BUUK Infrastructure
Energy House
Woolpit Business Park, Woolpit,
Suffolk, IP30 9UP

Tel: +44 (0)1359 240 363
Fax: +44(0)1359 243 377
www.bu-uk.co.uk

31st May 2018
Our ref: 310518CMAHN

CMA HEAT NETWORKS MARKET STUDY
BUUK responses to May 2018 update paper

1. INTRODUCTION

BUUK Infrastructure (BUUK) welcome the opportunity to respond to the update paper to the CMA market study into Heat Networks. We believe we can offer a unique perspective as both an investor and operator of Heat Systems and as an experienced owner operator of last mile utility distribution systems in five other regulated essential utilities. We would welcome formal regulation of the Heat sector. Based on our experience as a new entrant in other utilities, we believe this is essential. Regulation, if done well, can provide a higher degree of certainty for investors and also protect the full spectrum of end customers.

BUUK are a leading UK utility infrastructure investor, working across England, Scotland and Wales, competing against the traditional incumbent utility companies. We have 1.75m property connections on our networks, with c30,000 discrete networks all over the UK mainland. We apply this considerable experience to the district heating sector. Our main investor is Brookfield, who own 800MW of heat and cooling plant in North America. We also leverage this experience into the UK heat sector.

We welcome the initial findings and proposals within the report as they provide a sensible balance between the protection of consumers through the introduction of a regulatory framework and the continued development of the heat market to support the wider government low carbon targets. We provide detailed answers to your consultation questions below. We would welcome meeting with the CMA if further clarification or insight into our answers is required.

Assessment of the issues

1. Do you have views on our approach to analysis and our findings regarding heat network outcomes, misaligned incentives in the supply chain and transparency?

BUUK welcome the approach taken in the CMAs initial analysis of the heat network market. It reflects many of our observations gained from being the only multi utility provider across all the utility markets.

BUUK contributed fully to the development of competition in the gas distribution sector in the 1990s, and to competition in electricity distribution ten years later. Competition for water and wastewater networks followed in 2007/8 and we also provide ultrafast pure fibre networks for homes and businesses. This allows us to offer new developments a full multi utility solution. We provide a one-stop-shop service to house builders on new developments. We have no regional boundaries and provide utility networks across England, Scotland and Wales, working for the majority of house builders.

2. Do you consider the individual household gas boiler price to be a reasonable benchmark for customers to be confident that their heat supply is value for money?

BUUK welcome the CMAs initial recommendation that there should be a cost benchmark for customers applied to all forms of heat networks.

The Heat Trust provides a cost comparator for connected customers to check if their heat charges are reasonable. This is a comparator of a district heating bill against a gas equivalent property. The Heat Trust scheme has raised awareness with developers on the need to look after end heat customers.

BUUK already use the benchmark of the Heat Trust's Heat Cost Calculator when setting its tariffs. Providing a price promise as part of our Energy Supply Agreement, making the Heat Trust scheme mandatory. This provides the basis for changes to bills and assurance they will not exceed the level set by the Heat Trust.

3. Have we accurately captured the two broad categories of delivery models in the heat networks market (described in section 5) employed by housing associations and private property developers and their impact on customer outcomes? Do you have any views on potential different categories?

BUUK agree that there are two broad categories of heat networks in existence: communal heating systems and; district heating systems. BUUK's internal heat business model is more aligned to the district heating system which disaggregates the vertically integrated Energy Services Company (ESCo) model. We split the generation, distribution and retail functions. This creates a model to allow multiple generators connecting to a common heat network and competition in Retail Services to end customers and would facilitate switching. This model works well for larger schemes but could prove challenging in small scale communal heating systems.

We recognise that there is some misalignment of incentives across the supply chain but would comment that this would not be unusual in a new market. It would be interesting to see if this misalignment still exists in the newer networks. We would also comment that the nature of these two broad markets will have different drivers although we would expect that the outcomes for customers should be required to be similar in terms of costs and quality of supply.

<u>Regulation of heat networks</u>

4. Do you have views whether heat networks should be regulated? If you agree that they should be, please provide any views on which body might be best placed to act as the sector regulator.

BUUK believe regulation, if applied appropriately, would be beneficial for all stakeholders in the district heating sector. We believe there are important lessons from other utility distribution sectors where clear regulatory frameworks have stimulated healthy competition. Regulation can also ensure protection for all customers and also provide investors with greater confidence.

As a first new entrant in each of the utility sectors, BUUK appreciate the value of regulation. In the early stage of the market there was limited regulation. Some new entrants focused on providing value to developers to win their work. This could be to the detriment of the final end customers, as the quality of the installed network and transportation charges varied. Most end customers were not disadvantaged but no doubt there are examples where some were. This is a similar position that the heat sector faces today, identified in the recent report issued

by BEIS. The enhanced regulatory system in place today facilitates healthy competition for the provision and operation of new build gas and electricity distribution networks, with water now catching up.

