



Department for  
Business, Energy  
& Industrial Strategy

# INDUSTRIAL HEAT RECOVERY SUPPORT PROGRAMME

Government response



July 2018

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## Government response

The Government response can be found on the BEIS section of GOV.UK:

<https://www.gov.uk/government/consultations/industrial-heat-recovery-support-programme>

### **Acknowledgements**

BEIS would like to thank all stakeholders who took the time to respond to the Industrial Heat Recovery Support Programme consultation.

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# General information

## Purpose of this document

This document sets out the Government's decision on the Industrial Heat Recovery Support Programme following the views of respondents during the consultation process.

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## Quality assurance

This consultation has been carried out in accordance with the [Government's Consultation Principles](#).

If you have any complaints about the consultation process (as opposed to comments about the issues which are the subject of the consultation) please address them to:

Email: [beis.bru@beis.gov.uk](mailto:beis.bru@beis.gov.uk)

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## Introduction

Improving energy efficiency will help to achieve the Industrial Strategy's aim of boosting productivity and the earning power of people throughout the UK by reducing the energy bills of a wide range of businesses. Recovering waste heat from industrial processes will reduce fuel requirements and support industry to avoid wasted energy. The associated reduction in carbon emissions will also help the UK meet its legally binding Carbon Budgets.

Industrial heat recovery is a technique by which heat generated for an industrial process, that otherwise would be wasted, is recovered and used. This waste heat can be used in many ways, including within the same industrial facility, by another end-user (for example, through a heat network), or by converting the waste heat to power. A number of manufacturers have already invested in industrial heat recovery technologies, and many more have expressed an interest. But deployment continues to fall short of its estimated economic potential because of a range of commercial, technical and information barriers. These barriers mean that less than half of the potential is commercially viable at present.

In line with research carried out on heat recovery, the Government intends to provide financial support to increase the deployment of industrial heat recovery technologies. This will help to overcome key barriers, and increase industry confidence to identify and invest in opportunities for recovering heat from industrial processes. In turn, this will lead to more efficient and productive use of industrial energy, lower fuel bills or a new revenue stream for industry, and a reduction in carbon emissions.

The aim of the Industrial Heat Recovery Support Programme is to increase industry confidence to invest in technologies to recover heat from industrial processes, and increase the deployment of such technologies in England and Wales. Over its lifetime, the Programme has the potential to reduce total industrial energy bills by over £500m, bringing industrial competitiveness and productivity gains, and helping to insulate industry from future energy price fluctuations<sup>1</sup>. It also helps cut heat-related carbon emissions and improve industry's competitive resilience over the longer term in an increasingly carbon constrained world.

As part of the IHRS consultation process, BEIS held three consultation workshops in England and Wales. These consultation events were open to all interested parties and were well attended (over 100 organisations over the three events). Attendees included a mix of industrial process owners, technical specialists, academics and local authorities. We asked workshop attendees questions on:

- the definition of heat recovery and scope (consultation questions 1 & 14),
- barriers and enablers identified within the consultation document (consultation questions 6 & 7),
- the balance between the support for Phase 1 and Phase 2 (consultation question 12),
- whether heat streams should include solid, liquid and gas streams (consultation question 2),
- whether other forms of support would be appropriate (consultation question 13),
- the interest in applying for Phase 1 or Phase 2 funding (consultation questions 16 and 25),
- assessment criteria (consultation questions 20 and 30),
- timescales for the IHRS (consultation questions 18 and 28), and
- provision of information to the IHRS (consultation questions 15, 33 and 34).

We also received 34 responses to the online consultation from trade associations, consultancies, manufacturers, academia and local authorities.

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<sup>1</sup> Internal BEIS analysis

## General information

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All responses from attendees and online respondents have been taken into account in this document and in developing the Programme.

## Catalogue of consultation questions

The Government has noted that many respondents have provided similar responses to different consultation questions. Where the questions are in similar areas, we have grouped these questions to enable a more robust response to comments raised by respondents.

### Consultation Questions 1 & 14

1.	<b>Do you agree with the definition of ‘industrial heat recovery’ and the proposed uses that will be supported through this scheme? Are they sufficient for meeting our policy aim of increasing industry confidence in identifying and investing in recoverable heat opportunities? If you think they should be changed, please provide specific comments / evidence.</b>
14.	<b>Will the proposed scope of the Programme (companies in the manufacturing sectors) exclude any projects that could help meet our policy aim of increasing industry confidence in identifying and investing in recoverable heat opportunities? Please provide evidence to support your response.</b>

A high proportion of respondents (over 80% of respondents) agreed and supported the proposed definition and proposed uses of ‘industrial heat recovery’ under the Programme

A minority of respondents disagreed as they believed that the proposed definition required greater clarity on a range of topics such as:

- the range of temperatures included within the scope of the IHRS;
- whether heat and steam could be sold to a neighbouring plant; and
- whether new sites that use an existing industrial process are included in the scope of the Programme.

