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# Response to Heat Networks Investment Project consultation

July 2016

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## The Environmental Association for Universities and Colleges (EAUC)

### **Call for Evidence: Response to Consultation Questions**

#### **A. Who should be eligible to apply directly for capital funding?**

**1. Do you agree that the proposed Pilot should be aimed at local authorities? Yes/No**  
No, funding should be aimed in equal priority to support Local Authorities, Universities, Colleges, NHS and other bodies that provides general public good. Universities and Colleges are ideally placed to deliver beneficial projects in this area.

However joint projects between private and public organisation demonstrating valuable benefit to the communities should be able to access the pilot phase. Housing projects are particularly appropriate.

#### **2. Are there other public sector bodies that should be eligible to apply directly for support in the Pilot and if so, why?**

Universities and Colleges should be eligible to apply directly for this funding. Their size and scale of operation mean that the funding can be particularly effective. Many Universities and Colleges have existing, effective relationships with the towns and cities they are based in, which will help the projects have the best possible impact.

The tertiary education sector is as key driver in sustainability and many institutions are already leading the way with innovative district heating projects.

Universities in particular house a large number of students who can have a high demand for heating, which this funding can help support.

#### **3. Do you agree that the following types of heat networks sponsors and owner-operators should be able to apply for capital funding in the full scheme? – Local authorities, wider public sector, private sector, not-for-profit groups and community groups. Yes/no**

Yes all of the above should be eligible for grant funding. The physical location of all the above organisations across the country will identify multiple scenario and possible project that should be able to compete.

For example a hospital could be located and linked to a medical teaching university. Many Universities and Colleges are linked with other public sector bodies and shared heat networks could maximise efficiency.

**4. Please set out who should or should not be eligible to apply directly for support in the full scheme and explain why?**

Eligibility should be based on scheme benefits rather than related to the type of organisations. Therefore the full scheme should be open to public- and private-sector applicants without restriction.

**B. What should the Heat Networks Investment Project provide capital funding for?**

**5. Should the Heat Networks Investment Project provide funding for commercialisation work where these costs are capitalised? Yes/No**

Yes. It is very important valuable and viable projects can be supported to full implementation.

HNDU provide very important funding for the initial stages of projects. HNIP should offer continuity in the support of projects. Commercialisation is as important as previous stages to ensure long term success.

Allowing commercialisation costs to be capitalised with HNIP support is a good measure.

**6. Please set out why funding for commercialisation work that is capitalised should or should not be provided under the Heat Networks Investment Project and whether it should be provided through grants and/or loans. Please provide supporting evidence if available.**

Many heat network projects will start a main anchor customer. The heat source will most likely have spare capacity. It is in the benefit of UK plc to allow commercialisation to seek further customers to minimise waste heat and increase low carbon heat deployment in the country.

**7. Should the Heat Networks Investment Project provide funding for refurbishment of heating and hot water systems inside existing end user premises (including distribution in multi-tenanted properties) that are connected to a new or refurbished heat network supported by HNIP? This will exclude heating and hot water systems inside new-build properties. Yes/No**

Yes. HNIP support should be allocated to the whole projects including necessary refurbishments. The definition of refurbishment should also be flexible.

Such refurbishments may be integral to the ability to deploy the project and central to the ability to reduce UK plc carbon emissions. Such refurbishments costs should be included in the project financial and profitability justification.

**8. Please set out why funding for internal heating and hot water system refurbishment as described in the previous question should or should not be provided under the Heat Networks Investment Project and whether it should be provided through grants and/or loans. Please provide supporting evidence if available.**

The HNIP support should be allocated to the whole projects including necessary hot water systems refurbishments. The definition of refurbishment should also be flexible.

The CIBSE / ADE code of practice and well establish CHPQA are reasonable safeguards to ensure HNIP funding will be appropriately invested.

**C. What combination of funding mechanisms should be offered?**

**9. Do you agree with the impacts of grants on heat network sponsors and investors outlined in Table 2? Yes/No**

Yes. Different types of funding may be best suited to different projects.

**10. Please set out your views on the impacts of grant funding below.**

Yes grants are an essential funding mechanism for the HNIP.

Many Universities and Colleges may lack the initial capital funding to undertake key projects steps. For example HNDU covers only 66% of the feasibility costs.

**11. Should grants be provided to contribute towards the costs of additional technical or commercial future-proofed characteristics (see Future proofing as eligibility, scoring or additionality criteria section) only? Yes/No**

Yes. Grants are an essential funding mechanism for the HNIP.

Many Universities and Colleges may lack the initial capital funding to undertake key projects steps. For example HNDU covers only 66% of the feasibility costs.

**12. What advantages does grant funding provide over the other capital funding mechanisms to heat network sponsors and investors?**

Grants are an essential funding mechanism for the HNIP.

Many Universities and Colleges may lack the initial capital funding to undertake key projects steps. For example HNDU covers only 66% of the feasibility costs.

