

Response ID ANON-H5M2-M4ZX-F

Submitted to **Consultation on Heat and Energy Efficiency Strategies, and Regulation of District Heating**
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About You

What is your name?

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Are you responding as an individual or an organisation?

Organisation

What is your organisation?

Organisation:
the Building Engineering Services Association

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

Publish response with name

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

Yes

Section A: Local Heat & Energy Efficiency Strategies To Support Delivery of Energy Efficiency and Heat Objectives of SEEP

1 Do you agree that local authorities should have a duty to produce and implement a Local Heat & Energy Efficiency Strategy (LHEES) as outlined above? Please explain your view.

Yes

1:
Successful implementation of district heating needs to start on a local level with community networks where achievable. For example Local Authority support has been proven to be vital for the success of district heating.

1b) What are your views on the appropriate geographical scale for the preparation of LHEES? Should each local authority produce a single strategy for its area, or would it be possible for local authorities to work together to prepare strategies jointly for a wider area?

1b:
Authorities should work together where the need arises to ensure district heating networks are well matched to the demand zones. This should be judged on a case by case basis.

2 Do you agree with the proposed scope and content for LHEESs? In particular do you agree LHEESs should (a) set targets for energy efficiency and decarbonisation and (b) include a costed, phased delivery programme that will meet local targets? Please explain your views.

2:
Setting targets is in principal a good proposal however, with existing regulations, any targets set prove to be meaningless due to the performance gap between designed and delivered buildings.

Existing building regulations encourage a tick box mentality to building design and gives no consideration to recording the actual energy performance of delivered buildings. Without addressing the performance gap, the long term potential for decarbonising and improving efficiency will never be fully realised.

A report from Innovate UK (February 2016) showed, despite access to the latest energy saving and comfort technology along with modern methods of construction and digital design, the performance gap is still widening. It found that buildings 'routinely' use 3.5 times more energy and emit 3.8 times the carbon than intended in their original design. In some cases, total emissions were 10 times the rate calculated for building regulation compliance further demonstrating

how the current system is set-up to fail.

3 Please provide any evidence you have regarding the data available (or that could be available) to local authorities that would be useful or key to preparing and implementing such plans beyond the Scotland Heat Map and the EPC Register (including data held both within and outwith the public sector).

3:

Ref. above report and public database

<https://energy.gov/eere/buildings/building-performance-database>

Section B1: District Heating Regulation

4 What are your views on the broad principles for regulation outlined above? What else do we need to consider? What should be prioritised in cases where principles may not always be compatible?

4:

The schemes need to be focused on delivery and not promised delivery and as such should focus on the actual carbon/energy performance of the building delivered and not a theoretical value deduced from poorly constructed calculation within the building regulations (no consideration for dynamic weather conditions, unregulated energy usage etc.)

The measure of success of the principals needs to be based on the true output and not theoretical inputs. Use simple metrics like KG CO2/KWh with cheap sub metering and data logging - this is cost effective.

5 What are the key principles or approaches that should inform how our regulatory approach manages risk for district heating across the whole system?

5:

Demand/market risk can be minimised by successfully identifying anchor loads (schools, hospitals, leisure centres etc) with known and predictable heat load demands for district heat networks to be based around. This will de-risk the network and the operator by providing confidence on a return on investment rate.

Performance risk can be reduced by focusing on energy efficiency in buildings and ensuring technical standards ensure that district heating networks are designed, installed, commissioned, maintained and operated appropriately to maximise efficiency.

Construction risk reduction through use of qualified and certified contractors e.g. BESA members.

Section B2: Planning, Zoning and Concessions for District Heating

6 What are your views on local authorities having the power through LHEESs to zone areas for district heating? Please provide any relevant evidence.

6:

A good approach to ensure building owners are aware, early on, that an area is intended to become part of a district heating network.

Experience from London; have clear CBA methodology to avoid conflict, have guidance for connections (BESA & Islington),

7 How should district heating zones be identified? For example, how should national targets, socioeconomic analysis, local priorities feed in to the designation of zones within the Strategy?

7:

Through detailed assessment of socio-economic issues, fuel poverty, measured current heat demand, projected heat demand through development, anchor loads available, barriers to infrastructure (i.e. cost of installing network pipes) and air quality.

8 What are your views on taking district heating zones, or parts of district heating zones, and establishing an exclusive concession for either private- or public-sector heat network developers to fulfil that part of the LHEES? How will this alter the risk profile of district heating development?

8:

This would encourage competition and investment however it is vital that contractors selected (i.e. through competitive tender) are competent and can deliver a network sub-section to a certain quality to safeguard long-term efficiency and performance. Therefore the separation of construction and operation should be considered or at least be carefully monitored by a competent team of engineers.

