



Department for
Business, Energy
& Industrial Strategy

BEIS Industry of Future Programme - Scoping Study Competition: Industrial Sites, TRN5246/08/2021

Scoping Study Competition: Industrial Sites
Invitation to Participate (ITP)



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Competition Rules and Guidance

1. Industry of Future Competition – Overview

In the 2020 Budget, £10 million was allocated to the industry of the future programme to help decarbonise UK industries. After careful consideration and having carried out an initial Market intelligent study, it was realised that the £10 million budget would not be enough to cover the amount of work needed in this area, and therefore up to £30 million has been proposed to cover the whole Industry of Future Programme (IFP). This funding lines up with our current (Energy Innovation Portfolio) and future (Net Zero Innovation Portfolio) funding to deliver on the government commitment to accelerate the commercialisation of innovative, cheap, clean, and reliable energy technologies, enabling the UK to meet its Net Zero commitment. It aims to facilitate least cost and maximum value-added transition pathways to a lower carbon economy.

The Industry of Future Programme (IFP) aims to increase the range of options available to industry which would enable them to decarbonise at a faster rate. And it aims to work with industry to understand what is required to make sites retrofit-ready by assessing the feasibility of new equipment. The IFP will look for sites outside the Industrial clusters, dispersed sites as well as for industrial collaboration in local areas.

The IFP will consist of an initial scoping study, with follow-up activities which will be defined at a later date. To enable the delivery of the scoping study, BEIS are inviting applicants from industrial sites to work with the selected Engineering Delivery Partner, to have net zero roadmaps developed for them. Successful applicants will have a roadmap developed for their site by BEIS procured engineering delivery partner. This document is for industrial sites who wish to participate in the scoping study.

Up to £4 million is planned to procure the Scoping Study contractor to develop industrial decarbonisation roadmaps for up to 40 industrial sites, including data centres. These studies would include identification of optimal decarbonisation options, permanent installation of technology or technologies, research & development, and testing of a technology solution. The ITT for this study phase has been prepared for application to funding of the **Scoping Study stage only**.

1.1 Industry of Future Phases – Scoping Study

In this phase, the services of a contractor are procured up to a value of £4 million is planned to procure a Scoping Study contractor to develop industrial decarbonisation roadmaps for up to 40

industrial sites, from a range of industries which includes including data centres. These studies will be tailored for each site to include identification of optimal decarbonisation options, permanent installation of technology or technologies, research & development, and testing of a technology solution.

The contractor will work with industrial sites, to assess the options for implementing technologies that could reduce the site's carbon emissions and develop a deep decarbonisation road map to 2050 NetZero for each individual site. This will include examining the best and most viable fuel switching option, carbon capture utilisation and storage technologies, potential process changes, retrofits, and upgrades of industrial equipment, introduce energy use or optimisation technologies, and installation, operation or maintenance of equipment related to the production of fuels for use on site.

In more detail, the decarbonation plans conducted by a contractor will include:

- High level permitting requirements for the adoption of the decarbonisation plan.
- Order of magnitude cost estimates ($\pm 50\%$ or Class V estimates).
- High level estimate of government incentives required (cost of CO₂e abated).
- Generic capture design (not solvent specific), if required.
- Footprint requirements and availability of land.
- High level of review of CO₂ offtake options – access to clusters, etc.;
- Estimation of energy reduction, energy efficiency, heat integration, etc.;
- Fuel switching does not include generation of the alternative low carbon fuel but does include high level sourcing.
- Potential for decarbonisation of feedstocks and/or wastes

These industrial deep decarbonisation roadmaps will identify the best available techniques to enable the site to decarbonise. The applicants and the Scoping Study contractor collaboratively will identify the key technologies that are required on their site to enable an easier transition and apply for a subsequent phase to develop that technology/capability.

Each of the industrial decarbonisation road maps explains the specific features of that industry, how the processes work and what fuels they currently use. The road map then sets out a range of techno-economic and business decision-making evidence on the decarbonisation issues that are most relevant to that industrial site. This evidence is synthesised to produce a series of potential pathways for emissions reduction.

