be set in regulation and certified through the certification system and/or monitored by a different authority. We believe any technical standards should include provisions that encourage the use of low-carbon technologies to support the UK net-zero ambition. The concept of Performance Assurance (as discussed in question 21) could also be applied in this case. Having a PAF in place to monitor and/or verify low-carbon technology installation enables developers and investors to work towards their decarbonisation targets as agreed with the regulator.

Q38: Are there examples of the roll out of technical standards or the introduction of compliance schemes which you consider particularly relevant from other markets or technologies?

1.46 We recognise the significance of the work the industry has put forward to develop voluntary standards schemes. In particular, we believe that the Heat Networks Code of Practice (CP1) that was jointly developed by CIBSE and the Association of Decentralised Energy (ADE) is an effective tool in developing technical standards for both new and existing networks.

1.47 As you are aware, both the electricity and gas industries are managed through a number of codes which define a set of rules and guidelines for processes that underpin the working of each industry. For example, in our response to your consultation on Heat Network (Metering and Billing) Regulations 2014: Proposed Amendments we touched on the subject of metering and how these arrangements are codified within the BSC. More specifically, we discussed how the code facilitates the inspection and assurance practices of metering systems in the electricity sector. We believe the same principle of codifying can be applied for the heat networks sector to provide comprehensive guidance to market players.

1.48 Having an appropriate system of governance around these standards will help ensure that they are monitored and updated according to new developments and evolution of the sector. Through our code governance arrangements Elexon facilitates a change management process on behalf of the BSC Parties. Ofgem is responsible for final decisions on whether to progress the change or not.

1.49 In the longer term, given the scale and complexity of heat networks, codifying the various processes around heat generation and supply will ensure an adequate level of consistency in systems and services. This would also allow for an implementation of best practice in the operation of heat networks. As experts in Code Management and Delivery, we are keen to offer our expertise and knowledge to assist in developing the requirements and regulatory framework of the prospective UK heat networks market.

RIGHTS AND POWERS

Q39: Do you agree that a (licensed) heat network entity should be classified as a statutory undertaker?

1.50 Yes, we agree that licensed heat networks entities should be classified as statutory undertakers.

Q40: Do you agree that the proposed rights and powers should be given to heat network entities which meet the terms of our proposed licensing system?

1.51 We support the argument set out in the consultation that licensed heat network developers and operators should enjoy the proposed rights and powers. However, this should not prevent other networks (authorised) from progressing their expansion/improvement plans; these networks could be granted permissions to exercise a number of rights and powers.

Q42: What impacts will the proposed rights and powers have on the development and extension of heat networks? And what impacts do you think these rights will have on the operator's ability to maintain and repair heat networks?

1.52 We expect that the sector will evolve with a growing number of heat networks being built in the future. Ideally, we would like to see networks that can facilitate many connection points on each end of the network i.e. generation, supply and consumption that are either isolated and/or

interconnected. In order to achieve this, appropriate heat networks infrastructure has to be in place to accommodate different market players that wish to benefit from an open heat marketplace. We therefore believe that the proposed rights and powers will have a positive impact on the development and extension of heat networks. When the networks' owners/operators are granted the necessary rights and powers this will allow them to identify new services and new business model opportunities more flexibly and timely.

DECARBONISATION OF HEAT NETWORKS

Q54: Do you agree that consumers should have access to information on the energy performance and percentage of low-carbon generation of their network?

1.53 Undoubtedly, reaching net-zero by 2050 will require a collaborative effort. Recent polls and studies have shown that some 80%[11] of the British public are now 'fairly' or 'very' concerned about climate change. Although there is an overall willingness to change we believe that the public should be more engaged in the government and industry efforts through having access to information. We therefore agree with your argument that consumers should have access to information on the energy performance and percentage of low-carbon generation of their network.

1.54 In our response[12] to your consultation on *Heat Networks (Metering and Billing) Regulations 2014 Proposed Amendments* we discussed the opportunity for the government to extend smart metering to heat networks in the same way smart meters are deployed for monitoring electricity and gas consumption. As you are aware, smart meters are continuing to be rolled out nationwide with a larger proportion of users becoming familiar with smart and digitalisation opportunities. Given a number of lessons learnt from the smart meter rollout in the electricity sector, BEIS could seek to 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.