8b) Do you agree that local authorities should be responsible for issuing and enforcing concessions in their areas? Please explain your answer.

8b:

If the intention is to break the networks into smaller, more manageable sub-sections in a bid to encourage investment and prevent stranded assets than yes, this should be regulated/managed by local authorities. Experience has shown that without planning department's unequivocal support DH will not happen.

9 What considerations should inform the design of concessions (target users, envisaged network growth, concession length, etc.)? Please provide any evidence you have to support your views.

9:

10 What are the implications of zoning and concessions for existing district heating networks?

10:

11 Do you think the broad rights and responsibilities of concession holders set out in this document are appropriate? Why? Please provide any examples or evidence.

Not Answered

11:

12 How can a balance be struck between ensuring LHEESs are responsive to changing conditions while ensuring security and stability in long term district heating development models?

12:

13 What should happen to long term ownership of heat network assets, post-concession?

13:

Section B3: Connecting Users to District Heating Networks

14 What are your views on the opportunities and challenges in connecting anchor loads to new heat networks? In your view, will the scenario set out address these issues and accelerate district heating development? Please explain your answer.

14:

Demand/market risk can be minimised by successfully identifying anchor loads (schools, hospitals, leisure centres etc) with known and predictable heat load demands for district heat networks to be based around. This will de-risk the network and the operator by providing confidence on a return on investment rate.

15 What are your views on the proposed power to compel existing buildings to connect to district heating?

15:

It may be prudent to encourage existing building owners to connect to a district heating network as long as they are engaged early in the discussion to better understand the benefits they can realise. Without understanding the benefits/savings and a push to connect there will likely be barriers to change.

The cost of energy to the majority of building owners is either not significant enough or the cost of lowering energy cost is too high to warrant action. They are not charged for carbon emissions, and therefore have little motivation for change.

However with clearly expressed benefits of DH they can be signed up; reduction in CAPEX and OPEX of the building, lower carbon energy for corporate reporting plus any incentives that the LA might add in.

15b) Are the broad principles and criteria appropriate? Should other principles or criteria also apply? In particular, what approach should be taken to socio-economic assessment at the project level, prior to a compulsion to connect?

15b:

15c) Do you agree that this socio-economic assessment at project level should include an assessment of the impacts on consumers of requirements to connect?

Yes

15c:

Yes, however a clear methodology should be established for fairness. The Heat trust has existing models that could be used.

15d) Do you agree that local authorities should exercise powers to compel connection of existing buildings (for example when requested by relevant concession holders)? Please explain your answers.

Yes

15d:

Yes, provided the project in question will improve conditions/reduce fuel poverty for the building/development in question.

16 Do you agree that mitigating risk by establishing exclusive concessions will lower financing costs and heat prices?

No

16:

Not necessarily, the use of CIBSE CP1 and Heat Trust can help control heat prices

16b) How can these regulations be designed to best ensure this happens?

16b:

See above but also ensure that heat prices are publicly available in advance of sale of the property

16c) What are your views on the time length of concessions in order to attract investment?

16c:

17 Do you agree that compelling existing buildings to connect to district heating would mitigate heat demand risk, lower financing costs and help create an attractive investment proposition for district heating developers and financial institutions?

Yes

17:

Yes, it would increase heat demand for networks which would mitigate investment risks for developers and financial institutions. This, in turn, should lower financing costs.

17b) Could you provide evidence of how much they would be lowered?

17b:

17c) How can these regulations be designed to best ensure this happens?

17c:

18 What are your views on the relationship between LHEESs and local development plans and how planning policy and development management should support the anticipated role of LHEES for new buildings? Please explain your answer.

18:

It is critical that planning and development management liaise closely with LHEES when district heating zones are discussed to ensure coordination.

Section B4: Connecting surplus industrial heat

Questions 19-22c pertain to existing industrial plant

19 What challenges and opportunities do you see for existing industrial plant to connect and sell waste heat to nearby district heat networks, both now and in the future?

19:

Location/distance is a primary concern. Transportation of heat results in thermal loss and a reduction in the overall performance of the system. Industrial plant is typically located away from residential areas (i.e. industrial estates) and as such it may be more prudent to use local district heating networks to decarbonise industrial plants themselves rather than incur the efficiency loss of piping the heat to domestic demand.

The cost of laying the pipe for the district heating network is significant in the UK and therefore it is more cost effective for networks to be localised initially.

19b) What barriers have industries experienced in the ability to sell their heat under current market conditions?

19b:

The intermittent nature of industrial heat production can be problematical and the impact of a parasitic heat demand on a process system is considered an unnecessary complication by those who operate it and the heat price available is often insufficient to overcome this.

20 What are your views on requiring existing industrial plant with the potential to supply surplus heat to make data available to public authorities? Please provide any relevant evidence.