The ultimate goal is that these roadmaps will draw together conclusions from the evidence and pathways analysis to identify potential ways that progress could be made to help enable transition towards a low carbon economy with a competitive industrial sector, providing sufficient evidence for BEIS and potential industrial sites by considering the most effective range of decarbonisation and energy efficiency technology or a combination of technologies, application and options such that BEIS and the industrial sites can have confidence in the project to allow it to progress the studied Industrial decarbonisation roadmap to Feasibility

Study (Phase 1), and then to Front End Engineering Design and demonstration of the technology or combination of technologies on site (Phase 2).

The IFP will look for sites outside the Industrial clusters, and well as for industrial collaboration in local areas.

The objectives of the Scoping Study stage are:

- Develop innovative technology solutions and implementation plans for up to 40 sites, through the creation of technology roadmaps: with each including information on technology options, designs, costs, timescales, permit requirements. The roadmaps will be delivered to BEIS by December 2022.
- Increase government and market understanding of site and sectoral technology gaps, availability and decarbonisation impact through the publication of a Scoping Study Overview Report. The scope and content of the report will be informed and Quality Assured by external and independent support. The report will be published in January 2023.
- Develop a pipeline of projects, that are not already included in a cluster, for IFP and other BEIS competitions. This will be measured by the number of Scoping Study roadmaps, delivered by December 2022, that may go on to be supported by IFP or other BEIS programmes.

1.2 Industry of Future Phases – Follow-up Activities

Following completion of the Scoping Study in late 2022, BEIS may provide further support to industrial sites in the form of follow-up activities. These **may** include support such as:

- Development of feasibility studies for particular technology solutions or a combination of technologies or processes on the site in question.
- FEED Studies for technology solutions to support implementation
- Support for construction/implementation of demonstration projects.

The IFP may also lead to the development of projects which can be supported through other BEIS programmes such as the Industrial Energy Transformation Fund (IETF).

2. Competition Context and Objectives

2.1 Context

To meet net-zero all industries are required to decarbonise as far as possible, this is a major challenge and will in part be addressed by the Industrial Decarbonisation Strategy and Business Models for CCUS and Hydrogen currently being produced. The Net Zero report published by the Committee on Climate Change (CCC) has suggested that industry is likely to be required to reduce emissions by around 90% (from 2017 emissions) to 10 MtCO₂e/y by

2050. The Industry of Future Competition aims to support industry to determine a path to decarbonisation understanding the options and opportunities available but also by identifying challenges or limitations of their industrial site.

2.2 Competition Objectives

The aim of the programme is to support companies with high carbon emission and energy use to transition to a low-carbon future through increased energy efficiency and implementation of decarbonisation technologies. The IFP will allow companies to consider the next generation of industrial decarbonisation and energy efficiency technologies, and to help them to better navigate the complex technology landscape, allowing them to transition to net zero more quickly and effectively.

The programme links to SICE's Net Zero Innovation Strategic Objectives by supporting the development and demonstration of new energy technologies; stimulating private sector investment; producing robust technical evidence; and maintaining UK leadership in the decarbonisation technologies. It will also;

- Enable individual industrial sites to build a credible decarbonisation route using innovative technologies.
- Demonstrate carbon reduction potential by trialling innovative decarbonisation solutions.
- Facilitate UK industry to remain competitive whilst decarbonising.
- Create greater awareness in industry of innovative industrial decarbonisation solutions.
- Strengthen UK supply chains for industrial decarbonisation.
- Accelerate leveraging of private sector investment in industrial decarbonisation solutions.

Assessment of industrial energy efficiency and decarbonisation projects must be broad and comprehensive enough to favour short-term and long-term goals and encompass all relevant industries. There are therefore five high-level objectives considered achievable within the limited timescale and scope of the Industry of Future Programme:

- To reduce Scope 1 and Scope 2 carbon emissions and energy costs for industry in the near-term. (Scope 1 emissions: cover direct emissions which are under the control of the site. These include categories such as natural gas or fuel oil combustion. Scope 2 emissions: cover indirect emissions such as electricity or other energy supplies (eg. Steam) purchased by the site).
- To create a pipeline of projects for future programmes/competitions.
- To bring down the costs and risks of industrial decarbonisation technologies through demonstration.

