BEIS

Green Heat Network – Transition Scheme
Workshops 1 and 2
QUESTIONS AND ANSWERS

Please Note: These questions have been grouped together by topic, so do not reflect the running order of the event. Questions have been edited for clarity and the speakers and attendees' names have also been removed.

WORKSHOP ONE – 21st June 2021

	Question	Answer
1.	**Funding** Can you reiterate funding number for Transition and Full Scheme periods?	*The GHNF Transition Scheme has a budget allocation of £10m for the 2021/22 financial year. The Chancellor of the Exchequer announced the £270m GHNF in his March 2020 budget.*
2.	**Ground-Source Heat Pump (GSHP)** Would a neighbourhood GSHP array be eligible?	*Yes, as long as it meets all of the evaluation criteria, such as the initial gates. These include carbon intensity, Social IRR, minimum annual thermal demand and consumer detriment.* *Depending on a project's size, such a project may need to follow the aggregation application route and apply with other schemes to meet our minimum thermal demand criteria.*
3.	**Zoning** Does the legal obligation include a planning obligation?	*No, but central and local government strategies are being developed to tackle the decarbonisation of heat, to enable heat networks to offer greatest opportunities. The exact details of the Zoning proposals for establishing heat network zones are yet to be confirmed and will be subject to public consultation. Zoning will not come into effect until after relevant legislation has come into force which may be after the GHNF's three-year duration has ended.*
4.	**Electricity Grid** Would you fund electricity grid capacity upgrades / substations necessary for electricity-led heat network schemes (e.g. heat pump led schemes) where a local DNO deems an upgrade is required?	*Such works would be supported where they are considered essential to supplying thermal energy for the heat network and that all the scheme criteria, such as carbon intensity are met. By including this additional CAPEX, the competitiveness of the project in terms of pence/kWh will be affected.*

	Question	Answer
5.	**Private Wire** Where projects include private wire power sales does the carbon impact of that need to be included against the carbon gate metric?	*Yes, electricity generation will be included effectively as an offset. With low-carbon CHP plant or small CHP driving a heat pump – the electricity generated should act as an offset. The saving will of course diminish over time as the grid continues to decarbonise.*
6.	**Scottish Scheme** Have you spoken with the Scottish Government about the GHNF? If so, are they interested in doing something similar?	*We have liaised with the Scottish Government during the development of the GHNF and they are working on their own heat-network-related support programmes.*
7.	**Match Funding** Can the fund be used as public sector match for town fund projects?	*Other grant monies need to be declared and will be taken into account under our <50% subsidy control criteria. BEIS is currently consulting on subsidy control measures and therefore the GHNF rules may change in line with the published response to the consultation on subsidy control.*
8.	**50 Per-Cent Grant Cap** I understand that the GHNF Transition Scheme will only offer up to 50%? If so, can the applicant use other grant funding to make up the balance or officers time for a LA, such as benefit in kind, etc. ... Therefore, in response to the BEIS response to my question, to be clear BEIS fund 100% for GHNF TS for costs incurred in commercialisation (?) as that is a key point for projects in an early stage... but BEIS are comfortable as the applicant could not seek more than 50% for capital when a GHNF scheme application is made... That is another key point as it leads to what a LA for example needs to find as funding NOW, i.e. £0? if successful under the GHNF TS?	*Up to, but not including, 50% of the combined total of the commercialisation costs plus construction costs can be supported.* *There is scope to cover **all** of the commercialisation cost segment through the TS, but when a project seeks construction funding, the overall 50% cap would still apply for the combined total grant award offered.* *The GHNF Transition Scheme does have a £1m cap for commercialisation costs. Applications over this limit may be permitted at BEIS's discretion – subject to all other gated metrics being satisfied.* *For LA applicants, no officer time need be declared. Other grant monies need to be declared and will be taken into account under our subsidy control criteria. BEIS is currently consulting on subsidy control measures and therefore the GHNF rules may change in line with the published response to the consultation on subsidy control.*