In addition, a number of respondents believed that the current scope of the Programme was too narrow and may exclude projects, therefore dismissing innovative projects and credible opportunities. These respondents believed that the focus of the Programme should be to enable UK industries to move to a more sustainable heat recovery market rather than the types of sectors supported. Some of the projects that were suggested for inclusion within the scope of the IHRS include:

- Partnerships between industry and academia;
- Natural gas transmission infrastructures (e.g. gas compressor stations, storage fields and terminals);
- CHP installations;
- Waste heat management industry e.g. municipal solid waste incineration;
- Data Centres; and
- New and proposed industrial processes.

### **The Government response:**

Due to the high proportion of respondents agreeing to the proposed definition of 'industrial heat recovery', the Government has decided that the definition will remain unchanged i.e.

**“Industrial Heat Recovery is a process by which heat generated in or for an industrial process, that otherwise would be wasted, is recovered and used. This waste heat can be used in a number of ways, including within the same industrial facility for heat or cooling, by another end-user (e.g. via a new or existing heat network), or by converting the waste heat to power.**

*The recovery of heat will need to meet the following criteria:*

- *The heat should be generated in or for an **existing industrial process**, but is currently rejected to the environment once utilised.*
- *The heat should be carried in **specific flows**, including (but not limited to): hot flue gases, exhaust air, cooling fluids from cooling systems, hot product or waste product, hot water drained to a sewer, super heat or condenser heat rejected from refrigeration;*
- *The heat should be recovered from these specific flows via an appropriate heat recovery technology and used in one of the following ways:*
  - **Immediate use on-site**, to satisfy existing or potential commercially viable heating or cooling demand.
  - **Use off-site**, to satisfy existing or potential commercially viable heating or cooling demand, potentially through a new or existing heat network.
  - **Conversion to electrical or mechanical power**, for use on-site or another industrial site to satisfy existing or potential commercially viable power demand, or for export to the national grid or private wire system.
- *The recovered heat should be capable of being metered or otherwise estimated, as this will help with monitoring and evaluating the Programme, and will increase industry awareness of heat recovery opportunities.”*

In line with the above definition, the views from the majority of respondents and to better meet the aims of the Programme, the Government has decided that the definition of heat recovery will:

- remain focussed on manufacturing industries of all sizes. In addition, the Programme will support technologies that have a Technological Readiness Level (TRL) of 9<sup>2</sup> only as this will provide a greater chance of success for a heat recovery project, and there are other Government Programmes such as the 'Industrial Energy Efficiency Accelerator'<sup>3</sup> that target technologies of lower TRLs; and
- not include new processes that are being built, formally agreed processes that are yet to be built, or the replacement of old heat recovery equipment, due to the complexities in proving additionality (that the project would have not occurred without the support of the programme). However, we will keep this in consideration for any future Programme.

The Government will publish relevant guidance ahead of the Programme opening for applications that will provide further information on its scope.

Given the growth of data centres in the UK market, their potential to recover large amounts of heat (and cooling) and in response to feedback received through the consultation, the Government is minded to extend the scope of the Programme to include data centres.

We will ensure that there is a clear and consistent definition for data centres as part of the eligible sectors in the guidance documentation for the Programme.

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<sup>2</sup> At this level equipment is currently being used in an active operational plant.

<sup>3</sup> <https://www.gov.uk/guidance/funding-for-low-carbon-industry>

## Consultation Question 2

2.	<b>Are there any reasons to exclude waste heat from solid streams, or from any other specific streams, from the scheme? Please provide evidence to support your response.</b>
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- Respondents unanimously believed that there are no reasons to exclude any streams from the scope of the Programme. Some respondents noted that as long as the heat recovery was technically viable and provides CO<sub>2</sub> savings, it should be eligible for the Programme and that inclusion would help promote innovation. This was echoed by one industry association which believed that any heat recovery system should be included within scope of the Programme.

### **The Government response:**

The Government supports the unanimous view from respondents, and has decided that the IHRS will include waste heat from all streams, including solid streams.

## Consultation Question 3

3.	<b>Do you have any comments or concerns regarding the technology and fuel neutral approach outlined here?</b>
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- Respondents (approximately 60% of online respondents) strongly favoured the proposed fuel neutral and technology neutral approach. They believe waste heat recovery is essential to reduce energy demand, to reduce negative environmental impacts, promote innovation and improvements to inefficient processes.
- However, respondents also raised a number of additional comments such as the need to exclude projects that receive large incentives (as respondents thought that this would be viewed as overcompensation), that standard price assumptions should be provided to ensure fair comparisons between different technologies and projects, with emphasis placed on projects that offer the best CO<sub>2</sub> savings and positive environmental impacts.

### **The Government response:**

The Government confirms that it will adopt a fuel and technology neutral approach in line with the views from respondents.