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- To encourage local industrial collaborations aiming at developing mini clusters
 - To create skilled and technical jobs

These overall objectives will drive quick energy utilisation and cost reductions, as well as improve local environmental impact and help creating technical jobs, which will improve the immediate competitiveness of UK industry through lower energy costs and reduced energy demands. They will support UK on a long-term pathway to Net Zero in 2050 by accelerating commercialisation of key long-term decarbonisation technologies and cleaner environment.

2.3 Project Scope

Enabling industry to decarbonise is now seen as key to reaching Net Zero by 2050. Whilst we have competitions that focus on innovation of specific groups of decarbonisation technologies (energy efficiency, fuel switching and CCUS), how they are applied in the real world is not so simplistic. As such, there is a need to further understand the barriers to implementing those solutions and looking for enabling innovations.

The IFP differs from previous innovation programmes by enabling industrial sites to trial multiple decarbonisation technologies in combination with energy efficiency technologies, with the aim of achieving net zero as fast and as effectively as possible. The competition is also aiming to create a pipeline of projects for the future competitions and to provide evidence of the true impact on industry of repurposing the gas grid or decommissioning it.

The IFP will look for sites outside the Industrial Clusters, which are responsible for 33.6MtCO₂e of UK emissions, and as well as for industrial collaboration in local areas, that could include smaller sites outside a cluster, which could potentially form a consortium with their local cluster.

The Programme shall be funding the development of 2050 Net Zero Roadmaps for industrial sites, including data centres, to be delivered by a delivery partner who will be procured and appointed by BEIS; these roadmaps will help the industrial site to consider the best available options and technique(s) to enable their site to decarbonise.

The project team will identify the key technologies that require innovation to enable an easier transition and apply for a subsequent phase to develop that technology. This competition will provide additionality to the CCUS and Fuel Switching competitions which will run in parallel, however in some cases the project could enter those competitions with a technology identified through this competition (timing permitted).

There is high variance in the size of applicable sites, often related to the type of industry and/or the likely nature of the roadmap, including cluster options. Applicants to the competition are therefore sorted into three space-limited Lots for solution diversity; these are defined as follows by size of annual CO₂ emissions:

- Lot 1 – for sites of over 100kt CO₂e per year
- Lot 2 – for sites of 50-100kt CO₂e per year

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- Lot 3 – for sites of 10-50kt CO₂e per year

Each of these 3 lots shall receive an even 33% of the available funding budget, with dispensation to alter this based on relative number of applications and are considered at this stage to represent a similar number of potential sectors. Across all lots, over 90% of current carbon emissions are accounted for.

Note: BEIS will aim to select projects from a variety of industrial types to deliver a balanced portfolio, therefore BEIS retain the option to have a maximum number of sites in each individual sector.

2.4 Technologies Included

The range of technology expected to underpin decarbonisation roadmaps includes but not limited to:

- Fuel switching
- Onsite carbon capture
- Energy/heat recovery and efficiency gains
- Low-carbon fuel and electricity production
- Industrial heat pumps
- Circular-economic material use including industrial waste

This is, however, not comprehensive, as it is not desired to limit the breadth of technologies and pathways considered in developing roadmaps. Reference should be made to **Section 4.1 – Eligibility Criteria** for any defined exclusions to the technology scope.

2.5 Data Collection

Where possible, in instances where it is not currently possible to measure energy consumption to the resolution required, the delivery partner should model or apply engineering judgement to estimate the consumption of utilities by specific equipment/processes. Any residual requirement for sub-metering shall be designed as a temporary installation, using equipment fit for short-term use as opposed to long-term installations, unless otherwise agreed by the site owner/operator where other conditions regarding funding may apply. An assessment will be made and justified by the Delivery Partner as to whether they believe additional metering equipment is required to accurately measure energy consumption at specific points on the site on a case-by-case basis. If deemed necessary, an installation schematic and specification shall be agreed between the site owner/operator and the Delivery Partner. Any further approvals (i.e., from site owners) required to implement the installation scheme shall be the responsibility of the site owner/operator to obtain. [Failure to agree on an installation scheme may result in the site owner/operator being withdrawn from the programme.]