Another benefit of regulation is that it provides a higher level of certainty for investors. Investment decisions and levels of return are based on risk. Regulation establishes a framework, which includes clear expectations on performance standards along with the level of return investors can expect. Regulatory price control periods are relatively long term with typically 5 to 8 year duration. This certainty provides investor confidence and lowers the cost of capital to finance heat projects.

We also believe a disaggregated ESCo model, with separate generation, distribution and retail functions should be created. This is the model we have used in our King's Cross development (see appendix 1 for summary of the network). The allows the common use of a single, regulated, distribution network by competing retailers, who purchase their heat from competing generators. The regulation of heat networks can also encourage the linking up of separate networks to increase resilience and plant efficiency. For smaller schemes this may be more challenging and not cost effective.

BUUK believe that it would be a natural extension of Ofgem's existing role to increase their powers to cover the appropriate regulation of Heat Networks. The Heat Trust scheme and Code of Practice provide a good starting point for regulation, but the Heat Trust lack the experience to manage the direct regulation and enforcement of these codes. Further Heat Networks have many similarities, in drivers and outcomes, to other power networks and any new regulator will need to build heavily on Ofgem's experience of these sectors.

5. If there is sector regulation, should it apply to all communal and district heating networks, all delivery models and existing as well as new networks?

Heat sector regulation should be applied appropriately to the observed market weaknesses. BUUK recognise that the majority of the Heat market consists of existing / older assets. Many of the current heat schemes are owned by the public sector. This will clearly present a challenge in applying performance standards and introducing regulation and competition.

It is important to draw a line in the sand and make sure that going forward, all new networks are fit for purpose and deliver a high standard of service to connected customers. This is particularly important where public funds are being used to help stimulate the market take up, such as the BEIS Heat Network Investment Project (HNIP). This provides a £320m stimulus in the form of grants and soft loans to stimulate the market over the current term of Government. This is expected to attract £2bn of private investment to deliver 200 new, large city based heat networks supplying heat to 400,000 homes by 2030 as part of UK heat strategy. With this projected growth, the new heat networks will form the majority of the market by 2030. An appropriate regulatory framework will help to attract the £2bn of private investment. It will also provide assurance for Government that the £320m of public funds is being invested in a robust model that will deliver a good standard of heat to homes.

However, different regulatory frameworks for different markets will introduce further complexity and could lead to market anomalies being introduced. With one model having unforeseen advantages that could stifle further market development. As a starting point It would not be unreasonable for all customers to expect the same minimum quality of service and cost. There are no inherent legal, or physical issues preventing this. District heat systems naturally split into the separate generation, distribution and retail functions. Hence it is

important to develop a regulated model now and this can be applied retrospectively to existing networks

The Heat Trust standards focus mainly on the retail function and provide residents with protection on levels of performance and heat charges. This can evolve to formal regulation for all of the retail activity, as a first step to the fully regulated model.

The generation and distribution assets undergo lifecycle replacement programmes, where fresh investment is required and the opportunity is presented to update the assets. This present an opportunity to move to a regulated model. The new build market presents the opportunity to develop this model, which will provide existing operators with a clear direction as they also move to regulation.

6. Do you have views on whether regulation of heat network prices to end customers is appropriate? If there were a form of price regulation, should it be a cap at a certain level, or a 'principles based' approach with self-reporting against permissible contract terms and a regulator to investigate complaints? What factors should determine the maximum level of prices?

It would be appropriate to introduce a form of heat network price regulation to end customers given the monopolistic nature of the end point of market delivery (direct physical competition in heat networks infrastructure and generation is unlikely to be cost efficient). End Customers should be protected from unfavourable contract terms particularly as they suffer from a relatively high asymmetry of information and may not be able to choose alternative heat providers or heat sources.

Given the emerging nature of the heat market and the requirements for significant growth and development it would be appropriate to use a principle based regulatory framework. The Heat Trust gas boiler cost comparison scheme and Code of Practice provide a good starting point for regulation This would continue to allow flexibility in the building and operation of new networks whilst providing protection to end consumers.

7. Do you consider that any rules and guidance on pricing and quality should apply to all heat networks or, for example, only to those with ESCOs? Do you consider that it would be proportionate to ban 'capital contributions'?

As previously discussed BUUK believe that on balance common standards should apply to all end heat customers. We recognise that this may require some form of transitional arrangements to enable older existing heat networks to meet modern standards of supply.
BUUK do not believe that it would be appropriate to ban 'capital contributions' when building new heat networks. Capital contributions from new network providers and developers has been an important part in facilitating the opening up of incumbent network providers (gas, electricity, water and fibre) to competition. This competition has lead to real benefits to end consumers through the provision of better new connection services and services to end consumers. There has been a significant observable reduction in time to quote and time to connect and downward pressure on prices through the competition that alternate network providers have introduced. Capital contributions have been, and continue to be, an important way of facilitating the entry of new network providers. A no worse off pricing principle (as used in the regulation of new utility providers) will ensure that end consumers are not subsidising developers by paying more for the ongoing cost of using heat networks.

8. Do you have views on whether heat network customers should have similar consumer protections to customers of regulated gas and electricity utilities?