**13. Do you agree with the impacts of soft loans on heat network sponsors and investors outlined in Table 2? Yes/No**

Yes.

**14. Please set out your views on the impacts of soft loan funding below. Including what advantages soft loans provide over other capital funding mechanisms to heat network sponsors and investors?**

Heat network projects are complex projects requiring many inputs and deliverables to be achieved. Soft loans are a valuable option to match funding with the complexity of the project as well as projected revenue.

It is well known commercialisation may take a longer time than a "standard" project such as a plant or commercial building where revenue can be scaled-up faster.

**15. Please rate which of the following features, alone or in combination, would make soft loans most effective for heat networks?**

**Loan drawn down in tranches over construction period**

Yes essential.

**Low interest rate**

Yes very important.

**Loan tenor aligned with pipe infrastructure lifetime**

Potentially yes.

**First repayments to be made after construction, i.e. in initial years of operation**

Yes essential.

**Sculpted repayments to match planned cash flows**

Yes essential.

**Option for payment holidays**

Yes it can be an option although projects commercialisation should prevent this

**Subordinated debt, less senior than other loans**

Yes useful

**If there are design features for soft loans which would have greater impact than those above or if you disagree with the features listed above please set your views out and indicate whether this varies across different heat network types. Please indicate whether soft loans across the construction period or into operation would be most beneficial.**

A key factor is the ability for the soft loan to be designed around the projects capital expenditures and anticipated revenue stages providing the financing stability other private funders may require.

**16. Do you agree with the impacts of equity on heat network sponsors and investors outlined in Table 2? Yes/No**

Yes.

**17. Please set out your views on the impacts of equity below including what advantages equity provides over the other capital funding mechanisms to heat network sponsors and investors?**

We believe that an equity option should be available, however, grants and soft loans are a greater priority.

**18. Do you agree with the impacts of guarantees on heat network sponsors and investors outlined in Table 2? Yes/No**

No.

**19. Please set out your views on the impacts of guarantees below. Including what advantages guarantees provide over other capital funding mechanisms to heat network sponsors and investors? In particular, please set out whether construction period guarantees could help achieve the Heat Network Investment Project aims.**

All other utility network investments in the UK are currently financed under a regulatory investment framework that guarantees long-term revenues to the investor. This ensures regulated networks can access low cost capital from institutional investors. To achieve a similar scale of investment, district heating undertakings need to have a similar risk profile to other energy networks, although with a regulatory framework that reflects their smaller size, cost and customer base.

**20. Are there any other opportunities and challenges presented by potential funding mechanisms that Table 2 does not cover? Or are there other capital funding mechanisms that should be considered to support heat network deployment?**

Guarantee mechanisms such as other utilities infrastructures would be a very important support. In particular, support during the Procurement stage of a project. i.e. bridging the "feasibility" and

the “implementation” stages of a project. This can be a slow and contractual stage of the project, during which.

**21. One of the aims of this project is to help create the conditions for a self-sustaining heat network market. Increased build rates of heat networks may require new investors. What would this project need to demonstrate to build awareness and confidence with new, private, third-party investors and draw them into the UK heat networks market?**

Long term government support for heat network infrastructure beyond 2020 such as for other utilities.

**D. What criteria should be used to assess and decide capital funding applications?**

**22. Please indicate which factors below should be used in combination as the minimum eligibility threshold which all first stage applications must meet AND which should be competitive factors that should be used to assess, score and compare applications at the second stage of the application process.**

The minimum threshold should be limited to design and operation quality such as CIBSE/ADE code of practice and CHPQA where applicable.

**Volume of carbon savings in short-term and long-term, traded and non-traded**

Volume of carbon savings should be dictated by minimum design and operating efficiency rather than absolute levels.

**Will operate with no customer detriment in comparison to the counterfactual – heat price issues (including ability to generate consumer bill savings)**

The principles of the Heat Trust customer protection should be applied as a key criteria

**Will operate with no customer detriment in comparison to the counterfactual – wider customer service issues**

The principles of the Heat Trust customer protection should be applied as a key criteria

**That applicants have explored a suitable range of technical options**

Technical and sensitivity analysis could be mandatory criteria in HNIP funding

**Technically future-proofed (e.g. able to expand)**

Minimum standard. This is an essential aim of the HNIP to deliver long-term heat network assets which deliver growth and decarbonisation over the assets’ lifetime.

**Commercially future-proofed (e.g. the ability to refinance, consideration of legal structuring)**

Commercial future proofing may depend from future government and planning support. Projects should demonstrate future proofing options as well as government should express maintain clear support well beyond 2021.

**Transformation of the heat network market through: raising awareness of this infrastructure opportunity with current and future investors**

**Social Net Present Value (NPV)**

Yes it is important

**23. Do you agree with this high-level assessment methodology?**

Yes, with caveats. It is important the assessment methodology does not set more minimum standards than are absolutely necessary. The competitive scoring process should be responsible for judging schemes on a holistic basis and ensuring high-quality schemes.