	Question	Answer
9.	**Heat Pumps and Ambient Loops** Where an existing large CHP scheme is currently proposing to transition to a wood chip fired scheme, would this fund be eligible to convert to heat pumps/ambient loop?	*Yes. Any existing scheme looking to decarbonise would be eligible, subject to them meeting our scheme criteria.*
10.	**2GWh / Annum Minimum** Is the 2GWh/year 'demand' or 'consumption'	*For urban networks, a minimum end customer demand of 2GWh/year (including existing customers).* *In the case of rurally located projects the 2GWh minimum can be replaced with a 100-dwelling minimum.*
11.	**2GWh / Annum Minimum** Will it be practical for smaller schemes to apply, i.e. just above 2 GWh or even 100 homes due to the complexity of the process... if it is even a fraction of the HNIP process this won't work.	*We have simplified the application process for both the GHNF and its transition scheme. We believe that this will be a practical proposition for smaller schemes that meet our minimal thermal load/dwelling criteria.*
12.	**2GWh / Annum Minimum** Yes, not much help for new build development - need an established large heat load to benefit I think.	*We have designed the GHNF to help decarbonise both existing and new-build heat networks. We also intend to allocate a maximum of 40 per-cent of the GHNF annual budget to decarbonising EXISTING networks – thereby ensuring that a greater proportion of NEW networks will be supported.*
13.	**Definition of Rural (100-dwelling minimum)** How do you define what is rural to prevent this not being used in urban areas ... population density metric?	*The rural 100-dwelling alternative to the minimum 2GWh annual criterial will be assessed on a case-by-case basis and ultimately it will be a judgement call by our assessment team.*

	Question	Answer
14.	**Scheme Aggregation** When taking the aggregating scheme approach for communal networks, do all the aggregated schemes have to sit within the same area/borough/mapped area?	*The applicant has to demonstrate that the systems being aggregated form part of a local energy strategy for decarbonisation that is endorsed by the local authority. They must also be designed to be able to be connected to a wider network in the future. As such we envisage a single application reflecting a single geographical area but would welcome projects that have identified buildings across geographical areas that individually form part of local energy strategies.*
15.	**3.33 p/kWh Cap** Are you confident the 3.33p/kWh metric (with 1.5 p/kWh ideal target) is realistic against a backdrop of unstable and generally increasing construction costs - particularly on the pipe systems?	*Yes, we have evaluated a wide range of projects supported under HNIP and the 3.33p/kWh offers a generous amount of scope to support low and zero-carbon heat network projects.* *Whilst the cost base may be going up, the heat tariff needs to be rationalised to reflect the low-carbon credentials of the heat delivered.* *However, we will keep this under review both in light of other related Government schemes and the outcomes of the Transition Scheme.*
16.	**3.33 p/kWh Cap** For a scheme with 200 GWh in the first 15 years at 3.33 p/kWh you would only be awarding less than £7M ... Awards as a % of capex for big schemes would be quite low?	*Taking a 13GWh/year scheme (200GWh over 15 years), based on the 3.33p/kWh gate, the support would be capped at £6.66m* *The 3.33 p/kWh figure will be kept under review.*
17.	**Supplying Process Heat for Industry** Are deliveries for process heat to a new industrial consumer legible?	*Industry and agricultural loads can be supplied, but they have to be part of a wider network supplying at least one other private/public/commercial/multi-residential load.*
18.	**Industrial Heat** Will heat suppliers to existing industry (i.e. decarbonising industrial heat) eligible? Would be eligible as part of a wider network that serves non-industrial customers?	*Yes – please see the answer to the previous question.*