BUUK believe that it would be appropriate to introduce similar levels of consumer protection as to consumers in regulated gas and electricity utilities. The complexity and number of rules should reflect that this is a relatively new market and minimise the overall regulatory burden.

9. Do you have views on the recommendations described in section 7 that we are minded not to pursue (eg banning capital contributions from ESCOs to property developers, and mandatory re-tendering of heat network operating and billing contracts)?

Given the introduction of minimum standards for network operations and billing services there would be little real benefit for the initial mandatory retendering of these heat network services. However, if these minimum standards don't drive up the quality of services to end consumers further consideration of this may be required in the retail sector of the market.

Planning and technical standards

10. Do you have views on how to improve technical standards, which cover the design and operation of heat networks, and make them enforceable? Could this be achieved in the absence of a regulatory regime requiring a licence to operate a heat network? For example:

a. What is the role of the CIBSE ADE CP1 Code of Practice in this process?

CP1 is currently undergoing a significant revision. CP1 aims to address the quality of heat networks through the entire project life cycle, from inception right the way through to operating. There are proposed to be check lists for each stage of the project life cycle that an independent auditor is proposed to task and review and complete. However, the current weakness of the Code of Practise is exactly that, it is a recommended code of practise and not currently binding.

The recommendations within CP1 only gain traction when the document is referenced within the Consultants or Planning Specifications.

The BIG issue with DESIGN and the District Energy Sector which sets it apart from other utility services is that there are many ways of achieving similar/same goals, and the entire process of District Energy Design is intrinsically linked with Building design document which cannot be entirely prescriptive as that would then stifle innovation and the natural process of improvement.

b. Do you have views on how these proposals could be embedded in the planning authorisation process?

Planning Approval requires the submission of an Energy strategy. It is within the Energy Strategy or the accompanying Consultant Specifications that CP1 is referenced.

c. For potential heat network connections affected by Building Regulations and / or planning, how could appropriate technical standards could be embedded these processes at local, regional and national levels?

All heat networks connections are affected by Building Regulations, in particular Part L which sets the very high-level requirement for carbon emissions and carbon intensities, which in turn drive the approaches and targets set in CP1.

d. Could operating technical standards be applied retrospectively to existing heat networks?

There is a requirement within CP1 for the operation of the system to be validated against the design parameters. This applies to all BUILDINGs energy systems. There is currently no requirement to 'police' the operation.

e. What is the impact of the current approach to professional indemnity insurance for heat network design and build on the recommendations of design engineers?

The position of anyone designing any engineering system is very clear in that it is not in 'their' interest to under design. This does then lead to over design. The process of designing a heat network as with any building engineering service is very complex and full of many assumptions, hence why the process cannot be prescriptive.

11. How could local and development plans and their supplementary guidance be adjusted to take lifetime costs and customer prices into account? What would the impact of this be?

It is important that lifetime costs are considered by local development plans. However, the impact is likely to be small as the results are significantly influenced by the underlying assumptions. A lifetime cost will for example be greatly influenced by the assumptions made on OPEX and REPEX.

12. How should a heat network quality assurance scheme be established and embedded into the regulation of heat networks? Should such a scheme seek to accredit the commercial, financial and contractual aspects of a heat network as well as the technical?

Currently, the best solution and avenue offered is the further development of the Cp1 checklists which is generally accepted in the Heat Industry. They would need to be extended to cover the commercial, financial and contractual aspects of District Energy and Heat Networks.

Keith Hutton
Regulation Director
BUUK Infrastructure

APPENDIX 1 - KING'S CROSS – CASE STUDY

In 2007 BUUK entered the district heating market at the Argent development in King's Cross. When fully built out this will consist of 2,500 residential plots along with commercial space. Today the site is about 50% developed and is fully operational. BEIS (DECC at the time) have visited the site and we would be pleased to invite the CMA for a tour if that is of interest. This is a unique site in the UK if not Europe, with one company operating seven different types of utility networks on one site; district heating, district cooling, electricity, gas, fibre, water and wastewater.

This model **disaggregates the generation, distribution and retail functions** of the heat supply chain. The ESCo is owned by the developer (KCCLP) and owns the generation plant within the energy centre and supplies heat to residents. BUUK own the distribution assets (the primary district heat and cooling networks and ancillary plant). BUUK also provide the retail service for the ESCo, procuring fuel, setting heat tariffs, providing metering and billing services and managing customers.

We have replicated this model at Greenwich Millennium Village, where Eon are the ESCo, playing the same role as the developer at King's Cross. BUUK own the heat network (primary and secondary) and also provide the site utility networks. Eon are the ESCo and provide the generation and retail function. In both of the models, the distributor is paid a use-of-system charge for use of its network. This is based on the model that has worked well for many years in the gas and electricity sectors. Communities have a single distribution network, i.e. a gas pipe or electricity cable, with competition in generation and retail. The common distribution network is regulated to ensure both the charges and standards of performance are fair and reasonable.

This same model would be straight forward to apply in district heating. The single, regulated, distribution network can be used by multiple generators, creating competition. Retail can be structured in the same way as gas and electricity, with retailers purchasing heat from generators and competing to supply end customers. Customers can then have the same right to switch supplier.