Once the installation schematic and specification is agreed, BEIS will work with the site owner/operator to implement the agreed temporary installation under BEIS funding (note: BEIS will fund installation, de-installation (if applicable) and associated operating costs for the duration that the Delivery Partner is collecting data, notionally 3 months). In outline, the site owner/operator will be responsible for providing BEIS with a number of quotations (to include firm price and schedule information) to affect the works. The quotation shall include de-installation costs for the removal of the equipment and returning the “site architecture” to its original (pre-modification) state as a separate line item if these are not to become permanent installations. When content, BEIS will issue the site owner/operator with an instruction to proceed with the works. The responsibility for ensuring that the installation of these items of equipment do not adversely affect the normal operation of the site and comply with site health and safety procedures and governing legislation shall remain the responsibility of the site owner/operator. A contract would be put in place to affect this with the site owner, where necessary.

3. Competition Timetable, Application and Assessment Process

The Competition Scoping Study stage funding will be awarded using the Single Stage (SS) Contract approach. SS contract is a well-established commercial procurement process that enables the development of innovative products and services in response to specific challenges faced by government departments and public-sector bodies.

3.1 Scoping Study Process



3.2 Stage 1: Application

Applicants are asked to submit an [online application form](#), with supporting information by **12 noon BST, 29th October 2021**. They should explain their proposed Site Roadmap approach, indicate the applicable Category, and outline their proposed project for IFP Scoping Study. The notes below explain the details of the application process:

- **Questions about the Competition:** If you have any questions on the competition process or require clarifications on the eligibility criteria after reading these guidance notes, please submit queries to industry.innovation@beis.gov.uk. All questions should be submitted by 12 noon BST, 13 September 2021. Questions submitted after this date may not be answered. We will reply to any queries which, in our judgement, are of material significance through an anonymised Q&A sheet published on our website by **12 noon BST, 22 September 2021**, so there is sufficient time to include the responses in the applications. Please see Section 13 for further instructions on amendments to the competition documents. All applicants should take these replies into consideration when preparing their own applications and we will evaluate applications on the assumption that they have done so.
- **Online Registration Form:** You must first register via the online registration form to be entered into Scoping Study of the IFP Competition. Once the registration form is submitted you will receive a password to the online application form. **Those applicants that do not register will not be able to access the online application form and hence will not be able to apply/enter the application/assessment process.** Previous correspondence relating to Expressions of Interest or attendance at the IFP Stakeholder Engagement event does not result in an automatic registration. You must register to be

entered into Scoping Study by **12 noon BST, 14 October 2021**, the online registration form will be closed after this time. There is no obligation on you to submit an application if you register.

- **Submission of Application: The full application for the Competition must be submitted online by the deadline: 12 noon BST, 29 October 2021.** The online application form will be closed for submissions after this time.
- **Application documents:** All application documents must be submitted via the online application form. In the form there are opportunities to upload relevant supporting documents (e.g. CVs, Gantt Charts, Drawing, planning table, pictures, etc.). In some sections we specify the supporting information we would like to see uploaded.
- **Submission Content:** Each Scoping Study online application must include the following:
 - Completed Application Form ([the online application form can be found here](#)).
 - An organogram outlining the key roles of each partner and of team members.
 - Statement of non-collusion
 - Form of Tender
 - Conflict of Interest form
 - Standard Selection Questionnaire
 - Code of Practice for Research
 - GDPR Assurance Questionnaire
 - Optional: additional letters of support or other supporting information can also be submitted in the final section before you submit your online application form, where they add background/ supporting information (this could include but not limited to relevant papers, assumptions/ calculations to back up the assertions made in the application) to the application. However, the assessment will be based on the information directly written in the online application; you should not assume that any additional information will be cross-referenced or reviewed as part of the selection process.
 - You should endeavour to answer all the questions on the application in full. Some questions will be 'required fields' in the form and you will not be able to proceed to the next section until these questions are complete. Incomplete applications and any containing incorrect information may be rejected. However, BEIS may, at its discretion, request clarification before making a final decision. Any applications or supporting documentation received after the application deadline will not be considered. Applicants are advised to use the downloadable word version when working on a draft application, but also to ensure they leave sufficient time to copy their application to an online version and answer all the compulsory questions. Applicants are also advised to make an early start on the application process as it may take considerable time, and to use the Q&A process to clarify anything they are unsure about.

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- **Submission Costs:** You will not be entitled to claim from the Department any costs or expenses that you may incur in preparing your application, whether or not your application is successful.
 - **Consortium Applications:** Applicants who are willing to form a mini cluster or work with their nearby industrial sites can form a consortium. And therefore, they could submit their application under consortia. Only one submission should be submitted for each separate project application, but all consortium partners are required to sign the completed application form for their project(s) (see Declaration 4 in the attached form).

If a consortium is not proposing to form a separate corporate entity, the project partners will need to nominate a lead organisation who we will contract with and complete a Consortium Agreement (once a contract has been awarded). Please note that BEIS reserves the right to require a successful consortium to form a single legal entity in accordance with Regulation 19 of the Public Contracts Regulations 2015.

BEIS recognises that arrangements in relation to consortia and sub-contractors may (within limits) be subject to future change. Applicants should therefore respond in the light of the arrangements as currently envisaged and are reminded that any future proposed changes in relation to consortia and sub-contractors must be submitted in writing to BEIS for consideration on a case-by-case basis.

- **Multiple Applications:** Lead organisations may only enter one application into each Category as the project lead. Consortium members/Subcontractors may be part of multiple applications; however, it is the duty of the lead organisation to manage any arrangements with regards to conflict of interests with sub-contractors/consortium members where those sub-contractors/consortium members are part of other applications. Where consortium members are part of multiple applications, the lead organisation must provide assurance that the consortium members have sufficient resources to successfully deliver all work packages.

3.3 Stage 2: Assessment

Applications will initially be assessed against the Eligibility Criteria in Section 4. Applications which fail the Eligibility Criteria will not be assessed further, so it is essential to ensure that your project meets these criteria before you submit your application.

The eligible projects will be further assessed against the assessment criteria described in Section 7 (Assessment Process and Criteria), by three reviewers, including external reviewers. These scores will then be moderated to determine an overall ranking list that will be used to allocate the funding for the Competition. To be eligible, a project must also be allocated a minimum total score of 60% against these assessment criteria. The projects will be funded in ranked order until money runs out or all successful bids have been selected (whichever happens first).

After the assessment stage, all applicants will receive a short summary of key feedback regarding their applications irrespective of whether they are successful or not. BEIS aims to have provided all feedback to applicants once all applications have been reviewed and assessed. Feedback will be given at the same time the successful/unsuccessful letters are sent to the applicants.

3.4 Stage 3: Award of Successful Projects

The proposed timing for award of projects is as follows:

Scoping Study contracts are expected to be awarded on the **6th December 2021**.

Contract terms: For the Scoping Study, BEIS will enter into a contract with the Delivery Partner for the delivery of the Roadmaps. Successful industrial sites will be required to commit to working with the Delivery Partner to facilitate the delivery of the Roadmaps, as noted in Declaration 4 (Agreement to cooperate with delivery partner). There is no specific contractual relationship between BEIS and the Industrial Sites under this programme.

Project Agreement: The Delivery Partner will develop an agreement and share it with the industrial sites in advance of commencing the roadmap. This agreement will set out the scope of the project, the resource allocation, along with any specific terms etc. This agreement will require to be signed by both parties prior to commencing work on the roadmap.

There will be an opportunity for successful applicants, prior to agreement being signed, to discuss the agreement at a meeting with an official from BEIS and with the Delivery Partner to discuss any questions the industrial sites may have.

Consortium bids: with consortium bids the lead company (project co-ordinator) will be the recipient of the agreement. If a consortium is not proposing to form a separate corporate entity, the project partners will need to complete a Consortium Agreement. Funding for the projects will not be provided by BEIS until a signed consortium agreement has been finalised between all of its members. Consortium members/Subcontractors may be part of multiple bids, however it is the duty of the lead organisation to manage any arrangements with regards to conflicts of interest with sub-contractors/consortium members where those sub-contractors/consortium members are part of other bids. Where consortium members are part of multiple bids, the lead organisation must ensure that the consortium member have sufficient resources to successfully deliver multiple bids/work packages.

4. Eligibility for Funding

4.1 Competition Eligibility Criteria

To be eligible for selection, proposed projects must meet all the following eligibility criteria:

1. Location

Industrial sites must be based in the UK.

Eligibility question: Is the industrial site located in the UK? YES/NO

2. Retrospective Work

BEIS is unable to fund retrospective work on projects and as such, applicants are asked to confirm that they will not be seeking support for any retrospective work. *

Can you confirm that your application does not seek funding for retrospective work on this project? YES/ NO

3. Organisation Type

All industrial sites and data centres which meet the emissions threshold criterion are eligible to apply to this programme with the exception of Production of Electricity (SIC Code: 35110), Extraction of Natural Gas (SIC Code: 06200) and Extraction of Crude Petroleum (SIC Code: 06100).

Does your industrial site meet the criteria for the types of facility covered by this programme? YES/NO

4. Emissions Thresholds

Only sites with annual emissions over 10,000 tCO₂e per site are eligible (Scope 1 & 2 emissions). See Section 5.2 of the Industry of Future Guidance document for guidance on how to calculate site carbon emissions.

Can you confirm that the industrial site in question has total carbon emissions in excess of 10,000 tCO₂e per annum? YES/ NO

5. Additionality

Projects can only be funded where evidence can be provided that innovation would not be taken forwards (or would be taken forwards at a much slower rate) without public sector funding.

Eligibility question: Can you confirm that this project would not be taken forward (or would progress at a much slower rate) without public sector funding? YES/ NO

6. Parent Company approval

Organisations must have relevant approvals in place upon application.

Eligibility question: Can you confirm that this bid is fully approved by the contractor's parent company? (YES/NO, verifiable by provided proof during application)

7. Access to site and data

Participating sites must provide relevant data and site access to the delivery contractor.

Eligibility question: Is an agreement, or otherwise permissions in place for the site to provide access and relevant data to the contractor? (YES/NO)

8. Project end date

The decarbonisation roadmaps will be completed and approved by BEIS Contract Manager (projects need to allow for time for the BEIS to review the roadmaps and comment accordingly) by **December 2022**.

Can you confirm that the applicant will work with the Delivery Partner to facilitate the specified project end dates? YES/ NO

4.2 General BEIS procurement conditions

There are three declaration forms which must be completed by each applicant, covering issues such as: conflict of interest, and agreement to corporate with Delivery Partner.

These declarations are provided and can be downloaded from the Industry of Future website (<https://www.gov.uk/government/publications/industry-of-future-programme-ifp>) or Contracts Finder and must be signed and attached to the proposal by the applicant. They are also attached in Appendix 4 of this document for reference. The GDPR Assurance Questionnaire is embedded in this document and must be returned as part of the application.

Conflicts of interest: The BEIS standard terms and conditions of contract include reference to conflict of interest and require contractors to declare any potential conflict of interest to the Secretary of State.

For research and analysis, conflict of interest is defined as the presence of an interest or involvement of the contractor, subcontractor (or consortium member) which could affect the actual or perceived impartiality of the research or analysis.

Where there may be a potential conflict of interest, it is suggested that the consortium or organisation designs working arrangements such that the findings cannot be influenced (or perceived to be influenced) by the organisation that owns a potential conflict of interest. For example, consideration should be given to the different roles which organisations play in the research or analysis, and how these can be structured to ensure an impartial approach to the project is maintained.

This is managed in the procurement process as follows:

- During the bidding process, organisations may contact BEIS to discuss whether or not their proposed arrangement is likely to yield a conflict of interest.
- **Contractors are asked to sign and return Declaration 3** (this is contained in the Competition Application Form and is attached for reference in Appendix 4) to indicate whether or not any conflict of interest may be, or be perceived to be, an issue. If this is the case, the contractor or consortium should give a full account of the actions or

processes that it will use to ensure that conflict of interest is avoided. In any statement of mitigating actions, contractors are expected to outline how they propose to achieve a robust, impartial and credible approach to the research.

- When tenders are scored, this declaration will be subject to a pass/fail score, according to whether, on the basis of the information in the proposal and declaration, there remains a conflict of interest which may affect the impartiality of the research.

Failure to declare or avoid conflict of interest at this or a later stage may result in exclusion from the procurement competition, or in BEIS exercising its right to terminate any contract awarded.

5. Contract Size and Restrictions on Funding

5.1 Competition Budget and Availability

The total budget available for the Competition is up to £4m, although BEIS may allocate more or less than the total budget depending on the quality of the applications received.