**24. If not, what would you propose instead?**

Assessments should be made on efficiency and robustness rather than absolute financial criteria.

**25. For current or potential investors: What are / would be your typical nominal pre-tax hurdle rates for investment in comparable industries (although we understand this will be affected by the specifics of a particular heat network project including but not limited to its size, duration, customer base etc.) and what industries do you consider to be comparable to heat networks when determining your hurdle rate? If possible please split out how your hurdle rate has been built up (e.g. risk-free rate assumption, construction risk premium, inflation premium, etc).**

Heat networks should not be treated as other financial investments. Criteria should be more aligned with funding principles of other utilities infrastructures along with specific heat network values (carbon saving and customer protection).

**26. Please indicate for each heat network characteristic below, which should form part of a minimum eligibility threshold criteria (because it is either happening consistently or not happening but should be), and which are best practice characteristics that can be used to demonstrate technical/commercial additionality.**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**a. Suitable diversity of customers who demand heat at different times to flatten heat demand profile and optimise heat source utilisation or a wider scope of customers that would otherwise have been constrained (such as less profitable heat loads)**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**b. Connecting (retrofitting) existing properties to heat networks**

As appropriate. Not relevant if the heat network is industrial.

**c. Network future-proofed for later expansion or interconnection**

Minimum standard.

**d. More than 50% renewable energy, 50% waste heat, 75% cogenerated heat (CHP) or 50% of a combination of average heat generated per annum across the lifetime of the pipe asset**

As we understand this is a minimum requirement under the Energy Efficiency Directive, we would expect it is required as a minimum standard.

**e. Ability to support electricity system balancing including CHP + electric heat source + thermal store**

Is very likely to be included in the future proofing of the scheme design

**f. Lower temperature primary heat network**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**g. Cooling networks and heat networks that provide cooling**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**h. Use of multi-utility trenching**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice.

**i. Suitable heating and hot water systems and coordination between property developer/heat network developer or property owner/heat network owner**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**j. Smart controls, thermal store and/or modular approach to heat sources to optimise system**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**k. Use of CIBSE ADE Code of Practice CP1:2015 technical standards (design, build, commission, operate)**

The CIBSE ADE Code of Practice should not be a minimum standard, but should be encouraged as a tool to demonstrate compliance with a requirement to meet industry guidance and best practice.

**l. Systems to obtain and utilise robust data**

Best practice.

**m. Deploying proven cost-reducing innovation (including from SBRI)**

Best practice.

**n. Metering and billing systems and processes over and above Metering and Billing Regulation requirements, including customer interface innovation or smart heat meters**

Heat regulations compliance where applicable and best practice.

**o. Local authority governance role in a majority private sector owned scheme**

Best practice.

**p. Customer protection over and above Heat Trust equivalent standards. This could include heat prices lower than counterfactual, consumer advocacy including cooperatives/community shares/customers on Board or heat network supply competition**

Best practice.

**q. Heat networks build time reduced or brought forward, reaching operation sooner and delivering carbon savings in earlier carbon budgets**

Best practice.

**r. Bringing in private sector third party investment (not involved in the operation of the heat network)—debt or equity**

As appropriate - Best practice.

**s. Contractual clauses that allow for future aggregation of multiple heat networks into a portfolio, unbundling (of generation and distribution) or future sale/acquisitions once operating**

Yes - Best practice.

**Please indicate any other characteristics that should be considered minimum standards for all supported heat networks or any that could be deemed additional. Please provide evidence for your views or indicate how these characteristics could be demonstrated at application stage.**

Criteria should be limited to the minimum such as design and operation best practices arising from CBSE/ADE code of practice and the Heat Trust customer protection.

**E. How should HNIP be monitored to ensure it is delivering its intended aims? / Heat Networks Investment Project – measuring success**

**27. Do you agree that these areas are important components of a sustainable heat network market (or transition towards such a market)? Yes/No**

Yes.

**28. If applicable, please indicate what should be monitored instead / as well**

Risk (and financial costs) will decrease providing there is a long term government support to heat network infrastructures should be aligned with support to other infrastructures.

**29. Are you aware of existing evidence on what facilitates, or what works against, the transition to a self-sustaining market (i.e. one that does not require government funding)?**

Access to low cost capital and trust in the heat network industry are the highest factors,

Both can be achieved with suitable long term government support to heat network infrastructures should be aligned with support to other infrastructures.

**30. Is the supply chain ready for accelerated deployment of heat networks? Yes/No**

Yes.

**31. If you feel the supply chain is ready, what evidence do you have for this and what support do you think is needed to manage cost and quality as heat network deployment accelerates?**

Core skills are available in UK and abroad.

Increased long term government support will allow companies to invest in the UK.

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