With respect to the additional comments raised by respondents, the Government:

- Believes that the IHRS will support the Government's Industrial and Clean Growth Strategies by helping drive a low carbon economy. In line with this, the outcomes sought by the Programme include reducing industrial energy costs and carbon emissions which are best achieved through the fuel and technology neutral approach outlined within the consultation document;

- Proposes that all applications will be considered in light of any other incentives that they may receive to avoid any instances of over compensation and to be compliant with State Aid rules; and
- Will require applicants to consider and to provide information on the environmental impact of the project as part of the assessment process for a Feasibility Study or Capital Grant project.

Further information on selection and eligibility criteria will be included within the guidance which will be published ahead of the Programme opening for applications.

### Consultation Question 5

5.	<b>Do you have any comments or concerns on potential secondary impacts of industrial heat recovery, for example, changes to emissions of air pollutants or other environmental impacts which you think should be considered?</b>
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Respondents provided a range of comments to this question, including:

- The use of heat recovery technologies would have positive impacts on the environment such as a reduction in harmful air pollutants e.g. NO<sub>x</sub>, a reduction in fossil fuel consumption, energy usage and carbon emissions. Conversely, it was also suggested that even if there was a small increase in air pollutants then that may be acceptable if it could be mitigated by other means.
- Waste heat recovery could be used to reduce the need for space heating as well as to reduce cooling load.
- There were mixed views raised on the reduction of heat within flue gases. There were those that believed the lower temperatures could change dispersion profiles and pose a safety risk, and those that believed that there were no issues if the emissions and particulates were safe to emit to the atmosphere.
- There were mixed views on the installation of heat recovery, where there were those that believed the installation of heat recovery should not pose any negative impacts on an existing process, and those that believed that “fail safes” may need to be considered.
- It was also suggested that some industrial sectors have efficiently integrated high-grade waste heat into their processes and that the opportunities that remain involve low-grade waste heat, which made it more difficult to recover heat cost effectively. It was suggested that a possible option to recovering this heat could be to either burn fuels or operate inefficiently to make the available waste heat more useful.

#### **The Government response:**

The Government has decided that for a given heat recovery project pollution levels would be expected to remain the same or decrease when compared to pollution levels prior to the implementation of any heat recovery technology. The Government intends that an assessment of secondary impacts should be an integral part of any Feasibility Study for a heat recovery project. With regards to the Capital Grant phase, we anticipate we will require information on any secondary impact of the project so that it can be considered as part of the overall assessment. Further information will be provided within subsequent guidance.

## Consultation Question 6 & 7

6.	<b>Do the barriers and enablers identified above relate to a situation you are familiar with? Are there other barriers that we have not identified?</b>
7.	<b>Which of the barriers and enablers identified are the main ones you experience? Are financial (commercial) or non-financial (corporate / practical &amp; technical) barriers greater?</b>

The most common barrier raised by respondents was the length of payback periods and competition for investment. Other barriers raised by respondents included:

- Lack of resources (especially for smaller organisations) which would mean that organisations were unaware of waste heat recovery opportunities that were available
- Onerous application process in combination with the lack of resource, would create a barrier for those interested in applying to the Programme
- Lack of information available on heat recovery, including a lack of access to impartial advice, and a lack of awareness of technology providers, relevant regulations, and how to use heat recovery technologies
- Lack of capital funding
- Technical barriers such as trialling equipment for the first time or on an operational system
- Complex contractual arrangements
- Uncertainty for a number of industries in light of EU exit
- Technical barriers and challenges to installing heat recovery (especially retrofitting equipment) and that these may cause fundamental changes to the way an organisation operates
- Concern about stepping outside core business
- Loss in productivity due to the failure of plant and equipment, or though conducting trials

Some respondents asked for consideration to be given to interactions with other Programmes such as the EU ETS and for the incorporation of lower TRL levels as part of the IHRS.

Respondents also suggested a number of enablers such as building a company's green credentials and reducing air pollutants, particulate matter and carbon emissions, and helping contribute to wider efforts to improve the UK's air quality.

### **The Government response:**

The information provided by respondents broadly matches the Government's understanding of the barriers. We are aiming to design the IHRS to address these barriers, in particular by:

- Developing a streamlined and simple application process which is not onerous for applicants, but provides sufficient information for BEIS to assess the eligibility and viability of a project. The Government also intends to provide applicants with as much advanced signposting and information as possible to enable applicants to best develop their project proposals. Guidance will be published in due course which will provide further detail to applicants;

- Designing a Programme, whereby relevant information gained from eligible projects will be shared with the wider industry, so that lessons can be learnt and knowledge shared. This will reduce the non-financial barriers to heat recovery and encourage innovation and investment into heat recovery. We will consider how to treat information which may be commercially sensitive when designing the requirements for knowledge sharing; and
- Providing grant funding in line with state aid rules that will decrease the payback period for a heat recovery project, and for those applicants needing to overcome funding barriers.

As mentioned earlier, the Programme is focused on the deployment of heat recovery equipment within industry and will only support technology that has a TRL of 9. There are other Government Programmes such as the ‘Industrial Energy Efficiency Accelerator’ that target technologies of lower TRLs.