	Question	Answer
19.	**Social IRR** Will the Social IRR include Social Value metrics (where quantifiable/monetisable), be in line with new central government procurement guidelines?	*The calculations are made on the basis of the HMT's Green Book supplementary guidance: Valuation of energy use and greenhouse gas emissions for appraisal. It is valuing carbon dioxide emissions and the air quality impact against a fossil-based counterfactual.*
20.	**Social IRR** Can we realistically expect 3.5% IRR against gas counterfactual?	*Yes, on the basis that a project's carbon intensity figure falls within our maximum levels. In urban settings, the counterfactual will be natural gas, in rural settings it will be heating oil.*
21.	**EfW and Carbon Intensity Gate** 100gCO2e/kWh may be a struggle for EfW plants. Particularly as food waste is planned to be separated from general waste from 2023? How is the carbon content of heat from EfW plants to be assessed?	*We consulted on two methods and following feedback and bilateral meetings, we have adopted a single method. We are following the BRE technical note on emissions from EfW plants relating heat (*). We deem the Z-factor to be 5 and then look at the foregone electricity. The carbon intensity is assessed using the forward curve of the carbon intensity for the electricity – then by dividing it by the Z-factor of 5.* *The applicant can use a higher Z-factor, but must provide an evidence note supporting this change that is assessed as sufficiently robust. Assuming 10% plant outages per annum, the Z-factor of 5 – effectively a COP of 5 – provides plenty of margin for a system to pass our carbon intensity gates.* *(*)https://files.bregroup.com/SAP/BRE_Technical_Note-Energy_from_Waste_Facilities_%28ERF%29_1.0.pdf*
22.	**Carbon Intensity Gate** Is this 100gCO2e/kWh a replacement for the minimum COP requirement proposed for the GHNF (in the scheme design consultation)?	*Yes, the 100gCO2e/kWh figure has been derived from the earlier COP figure consulted upon and uses an appropriate carbon intensity value for the electricity grid.*
23.	**Carbon Intensity Gate** Also, is the 100g/kWh metric calculated on 15-year average emissions factors?	*The 100gCO2e/kWh metric is applied for each year of operation. However, there are permissible scenarios for breaching this threshold – all of which are detailed in our scheme guidance documents. This could include systems using temporary plant during construction – as loads are connected, etc.*

	Question	Answer
24.	**15-Year Load Evaluation and 3.33 p/kWh Cap** Is the 15 years from first heat sale or full build out. For projects with a slow build out if from first heat sale this would significantly limit their ability to meet the 3.33 p/kWh Larger schemes can take at least 10 years to build out to full load, hence 15 years from first heat on only captures 5 years at full build out.	*The further away in time the larger load is, the less the grant actually relates to the cost of those future connections. System developers could consider phasing their build and therefore apply for additional future support to help them extend their networks.*
25.	**Feasibility Study Support** Will early-stage projects be funded - i.e. heat pump feasibility studies?	*Commercialisation support is only for projects that have already completed their feasibility studies. Public sector applicants can seek HNDU support for developing their feasibility studies and allow them to move forwards towards an application to the GHNF.*
26.	**Transparency of Evaluation** How transparent are the calculations of adjustments and the scoring metrics in general, i.e. could an applicant tinker with their scheme to help boost specific metrics by reviewing the outcomes from these calculations?	*We have designed the evaluation process to be as transparent as possible. Applicants can run many different scenarios to improve their p/kWh score, but during the assessment process we will need to see evidence of the applicants' data and most importantly, that the scheme as presented is deliverable. Our final adjustment metrics are not fully disclosed, but they only have a maximum of 30 per-cent downwards adjustment.*
27.	**Gas CHP** Is gas CHP effectively excluded by the prescribed CO2 emissions calculations? It will be difficult to achieve an operating surplus if you are operating an electrically driven heat pump and selling to heat customers using gas boilers. A scheme that uses both CHP and heat pumps would be more cost-effective.	*Gas CHP cannot take a primary role, but as a secondary source, it may meet the carbon intensity criteria.* *Regarding operating surplus: the heat supply tariff needs to be rationalised to take into account its low-carbon credentials. If the low-carbon heat is supplied under a tariff trying to compete with a gas counterfactual, it will struggle to work economically.*

	Question	Answer
28.	**Secondary Distribution Systems** Can you confirm that GHNF could be used to convert a LA residential block from individual dwelling boilers to a communal/district scheme i.e. installation of secondary pipework to connect existing tertiary's	*No. The GHNF supports for upgrade of existing secondary pipework in **existing** communal schemes, not the full installation of new secondary pipework.*
29.	**Secondary Systems** As you mentioned the funding can't be used for new secondary systems in communal networks, does that mean you won't be able to connect an SGL to dwellings that currently have electric heating as this will effectively be a new secondary network?	*We can support the creation of new heat networks supplying buildings previously heated electrically, but the internal systems won't be funded.*
30.	**HNES and Tertiary Systems** I think one of your slides said tertiary was included. Can you just give a bit more detail or examples please.	*The types of measures we've seen in previous work are addressing control of HIU's, recommissioning HIU's, radiator balancing (or possibly replacement where required for larger flow temp reduction), insulation of pipework within the dwelling but before the HIU (we appreciate the last one is technically not tertiary).*
31.	**HNES Duration** Regarding the HNES, what is the estimated (draft) duration of the scheme?	*Currently just this year (to March 2022).*
32.	**HNES** Is there a maximum % funding on HNES?	*Yes, this is likely. We're basing our current thinking on a 50% cap, but this is to be confirmed based on further analysis.*

	Question	Answer
33.	**GHNF Transition Scheme Applications: Supporting Documentation** When looking at the GHNF Transition Scheme, isn't the point that a lot of these supporting docs will be developed as a part of the commercialisation?	*We require that applicants to the Transition Scheme submit the same information as required for the full GHNF scheme applications. The difference being that the Transition Scheme is being handled internally by BEIS and the full scheme will be handled by an external delivery partner. Should a project go on to apply for funding from the full GHNF scheme, they will only need to submit additional documents to explain the extent to which the project has changed since they made their Transition Scheme application.*
34.	**HNDU** Will HNDU continue until the end of the GHNF or is there a known end date for HNDU support?	*HNDU will continue its work in supporting local authorities.*

WORKSHOP TWO – 13th July 2021

	Question	Answer
1.	**Timescales** So we need to submit on 10th of August rather than 12th of August deadline?	*It is advisable to submit before the deadline to ensure you have received a confirmation back from us that it has been safely received.*
2.	**Eligibility** We have done the feasibility studies, however our project is still in the early stage and we want to apply for the fund just to cover the legal cost to initiate the project. Given that we won't be able to provide all the required evidence listed in the guidance (because they don't exist at this stage), will we still be able to apply? We are likely to provide half of the required evidence. Will you accept this?	*In short, no, but there are wider considerations as to what is missing. You would be welcome to submit your application, but if you don't have key items, for example, a techno-economic model, business case, drawings to RIBA stage 2, etc., it's unlikely we'd be able to offer support.* *If it's a local-authority-led project, the Heat Network Delivery Unit (HNDU) can help bridge these gaps, so would be a worthwhile consideration.*
3.	**Minimum Thermal Demand** The gated metrics on the spreadsheet includes for a minimum demand. Am I right in saying that the minimum demand doesn't apply for rural projects? For those, it is a minimum 100 dwellings criteria?	*Yes, that is correct. The form allows you to declare if you're a Rural network and specify the number of dwellings.*
4.	**University Project** We are a university that has a CHP-fed heat network that solely supplies academic buildings owned by the university. We are working on a project to convert this to an ambient heating/cooling loop, electrically-fed by heat pumps. Are we eligible if it is solely for university academic buildings?	*Yes, universities are eligible to apply, on the basis that they meet all the scheme criteria, such as the carbon intensity, social IRR, etc.* *We also encourage applicants to look beyond their own site boundaries to create additional opportunities for expanding the reach of heat networks.*

	Question	Answer
5.	**Cash Flow** Do all cash flow inputs need to be discounted or undiscounted?	*Cash flows must be entered undiscounted into the application form spreadsheet.*
6.	**Business Rates** How is the assessment accounting for business rates - which effectively destroy the economics of most heat networks?	*We agree that the business rates can be challenging for operators of heat networks.* *In the HNDU, we're working very closely with local authorities to see if we can help them develop local policy for rebates for heat networks looking to deliver low or zero carbon heat. We urge scheme owners to talk to their local authority and negotiate rebates or discounts for their heat networks. If you encounter problems, please contact HNDU as we can help.*
7.	**Business Rates** Should business rates be included in row 35 of the application form?	*Business rates should **not** be included – all expenditure should be shown as pre-tax.*
8.	**SPV Costs** Should we include SPV (Special Purpose Vehicle) costs?	*Yes, these would be added in row 35 of the Main Application tab **'Overheads, Insurances, other heat network related costs'***
9.	**Assessment Period** Is there a minimum operating term of the heat network to attract support - for example is there a minimum number of years over which the annual thermal demand calculation needs to be made?	*The project is assessed as follows:* • *Cash Flows – over 40 years* • *Social IRR – over 40 years* • *Capped Award (p/kWh) – over 15 years* • *Carbon is appraised over the first 15 years from when heat is delivered.* *The Annual Thermal Demand of 2GWh (thermal energy delivered to consumers) must be forecast to be achieved within a five-year window from the date of the first connection.*
10.	**Customer Detriment - Counterfactuals** Are you running your own counterfactual for vulnerable customers that you will assess applications against? If so, will you share how this counterfactual is calculated?	*The assumptions for our counterfactuals are detailed in the GHNF Assumptions tab of the application form. The calculations used are also visible – albeit locked from being changed.*

	Question	Answer
11.	**Customer Detriment** If there are no domestic or micro-business customers, can the customer detriment section be ignored?	*Please just enter zeros into the relevant cells of the application form if there are no micro-business or domestic consumers being connected.*
12.	**Application Form VBA** Are there any fancy VBA-type processes in this spreadsheet? Would it be easy to copy in these tabs to an existing TE model to allow for ease of transfer of info from the model to the application form?	*Yes, you can embed this into your techno-economic model, but ultimately, you'll need to ensure that our own form is still completed for submission. This is due to there being hidden sheets that perform additional functions for us during the appraisal process.*
13.	**Energy Centre Postcode** What's the thinking behind postcode for energy centre entry field?	*This is required to help us understand broadly where the above-ground assets sit geographically and therefore build a picture of where the projects we support are having an impact. Postcode data is also a requirement of HNIP currently.*
14.	**Legal Obligations** Costs of connecting heat sources where there is an existing legal obligation to do so are ineligible for funding, does this include planning obligations?	*This is dependent on what the planning obligation is. If, for example, a building has to connect to a heat network or reach a certain carbon target, it would be legitimate to include the connection costs. In the case of where there is a legal obligations – for say, an EfW plant with a provision in its permit that says it must connect certain customers or install a heat exchanger, these costs wouldn't be eligible.* *Planning obligations typically are eligible.*
15.	**Energy from Waste (EfW)** We're working on a project looking at taking heat from an EfW to serve a heat network for a new residential development. A temporary energy source will be required whilst the EfW is completed, which would potentially be a gas boiler solution before the switch to EfW heat. How would this be captured on the application form, and is this likely to be eligible for grant funding?	*You need to have connected to the EfW within three years if initially using temporary fossil-fuelled plant. This is detailed in the application form's 'Checklist' tab under section 8.1 – submitting an explanatory note and confirmation statement.*

	Question	Answer
16.	**Other Support** In the scenario a project is ineligible or unsuccessful for the transition scheme, do you have other recommended schemes for helping out the commercialisation costs for public sector?	*HNIP is currently open, but timescales are now tight as it is drawing to a close – so we would suggest the GHNF is considered.*
17.	**Guidance for Supporting Documentation** Is there any further guidance on the level of detail required for each mandatory supporting document (in the Checklist tab)?	*Yes, there is a Guidance document available that details the requirements for each mandatory supporting document. It also shows what we feel that 'good' looks like. This document (PDF) is available to download from the .GOV web page: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/995126/ghnf-transition-guidance.pdf*
18.	**Sunk Infrastructure Costs** How would we account for 'sunk' infrastructure costs for an existing network? If the project is part of an extension, the IRR will be artificially high when excluding our sunk infrastructure costs (i.e. energy centre, spine pipework, etc.).	*Sunk costs cannot be included. Existing networks may show higher returns, but we have looked at our evidence base and it is not always the case. There is a lot of additional work that is needed to create low-carbon networks.* *We are looking to achieve a 60:40 split for support of new networks versus existing and will keep the projects supported under review. Existing networks will have to decarbonise over time; but reaching additional customers with new heat networks is very important.*
19.	**Hurdle Rate** In order to attract support does it need to be the case that the network wouldn't be built if support isn't obtained?	*If you're putting in a hurdle rate that's less than the pre-intervention IRR, then you will need support. If you put a value equal to or above the pre-intervention IRR, then your project is demonstrating that it does not need our support. We need to evaluate this to ensure that we are supporting projects that wouldn't otherwise proceed.*

	Question	Answer
20.	**Further Information and Guidance** Is there further information and guidance available for existing and established district heating schemes to benefit from the GHNF?	*There is a pilot for the Heat Network Efficiency Scheme HNES, which will be tackling the efficiency of existing networks. The GHNF can then work to further decarbonise the systems with low-carbon technology.* *Please visit: https://www.gov.uk/government/publications/green-heat-network-fund-ghnf-transition-scheme or submit a query to the GHNF team via email: ghnfcorrespondence@beis.gov.uk*