1.55 We welcome your proposal to establish a heat networks data strategy that would enable more strategic investments and business developments. Access to data and data sharing could unlock many benefits for the sector; for example, data on heat networks assets could help deploy any assets that are currently unused and benefit from additional sources of heat and, perhaps, the establishment of new local networks. Data about heat networks performance could also inform operators, consumers and potential developers about carbon emission levels in order to take appropriate action towards decarbonising their systems and the overall networks.

1.56 Recently, data access and data sharing have been heavily explored for the gas and electricity sectors. We feel that the work carried out by Energy Systems Catapult and the Energy Data Taskforce (EDTF)[13] has been critical in surfacing the issues currently present with data sharing in these more established sectors and also identifying key approaches to a modern digitalised energy system. The EDTF report findings and recommendations could also be applied to the heat

[11] https://www.carbonbrief.org/guest-post-rolls-reveal-surge-in-concern-in-uk-about-climate-change
[12] https://www.elexon.co.uk/documents/industry-consultations/2020-industry-consultations/elexons-response-to-beis-consultation-on-heat-network-metering-and-billing-regulations-2014-proposed-amendments-january-2020/
[13] https://es.catapult.org.uk/reports/energy-data-taskforce-report/

networks sector to improve data access and sharing for the onset of the sector. We believe that there are many lessons to be learned for the heat sector from key recommendations presented by the EDTF report such as improving the visibility of data, infrastructure and assets.

1.57 Elexon has played an integral part in the work of the EDTF through participating in the various workshops offering expert knowledge. We strongly support that data should be open, visible, understandable and secure and that the same principles should also apply to data in the heat networks sector [DID WE GET THIS WORDING FROM DA? IF NOt I WOULD CHECK WITH THEM FOR CONSISTENCY].

1.58 Additionally, through our ongoing work with the Open Data Institute we have come to fully appreciate the importance of how open data could enhance innovation and indeed how that could be in any sector. More specifically, we already operate an Open Data Licence for the Balancing Mechanism Reporting Service (BMRS) platform[14]. Market participants can access the platform through an online licence and access data freely through the web interface. We feel that a similar approach could be adopted by the heat networks sector as means of aiding market players to access critical data to enable better-informed investment and business decisions. We believe this approach ties in well with the government's ambition for the heat data strategy to contribute widely around the transition to low carbon heating. As the energy industry evolves, we see that many aspects from various energy vectors (gas, electricity, heat) could overlap and/or reinforce one another. A platform containing data from these subsectors could encourage market players and innovators to identify connections between them and deliver outcomes from a whole-system, multi-vector perspective.

Q55: Do you agree that regulation is necessary to encourage decarbonisation of heat networks over the period to 2050? Are there alternative means by which government could act to support the decarbonisation of heat networks?

1.59 Yes, we agree that regulation is necessary to encourage decarbonisation of heat networks over the period to 2050. As mentioned in the consultation, heating is responsible for over a third of the UK carbon emissions and heat networks will play an integral part in reaching the 2050 net-zero target. Heat networks can be classified as technology-neutral and could facilitate low-carbon technologies for generating and supplying heat. Regulating heat networks for decarbonisation targets could incentivise investors and developers to deploy such technologies to enable greener networks throughout their whole supply-chain/procurement journey.

1.60 Aside from reporting on decarbonisation plans and actions under your proposed reporting scheme (Government's Adaptation Reporting Power Strategy for England), the government could also consider a certification scheme to accompany the regular reporting mentioned above. The certification could also be supported by an appropriate assurance review of the heat networks performance towards their decarbonisation targets (as discussed in question 34).

[14] BMRS is the primary channel for providing operational data (live and historical) relating to the GB Electricity Balancing and Settlement arrangements. It is used extensively by market participants to help make trading decisions and understanding market dynamics and acts as a prompt reporting platform as well as a means of accessing historic data. https://www.bmreports.com/bmrs/?q=help/about-us