## Consultation Questions 4, 8 -11

4.	<b>Do you have any further evidence on the potential for heat recovery from different industry sectors? This could include evidence gathered from academic or research institutions or through the experience of industrial companies</b>
8.	<b>Do you have any examples of feasibility studies you have already conducted that you are able to share? (Please provide details on costs, technologies and possible uses of waste heat where possible, and if the study led to a full-scale project.)</b>
9.	<b>Have you already investigated funding for a heat recovery project, or approached an Energy Services / Savings Company? Why did you decide to go ahead with / not go ahead with the project? What reasons were given for your success / lack of success in securing funding?</b>
10.	<b>Have you already investigated funding for a heat recovery project, or approached an Energy Services / Savings Company? Why did you decide to go ahead with / not go ahead with the project? What reasons were given for your success / lack of success in securing funding?</b>
11.	<b>Can you provide examples of potential projects that could be brought forwards through the provision of financial support? Please include reference to technology, expected use of recovered heat, which fuel(s) would be displaced and size of project. Please also provide details of the level of financial support you think will be required</b>

A number of respondents (38% of the online consultation respondents) stated that they had evidence on the potential for heat recovery from a range of sectors. These were provided as references to published papers for projects that had been completed or were in progress.

Approximately 32% of online respondents indicated that they had conducted feasibility studies with some indicating that the costs to conduct the study were high although no evidence of this was provided. However, some respondents indicated that the implementation of heat recovery equipment as a result of such studies did produce cost savings.

With respect to sources of funding, approximately 50% of online respondents have investigated sources of funding through different schemes but were often faced with barriers such as difficulty in obtaining financial assistance (due to limited funding pots, poor returns on capital, high implementation costs, projects being at too early a stage of development) which had negatively impacted their heat recovery projects. There were also some respondents that stated they were unable to identify any appropriate sources for grants or other sources of financial funding.

However, there were respondents that had been successful in obtaining grants to fund projects to completion (some of these respondents indicated funding was awarded via a partnership scheme and EU initiatives). They stated that the grant brought the payback period into an acceptable range, which made it easier for senior management to back the respective projects.

Approximately 50% of online respondents stated that they were aware of examples of current heat recovery projects in different industry sectors such as steel, food & drink and transport, but the majority of these were unable to provide details due to the confidential nature of those projects. Some respondents provided a number of examples of existing projects within the UK and the EU. One example of a project based in the EU demonstrated that the installed heat recovery equipment was able to provide approximately 15% of the plant's energy. Respondents also highlighted the potential that waste heat energy could be supplied to district heating schemes in various locations.

### **The Government response:**

The Government is grateful for the information shared by respondents on their experiences in obtaining funding and of other waste heat recovery projects. The information provided has been used to develop the Programme.

## Consultation Question 12

- |     |   |
|-----|---|
| 12. | <b>Do you think the approach set out above (providing grants to conduct feasibility studies and support capital investment) is sufficient to increase industry confidence in identifying and investing in opportunities for recovering heat from industrial processes? Do you think the current barriers would be better addressed by the feasibility studies (Phase 1) or capital investment (Phase 2)? Please provide details of any other concerns the Programme does not address.</b> |
|-----|---|

Respondents provided differing views on the approach set out in the consultation:

- Some respondents (24% of the online consultation) were in favour of the approach proposed and believed the Programme had real potential to meet its objectives and deliver benefits for industry. However, concerns were raised by some respondents that the total amount of funding was insufficient, as it would be used up quickly, and that limits should be placed on project funding to ensure that a greater number of projects are supported. There were also differing views on the split between the funding proposed between Phase 1 and Phase 2 where some respondents believed that a greater percentage of funding should go towards capital support and others towards feasibility studies. One respondent suggested that while it was useful to highlight potential Phase 2 projects, a Feasibility Study itself would not overcome any barriers in using recoverable heat energy.
- Some respondents highlighted the high level of commitment and resources needed from applicants. In light of this, some respondents favoured a simplified application process,

and project support at every stage. These respondents believed that such an approach would greatly benefit SMEs due to the potentially resource intensive nature of projects.

- One respondent suggested that more options for financial assistance should be available, such as tax breaks.
- One respondent suggested that it would be useful to look at successful heat recovery case studies from other countries.

### **The Government response:**

The Government confirms that the split between the two different Phases will remain unchanged: £6m for Phase 1 feasibility studies and £12m for Phase 2 Capital Grant projects. An aim of this Programme is to investigate the potential for heat recovery projects, hence an emphasis on Feasibility Study funding. The Programme will enable Government to test the appetite for heat recovery project support and build an evidence base that will help inform future policy-making.

## Consultation Question 13

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|-----|---|
| 13. | <b>Are there any situations where you think another form of support besides grants would be more appropriate? Please provide details and evidence to support your response.</b> |
|-----|---|

Respondents (from both the online consultation and consultation events) were generally supportive of grants as a form of support as they believed it was the easiest and most widely understood support method and that it provided a clear signal to kick start delivery of new investments.

Respondents suggested other forms of financial and non-financial support:

- Access to low cost/ interest free loans, underwriting loans, and loan guarantees. It was suggested that loan guarantees could further de-risk new projects and potentially could better support a project than a grant alone and at lower cost to the taxpayer. In line with this, one respondent suggested that the Programme should offer a different combination of options such as providing a grant and low-cost loan, or an interest free loan for Phase 2 projects.
- One respondent suggested that the expansion of the current Enhanced Capital Allowance (ECA) scheme to include waste heat recovery technologies, rather than individual technology suppliers, could help to incentivise take-up.
- Some respondents suggested that electricity generated from waste heat energy should qualify for the Contracts for Difference (CfD) scheme, as this could improve financial paybacks for applicants and make projects more attractive.
- Some respondents suggested that a new support Programme similar to the Renewable Heat Incentive (RHI) Programme, or a Green manufacturing scheme should be launched which would help drive further investment in heat recovery technologies.
- Some respondents also suggested that case studies from other countries should be collected and shared, as this would form a good base for developing heat recovery projects, and
- One respondent suggested that the IHRS should strongly favour projects which have a collaborative approach to ensure that projects are really effective.

**The Government response:**

The IHRS has been designed to address issues around lack of information and payback periods in order to support the initial deployment of heat recovery plant and equipment. As a result, we believe the dual approach of funding for Feasibility Study and Capital Grant for equipment is the right one. However, based on the findings from the Programme, we will consider whether other types of interventions may be necessary to continue to support the deployment of heat recovery projects following the end of the Programme.

The Government confirms that the Programme will be compliant with relevant State Aid rules.

The Government shares respondents' concerns on overcompensation for projects. The Government does not consider that electricity generating stations which use industrial waste heat to generate electricity are currently eligible to take part in Contract for Difference (CfD) allocation rounds.

## Consultation Question 15 & 33

15.	<b>What types of information might cause confidentiality concerns if asked for as part of the application process?</b>
33.	<b>Do you have any confidentiality concerns over the ongoing provision of data to support the Programme's monitoring and evaluation process?</b>

Respondents had mixed views on whether there would be concerns about the provision of commercially confidential data under the IHRS. Respondents stated that the following types of information could cause confidentiality concerns:

- o Commercially sensitive production information such as actual levels of power used for specific processes, potential energy losses, energy use, and cost and production data. A concern highlighted by respondents is that this information could be reversed engineered by competitors to gain a competitive advantage.
- o Details of contractual agreements including Non-Disclosure Agreements.

A number of respondents also requested that any information provided by applicants as part of the application process should be treated in the strictest confidence and not published.

**The Government response:**

The Government will treat information as confidential or commercially sensitive if we are told clearly in writing when it is provided to us that this is the case. We would not publish such information without the consent of the applicant, though we may publish summary information (non-sensitive data) that helps share the learnings of the Programme. All Programme information submitted by applicants will be stored in accordance with the General Data Protection Regulation (GDPR) and other appropriate industry standards. However, applicants should be aware that If we receive a request for disclosure, BEIS may be required to disclose such information under the Freedom of Information Act 2000, the Environmental Information Regulations 2004 (EIR) or other legal requirement.

However as indicated above, it is a key part of the Programme that applicants will be expected to share lessons learnt and case studies about their projects with the wider industry as this is one of the barriers that the Programme looks to resolve. The requirement for knowledge transfer will take into consideration the need to maintain confidentiality of commercially sensitive information submitted by an applicant.

### Consultation Question 16

16.	<b>Would you be interested in applying for Feasibility Study funding?</b>
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A high proportion of respondents (60% of online respondents and a majority of consultation event attendees) indicated that they were interested in applying for feasibility study funding. In addition, some respondents indicated that they might be interested in applying as they were looking to undertake investigation into potential projects shortly.

However, some respondents indicated that they would not apply for feasibility funding as they had concerns with the application process being too complicated and were unsure whether they would benefit from heat recovery technology.

#### **The Government response:**

The Government welcomes the interest from industry towards the Programme and looks forward to receiving applications once the Programme is launched this year. The Feasibility Study phase will consist of £6 million available for applicants for their Feasibility Study projects.

In addition, the Government has taken on board responses from industry on the need for a simple application process and will endeavour to make the process as simple as possible, while being sufficiently robust to enable fair competition between applicants. Guidance which contains further information on the Programme and the application process will be published ahead of the Programme opening for applications.

### Consultation Question 17 & 26

17.	<b>Is the maximum level of Government match-funding for feasibility studies (50%, rising to 60%/70% for SMEs, and by 15 percentage points for investments located in assisted areas) suitable to generate interest from your company? What would be the minimum level of match funding needed?</b>
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26.	<b>Is the level of support for capital funding (maximum 30%, rising to 40%/50% for SMEs, and by 15 percentage points for investments located in assisted areas) suitable to generate investment from your company? What would be the minimum level of match funding needed?</b>
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A number of respondents indicated that they supported the match-funding levels for feasibility studies as they believed it increased the chance of proposed projects being taken through to completion and implemented. However, some respondents raised several additional points:

- Companies could produce their own feasibility studies at a fraction of the cost of an external supplier;
- Flexibility may be required to alter the match funding levels as there could be instances where 100% funding was required; some (approximately 10%) respondents argued that the greater the amount of funding provided, the more likely potential projects would be delivered;
- Concerns that the whole application process appears complex and would create a barrier in attracting the interest of smaller companies as they lack the required resources; and
- Smaller organisations could require more proof of the benefits of heat recovery technologies, and this may require greater confidence in the capability and capacity of technology providers, and likelihood of commercial success.

With respect to capital funding, respondents generally believed that the level of funding would depend on individual projects. As with comments received on the Feasibility Study phase, respondents believed that the maximum level of possible funding should be provided, rising to 100% where required. Some respondents also queried how any capital funding could be combined with the Heat Networks Investment Programme, if the respective projects were associated with developing a heat network.

### **The Government response:**

The Government believes that a balance needs to be maintained between providing enough support to encourage greater take-up of recoverable heat opportunities, and not paying for feasibility studies or projects which companies would have undertaken anyway. To ensure value for money, it is important that the Government's commitment is matched by that of industry. In addition, the Government will be unable to provide 100% funding as it would not comply with relevant State Aid rules.

With respect to the application process, the Government realises the need for a simple application process for industry but one that is also robust and provides the relevant information to enable applications to be assessed fairly. We are developing an application process that addresses this concern.

The IHRS has been planned with a view to encourage the uptake of waste heat for district heating purposes. As such, we envisage that it will be possible to combine IHRS funding with funding from the Heat Network Investment Programme, and we will provide further information on this in the guidance. However, these Programmes are independent of each other. IHRS funding will only be available for the elements of the project capturing and using the heat on site, and for any pipework up to the edge of the site boundary. Any heat network part of a project beyond the boundary of the industrial site would not be eligible for IHRS funding.

Further details on the funding for the Programme will be provided within guidance that will be published shortly.

## Consultation Questions 18, 27 & 28

18.	<b>Phase 1: Do you have any comments on the duration of the application windows or delivery windows? Could any of the windows be shortened? Do you have an alternative suggestion? Please provide evidence to support your suggestion.</b>
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27.	<b>Phase 2: Do you have any comments on the duration of the application windows?</b>
28.	<b>Phase 2: Do you have any comments on the optimal duration of the delivery window, particularly regarding any difficulties your company may have in completing projects within a 1 to 2 year delivery timeframe or coordinating with your internal investment cycles?</b>

**With respect to the Feasibility Study phase (Phase 1)** respondents were generally supportive of the timescales for the application stage but raised a number of concerns and suggestions, with the most important being:

- o the need for a simple application process that minimises administrative burdens for all involved; and
- o the need to provide as much advance notice as possible, as it could take a few months to prepare an application.

Respondents also proposed different approaches for an application window ranging from a 'single long application window' to 'multiple windows with equal amounts of funding'.

Respondents queried whether unsuccessful applicants could re-apply in a different window, where appropriate, and whether applicants would be limited in the number of applications they could submit to the Programme as a whole.

There were also views from respondents that the proposed Phase 1 timelines, especially for delivery should not be shortened but instead lengthened to 12 months as this would:

- o include seasonal industries; and
- o activities such as analysing data where a Feasibility Study undertook an element of demonstration, planning permissions, engineering design and tendering specialists.

There were also calls from respondents to include a Pre-Qualifying Questionnaire stage for Phase 1, as was proposed for Phase 2.

**With respect to the Capital Grant phase (Phase 2):** As with Phase 1, respondents were generally supportive of the application timescales. However, most respondents believed that the proposed delivery timescale of 1 year was restrictive and a longer duration of 2 years or more was better suited, as it would enable applicants to provide quantifiable information and include time for other activities such as obtaining planning permissions, internal approvals, and any potential tendering for specialists.

Some of these respondents also suggested that some larger complex projects would take longer than 2 years and, in such instances, should not be immediately excluded from the process as the project could obtain significant benefits.

### **The Government response:**

Given the timescale for delivery of the Programme to March 2021, the Government is minded to reduce the application timescales to two months for both Phase 1 and Phase 2. This would maximise the time for delivery of both the Feasibility Study and Capital Grant phases, in recognition of the feedback received by respondents.

In addition, and to help maximise delivery time, it is our intention for the Programme to have rolling application windows for both Phase 1 and for Phase 2. This should enable longer delivery windows of

12 months for a Feasibility Study project and up to 22 months for early applicants of Capital Grant funding. This approach has also been adopted for the Industrial Accelerator Programme and will enable BEIS to use an accepted approach for the IHRS.

This will enable applicants to apply to the Programme at different points dependent on their requirements. This should also enable an applicant to apply again if they were unsuccessful on their first attempt, or if they require further time to prepare their application,

The Government will provide as much advance notification as possible ahead of the Programme opening for applications.

### Consultation Question 19, 22 and 23

19.	<b>Are there sufficient industry technology specialists to deliver the feasibility studies within the timeframe of 6 months? We would particularly like to hear from those with a good overview of the market, including trade associations and service providers.</b>
22.	<b>Do you foresee any problems in contracting a suitable company to undertake a Feasibility Study for your site? Would a signposting service to recommended service providers be helpful?</b>
23.	<b>How would you recommend Government goes about compiling a list of suitable services for providing feasibility studies?</b>

While a number of respondents to the online consultation (approximately 40%) indicated there were sufficient industry specialists that could deliver a Feasibility Study within the required timeframes, a number of concerns were raised that suggested that specialists:

- could be heavily reliant on the technology provider and experience,
- may not drive innovative solutions and might instead opt for standard approaches,
- may lack detailed industry knowledge; and
- one respondent suggested that the Government should provide a mechanism to approve the suitability of technology providers.

Some respondents also stated that they did not have enough information on the number of specialists that currently exist.

50% of online respondents believed that there should be a signposting service of service providers and some of their experiences, though some respondents were clear that this should not be seen as a recommendation of such companies; applicants would need to carry out their own investigations to ensure that the provider had the required knowledge and experience.

Respondents also suggested that BEIS could create a list by contacting various trade associations, federations and consultancies to obtain lists of suitable providers, or that an application process (independent from BEIS) could be set up for specialists to prove their suitability and competence for a signposting service.

**The Government response:**

The Government welcomes the views and suggestions from respondents on a signposting service for the Programme. The Government agrees that any list of technical specialists it compiled would not be exhaustive and would be unvetted. With this in mind, the Government strongly recommends that applicants carry out due diligence (including contacting respective trade associations) on any service providers before contracting with them. If Government does supply a signposting service for service providers, this should not be taken to mean that the Government endorses any specific provider. In addition, the Government can confirm that applicants to the Programme can either be the main applicant responsible for the project or someone who undertakes the project on behalf of an interested party.

## Consultation Question 20, 21 and 24

20.	<b>Phase 1: Do you have any comments on the proposed eligibility screening process or criteria?</b>
21.	<b>Do you agree with our proposed approach to use an outline structure for feasibility studies?</b>
24.	<b>Do you agree with the outline structure for feasibility studies provided in Annex 2? What areas do you think it's important for all feasibility studies to cover?</b>

Respondents were generally supportive of the outline structure for feasibility studies and believed the most important areas were technical costs, feasibility costs, return on investment and potential for scalability.

However, a number of comments were made by respondents which include:

- need for a simplified application process;
- concern on the level of detail required for applications;
- suggestions for additional criteria such as repeatability, risk management and strategic alignment;
- need for flexibility in how information is provided by an applicant;
- including risk assessment as part of a Feasibility Study application.
- consideration be given by applicants to identifying benefits, assumptions and commercial arrangements;
- Analysis of available waste heat (e.g. average temperature, suitable heat recovery technologies) and an appraisal of the various project options; and
- Including basic design information such as the equipment layout.

Respondents also suggested that further clarity would be required on:

- what would be classed as a successful project outcome e.g. proof of principle, high level of quantification etc; and

- the finer detail of some criteria e.g. How would an applicant provide evidence of experience in Project Management for Criteria D.

One respondent also asked for clarification on the provision of EU ETS data, as they believed that such data would not provide any useful information on whether it would be possible to improve process efficiency by means other than heat recovery.

### **The Government response:**

The Government welcomes the views from respondents and the support for the proposed approach and has used the information provided to develop the Programme design.

With respect to the comments on the application process and as indicated earlier, the Government realises the need for a simple application process for Industry but one that is also robust and provides the relevant information to enable applications to be assessed fairly. We are aiming to publish relevant Programme information (including guidance) in advance of the opening the Programme to applications.

## Consultation Question 25

25.	<b>Would you be interested in applying for capital funding, and what level of capital expenditure would be required for your project (if known)? If not, is there a particular reason why (already have onsite heat recovery, no money for investment, do not see benefits in heat recovery etc.)?</b>
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A large number of respondents (around 40%) indicated their interest in applying for capital funding with some indicating that they had projects that were ready to go. One respondent suggested that an intention to support the capital project could be agreed at the same time as the Feasibility Study project.

A number of respondents also suggested that the greatest permitted amount of funding should be provided to ensure that potential projects would be delivered.

One respondent indicated that while they would not be interested in applying for funding as they were an academic institution, they would instead look to support and collaborate with industry for any heat recovery projects.

### **The Government response:**

The Government welcomes the interest from industry in the Programme and looks forward to receiving applications once the Programme is launched later this year. There will be £12 million available for applicants for their Capital Grant (Phase 2) projects.

Given that not all Feasibility Study projects will proceed to the Capital Grant phase and in order to maintain competition at each stage of the Programme, it is not our intention to support a Phase 2 Capital Grant project at the same time and as part of funding for a Phase 1 Feasibility Study project is awarded.

In addition, the Government has taken on board the responses from industry on the need for a simple application process and will endeavour to make such a process as simple as possible while at the same time sufficiently robust to enable fair competition between applicants.

## Consultation Question 29

29.	<b>Would you find it helpful to have a pre-competition qualification stage for Phase 2?</b>
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Respondents were largely in favour of a pre-competition qualification stage, as it would help applicants determine if they had the necessary information in place, or whether their projects were suitable relatively quickly and without having to invest a lot of time in preparing a detailed application.

Some respondents disagreed that a pre-competition qualification stage was needed. One of these respondents suggested that it would be more useful to have detailed engagement with BEIS on each project rather than submitting applications as it reduces the risk of a project application failing. Another respondent believed that BEIS should provide an intention to support the Phase 2 Capital Grant project at the same time as an agreement has been reached to support a Feasibility Study project.

### **The Government response:**

Due to the majority of respondent favouring a pre-competition qualification stage, the Government proposes that this remain unchanged as this stage would help applicants determine their readiness before submitting a full Capital Grant application. As not all Feasibility Study projects will proceed to the Capital Grant phase, we consider that Phase 1 and Phase 2 applications and awards should be separate.

As indicated previously, the Government envisages that further detail on Phase 2 will be provided within the IHRS guidance when published.

## Consultation Question 30

30.	<b>Do you have any comments on the proposed assessment criteria for Phase 2?</b>
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While respondents supported the proposed assessment criteria, a number of concerns and suggestion were raised:

- The information required for Criteria C (such as potential energy bill savings) is competition sensitive and should not be required as part of the application process;
- BEIS should provide an indication on the level of detail that needed to support an application;
- There should be visibility on the emphasis and weightings of different criteria;

- Successful companies should demonstrate the performance of their heat recovery systems once fully implemented, as this could help increase the deployment of heat recovery within industry; and
- Further revisions might be needed to the application process once the IHRS is launched to ensure that the Programme remains effective.

### **The Government response:**

The Government recognises the need for clarity and transparency around the assessment criteria and their weighting. We aim to provide this detail within the IHRS guidance.

We anticipate that as part of the Programme, successful applicants will be required to provide a:

- project report at the end of their project which provides, among other things, information on and evidence of cost savings on energy use and carbon emissions. This will help BEIS develop an evidence base for future decision making and monitor the success of the Programme; and
- Case study which will contain information to share with industry.

As indicated earlier, the provision and sharing of such information will enable the IHRS to overcome some of the knowledge barriers that exist within industry, which in turn should help increase awareness, interest and investment in heat recovery.

The Government also envisages that while the overall design of the Programme will remain unchanged, smaller revisions to how the Programme is run are possible, especially to facilitate applications from industry. Such changes will be communicated to industry in a timely manner.

As mentioned previously, the Government believes that in order to encourage greater investigation into recoverable heat opportunities and to provide equal opportunities to all applicants, support for a prospective phase 2 project could not go ahead for any applicant that has yet to complete a Feasibility Study. This is due to the possibility that not all Feasibility Study projects would proceed to a Capital Grant project. However, applicants that have completed their Feasibility Study are encouraged to apply for Phase 2 capital grant funding if appropriate.

## Consultation Question 31

31.	<b>Do you have any comments on the proposed additionality assessment table?</b>
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Respondents from the online consultation provided a number of comments to this question:

- The RHI system would be a good template that could be used for the IHRS;
- Additionality assessments for the Programme should exclude those organisations that have implemented or are undertaking a heat recovery project;
- Limited emphasis should be placed on additionality assessments, but in instances where they are included, they should only be focused on waste heat recovery;
- Questions relating to 'Other efficiency measures', 'Gross direct effects' and 'Bill savings' are commercially sensitive and should therefore be excluded from the application process; and

- Clarify the purpose of the reference to EED 14(5) as part of the application process.

**The Government response:**

The Government welcomes the comments on the proposed additionality assessment and will take these into account during further design work for the Programme.

As indicated earlier, the provision and sharing of such information will enable the IHRS to overcome some of the knowledge barriers that exist within industry, which in turn should help increase awareness, interest and investment in heat recovery.

## Consultation Question 32

32.	<b>Do you agree with our proposed outline of eligible costs?</b>
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Respondents to the online consultation had mixed views on the proposed outline of eligible costs and raised some questions, such as whether internal staff costs would be covered by a company's overheads. One suggestion was that internal staffing costs should be covered and required an element of mark-up, whereas another thought that internal staffing costs should not be covered as projects would most likely be delivered by external specialists.

One respondent also highlighted that there was an area of detailed design that was missing between conducting a Feasibility Study and implementing a project.

**The Government response:**

The Government will consider the suggestions provided by respondents in developing the Programme and will include detailed information on eligible costs under the Programme within guidance which will be published ahead of the Programme opening for application.