20:

Data is essential for LHEES to make any assessment or decision for zoning district heating around industrial plants with them being considered as anchor loads.

21 Under these proposed new arrangements, do you think that an enabling approach, perhaps using voluntary mediation, will be successful? How can we best encourage existing industrial plant to supply waste heat to a district heating network?

21:

It should be incentivised. If a plant captures surplus heat and this is utilised in a district heating network, this should be metered with the plant being paid the heat provided as well as receiving reduced carbon tax rates under the Climate Change Levy.

Providing engineering support for the options and offering to insure against impact would help.

21b) Which public authority should carry out the role of voluntary mediation?

21b:

22 Do you agree that in some circumstances, (if requested) compulsory mediation is needed?

Not Answered

22:

22b) Do you agree that if compulsory mediation was not successful, then a more directive approach should be used?

Not Answered

22b:

22c) Which public authority should carry out the role of compulsory mediation or direction?

22c:

Questions 23-24 pertain to new industrial plant

23 What are your views on requiring new industrial plant to be 'district heating ready'?

23:

A good idea that would work best if executed correctly. If a district heating zone has been identified then any planning permission for industrial plant that falls within the zone should be subject to the plant being 'district-heating-ready'. Careful definition of what this means is required.

24 What would be the most appropriate way of ensuring that new industrial buildings connect to district heating networks? What role can zoning within LHEES play in this?

24:

Incentivise connection for industrial plants as they will act as an anchor load for the network.

Section B5: Technical Standards, Consumer Protection and Licensing

25 Do you agree that as district heating becomes more widespread it will need to become a licensed activity? Please explain your answer.

Yes

25:

Potentially, the voluntary schemes being set up in England are proving successful and the quality of CP1 and other industry guidance is improving all the time.

26 What technical standards and consumer protection measures should be part of standard district heating licence conditions? How should these relate to existing schemes?

26:

Examples of existing DH specific work are;

- CP1
- BESA HIU test standard
- Heat Trust
- Islington connections guide
- BESA early connections guide

As the market grows, manufacturers will enter the sector from a variety of backgrounds and with varying competencies and qualifications eager to capitalise on the growth. It is important to safeguard the consumer against this eagerness by ensuring they are protected from inadequate systems that can worsen fuel poverty and erode consumer trust in district heating technology.

From an M&E perspective, the standards should be focused on the delivered performance of systems to ensure the final product delivers on the design that was promised. The M&E sector already has standards, knowledge, specifications, contracts, compliance schemes which are published and managed by organisations like BESA. Often the problem is in enforcing compliance and spreading knowledge of best practice rather than creating new publications.

27 What are your views on using a licensing system to confer enabling powers on operators, and on what enabling powers are required?

27:

28 What principles, objectives and other considerations should guide the development of a Scottish district heating licence?

28:

29 What drawbacks or challenges might a licensing system create? How could these be minimised?

29:

30 Do you have views on who should issue District Heating Licenses and ensure that technical standards are being met?

30:

31 Would the benefits of the concession area outweigh the costs of the licensing arrangements?

31:

Section B6: Enabling Activity and Additional Areas for Consideration to Support our Regulatory Approach

32 What are your views on the best approach to ensuring that potential customers understand the differences as potential customers of a heat network? And who do you think is best placed to convey these messages?

32:

33a) Please provide any evidence you have regarding analytical skills, resources and techniques that could support development of LHEESs, particularly where these are not currently used by local government.

33a:

33b) Please provide any evidence you have regarding the anticipated cost of preparing LHEESs.

33b:

33c) Please provide any evidence you have regarding the additional skills and resources are needed to meet the requirements of the potential local authority role of district heating regulation.

33c:

34 What support and resources will local authorities need to produce LHEESs and implement the potential local authority role of district heating regulation. And which organisations do you think these are best placed to provide these? Please explain your views.

34:

35 What are your views on how any support should change over the different phases of development, introduction and implementation of any regulation?

35:

36 What are your views on the wider regulation of the heat market to ensure decarbonisation?

36:

37 What are your views on when decisions should be taken on the future of the gas network?

37:

38 Please provide any evidence you have to inform the Scottish Government in informing its thinking in this area.

38:

39 Please set out any further views on issues covered in this consultation that you have not already expressed, providing evidence to support your views.

39:

Evaluation

Please help us improve our consultations by answering the questions below. (Responses to the evaluation will not be published.)

Matrix 1 - How satisfied were you with this consultation?:

Slightly satisfied

Please enter comments here.:

It would help considerably if a separate sheet listing all the questions was published alongside the main paper to make review quicker.

Matrix 1 - How would you rate your satisfaction with using this platform (Citizen Space) to respond to this consultation?:

Very satisfied

Please enter comments here.: