



Department for
Business, Energy
& Industrial Strategy

Green Heat Network Fund Transition Scheme

Guidance for applicants

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1 Introduction

The Green Heat Network Fund transition scheme (Transition Scheme) is a £10m capital grant fund that will open to applicants in summer 2021. It will provide funding to public, private, and third sector applicants in England to support the transition from the Heat Network Investment Project (HNIP) to the Green Heat Network Fund (GHNF) full scheme, a £270m capital grant fund that will capitalise on the progress and development made by HNIP, by supporting the development of low and zero carbon (LZC) heat networks (including the supply of cooling). The Department of Business Energy and Industrial Strategy (BEIS) intends to launch the full GHNF scheme in April 2022 as part of the Government's Heat Network Transformation Project, with the aim to continue to develop and grow the heat network market and to address some of the challenges of decarbonising the UK's heat sector.

Heat networks are vital to achieving a clean, cost effective and just transition to net-zero and to delivering a wide variety of benefits to the environment, consumers, and the economy. They can utilise otherwise wasted energy, provide grid balancing services in an increasingly electrified heat market and offer a low carbon supply of heat at competitive prices to households and businesses alike. Large scale investment is essential to the development of this market and we are committed to ensuring that projects of the highest quality are incentivised to progress.

Together the Transition Scheme and GHNF full scheme (the GHNF schemes) will help tackle some of the most prominent barriers to decarbonisation of heat networks. Increased deployment of low carbon technologies will help bring down the up-front capital costs of low carbon technology due to greater standardisation. The utilisation of low carbon technology will help bring down operating costs in the long term and help upscale the skills and knowledge required to operate heat networks to the benefit of both the customer and network operators. The upscaling of the supply chain, skills, procurement and the overall increase in competition that will result from the GHNF are all crucial if the market is to become both self-sustaining and low carbon. The GHNF is therefore critical to laying the groundwork for a healthy thriving low carbon heat network industry that is well prepared for the future carbon budgets in the late 2020s and that is ready to grow even further in order to meet the carbon budgets in the 2030s.

1.1 What are the Aims and Objectives of the GHNF schemes?

Our vision for the GHNF is to incentivise heat network market transition to low carbon heat sources via targeted financial support, that will help stimulate the increased deployment of low carbon technologies at scale.

The GHNF objectives are to:

- Achieve carbon savings and decreases in carbon intensity of heat supplied.

- Increase the total amount of low carbon heat utilisation in heat networks (both retrofitted and new heat networks).
- Help prepare the market for future ‘low carbon’ regulation and ensure compliance with existing regulations and forthcoming requirements (such as the Heat Network (Metering and Billing) Regulations 2014, Heat Network Market Framework, and the Future Homes/Buildings Standard).

1.2 How will applicants be assessed?

The Transition Scheme will assess the following core metrics which all applicants must meet in order to be funded. All of the metrics listed below are calculated and appraised within the application form itself once the applicant has entered all required inputs. Greater detail on each is provided in the section *Application Gated Metrics*.

Table 1: GHNF Transition Scheme Application Gated Metrics summary

Metric	Minimum Score
Carbon gate	100gCO ₂ e/kWh thermal energy delivered
Customer detriment	Domestic and micro-businesses must not be offered a price of heat greater than a low carbon counterfactual for new buildings and a gas/oil counterfactual for existing buildings
Social IRR	Projects must demonstrate a Social IRR of 3.5% or greater over a 40-year period
Minimum demand	For urban networks a minimum end customer demand of 2GWh/year (including existing customers). For rural networks a minimum number of 100 dwellings connected
Maximum capex	Combined grant requested up to but not including 50% of capex + commercialisation costs
Capped award	The total 15-year kWh of heat/cooling forecast to be delivered has been reviewed for round 2 of the transition scheme and may not exceed 4.5 pence of grant per kWh delivered (subject to review by GHNF)

Non-heat/cooling cost inclusion For projects including wider energy infrastructure in their application, the value of income generated/costs saved/wider subsidy obtained should be greater than or equal to the costs included.

All projects which meet the Application Gated Metrics **and are assessed to be deliverable**, as per the deliverability assessment, are projects that the Transition Scheme would want to fund to the extent that budget is available. Adjustment metrics are used to differentiate projects that score closely to one another, relate to the following:

- The extent to which a project is assessed to be deliverable;
- The carbon abatement potential of the project;
- Overall volume of thermal energy delivered to customers;
- The expansion potential of the network;
- Innovation and energy efficiency credentials of the project.

The Adjustment metrics are applied to the pence of grant requested per kWh of heat delivered value and the maximum adjustment these metrics could result in is a 30% downgrade of the value submitted by the applicant.

1.3 The Guidance

This guidance document exists to provide information about the GHNF Transition Scheme application process from start to finish. It details how the scheme operates, the eligibility criteria, how applications are to be made and how they will be scored and assessed.

It also provides detailed consideration of how the main scheme is anticipated to operate. This is to better enable prospective main scheme applicants to adequately prepare for a future application to GHNF.

1.4 Transitioning from HNIP to GHNF

The Heat Network Investment Project (HNIP) has its final year in 2021/22. The GHNF launches its full scheme in April 2022. As such there is a risk of a one-year hiatus between the schemes as projects applying to GHNF will need sufficient time to commercialise in order to apply for construction funding. To manage this risk a GHNF transition scheme, for commercialisation funding only, will be launched in July 2021 with up to two funding rounds closing to new applicants in: August and October 2021 (subject to there being funds remaining). Additional funding of £10m has been made available for the Transition Scheme.

Projects applying for Transition Scheme funding will still be required to submit the same information as required for full scheme applications; however, the process will be slightly

different as we will not have a delivery partner in place to manage the Transition Scheme and instead it will be managed by BEIS. Please refer to section: *Submitting the application*.

Applicants seeking funding from the Transition Scheme who then wish to go on and seek full scheme funding will need to apply to the full scheme; however, when applying to the full scheme, those applicants will only need to submit additional documents that explain the extent to which the project has changed since they made their Transition Scheme application.

1.5 How do the Full and Transition Schemes operate?

Figure 1: scheme timings



The GHNF is a grant only scheme.

Full scheme GHNF grant funding, which is available to applicants from both the private and public sectors in England, can provide up to but not including 50% of the estimated eligible commercialisation and construction costs of the project. The GHNF will award no more than 4.5p of grant per kWh of heat delivered to customers over the first 15 years of operation (this was reviewed following round 1 of the Transition Scheme and adjust up from 3.33p of grant per kWh delivered, this figure will remain under review).

The Transition Scheme is for the financial year 2021/22 and is intended to help build a pipeline of construction-ready projects for the financial year 2022/23 when the full scheme is due to launch. It is therefore commercialisation-only funding. There will be an upper limit of £1 million for commercialisation support. This value will be subject to review and as such should an applicant have assessed that support in excess of this amount is required and all other Application Gated Metrics are met may make such an application. However, BEIS reserves the right to reject such an application outright if there is insufficient budget available.

Table 2: GHNF commercialisation vs construction support across GHNF:

	Transition Scheme	Full Scheme
Commercialisation-only support	Yes	No
Commercialisation + construction support	No	Yes

Construction-only support

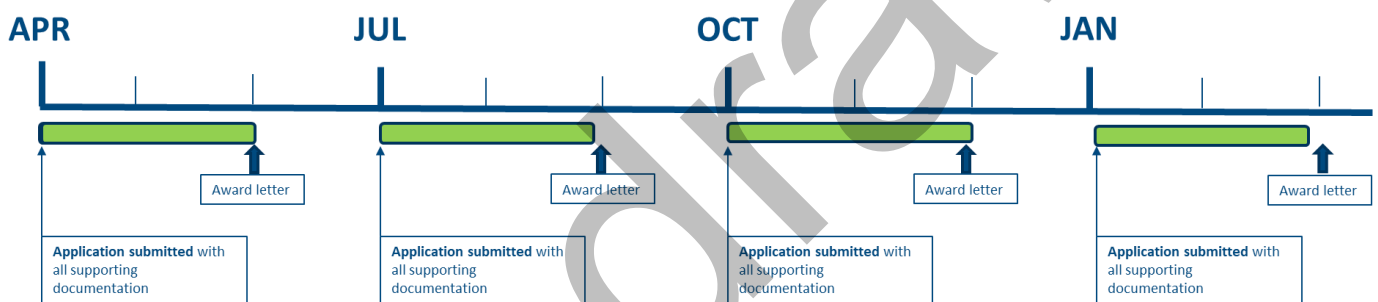
No

Yes

Each application to the Transition Scheme or full scheme will be assessed on its own merits and any potential award will be subject to budget availability. Where the demand for funding in a round is oversubscribed, funding awards will be prioritised competitively based on the application’s alignment to the scheme’s Application Gated Metrics (see Table 1).

A key principle of the GHNf is that the applicant, on applying, will know if the project does or does not meet the scheme’s requirements (see *Application Gated Metrics*). All projects that meet the Application Gated Metrics (qualifying projects) would be eligible for funding, subject to a deliverability assessment (see *Assessment Gated Metrics – deliverability assessment and other confirmatory assessments*) and availability of funds.

Figure 2: GHNf application and award letter - indicative timing in a given financial year



Main scheme funding rounds will take place on a quarterly basis with award notifications anticipated 2 months after application. The timing of funding rounds is as follows:

Table 3: GHNf Scheme Funding Rounds

Transition Scheme Rounds	Final submission date for inclusion in Round
Round 1	12 August 2021 (11:59)
Round 2 (subject to funding availability)	07 October 2021 (11:59)

Indicative Full Scheme Rounds	Proposed final submission date for inclusion in Round
Round 1	29 April 2022 (11:59)

Round 2	01 July 2022 (11:59)
Round 3	30 September 2022 (11:59)
Round 4	30 December 2022 (11:59)
Round 5	31 March 2023 (11:59)
Round 6	30 June 2023 (11:59)
Round 7	29 September 2023 (11:59)
Round 8	29 December 2023 (11:59)
Round 9	29 March 2024 (11:59)
Round 10	28 June 2024 (11:59)
Round 11	27 September 2024 (11:59)

Applicants will be required to submit detailed project documentation in addition to their completed application form to provide evidence to support their application. Once qualifying projects have completed the application form and submitted this to us, it will then be assessed and scored against set GHNf criteria. A checklist of what documents are required is provided as part of this guidance – see *Application supporting evidence*. An explanation of what is expected, as a minimum, for each document submitted is also provided.

The outcome of the assessment process is then submitted to the GHNf Investment Committee for a final decision on which applications are to be awarded funding within that funding round. However, if it is determined that the project fails the deliverability assessment (Stage 2) then the applicant will be informed as soon as possible. This is to try to maximise the time available to project applicants to rectify issues identified in advance of the next suitable funding round.

The GHNf Investment Committee will convene for each funding round to appraise and consider applications seeking funding from that funding round only.

Applications are awarded funding on a competitive basis to maximise carbon savings, heat produced and value for money. However, even if an application meets all the eligibility criteria and scores well, there can be no guarantee of a funding award.

Once funding has been awarded to a project, funding agreements will be signed with applicants. Prior to the release of funds to applicants, evidence needs to be submitted to ensure the release of funds is to be used as intended at the time of the application being assessed and funds being allocated.

For **Local Authority** applicants:

- [Cash drawdown for the entire grant for the relevant stage (commercialisation or construction) can be made at the point all conditions precedents attached to the award, that are associated with the stage applied for, have been met. *Please note that this area is subject to approvals and may follow the disbursement route for all other applicants described below.*]
- Evidence of spend will be required as and when spend is incurred.

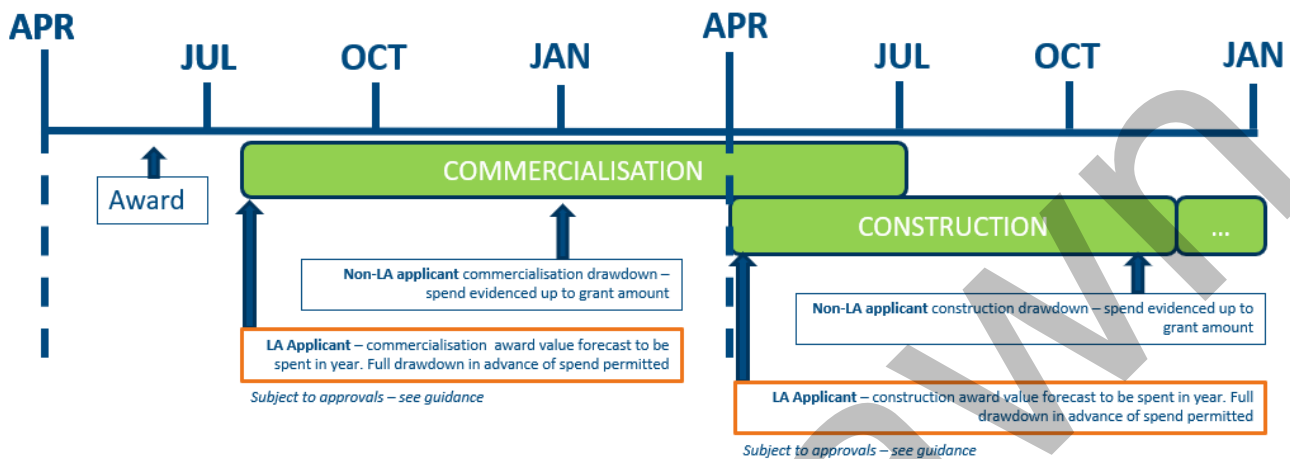
For **all other** applicants:

- Cash drawdown, for part or all of the grant, can be made at the point the successful applicant is able to evidence the need for the spend (e.g. invoices, corresponding QS reports etc.), all conditions precedents for funding have been confirmed by GHNF as having been met and the applicant can evidence payment to contractors up to the value of the grant requested.
- Evidence for the need for spend can be in the form of invoices from contractors, quantitative surveyor reports which evidence milestones being met, and any other relevant documentation that clearly demonstrates payment for relevant work or services.
- The GHNF will endeavour to remit funds within [15] working days of receipt of a remittance request, accompanying invoices (or relevant evidence) and evidence of cash payment to contractors.
- In order to better ensure that remittance is made without delay, if the invoice/relevant documentation does not clearly match the remittance requested, a cover note should be provided that clearly reconciles the evidence provided and the remittance request submitted.

Following release of the awarded funds, projects are also required to carry out monitoring and reports will need to be provided by applicants. This is to enable us to monitor the short, medium, and long-term impact of the GHNF.

On the next page is a diagram showing the distinction between LA and non-LA drawdown of funds.

Figure 3: Indicative timing of drawdown for LA and non-LA applicants



A condition of all awards is that the procurement of contractors for respective design, build, operate and maintain contract(s) will need to include a requirement to fulfil the reporting requirements of GHNf for a minimum of 15 years¹ from the point of the funded heat network going live. The GHNf reporting requirements for each stage are set out in section *Monitoring and reporting Requirements*.

The GHNf is continuously reviewed and evaluated to allow us to enhance the design of the scheme and improve its effectiveness from each funding round to the next.

¹ If the successful applicant of GHNf is also intending to fulfil part or all of design, build, operate and maintain aspects of delivering a GHNf supported scheme then the applicant will be obliged to fulfil the reporting requirements.

2 Transition Scheme Eligibility Criteria

2.1 Who can apply?

The GHNF is open to all applicants responsible for the development of heat networks (including cooling – here-on-out referred to as heat networks) that meet the Application Gated Metrics (see section *Application Gated Metrics*), that are able to provide all supporting documentation (see section *Application supporting evidence*) and which are legal entities. Individuals cannot apply to the fund.

This applies to both the Transition Scheme and the full scheme.

2.2 What projects will the GHNF fund?

The GHNF will support new and existing heat networks that deliver low carbon heat at a volume of heat that is consistent with our strategic objectives for heat network market growth in England.

A heat network, for the purposes of GHNF, is a series of hydraulically connected pipes that distribute thermal energy to customers, uses low carbon technology and is centrally managed.

The GHNF will operate on a principles-based approach for cost eligibility and therefore the list below sets out what the GHNF will **not** fund rather than specifying a list of what is eligible. A key purpose of the Application Gated Metrics is that projects that are able to demonstrate that they will satisfy them and are assessed to be deliverable (see section *Assessment Gated Metrics – deliverability assessment and other confirmatory assessments*), will bring about the outcomes of the GHNF at a price that demonstrates value for money.

The overriding principle that governs eligibility for commercialisation and construction costs for the GHNF, is that application costs are attributed directly to delivering network operation as per the low carbon design intent. Evidence of the low carbon design intent must be submitted as part of the GHNF application.

Below are the key areas that are **not** supported by the GHNF. Subsequent sub-sections in this section (*Transition Scheme Eligibility Criteria*) provide specific cases which would not be clearly captured by this principles-based approach.

Commercialisation

GHNF will **not** fund:

- Any commercialisation costs that have already been incurred prior to a GHNF award (Transition Scheme or full scheme) having been made.

-
- The cost of any activities **not** directly attributable to bringing the heat network to a state where it is capable of operating in the manner intended in the concept design of the network submitted as part of the application.

Judgement will be required by the applicant as to whether certain costs included within the commercialisation cost budget submitted (see section *REF 3.1 Commercialisation budget*) meet that definition². The applicant should be prepared to justify specific cost inclusions as being directly attributable if challenged as part of the assessment.

Construction

GHNF will **not** fund:

- Any construction costs that have already been incurred prior to a GHNF award having been made.
- Costs associated with constructing heat/cooling sources whose primary function is not the generation of heat/cooling. For example:
 - the cost of constructing an EFW plant would not be eligible, but the cost of interfacing with an existing or planned EFW would be;
 - the cost of constructing a hydrogen electrolyser would not be eligible but the cost of interfacing with the hydrogen facility would be.
- Costs associated with connecting existing heat/cooling sources where there is a legal requirement for those sources to connect to a network.
- The cost of buying and installing tertiary heat distribution systems. A tertiary heat distribution system is defined as pipework and associated plant that sits behind the customer meter / Heat Interface Unit (HIU). For the avoidance of doubt, an HIU is, for the purpose of GHNF, classified as part of the secondary distribution system, not the tertiary system.
- The cost of changes to existing building fabric such as glazing, ventilation and insulation upgrades.
- The cost of buying and installing plant that uses biogas or syngas, with the following exceptions:
 - Where the heat network is rural off gas grid, it may be used for primary, secondary and peaking plant, provided the biogas or syngas is manufactured on site.

² For example, it may be assessed by an applicant necessary to incur part of the legal costs for a key customer to secure a connection agreement and accompanying energy supply agreement. Judgement is applied here by the applicant to associate such costs as *directly* attributable.

-
- Where the heat network is located in an urban area³ on gas grid, biogas and syngas may not be used as a fuel for primary plant; however, it may be used as fuel for secondary and/or peaking plant provided the gas is manufactured on site.
 - The cost of buying and installing primary, secondary or peaking plant that uses biomass that:
 - Does not adhere to existing regulations (including air quality standards); or
 - Uses fuel made up of virgin construction grade logs or timber; or
 - The biomass fuel is not included in either the Biomass Sustainability List (BSL), the Sustainable Fuel Register (SFL) or any future Government approved scheme.

Where biomass is proposed to be used to generate thermal energy, a monitoring requirement will be for the project to confirm annually that these criteria continue to be met.

- The cost of first of a kind technology (FOAK). The GHNF is not intended to fund technology that has not been demonstrated to operate in the conditions proposed by the project and at a capacity similar to that required by the project. Projects looking to generate heat by means other than those listed below will need to adhere to Technology Readiness Levels 8 and 9 as interpreted by the BEIS Industrial Energy Technology Fund⁴ with national/international examples provided. The means of generating heat that are not deemed to be FOAK:
 - Direct combustion with oxidation;
 - Usable heat recovered from an industrial process (e.g. Energy From Waste);
 - Waste heat recovered from an industrial/commercial process and upgraded via heat pump;
 - Ground, water, air, sewer or mine source heat pump;
 - Distributed heat pumps on a centrally managed ambient loop;
 - Deep geothermal⁵;
 - Fuel cells; and
 - Solar thermal.
- The cost of exclusively agricultural or industrial process heat networks. The GHNF is intended to help address the decarbonisation challenge associated with space heating and domestic hot water production. While a heat network might supply heat to an agricultural or industrial process, the heat network will not be funded under the GHNF

³ <https://www.gov.uk/government/statistics/the-rural-urban-definition>

⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/959144/ietf-spring-2021-tech-scope-energy-efficiency-studies-deployment-projects.pdf

⁵ 500m or deeper – if shallower then classed as ground source

unless at least one private commercial⁶/multi-residential/public sector building is connected to the network.

2.3 Aggregation of communal heating systems

In the circumstances set out below, the GHNF will permit communal heating systems to be aggregated into a single application to the GHNF, despite them not being hydraulically connected, provided that the Application Gated Metrics are met.

The circumstances are:

- the applicant can demonstrate that the communal heating systems that are being aggregated form part of a wider heat decarbonisation strategy for a given Local Energy Hub region⁷. Specifically, the buildings should be located within the areas defined by the Local Energy Strategy⁸ for the development of Heat Networks or else included within a local heat mapping and masterplan endorsed by the Local Authority; and
- the applicant confirms that the communal heating systems will be designed to enable future connection of each communal heating system to a wider heat network.

2.4 Existing networks

Where an existing network applies for GHNF support to decarbonise the heat supplied to its existing customers, the GHNF must ensure that it does not fund the cost of addressing any pre-existing performance issues. The owner/operator should seek support for such costs from wider BEIS schemes such as the Heat Network Efficiency Scheme (HNES)⁹.

For the purpose of a GHNF application, an existing network is a network where the majority of heat/cooling demand is to be supplied to existing customers or where annual end-customer heat demand for new connections is less than the Application Gated Metric for volume of heat (see section *Volume of thermal energy*). For existing networks, the applicant must provide a report that assesses the performance of the existing network. As a minimum the report should include:

- the design performance of the existing network (to the extent that original design performance information is available);
- the actual performance of the existing network;
- proposals for practical¹⁰ interventions required to improve network performance; and

⁶ Schools, universities, health, offices, entertainment, garages and shops

⁷ <https://www.apse.org.uk/apse/index.cfm/local-authority-energy-collaboration/beis-local-energy-team/>

⁸ In 2017 all LEPs across England were funded through a £1.6m grant to develop energy strategies for the local area covered by the LEP.

⁹ Due to launch later this financial year

¹⁰ Constraints such as existing pipe diameters or insulation on buried pipework may not be practical to upgrade

-
- the cost of implementing such proposals and predicted impact(s) on performance.

Performance issues can often act as barriers to low carbon technologies working efficiently and effectively. This is a key reason why a performance report is required by GHNF.

Where proposals for performance improvements have not been implemented, the costs associated with performance measures that are proposed to be undertaken by the project must be excluded from the application costs and the applicant must confirm in a written statement that key performance measures will be undertaken in advance of or as part of the works supported by GHNF.

The GHNF intends for a maximum of 40% of its annual budget to be allocated to existing network decarbonisation. In the first year of the full scheme, GHNF will review the level of support awarded to new and existing schemes. If it is found that support is unduly skewed to existing schemes, or vice-versa, then GHNF will consider whether segmentation of the fund is required.

2.5 Rural heat networks

In light of the Green Heat Network Fund consultation¹¹ it has been acknowledged that in off-gas grid rural settings, a 2GWh volume of heat threshold may preclude valuable low carbon heat network opportunities that could be replicable across certain villages.

Instead of a volume based threshold, a dwelling based threshold is proposed. For off-gas grid rural heat networks applying to the GHNF, a minimum of 100 dwellings connected to the network is proposed within a minimum 5 year window from the date that heat is forecast to be first supplied to customers.

2.6 Shared Ground Loops vs Ambient Loops

For the purposes of GHNF, ambient loops are eligible for grant support but Shared Ground Loops (SGL)¹² are not (subject to some exceptions). SGLs will be supported when they form part of either aggregated communal networks or rural heat networks. The key distinction between ambient loops and SGLs, for the purposes of GHNF, are:

- An ambient loop will distribute 2GWh/year or more of thermal energy; and
- is a centrally managed network.

¹¹ <https://www.gov.uk/government/consultations/green-heat-network-fund-proposals-for-the-scheme-design>

¹² In line with RHI Scheme Regulations 2018, a SGL is defined as: *a system in which a ground loop provides heat energy through a hydraulic connection to two or more ground source heat pumps installed in separate or the same premises, provided that not more than one ground source heat pump is installed in a single domestic premises;*

3 Applying to the Transition Scheme

3.1 Application form

A detailed explanation of the application form is provided within Annex 1.

3.2 Application supporting evidence

In addition to submitting the application form, the applicant is required to provide supporting evidence. Primarily this is to enable the assessment of project deliverability. The core supporting documents are expected to be documents that a heat network developer would already hold irrespective of whether they are applying to the GHNF; however, additional memorandums may be required to help an assessor understand aspects of the application. Additional memorandums will be kept to a minimum and are intended to be short summary notes.

Summary of documents required: GHNF Checklist

When submitting documents, applicants must ensure that the documents are labelled to correspond to the reference numbers provided.

Table 4: Summary of evidence required

REF	Evidence always required
1.1	Completed Application form and Supplier Information form
1.2	Cover note
1.3	Business case
1.4	Programme up to the date that all customers included in the application are connected to the network
1.5	Customer and tariff note
1.6	Techno-economic feasibility study or equivalent
1.7	Techno-economic cash flow model
1.8	Signed market transformation commitment statement.

1.9 Technical drawings

1.11 Relevant correspondence

1.12 Energy supply agreements (binding or non-binding)

1.13 Letter(s) of support from project sponsors

1.14 Risk register and mitigation approach

1.15 Counterfactual thermal energy source

1.16 Confirmation of CP1 compliance and submission of CP1 checklist

1.17 Confirmation of Heat Trust or equivalent

1.18 Corporate Structure

1.19 Company Accounts

1.20 Unaudited P&L and balance sheet

REF Optional evidence for enhanced scoring

2.1 Innovation and energy efficiency justification note

2.2 Future expansion potential note

2.3 Full financial model

2.4 Credit rating

REF Contingent evidence: COMMERCIALISATION

3.1 Commercialisation budget

REF Contingent evidence: AGGREGATION OF COMMUNAL NETWORKS

4.1 Supporting note

4.2 Relevant local energy strategy or plan

4.3 Confirmation statement that communal systems will be designed to enable future connection to a wider heat network

REF Contingent evidence: EXISTING NETWORK

5.1 Supporting note

5.2 Performance report

5.3 Confirmation statement that key improvement measures highlighted in the performance report will be undertaken prior to or during works supported by GHNF

REF Contingent evidence: RURAL NETWORKS

6.1 Confirmation statement that dwellings are off-gas grid

REF Contingent evidence: EFW z-factor other than 5.0

7.1 Technical report assessing z-factor / heat to electricity ratio

REF Contingent evidence: Carbon intensity of network above carbon gate

8.1 Explanatory note and confirmation statement that carbon intensity of the project will meet the maximum 100g CO₂e/kWh threshold within 3 or 5 years of heat on.

REF Contingent evidence: REAPPLICATION

9.1 Supporting note

REF 1.2 Cover note/letter

This should be no more than 5 pages setting out the essence of the application, covering as a minimum:

- The amount of grant applied for;
- What the project is: location with image, customers connected, technology selection and how the project will be delivered;
- Who is applying;
- Required project hurdle rate (pre-tax real) with justification;
- Overview of project programme from GHNF application to the connection of all customers included in application to the heat network;
- Where there is uncertainty over the timing of commercialisation / construction cashflows across financial years (i.e. the risk of costs moving from one financial year to another); the project should describe the action(s) they will take to ensure that this risk is minimised.

REF 1.3 Business case

It is **not** a requirement that an HMG Green Book compliant business case is provided. However, a business case must contain the following as a minimum:

- Overview of the project
 - Technology selection and energy centre location – how did the project assess that the technology funding was applied for was appropriate?
 - Network routing and customers connected – how were the customers due to be connected identified for inclusion in the phase of work being applied for? How developed is engagement with customers?
- The rationale for investment, covering:
 - Project returns pre-/post- GHNF intervention;
 - Rationalisation of required pre-tax post-GHNF real project rate of return;
- How the project is to be delivered:
 - How the infrastructure will be procured;
 - How the project will be legally structured;

-
- How the project is intended to be financed (including the amount of GHNf grant applied for) and the financial returns forecast¹³;
 - Justification of tariff structure and comparison to the current tariff structure for existing schemes. The extent to which the tariff has or has not been explored with prospective / existing customers should be discussed.
 - Description of the key heat/cooling offtakers (customers) and their level of engagement;
 - Approvals for the business case.

REF 1.4 Programme

The applicant should provide a clear programme of works up to the point that all customers included in the application will be connected to the heat network. This should be in the form of a Gantt chart showing the critical path and, as an absolute minimum, milestones which should include:

- Commercialisation stage milestones:
 - Consultants procured
 - Pipework routing access approvals approved
 - Terms to access LZC heat approved
 - Ownership/lease secured for energy centre location
 - Core energy supply agreements agreed
 - Planning approval achieved
 - Infrastructure delivery contracts agreed
- Construction mobilisation works;
- Construction phase(s) with milestone payment dates for GHNf budgeting purposes;
- Date of first connection;
- Date on which all customers in the heat network included in the application will be connected.

Acronyms should be avoided or where used, explanations provided, so that a user unfamiliar with the project can clearly understand the milestones.

Programmes of works should be provided as Excel based documents or if separate software is used then as a PDF.

¹³ This should be an assessment on returns relevant to the sources of finance proposed. These will differ across investor types. For example, a project seeking finance from private equity would most likely need to have evaluated nominal post-tax cash flows in a full financial model.

REF 1.5 Customer and tariff note

This should be an Excel based analysis that provides the profile of annual thermal loads (kWh) and peak thermal demand (kW) of each building connected to the network. These profiles should correspond to the application form section for “End Customer Demand” and “Peak Demand” within tab <INP_GHNF_Application>.

Customers at risk, for the purposes of GHNF, are all domestic customers and micro-businesses¹⁴. Customers should be identified in the analysis as “at risk” if they meet this definition. If customers do not meet the definition of “at risk”, they should be identified as “not at risk”.

The analysis should show which tariff applies to the customer and the tariff should be broken down by: connection charge, fixed charge and variable charge.

REF 1.6 Techno-economic feasibility study

Accompanying the business case there should be a techno-economic feasibility study, carried out by an engineering organisation or competent independent engineer, that assesses as a minimum:

- Technology options with preferred option;
- Network routing option with preferred option;
- Energy balances at key stages in the project’s build out;
- Customer annual heat loads;
- options including the levelized cost of heat¹⁵ of options.

Techno-economic feasibility studies should be provided as PDF documents. However, where the study has been delivered through MS Excel based modelling and technical drawings **only**, a short note summarising the findings of that analysis (in line with the bullets above) should be provided.

Where heating is supplied, the counterfactual heat source for each heat customer should be identified and included in a table.

REF 1.7 Techno-economic cash flow model

Accompanying the techno-economic feasibility study, there should be a cash flow model(s) (TEM) that reconciles to the cash flows and energy balance summarised in the study. If the

¹⁴ <https://www.ofgem.gov.uk/key-term-explained/micro-business-consumer>

¹⁵ The sum of all project costs (capex, repex and opex) and non-heat related income discounted at the applicant’s real pre-tax hurdle rate divided by the sum of all heat delivered to end customers discounted at the applicant’s real pre-tax hurdle rate. Evaluation should be over a 40-year period

user is required to alter scenarios, or other cells within the TEM, in order for the outputs to agree with the study then an explanatory note within the TEM should be provided. As a minimum the TEM should provide the following:

- Annual energy balance, expressed in kWh, for at least 40 years appraisal;
 - Energy imported by each energy type (e.g. gas, heat from EFW, electricity) for heat generation;
 - System electrical parasitics (this should **not** include electricity supplied to a form of heat generation – e.g. heat pump);
 - Heat generated by each plant type;
 - Distribution losses; and
 - End customer demand broken down by customer;
- Capex broken down to provide a sufficient level of granularity – please refer to Annex 2 as the minimum level of granularity expected;
- Repex showing which items of property, plant and/or equipment are to be replaced;
- Opex broken down to provide a sufficient level of granularity – please refer to Annex 2 as an example of the level of granularity expected;
- Undiscounted and discounted cash flow summary over a 40 year period showing:
 - Capex;
 - Repex;
 - Opex; and
 - Income;
- Levelised cost of heat.

TEMs should be provided as Microsoft Excel - .xlsx, .xlsm or .xlsb files

REF 1.8 Market Transformation Commitment Statement

GHNH Transition Scheme

All applicants must provide a signed Market Transformation Commitment statement – see Annex 3. This must be signed by a person with authority to enter into agreements on behalf of the organisation. The Market Transformation Commitment sees the applicant commit their project to enabling action that will help the Green Heat Network Fund transform the heat network sector. For example, the applicant will commit to an open procurement process that has fair contractual terms, so as to not present an obstacle to new market entrants.

For public sector bodies this requires the procurement to be advertised on Find a Tender¹⁶ and done so in accordance with Public Contracts Regulations.

For non-public sector bodies this requires:

- Notifying GHNf when an Invitation to Tender document has been issued to prospective bidders and providing it to GHNf at least 2 weeks prior to bids being due. GHNf may then publish the ITT and/or circulate it to suppliers listed on relevant lots of the Heat Networks and Electricity Generation (HELGA) framework¹⁷;
- Running at least one open day event for prospective applicants ahead of procurement, to enable and inform prospective tenderers but also allow them to offer comments as to the proposed tender. All Q&As should be circulated to registered bidders.

GHNf full scheme

The GHNf full scheme MTC commitments will be developed and updated in advance of the full scheme launch in April 2022.

REF 1.9 Technical drawings

Scale layouts and schematics for the energy centre should be provided. These should be of sufficient detail to inform capital cost, space and utility requirements, as well as an understanding of noise and emissions implications. Outline specifications should be provided for heat/cooling generation plant including product data sheets where available.

Scale drawings of pipework, including lengths and sizes should be provided.

Drawings, outline specifications and product data sheets should be provided as PDFs.

REF 1.11 Relevant Correspondence

This should include but is not limited to, relevant correspondence with:

- Relevant utilities (water, electricity etc.);
For the assessment of deliverability it will be important to understand the extent to which costs to connect to relevant utilities have been evaluated and priced.
- Planners (if application is for construction support);

¹⁶ <https://www.find-tender.service.gov.uk/Search>

¹⁷ <https://www.crowncommercial.gov.uk/agreements/RM3824>

All applications for **construction only** should show engagement with local planners. The deliverability assessment will assess the extent to which engagement with planners is on the right track and that planning permission for the energy centre and associated heat network infrastructure is or is not likely to be approved (if not already approved).

- Highways (if application is for construction support);

All applications for **construction only that require the use of public highways** to lay pipework should provide evidence of correspondence with the relevant highways team of a Local Authority.

- Developers (if new build connections included);

All applications for costs relating to connection of new developments to heat networks will need to provide evidence of relevant correspondence/approved minutes with developers. Relevancy, in addition to the letter of intent/memorandum of understanding/heads of terms (see REF1.12)/energy supply agreement (as appropriate), relates to developer requirements for connection to the network. If there is a large body of correspondence the applicant should provide a short summary.

Where a Town and Country Planning Act section 106 agreement has been entered into between the planning authority and the developer, a copy of this should be provided as part of the application.

- Other relevant organisations.

Examples might include, but are not limited to:

- Environment Agency (e.g. correspondence about abstraction and discharge licences and associated costs);
- Coal Authority;
- Canals & River Trust;
- Network Rail.

REF 1.12 Energy supply agreements

As projects develop, a key goal is working towards securing legally binding energy supply contracts. It is **not** expected that projects applying to GHNF for commercialisation & construction funding for new heat networks will have secured legally binding contracts for the supply of heat. However, it is expected that the project should be able to demonstrate heat/cooling customer support for the project at that stage. Projects seeking commercialisation funding should provide, at the very least, letters of intent or preferably memorandums of understanding that set out:

- A commitment to work with the project developer;
- Confirmation that the project timings, as set out in the programme submitted to GHNF, would not preclude them for connecting to the network.

If possible, of the application should include:

- The proposed basis of establishing the heat tariff.

Before drawing down construction funding, successful projects will need to provide copies of legally binding signed energy supply agreements with key customers.

Template heads of terms and contracts can be found on the following .GOV webpages:

- Heads of terms:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/717800/Heat_Network_Heads_of_Terms.docx
- Legal contracts: <https://tp-heatnetworks.org/heat-contract-templates/>

REF 1.13 Letters of support from project sponsor

The authors of letters of support will differ depending on the type of applicant. As a general rule, the letter of support should be from a senior responsible officer with the authority / delegated authority to approve the delivery model for the project.

LA Application

- Councillor responsible for Environment and Climate Change, Place, Economy & Strategic planning etc. as appropriate;
- Section 151 (Local Government Act 1972) officer confirming funding is available to the extent that the applicant intends to finance the project (as opposed to procuring a concession for example); and
- Senior procurement officer confirming approval for procurement strategy set out in business case procurement strategy.

Non-LA application

- UK (or international) Chief Executive Officer;
- UK (or international) Chief Financial Officer confirming funding is available to the extent that the applicant intends to finance the project (as opposed to procuring a concession for example).

REF 1.14 Risk register and mitigation approach

The project risk register and proposed approaches to manage the key risks must be provided. This can be provided as a Word / Excel document or if the software format used by the applicant differs, as a PDF.

REF 1.15 Counterfactual heat

A short (1-3 page) memorandum setting out:

- what the applicant believes would be the heating/cooling technology of customers connected were the project not to secure GHNF funding;
- what the alternative low carbon heating/cooling solution most applicable to buildings proposed to be connected would be, were the heat network not to go ahead (if different from the technology assumed to be adopted were the project not to get GHNF funding);
- the local context (e.g. planning obligations, customer desire to decarbonise heat etc.) and the practicalities/impracticalities of alternative low carbon heating solutions. For example, it may simply not be reasonable to assume air source heat pumps being installed in multi-tenanted buildings for a low carbon counterfactual and instead more capital intensive shared ground loops may be assessed to be necessary to decarbonise building heating if the heat network were not to go ahead.

REF 1.16 CP1 compliance

The applicant must provide a Heat Networks Code of Practice (CP1) checklist (2020) confirming that work-to-date is compliant with CP1 requirements. Additionally, the applicant must provide a written confirmation that the project will continue to be developed in compliance with the requirements of CP1 (2020) and that all contractors procured will be procured on this basis.

REF 1.17 Confirmation of Heat Trust or equivalence

The applicant must provide written confirmation that, within 1 year of connection of a site containing domestic or micro business customers to the heat network, the applicant will have registered as a participant of the Heat Trust or equivalent and registered the site with that scheme.

If an equivalent scheme is to be used then a successful applicant will be required, as a condition of construction drawdown, to provide an independent audit report stating that the standards of the alternative scheme are equivalent to Heat Trust. The audit report must be carried out by a suitably qualified auditor with relevant industry experience. Such a report will not be funded by GHNF.

REF 1.18 Corporate structure

Please attach a group structure/organisation chart showing the relationship between you (the applicant company) and the other companies within your Group/structure including your immediate and ultimate Parent company (if different).

REF 1.19 Company Accounts

Please provide the signed and audited (if applicable) accounts/financial statements for the previous two years for all entities involved in the application. This should include the applicant, the delivery partner (if different from the applicant), parent and ultimate parent.

REF 1.21 Unaudited P&L and Balance Sheet

Please provide draft P&L from the date of the latest published accounts and balance sheet as close to the date of application is possible.

REF 2.1 Innovation and Efficiency memo.

If the applicant believes that it will be able to demonstrate innovation and/or enhanced energy efficiency, either with regards to the system to be installed or customers to be connected then a short, 1-5 page, memo should be written justifying an enhanced score for this.

While the GHNF will not fund investment in fabric changes, if the project intends on investing in this activity but has excluded the costs from the application (potentially applying for separate central/local funding), such activities could still be eligible to be scored credit if doing so would for example enable a lowered network flow temperature. In such cases the memo would need to explain the overall impact of undertaking such measures on the overall performance of the network and its low carbon credentials.

REF 2.2 Future expansion memo

If the applicant believes that the heat network has good expansion potential, enabling the future expansion and decarbonisation of buildings in the area then a short, 1-5 page, memo should be written justifying an enhanced score for this.

Memos that simply state that there are a large number of buildings in the area will not score well. The applicant should make clear what steps are being taken as part of the works associated with the current application to better ensure the ability of the project to expand should the opportunity arise. This might include:

- Building a larger energy centre with a footprint capable of including additional low carbon heating/cooling plant;
- Demonstrating how expansion might technically be achieved. This may potentially have been considered in the techno-economic appraisal report. If so that should be mentioned here.

REF 2.3 Full Financial Model

A full financial model may:

- Overlay wider project costs such as overheads, insurances, water, levies and other such costs sometimes omitted from standard techno-economic modelling;
- Evaluate the impact of relevant taxes: business rates, corporation tax, irrecoverable VAT etc.
- Model different sources of capital and the impact on equity returns and debt service cover ratios;
- Consider indexation risk;
- Model accounting requirements and their impact on distributable reserves;
- Calculate post-tax nominal equity returns.

Projects that submit a full financial model will be able to better demonstrate the project's forecast financial profitability post construction. A key consideration within the Deliverability assessment will be an assessment of the project's forecast free cash to finance. A project with a strong level of free cash, that also demonstrates that there is no customer detriment (see *Application Gated Metrics* section), would strongly indicate that the GHNF grant will be used to defray high up-front capital costs and unlock long-term low carbon heating for a project that will be a going concern into the long term.

A template full financial model for energy networks is anticipated to be available on the .GOV website in advance of April 2022.

REF 2.4 Credit rating

If your organisation has a credit rating please provide evidence of this rating – e.g. screenshot of the rating from the credit rating provider.

REF 3.1 Commercialisation budget

An Excel based budget and accompanying explanatory note should be provided itemising the costs expected to be incurred in achieving a Final Investment Decision for the construction of the network for which commercialisation funding is sought.

REF 4.1 Communal Networks Supporting Note

Note setting out which communal networks are to be decarbonised, including a map with their locations highlighted. Relevant sections of the local energy strategy or plan (see REF 4.2) should be highlighted to confirm that communal networks are in an area considered for future heat network development.

REF 4.2 Relevant Local Energy Strategy

The published Local Energy Strategy or plan identifying heat network potential in the location Local Energy Hub in which the communal networks included in application are sited.

Alternatively a Local Authority sponsored / endorsed heat mapping and masterplanning study that includes the buildings within a potential heat network would also be sufficient.

REF 4.3 Heat network readiness statement

Confirmation statement that all communal networks included in the application will, as part of the works undertaken, be developed to be ready for heat network connection.

REF 5.1 Existing network supporting note

Cover note explaining what specific works will be supported by GHNF. It should also explain what works have been done to address existing performance issues (to the extent they have been identified in the accompanying performance report) and what works are planned.

REF 5.2 Performance Report

See section 2.4.

REF 5.3 Existing network confirmation statement

A confirmation statement that the key improvement measures highlighted in the performance report have either been undertaken or are planned to be undertaken in advance of, or as part of, the works for which GHNF funding has been sought. In this statement, the applicant must confirm that the costs of such improvement measures have not been included in the application form.

REF 6.1 Rural network confirmation statement of off-gas grid

Only rural networks where customers are not connected to the gas grid are eligible to benefit from the 100 dwellings allowance (as opposed to minimum 2GWh of annual thermal energy generated) – see section *Application Gated Metrics*. The applicant must provide a written statement confirming that customers connected to the heat network are not connected to the gas grid.

REF 7.1 Technical report assessing z-factor

Where an applicant seeking to source heat from energy from waste plant has assessed the z-factor of the plant to be greater than 5.0 and wishes for the GHNF to use the higher z-factor in the carbon assessment, the applicant should provide supporting evidence in the form of a technical report undertaken by an engineering organisation or competent independent engineer with relevant skills to undertake such an assessment.

REF 8.1 Carbon intensity of network above carbon gate

Where an applicant has modelled that the expected carbon intensity of the network will exceed the 100g CO₂e/kWh threshold in the first 1-5 years following connection, submission of additional supporting evidence is required. The applicant must provide an explanatory note explaining why the network is breaching the carbon threshold and how it will be brought down to below this threshold successfully by the end of year 3 where temporary fossil plant is being used and by the end of year 5 where LZC plant is being used from the outset. The note must include a confirmatory statement that the required decarbonisation activities will be undertaken.

REF 9.1 Reapplication

Where an application has been rejected and the applicant is seeking to reapply the applicant should provide a supporting note containing a gap analysis highlighting what has changed from the previous application. Should an applicant that has successfully applied for the Transition Scheme, apply to the GHNH full scheme for construction funding this supporting note will also be required if there has been a material change to the project following commercialisation.

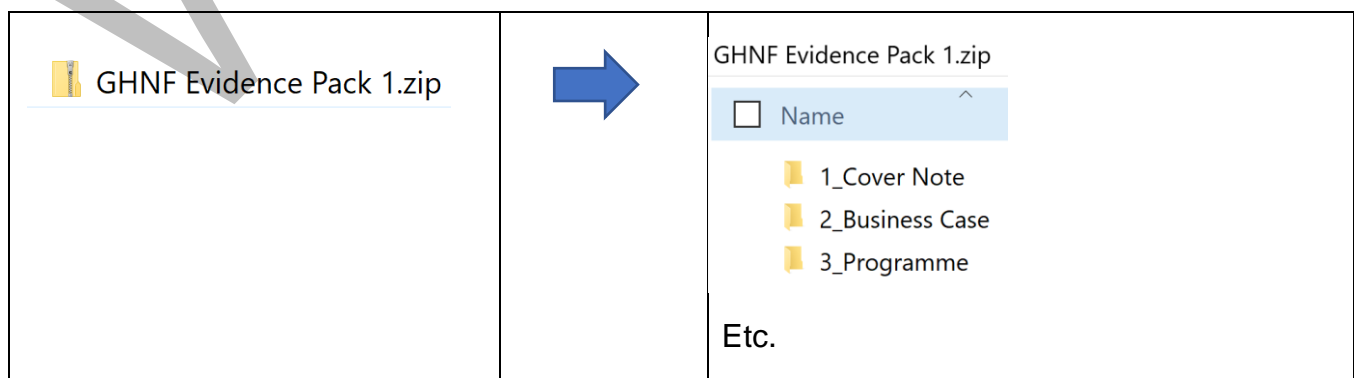
3.3 Submitting the application

Transition Scheme

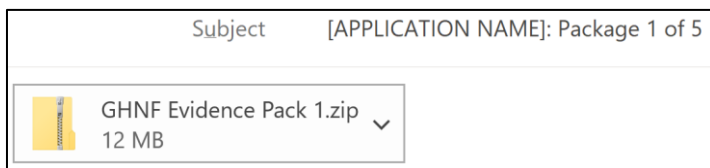
Application forms and Annex 1 (detailed application form guidance) can be requested from ghnfcorrespondence@beis.gov.uk.

Applications in financial year 2021/22, which are for commercialisation-only funding, must be submitted to ghnfapplicationsubmissions@beis.gov.uk. The completed application form should be attached, with no structural changes, to the email. Accompanying evidence should be zipped into packages of no greater than 20mb with folder structures that correspond to the application checklist. The folder structure will be provided to applicants on receipt of the application form.

For example:



Each package should be sent separately with the first email stating the number of packages that are to be sent and each email subject should correspond to the application name and package number. Example email subject:



When all packages have been received, an email confirmation will be sent by our administrator. We will endeavour to provide confirmation emails within 1 working day of receipt. Confirmation emails will include a unique application reference number that must be quoted in subsequent correspondence.

It is therefore strongly recommended that applications are submitted in advance of the deadline to ensure that confirmation emails are obtained in the unlikely event that applications made are, for whatever reason, not received by the mailbox administrator.

Full Scheme

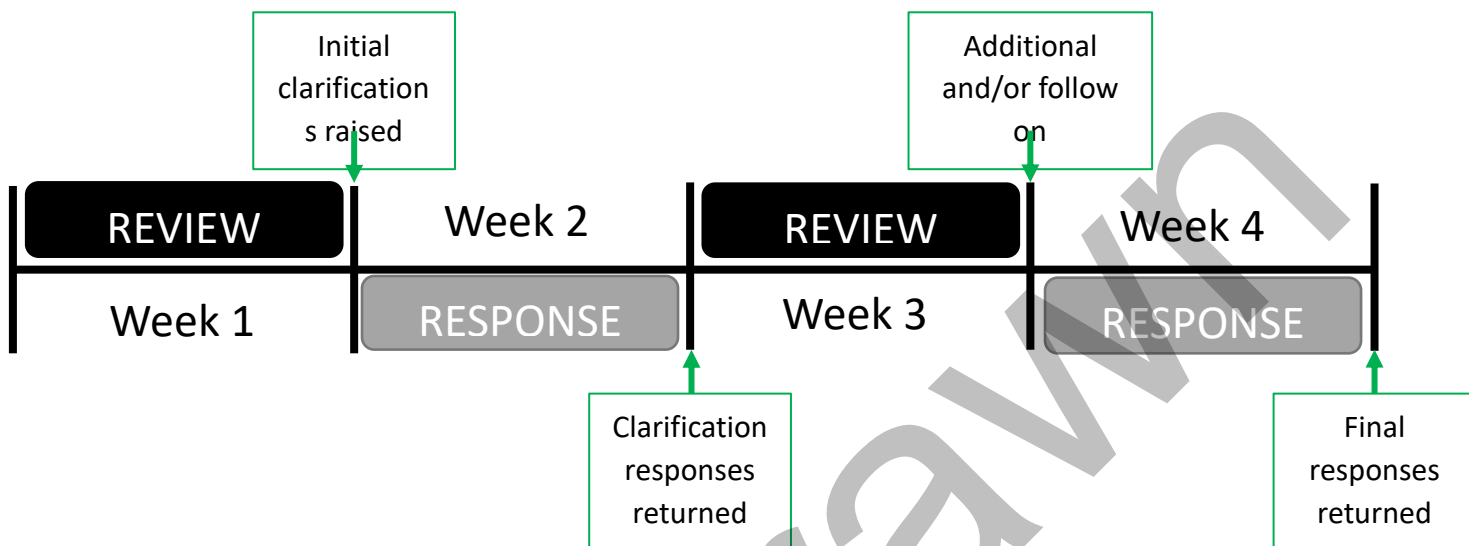
It is anticipated that applications to the full scheme will primarily be web-based. Checklist documents and the Excel based application form will be uploaded to a portal and will not need to be emailed. When all necessary uploads and information has been provided, the applicant will be able to submit their application online. They will receive a confirmation email of receipt and a reference number that should be quoted in subsequent correspondence.

3.4 Application Assessment

Overview from Applicant's perspective

Once the completed application form and accompanying evidence documents have been submitted and it has been confirmed that all pass/fail gates within the application form (i.e, the Application Gated Metrics) have been passed (the applicant will know this on application – see Annex 1), assessment will begin on the first working day following the closure of a given funding round.

From an applicant's perspective, the application is completed when the form and accompanying supporting evidence are provided to GHNF. However, over the month following the close date of a given funding round, the GHNF may raise clarifications to which the applicant must respond. The sequence of clarifications and responses is set out as follows:



It is essential that the applicant and any technical / commercial / legal / financial advisers to the project are available over this period. This is to ensure full and timely responses can be made by the applicant to GHNF.

If, on review of final responses by the applicant, it is assessed that the applicant has failed to materially address issues relating to key aspects of the scheme that would affect:

- Volume of heat delivered;
- The carbon intensity of heat delivered;
- The deliverability of the scheme; or
- The scheme's market transformation commitment requirements,

then, on review by the senior moderator, the applicant would be failed and notified at the end of week 5. On notification the applicant will be provided with the points that resulted in the failure, and, if applicable, suggestions of how the issue(s) might be resolved. The intention of this early failure and notification is to provide the applicant an additional 1 month to address the issue in advance of the next funding round.

Immaterial issues that remain unresolved, or significant issues that are deemed resolvable, will be collated into Conditions Precedents that will be appended to the grant award. Drawdown of funds will only be permitted if all conditions precedent have been met or if the applicant has received written (electronic or hardcopy) confirmation that outstanding conditions precedent can be fulfilled subsequent to receipt of funds (conditions subsequent).

Weeks 5-8 (inclusive) involve:

- the preparation of investment committee papers;
- review of the papers by committee members;
- a committee meeting to go through the papers and make final decision on awards; and
- drafting of grant notifications with conditions precedent and notifications of rejection with feedback.

It is possible that additional clarifications may be raised by Investment Committee members that were not raised by assessors. As such, while the level of clarifications would be expected to be low during this period, it is possible that key project team members may need to be available to respond to such clarifications if assessors are unable to adequately respond in the first instance.

At the end of week 8 (or best endeavours but no later than 5 working days after the end of week 8), notifications will be sent to applicants. Applicants that receive a grant offer letter will be required to confirm agreement with any conditions set and reconfirm the point(s) at which drawdown of the award is anticipated to be made within 5 working days of receipt of the notification.

For **Local Authority** applicants:

- Cash drawdown for the entire grant for the relevant stage (commercialisation or construction) can be made at the point all conditions precedents attached to the award for the stage applied for have been met.

For **all other** applicants:

- Cash drawdown, for part or all of the grant, can be made at the point the successful applicant is able to evidence the need for the spend (e.g. invoices, corresponding QS reports etc.), all conditions precedents for funding have been confirmed by GHNF as having been met and the applicant can evidence payment to contractors up to the value of the grant requested.
- Evidence for the need for spend can be in the form of invoices from contractors, quantitative surveyor reports which evidence milestones being met, and any other relevant documentation that clearly demonstrates payment for relevant work or services.
- The GHNF will endeavour to remit funds within [15] working days of receipt of a remittance request, accompanying invoices (or relevant evidence) and evidence of cash payment to contractors.
- In order to better ensure that remittance is made without delay, if the invoice/relevant documentation does not clearly match the remittance requested, a cover note should be provided that clearly reconciles the evidence provided and the remittance request submitted.

Application Gated Metrics

A key learning from the Heat Network Investment Project (HNIP) has been that applicants need to understand how their project will be assessed. There will always be a degree of judgement with regards to aspirational aspects of the project (e.g. future expansion potential), how deliverable the scheme is and how innovative the scheme is.

However, many of the project characteristics that are key to GHN outcomes can be evaluated using the Excel based information submitted by the applicant. While this will need to be subsequently validated by GHN assessors, the Application Gated Metrics (see Table 1) are calculated within the application form and are available to the applicant to review. Pass/fail is made clear within the application form and as such an applicant applying to the GHN does so in the knowledge that their scheme meets the Transition Scheme eligibility criteria (see section 2.1 and *Application Gated Metrics*) on the basis that the supporting evidence validates the application.

The Application Gated Metrics are:

- **Carbon intensity of network**
- All applicants must be able to demonstrate that the carbon intensity of heat delivered to end customers for each year is no greater than 100gCO₂e/kWh. Applicants should come forward with projects that operate at no greater than this threshold from the first year of operation. However as this may not always be feasible due to project circumstances (for example the use of temporary heating plant, while distribution is being installed), applicants may make the case within their application that additional time of up to 5 years is required by the project to achieve the carbon intensity threshold (see REF 8.1).
- The GHN does not support primary fossil plant and the GHN assessors must be confident that this is not the case here, and that the plan set out to bring the project below the carbon threshold is both credible and achievable in the time permitted.
- Reasons for breaching the carbon threshold in the first 3 years from connection could include:
 - where there is a credible third-party heat supply being either constructed or refurbished in a set year, for which the applicant has little or no control with clear evidence that the third-party heat supply will be available within 3 years and that there is sufficient agreement for offtake once built or refurbished;
 - where there is a new build development where you would not install low carbon plant on day 1 because it would be uneconomic to do so with a clear LZC network connection plan within the first 3 years;
 - where there is a new build development and first connection date for the development does not align with the build out of the heat network such that temporary plant is needed to supply the development and sufficient agreement

for offtake is in place to ensure connection to the LZC network within 3 years of first connection date.

- Reasons for breaching the carbon threshold in the first 5 years from connection could include:
 - LZC plant is installed from year one but the technology mix used relies on further grid decarbonisation to reach the required carbon intensity threshold and modelling using the BEIS grid intensity forward curves demonstrates this will be achieved before the end of year 5.
- The carbon intensity of the network is calculated within the application form by taking all fuel inputs (including electricity requirements for system parasitics including pumping) and converting them to kgCO₂e using BEIS/DEFRA published emissions factors¹⁸.
- New and existing EFW carbon intensity will follow the BRE technical note¹⁹ for emissions for EFW emissions relating to heat supply with the exception that the z-factor / heat to electricity ratio of 5.0 will be used. If the applicant believes a different z-factor should be used then the value can be updated in the application form; however, a technical report that justifies the change must be provided as part of the evidence pack – see contingent submission requirements in section 3.2.

- **Consumer detriment**

Domestic and micro-business²⁰ customers are assessed to be customers at risk (see REF 1.5) and for which customer detriment assessments need to be undertaken.

For customers at risk in **new build developments**²¹, a low carbon counterfactual will be used for establishing a benchmark cost for low carbon heat. This assessment will include the cost of asset purchase, maintenance, and fuel costs.

For customers at risk in **existing buildings**, a gas counterfactual will be used in urban settings and a heating oil counterfactual in rural or off-gas grid settings.

The levelized tariff²² proposed in the application must be less than the counterfactual cost of low carbon heat. It should be noted that where a landlord-tenant distinction is anticipated it is the tenant's share of the levelized tariff that must be assessed to be price competitive.

¹⁸ Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal> and Greenhouse gas reporting: conversion factors 2020 <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020> (updated annually throughout the scheme in line with publications)

¹⁹ BRE Technical Note – Modelling Energy from Waste Facilities: https://files.bregroup.com/SAP/BRE_Technical_Note-Energy_from_Waste_Facilities_%28ERF%29_1.0.pdf

²⁰ <https://www.ofgem.gov.uk/key-term-explained/micro-business-consumer>

²¹ i.e. developments that have not been built at the time that the GHNF application is made

²² The discounted value of connection charges, fixed and variable income to customers at risk at a social time preference of 3.5% divided by the discounted heat demanded by customers at risk

- **Annual thermal demand**

In urban settings a minimum threshold of 2GWh of annual thermal load, delivered by a combination of existing and proposed customers, must be forecast to be delivered (i.e. including losses) to customers within a 5 year window from date of first connection.

In rural settings a minimum threshold of 100 dwellings connected or 2GWh of annual thermal load, delivered by a combination of existing and proposed customers, must be forecast to be connected / delivered (i.e. excluding losses) to customers within a 5 year window from date of first connection.

- **Social IRR**

A social IRR calculation is performed within the application form. Primarily this is based on the project cash flows entered and the fuel imports selected. The calculation evaluates the social cost of emissions and air quality impact of the project when compared to a fossil heating counterfactual. In urban settings this counterfactual is gas and in rural settings the counterfactual is heating oil.

A social IRR of 3.5% or higher, prior to grant intervention, must be shown in order to demonstrate social value for money in supporting the scheme.

- **Subsidy Control**

The GHNF will fund up to but not including 50% of initial capex and commercialisation costs. This is further limited in that the GHNF will not award more than 4.5p/kWh of thermal energy delivered over the first 15 years of operations forecast.

The calculation in the application form takes the total undiscounted grant requested and divides it by the total thermal energy delivered over the first 15 years of operation to give a pence of grant per kWh heat delivered to end customers. If this is greater than 4.5p/kWh or if the grant is greater than or equal to 50% of construction and commercialisation costs then this gate will fail.

No grant awards will be made to projects whose real pre-tax project IRR is above the GHNF maximum support level. For commercial sensitivity reasons this value is not disclosed.

Assessment Gated Metrics – deliverability assessment and other confirmatory assessments

Having passed the Application Gated Metrics, the project will have shown it has the qualities that the GHNF would want to support. On the basis that the evidence provided can justify the values entered into the application form (fundamentally: project costs, energy balance and charges to customer types) then four deliverability assessments remain:

- Is the project described in the application deliverable?
- Will the project be developed in compliance with the CIBSE Code of Practice for Heat Networks (2020)?

- Will the project register with the Heat Trust or with an equivalent scheme?
- Does the applicant agree to the market transformation commitments that are a provision of GHNf funding – see Section *REF 1.8 Market Transformation Commitment Statement*?

The latter three are a simple yes/no with their implementation by the applicant and contractors to be monitored by GHNf; however, the assessment of deliverability is complex and runs the risk of introducing bias and/or unsubstantiated judgement. In order to better manage this risk, below we set out the assessment guidance for appraising deliverability. This is to help the applicant consider to what extent the evidence they have submitted does or does not address how it will be assessed in the context of project deliverability.

- **Connection risk assessment**

Connecting new and existing buildings to a heat network is one of the largest challenges in developing a heat network. It involves convincing building owners to fundamentally outsource how they provide and manage heating and cooling with substantial perception risks over price (now and into the future), reliability and general customer service. All of these need to be overcome for a heat network project to be successful and as such connection risk assessment is a core component of the overall deliverability assessment.

- How many organisations / individuals does the project need to successfully negotiate connection and energy supply agreements with, for the project to not incur a financial loss?
 - 0-5 would suggest low risk if non-binding agreements are present;
 - 5-10 while manageable presents greater challenge; however, if more robust non-binding agreements such as heads of terms (see REF 1.12) or a memorandum of understanding that provides some basic principles of tariff, indexation and contract duration (as opposed to a basic letter of support) are present then this could be considered lower risk;
 - 10-15 different stakeholders with whom connection agreements are required in order for there not to be a financial loss starts to represent a more significant risk. Again, if more robust non-binding agreements can be evidenced for sufficient stakeholders, then this could be considered lower risk. Such agreements would be heads of Terms (see REF 1.12) that set out the proposed tariff, the method of escalation, termination and extension;
 - 15-20 as with 10-15 but presenting an even greater challenge and would likely fail if Heads of Terms (see REF 1.12) are not provided;
 - 20+ as with 15-20 but would fail if Heads of Terms (see REF 1.12) are not provided as evidence.

Mitigation of the above might be where the majority of connections are new build and the planning environment strongly supports the development of low carbon heat networks.

- Customer type: does a high proportion of thermal demand indicate a building that could have occupancy issues or more fundamental future change-of-use?
 - Projects that have a high proportion of commercial customers on short term tenancies and where the commercial use does not clearly necessitate space heating would represent the highest risk projects. Risk mitigation might be in the form of communicating lease terms of buildings, demonstrating that permissions would not be granted for building change-of-use (e.g. refrigeration unit to warehouse), etc.;
 - Projects with new build developments where occupancy levels may be a risk (e.g. is the developer marketing the development internationally as second homes), and projects with a significant portion of thermal load, would represent a medium risk. Risk mitigation might be in the form of demonstrating occupancy levels of other new developments in the area, the marketing strategy of the developer, higher proportion of fixed price charging etc.
 - Projects where the use and occupancy shows no apparent reason for change would score well.
- Thermal load risk: how well evidenced is the thermal load forecast for existing buildings planned to be connected?
 - Projects that can show that they have estimated a high proportion of the thermal loads to be connected based on half-hourly gas/electric meter readings that cover at least one winter period would score well²³;
 - Projects that have relied heavily on published EPC/DECs on the MHCLG website will score worse than projects that have actual metered data;
 - Projects that have relied predominantly on industry standards (e.g. CIBSE TM46) for existing buildings will score the worst;
 - For new build properties low/v.low risk would be where the project has got detailed building design plans from the developer and can with confidence adopt a relevant industry consumption level and there is a high degree of confidence that the development is going ahead;
 - High/v.high risk would be where the project is not clear what building types are planned to be developed other than perhaps residential vs commercial vs mixed use or where there is substantial doubt over the development's future.

²³ N.b. it should be noted that the half hourly meter readings do not need to be provided as evidence, rather the techno-economic feasibility study should make clear the percentage of actual vs. estimated and that at least one winter period was metered at a sufficient granularity to identify peak demand

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- Planning policy: how forceful are the requirements for new developments to connect to a viable heat network?
 - Where a significant proportion of overall thermal load is forecast to relate to new developments, the planning environment is incredibly important for the success of a heat network;
 - Evidence of a Town and Country Planning Act section 106 agreement property requiring connection to a viable heat network where the date of that requirement is not forecast to lapse prior to funding (GHNF + other sources of finance required) being in place would be strong evidence;
 - If the stage of development is such that a section 106 agreement has not been entered into, evidence of the planning authority's commitment to heat networks e.g. as evidenced in their Local Energy Plan would be good evidence of a supportive planning environment;
 - In the event of no clear planning support for the development of a heat network:
 - where developers are closely engaged with the project and the proposed terms of connection have been agreed with heads of terms (see REF 1.12) or other forms of non-binding agreements, then this would mitigate the risk of unclear planning support for heat network development;
 - where no such agreements are in place, the planning policy is unclear and the reliance on new developments is high then this would likely fail the deliverability assessment.
 - **Wider stakeholder risk**

Certain projects will rely more heavily on wider stakeholders to enable pipework and certain technology types to be installed. Almost all projects will have to work with highways teams within Local Authorities as it is common for roads, pavements and verges to be used for buried pipework.

- Accessing thermal energy

A number of technology selections will require permits or contracts to be in place to allow for thermal energy to be imported into the managed system. This might include: heat imported from an EFW, abstraction/discharge permits for a body of water, permissions for accessing mineworks, interfacing with a green hydrogen facility, capturing waste heat from an industrial process etc.

- Where such requirements exist, the level of engagement with the relevant Authority or asset owner will form an integral part of the deliverability assessment as the low carbon credentials of the project will rely heavily on this relationship.

- Commercialisation + construction funding applications must demonstrate engagement with the relevant Authority and/or asset owner and that nothing has come to light that would suggest an adverse decision would be forthcoming. Projects unable to demonstrate this and which rely on such a relationship will fail the deliverability assessment.
- A good score for a commercialisation + construction funding application would be given where the relevant Authority and/or asset owner has provided provisional approval and the terms of accessing the thermal energy, notably capital and ongoing costs, are reflected in the techno-economic assessment (either directly or clearly within a sensitivity threshold run).
- A poor score for commercialisation + construction (but still not a fail) would be given where correspondence has been evidenced but it is not clear whether permission is likely or the basis on which permission will be granted is not clear.
- For construction-only funding, the application will fail if both the terms of access and agreement to abstract/import the thermal energy are not in place.

○ Engagement with highways

What evidence is in the techno-economic feasibility study and/or business case that can demonstrate a good level of engagement with the relevant highways team in the Local Authority?

- For construction-only funding a failure to demonstrate good communication with the relevant highways team in the Local Authority, or evidence of consultation on proposed routes, would most likely fail if a substantial portion of the project's pipework routing requires use of the public highway;
- For commercialisation and construction funding a failure to demonstrate good communication would be permissible; however, a condition precedent of drawdown of construction funding would be to evidence that necessary approvals were in place for access, tariff management etc.

○ Utilities

Wider utilities, particularly electricity connections, can have a material impact on the overall viability of a project. In grid constrained areas the deployment of technologies reliant on the import and/or export of electricity may have substantial implications for reinforcement that applicants may seek to levy onto the project.

- What engagement has there been with relevant utilities? Has the cost of connection at the required capacity been established and has the cost been reflected in the cost schedule appraised (see REF 1.7)?

- For both commercialisation + construction and construction-only funding it would be expected that utility connection costs will have been established in advance of GHNF application and reflected in the economic appraisal.
- Where this has not been established and the project relies on electricity as its primary form of energy import, the project will fail the deliverability assessment if it cannot demonstrate that it has engaged with the Distribution Network Operator (DNO) and confirmed at least that there is sufficient capacity for the proposed project;
- While natural gas will not meet the scheme eligibility requirements for primary combustion it may be used for winter peak requirements. As such, where this is proposed it will be important for the assessor to understand the cost of connection, and for the applicant to provide supporting evidence of this.

- **Technical**

The technical assessment of a project is not simply an assessment of whether the proposed solution is technically deliverable on paper but that it is deliverable in reality. This requires an understanding of: land/building ownership, ownership of the building(s) that will house core plant, the technology selected, routing and customer interfacing.

It is not proposed that projects applying to GHNF for commercialisation + construction funding will have developed proposals to detailed design stage (or equivalent); however, concept designs (RIBA 2 and equivalent for buried pipework) are expected in order to support the technical assessment.

- Applications that fail to provide RIBA 2 designs for the energy centre and RIBA 2 equivalent designs for pipework routing for commercialisation + construction applications will fail the assessment.

- Energy Centre assessment

Where projects intend on using centralised plant to distribute thermal energy, securing the location of the energy centre(s) and confirming that the building footprint is sufficient to house all plant necessary is critical. Further, where there will be a local impact on air quality it is important that the assessor is confident that the project will comply with local air quality management area requirements.

- Applicants for commercialisation + construction should have a preferred option for energy centre location and be able to demonstrate engagement with the land-owner or building owner (as appropriate);
- construction only funding should be able to demonstrate that the EC location has been secured and the terms (duration, access and cost) largely in place. Applicants unable to demonstrate this would likely fail deliverability assessment.

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- First of a kind technology (FOAK). The GHNf is not intended to fund technology that has not been demonstrated to operate in the conditions proposed by the project and at a capacity similar to that required by the project. Projects looking to generate heat by means other than those listed below will need to adhere to Technology Readiness Levels 8 and 9 as interpreted by the BEIS Industrial Energy Technology Fund with national/international examples provided. The means of generating heat that are not deemed to be FOAK:

- Direct combustion with oxidation;
- Usable heat recovered from an industrial process (e.g. EFW);
- Waste heat recovered from an industrial process and upgraded via heat pump;
- Ground, water, air, sewer or mine source heat pump;
- Deep geothermal²⁴;
- Fuel cells; and
- Solar thermal.

GHNf reserves the right to request national/international examples as part of the clarification process if it is considered that the system configuration is potentially first of a kind.

- Pipe routing. It is not anticipated that applications for commercialisation + construction will have undertaken ground penetration radar surveys; however, the extent to which the project has assessed routing issues as part of their technical study will be considered.
 - Does the study clearly show that route walks have been undertaken?
 - Has there been an assessment of spare capacity for pipework in existing crossings, underpasses etc of major barriers such as railways, rivers, canals etc.?
 - Have existing buried utility schematics been obtained and overlaid the proposed route to identify network pinch points that may warrant GPR surveys?
- Overall network efficiency. The carbon intensity of heat delivered to customers will, with the exception of zero carbon networks, be heavily reliant on the overall system effectiveness of converting energy imported to the network into deliverable heat.
 - For heat pump led schemes that suggest Seasonal Coefficient of Performance (SCOP) in excess of 3.0 (e.g. due to access to non-ambient heat sources, simultaneous heat + cooling can be utilised etc.) it would be

²⁴ 500m or deeper – if shallower then classed as ground source

expected that technical analysis within the technical feasibility assessment will have been undertaken to justify the SCOP used;

- Distribution losses should be rationalised and evidenced based on the proposed pipework insulation, flow temperature, pipe diameters & length and other such relevant factors utilising:
 - supplier performance sheets,
 - first principles calculations, or
 - proprietary software;
- For existing networks the performance report should show a network performance consistent with CP1 expectations of no greater than 20% losses of heat supplied over the primary network. **Where this is not the case** the performance report should make clear what actions should be taken to rectify this issue and the applicant will need to:
 - confirm that the costs of such rectifications are excluded from the GHNF application;
 - confirm that these actions will be undertaken as part of the works supported by GHNF; and
 - confirm that the performance of the network energy balance corresponds to the post-intervention performance in line with the performance report key recommendations;
- Customer interfacing. For commercialisation + construction funding it is not expected that detailed customer connection designs will have been undertaken; however, for key customers it would be expected that plant room visits would have been undertaken and a viability assessment for network interfacing considered.

- **Project economics**

An assessment of the internal rate of return (IRR) of project cash flows is an insufficient assessment of whether a project is likely to be a success. As important, if not more so, is determining whether the project is able to provide long term steady cash flows capable of servicing finance. A project that shows a healthy project IRR due to the presence of a large grant and early period cash surpluses (e.g. connection charges, Local Authority contributions etc.) but weak operating cash flows may struggle as a going concern to the detriment of customers connected and the wider objective of decarbonising heat.

- Cost base

The GHNF will not undertake a detailed cost benchmarking exercise; however, a high level capex cost comparison will be undertaken based on:

- Technology selection;

- Energy centre footprint and balance of plant;
- Network routing (hard/soft dig high level assessment) and distance;
- Customer interfacing costs.

Further, the operating costs of the network will be considered with regards to:

- Operating and maintaining the network;
- Fuel costs (particularly where assumptions differ to BEIS published forecasts); and
- Metering and billing costs.

Projects that differ by more than 20% of the estimate will be clarified for the sources of assumptions used in the capex/opex profiles provided and the robustness of those assumptions will be considered by GHNf technical experts.

○ Loan life cover ratio.

A basic test that will be performed is to consider whether the operating project cash flows put forward would provide a sufficient cash head room to service at least 50% of the capex with an interest-bearing loan that amortises over a 25 year period.

- Projects capable of supporting at least half the capex with an interest-bearing loan will score better than those that cannot;
- Projects that have operating cash flows close to break-even will score poorly and may possibly fail the deliverability assessment if the quality of operating cash flows is deemed to be too weak. Such projects would strongly suggest that they have more fundamental issues with tariff structure which a grant-based scheme would be unlikely to satisfactorily address.

○ Proposed funding structure

An assessment of the business case's section on the proposed financing structure of the project will be undertaken. Consideration will be given with regards to the sources of finance proposed and the extent to which the cash flows analysed by the applicant are likely to be sufficient in the absence of firm commitments by investors (see section *Project funding requirements*).

- Projects seeking third party finance that have not undertaken post-tax nominal investor returns analysis would not score well.
- Where projects have undertaken such analysis but issues in the quality of operating cash flows are highlighted (see previous section – Loan life cover ratio), such projects would not score well in this area in the absence of market testing which showed private sector support for the project, and that sufficient information had been provided to allow for a robust assessment by the private sector of the project economics.

- Projects that have not considered or engaged with private sector investors would not score well in this section. [This is because the heat network sector, if it is to deliver substantial volumes of heat to customers by 2050, will need to materially change the pace of investment that has been seen to date. The GHNF, while supportive of Local Authority led schemes, would want to encourage greater participation of private investors.]

- **Programme**

The final section of the deliverability assessment would be the assessment of the project's programme for commercialisation and/or construction to the point that all customers included in the application have been connected.

The key considerations would be:

- How comprehensive is the project's analysis of milestones and its assessment of the interdependencies between project risks and programme slippage?
- How realistic are the timings and how great a risk is there that the proposed GHNF cash drawdown(s) will vary from the programme dates set out in the application?

Adjustment Metrics

All projects that have passed:

- the Application Gated Metrics and
- the Deliverability assessment,

are projects that the GHNF would want to fund. However, budget is limited and as such it is necessary to rank applications. The GHNF does so in the relative terms of volume of heat to be delivered over the first 15 years²⁵ of the project for each pound of grant that would be awarded.

A limited degree of further adjustments is used in the assessment to give credit to projects that show qualities that are aligned with the GHNF objectives. **The maximum impact the adjustment metrics set out below can have on the kWh heat delivered per £ grant awarded is a 30% reduction.** As such, projects that score very well on volume of low carbon heat delivered per pound of grant requested may not be impacted by these adjustments; rather, projects that score closely on an unadjusted kWh/£ grant would differentiate themselves from the others based on the adjustment metrics:

- Deliverability;

²⁵ 15 years broadly corresponding to the typical useful economic life of heat/cooling generating plant used by heat networks and also counterfactual solutions.

-
- Carbon abatement against counterfactual technology;
 - Volume of thermal energy;
 - Expansion potential;
 - Innovation and energy efficiency.

Deliverability

As assessors work through the deliverability assessment section to determine if there are any material issues with the project's ability to deliver the outcomes described in the application, scores against the core components of deliverability, set out in the previous section, will be made.

All projects that are taken through the adjustment metrics will have been assessed to be deliverable (potentially with conditions precedent required prior to grants being drawn down). The deliverability adjustment metric awards credit to projects that are able to demonstrate some of the better practices set out in the deliverability assessment section above.

A distinction will be made between projects that are applying for commercialisation-only funding in the Transition Scheme or commercialisation & construction funding in the full scheme vs those applying for construction-only funding in the full scheme due to their having already completed commercialisation activities.

Carbon

This is a volume-based assessment of the 'actual' carbon abatement i.e. the CO₂e that is actually proposed to be displaced as opposed to benchmarking the project's overall carbon intensity against an absolute of 100gCO₂e/kWh heat delivered.

Projects that are able to contribute more to heat decarbonisation, for example by displacing dirtier fuels such as coal, heating oil etc. will score more highly. The metric is based on total tonnes of CO₂e forecast to be displaced over the first 15 years of the project's life.

Volume of thermal energy

Volume of heat delivered is a key metric of GHNF with a target of 1.15TWh heat delivered to customers annually. Projects that are assessed to be able to credibly deliver larger volumes of low carbon heat will receive credit for this.

Expansion potential

Applicants may optionally include a short memorandum justifying actions taken by the project to better ensure the project's expansion potential – see section: *REF 2.2 Future expansion memo.*

Innovation and energy efficiency

Applicants may optionally include a short memorandum justifying actions taken by the project to demonstrate innovation and/or energy efficiency measures – see section:

REF 1.18 Corporate structure

Please attach a group structure/organisation chart showing the relationship between you (the applicant company) and the other companies within your Group/structure including your immediate and ultimate Parent company (if different).

REF 1.19 Company Accounts

Please provide the signed and audited (if applicable) accounts/financial statements for the previous two years for all entities involved in the application. This should include the applicant, the delivery partner (if different from the applicant), parent and ultimate parent.

REF 1.21 Unaudited P&L and Balance Sheet

Please provide draft P&L from the date of the latest published accounts and balance sheet as close to the date of application is possible.

REF 2.1 Innovation and Efficiency memo.

4 Business Development Managers and application support

4.1 Overview of Transition Scheme

The Transition Scheme will not have Business Development Managers (BDM) due to the limited time within which it will operate.

4.2 Overview of GHNf main scheme

An important part of the GHNf is how the scheme interacts with prospective applicants.

Prospective applicants need to be made aware of the scheme, the extent to which their project does or does not align with the principles of GHNf support, what actions might need to be taken prior to application to ensure best foot forward and how to make a clear and compelling application.

The business development managers (BDMs) play an important role in this process. They are not part of the assessment team and there are internal controls to ensure that assessors and BDMs do not have access to respective work areas. Projects will never be discussed by BDMs with assessors. They will only inform GHNf management of likely timings of prospective applications and anticipated grant requests to assist with budget forecasting and resourcing needs.

In this way applicants should feel comfortable to discuss their project – the good and the bad – without concern that a judgement will be passed onto the assessment team.

4.2 When to engage

Prospective applicants can register with the GHNf to be allocated a BDM as soon as they have:

- completed a techno-economic assessment of their project;
- populated the core project metrics within the GHNf application form and have passed the majority of gates;
- completed a draft business case (this does not need to be an approved business case) that largely complies with the business case specification set out in the accompanying documentation requirements (see RFI 1.3);

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- internal approval(s) to engage with the GHN²⁶.

In this way the project should be clearly defined, there should be a preferred route to market in place, and key project risks should be identified. Additionally, many of the key stakeholder actions should also have been begun as it would be hard, if not impossible, to draft a realistic business case without this having been done.

4.3 How will the Business Development Manager (BDM) help?

A BDM can help a project prepare their application:

- a BDM can review any evidence provided at a high level and consider where additional focus is needed, if at all.
- As each BDM has a portfolio of projects she/he supports, they can draw on what they see other projects doing and communicate the kinds of behaviours they are seeing without divulging any specific aspects of other projects. An example might be explaining how another project drafted a cover note tailored to their project to assist assessment, what was included by another project in the innovation and energy efficiency memorandum, and what type of correspondence with a DNO was included in an application where there had been substantial amounts of correspondence etc.
- a BDM can attend certain internal/external meetings to express their thoughts on the project's direction of travel and the extent to which the project has the attributes that GHN is looking to support.

When a project is ready to make an application, the BDM can help the project:

- by clarifying specific questions on the application form to the extent they are not clear to the applicant (or relay questions in a timely fashion to a relevant GHN team member);
- by pointing the applicant to relevant guidance and published examples of good and not so good applications (this will be possible after the first year of the full scheme).

The BDM's involvement with a project is to provide guidance only which will never be in the form of advice. The applicant is under no obligation to follow the guidance provided by the BDM but would be expected to always follow published GHN guidance – ie, this document.

²⁶ On applying to the GHN for a BDM the prospective applicant will be required to confirm this but no written evidence will be sought.

4.4 What support do BDMs provide to applicants following an application?

After an application is made, the GHNF will engage directly with the applicant and communication to/from the BDM regarding the application will cease. The BDM will be informed of the application outcome after the applicant has been informed.

If successful, future monitoring and reporting requirements (see section 8) will be managed by the GHNF central team and not by the BDM. However, the BDM will engage with the successful applicant to develop case studies and materials to publicise the success of the project. Should the applicant be offered a provisional grant award under the full scheme, the BDM will support the project in navigating the BHIVE ²⁷ process should that be required.

If unsuccessful the BDM will be available to the applicant to help them prepare for reapplication should they choose to do so.

²⁷ <https://www.gov.uk/government/publications/beis-heat-investment-vehicle-bhive-a-dynamic-purchasing-system-for-heat-networks>

5 Project funding requirements

5.1 Project funding requirements for the Transition Scheme

Successful applicants for commercialisation funding through the Transition Scheme must be able to demonstrate that they have secured provisional GHNF funding sufficient to meet any commercialisation costs that will not be met by the Transition Scheme grant award (should there be any), which were forecast as part of the application. It will always be a requirement that this funding is in place prior to Transition Scheme funds being transferred to the successful applicant.

5.1 Project funding requirements proposed for the full scheme

Successful applicants for commercialisation and construction funding must be able to demonstrate that they have secured provisional GHNF funding sufficient to meet the project's capital costs which were forecast as part of application. For example, if the total project capital expenditure is forecast to be £20m and a grant of £2m has been applied for, then £18m of capital needs to be confirmed as available for investment into the project.

This need not always be demonstrated as part of the application (see Provisional Awards section below); however, it will always be a requirement that this is in place prior to Transition Scheme funds being transferred to the successful applicant.

5.2 Provisional Awards are proposed for the full scheme

It is acknowledged that for some projects it may not be possible to have all sources of funding in place. Further, requiring projects to have all funding in place may actually limit the pool of potential investors as some investors may be unwilling to engage with a project that cannot demonstrate investible returns and would not want to commit the time and materials necessary to make an application to GHNF that may or may not be successful.

To help manage this, applicants may apply for provisional GHNF awards from the full scheme. However, such applications are only permitted in the April or July application rounds and funding must be secured no later than the end of February.

Given that applicants will essentially have between 6-9 months to secure funding on the back of a provisional GHNF award having been made, it would be expected that applicants would have already undertaken some form of soft market investor engagement and can evidence positive feedback.

6 Subsidy Control

The GHNF has undertaken an assessment of how the scheme will comply with UK-EU Trade and Cooperation principles and has assessed that a maximum capital support of up to but not including 50% of capital expenditure forecast (excluding forecast replacement expenditure) complies with the following principles:

- The support relates to a specific public policy objective – the decarbonisation of heat through the deployment of heat networks;
- The subsidy proposed is proportionate and limited to what is necessary;
- The subsidy will change the economic behaviour of the beneficiary by enabling them to invest where otherwise they would not have;
- The social benefits of all projects supported outweigh any negative social impacts associated with them.

7 Application outcome and grant drawdowns

7.1 When will an award letter or rejection letter be received?

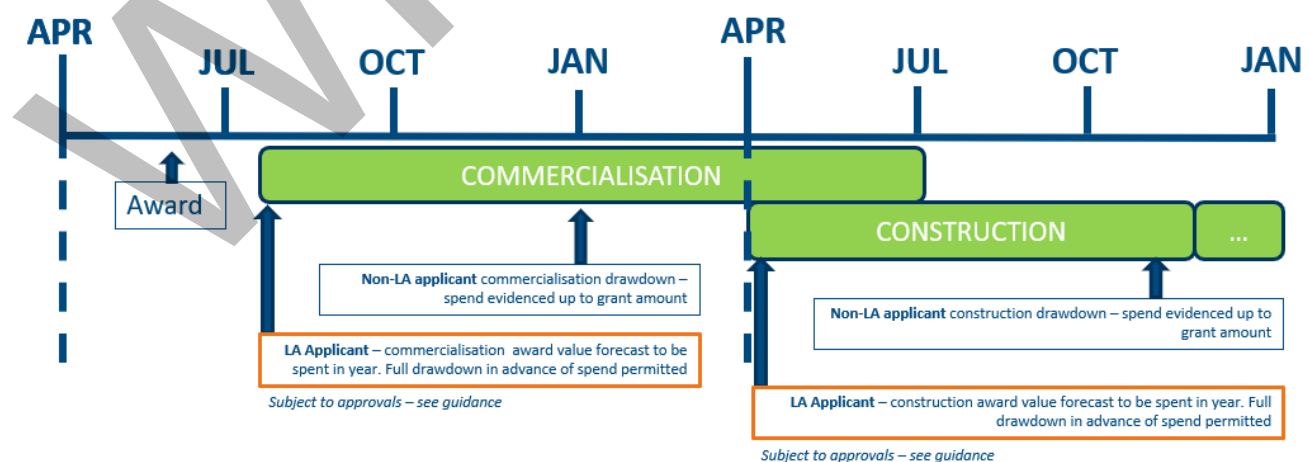
The GHNf aims to provide an award letter or a failure notification letter within 45 working days (i.e. two months plus 5 days contingency) after the start of a funding round.

7.2 What is the process for drawing down funds if successful?

[Local Authority applicants may apply for drawdown of the full value of the commercialisation grant in the Transition Scheme ahead of need. In the full, where an LA has applied for both commercialisation and construction funding, drawdown can be made ahead of need for each stage, i.e. construction funds can only be drawn down when commercialisation conditions precedents have been completed and construction is due to start in the financial year in which the request for drawdown is made. *Please note that this area is subject to approvals and may follow the process for funding draw down for Non-Local Authority applicants described below.*]

Non-Local Authority applicants may only apply for drawdown of funds in line with work and services rendered by contractors and after the cost has been defrayed by the applicant. Evidence will be required in the form of invoices or quantitative surveyor reports that equate to or exceed the grant value requested for drawdown, as well as evidence of cash having been remitted to contractors.

Figure 4: Indicative timing of drawdown for LA and non-LA applicants



7.3 The MOU, funding conditions, and reclamation of funds.

The GHNH will provide grant funding to the applicant following successful evaluation of the application and subsequent agreement to conditions of funding. Agreement will be demonstrated by the signing of a memorandum of understanding (MoU) that will be issued alongside the award letter. The MoU will set out detailed conditions that the applicant will need to adhere to and the circumstances where the grant may be reduced, withdrawn or repayment required. Repayment of grant funds will generally be required in circumstance of misuse or material revisions to the proposed scheme that make the scheme ineligible or that work against the GHNH objectives.

8 Monitoring and reporting Requirements

8.1 Commercialisation stage reporting

Successful applicants will be required to report monthly providing the following information:

- Project status update;
- The key project risks and proposed mitigation;
- Spend to date against the budget which was submitted to GHNF as part of the application;
- The anticipated timing of drawdown requests (if not Local Authority applicant).

As consultants are procured, a consultancy organisation will need to be listed against financial, commercial, legal, technical and other services with the contract value stated. Key contacts for each consultancy will be required.

The following information must be submitted on a one-off basis with the first monthly report and again if any of this information changes :

- Sources of finance and sums committed;
- Confirmation of whether the GHNF standard form contracts have or have not been used. Where they have been used (or will be used), the applicant must highlight where gaps have been identified by legal specialists.

Transition Scheme applicants that do not subsequently apply to GHNF for capital funding will not be required to report on construction and/or operations.

8.2 Proposed construction stage reporting

Successful full scheme applicants will be required to report monthly providing the following information:

- Project status update;
- The key project risks and proposed mitigation;
- Spend to date against budget submitted to GHNF as part of the application;
- The anticipated timing of drawdown requests (if not Local Authority applicant)

As design, build, operate & maintain contractors are procured, the applicant will need to notify GHNf of the following:

- Contract form(s) (e.g. JCT, FIDIC etc.);
- Breakdown of costs;
- Contractors across core areas and contract values:
 - Overall contract management
 - Detailed design
 - Construction and civil engineering
 - Mechanical & Electrical
 - Core plant supply and installation.

8.3 Proposed operation stage reporting

Full scheme applicants will be required to report [annually] providing the following information:

- Monthly kWh heat and cooling demand broken down by customer types as defined in the Heat Networks (Metering & Billing) Regulations 2014.
- Monthly kWh of fuel imported;
- Average monthly carbon intensity of network;
- Average monthly flow temperature;
- Volume weighted average return temperature;
- Number and total hours of unplanned primary plant outages by month;
- Number and total hours of unplanned system outage by month.

9 Queries, complaints and review process

9.1 Summary

This section sets out important information for applicants about the basis on which applications are considered and what to do if an application is unsuccessful.

GHNF is a discretionary fund. Applicants must bear in mind that awards made by the GHNF are discretionary. There is no automatic entitlement to an award of funding in any amount. Assessors will challenge information submitted by applicants they are not clear about, and they will also be expecting applicants to supply detailed project documentation in support of the completed GHNF application form. The purpose of the detailed project documentation is to ensure applicants provide the requisite evidence in support of their application.

Applicants must meet the eligibility criteria (see section 2.1), which includes passing the Application Gated Metrics. Applicants must ensure that the organisation, project and application all meet the eligibility criteria set out in this application guidance document. It is the applicant's responsibility to make sure that all the eligibility criteria are met. See section 2 *Transition Scheme Eligibility Criteria* and Section 3 for more details.

Applications will be assessed on a transparent and objective basis. The assessment process will be run as transparently and objectively as possible. Expert judgements will be made within an agreed framework and all assessments will be subject to internal quality assurance. All projects regardless of who the ultimate decision maker is (GHNF Transition Scheme or GHNF Full Scheme Investment Committee) will be subject to the full GHNF assessment process.

9.2 Applicants that don't meet the eligibility criteria

Applicants who fail to meet the eligibility criteria (including the Application Gated Metrics) will be rejected. An explanation from GHNF will be given as to why the application was rejected which may prove helpful if applicants choose to re-submit an application at a later date. The explanation, however, will not seek to fix any deficiencies in the application.

9.3 Eligible applicants are not guaranteed funding

Even if an applicant meets all of the eligibility criteria and scores well, it is not guaranteed an award of funding. GHNF funding will be allocated on a competitive and discretionary basis. The Investment Committee will consider those applications submitted in a given funding round where the applicant meets the eligibility criteria. The scores awarded to the applications by GHNF assessors will be compared. The applications will then be ranked. Some may not be awarded funding because their ranking was lower relative to others.

Applicants that are successful will be notified accordingly. Applicants that are unsuccessful will be notified, together with an explanation of why.

9.4 Comparability of Applications

Every application will contain commercially sensitive information, so it will not be possible to disclose scoring of applications relative to others. Instead, we will aim to draw out themes from successful and unsuccessful applications in each round to help future applicants improve the quality of their applications. We may feed this into future revisions of the Application Guidance, webinars or other published means of disseminating lessons learned.

9.5 Re-applying in the future

We want to fund high calibre, low carbon projects that require GHNf support. If an applicant has been unsuccessful, the applicant is urged to consider working to improve their project and their application and to submit another application in a future round. Applicants should carefully consider how they could improve their application to meet the eligibility criteria (where their application was rejected) or how they could achieve a higher score (where their application was deemed eligible but was not awarded funding).

9.6 Reviewing decisions

A decision of the Investment Committee may be reviewed by BEIS if, following a decision on an application, there is strong evidence that there was a failure to follow the published assessment processes and that the failure to do so has had a materially adverse impact on the consideration of the application. If an applicant feels that this applies to their application, they are asked to please email ghnfcorrespondence@beis.gov.uk to request a review.

GHNf will consider the request and tell the applicant if it is felt that the decision is justified. If, on review, it is found that the applicant met the eligibility criteria when it was previously decided that it did not, or that it should have been awarded a higher score, the applicant can request that their application be re-submitted, unamended into the next funding round where it will compete with other applications in that round. In no circumstance will a review guarantee an award of funding.

Withdrawn

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