5.2 Eligible Costs

Due to the nature of the competition for the industrial sites where a delivery partner will be carrying out the decarbonisation roadmaps for the selected industrial sites, eligible costs are not part of this application.

6. Deliverables

It should be noted that the contract requires that the main outputs of the decarbonisation roadmaps developed on each industrial site selected in this competition, are documented in an Overview Report to be published by BEIS at the end of the Scoping Study phase. Therefore, non-commercial information developed by this competition will need to be sharable.

7. Assessment Process and Criteria

7.1 Assessment Process

Applications will initially be assessed against the Eligibility Criteria in Section 4.1. Applications which fail the Eligibility Criteria will not be assessed further, so it is essential to ensure that your project meets these criteria before you submit your application.

The eligible projects will be further assessed against the assessment criteria described in Section 7.2 (Assessment Process and Criteria), by three agents; these scores will then be moderated to determine an overall ranking list that will be used to select successful applicants to progress with the Competition. To be eligible, a project must also be allocated a minimum

total score of 60% against these assessment criteria. The projects will be selected in ranked order until money runs out or all successful bids have been selected (whichever happens first).

As BEIS will not be entering into a formal contract with Industrial Sites, BEIS will not require to undertake financial viability checks on all successful applicants. However, BEIS may carry out Spotlight Due-Diligence checks on applicants prior to notifying them of the results of the competition.

After the assessment stage, all applicants will receive a short summary of key feedback regarding their applications irrespective of whether they are successful or not. BEIS aims to have provided all feedback to applicants once all applications have been reviewed and assessed. Feedback will be given at the same time the successful/unsuccessful letters are sent to the applicants.

7.2 Assessment Criteria

The assessment criteria for the Industry of Future competition is broken down into 5 separate criteria. Each criterion will be scored independently and will be given a scoring between 1-5. The scoring guidance is summarised in Table 3 below.

Table 2: IFP Assessment Criteria

Criterion 1	Approach to Site Decarbonisation
Weighting	30% (split into sections 1a – 15% and 1b – 15%)
Criterion 1a	Carbon Reductions Achieved to Date
Weighting	15%
Guidance	<p>Applicants are expected to:</p> <p>Give an overview of decarbonisation activities carried out on site in the past 20 years in the context of total site energy consumption and carbon emissions. If the site has existed for a shorter time than this, please provide an overview of the site’s entire decarbonisation activities/history</p> <p>Provide evidence to support activities outlines, such as historic energy consumptions and/or carbon emissions reduction.</p> <p>Describe the approach taken previously to identify and implement decarbonisation projects</p> <p>Outline the criteria used in the past to approve investment in decarbonisation measures and what criteria will be used in the future.</p> <p>Provide an estimate of total investment in decarbonisation projects to date.</p> <p>(Maximum 3,000 words)</p>
Criterion 1b	Challenges in Transition to Net Zero

Criterion 1 Approach to Site Decarbonisation	
Weighting	15%
Guidance	<p>Applicants are expected to:</p> <p>Provide detail on the existing site carbon footprint, considering Scope 1 & 2 emissions.</p> <p>Give an overview of the challenges associated with delivering further decarbonisation on site, and why this could not be delivered without support under this scheme.</p> <p>Provide detail of the specific challenges associated with decarbonising the various site processes.</p> <p>Outline how the provision of a decarbonisation roadmap will be beneficial to the site</p> <p>Describe how the organisation will implement recommendations developed in the roadmap and describe the criteria under which proposals will be approved for implementation.</p> <p>(Maximum 3,000 words)</p>

Criterion 2 Process Technology Gaps	
Weighting	20%
Guidance	<p>Applicants are expected to:</p> <p>Identify the key technological gaps present in achieving Net Zero sector decarbonisation on site, with a focus on technology readiness levels (TRLs), process design solutions and scale</p> <p>Identify present gaps in material supply chains in order to implement the new technology solutions in the UK and locally to site.</p> <p>Develop a plan to close these gaps within the roadmap, including skills development, research and development hubs and cross-sectoral integration where relevant</p> <p>Provide a novel technology hierarchy of options based on suitability for site, ease of installation and extent of progress required.</p> <p>Describe how the organisation will implement recommendations developed in the roadmap and describe the criteria under which novel technologies will be approved and integrated</p> <p>(Maximum 2,000 words)</p>

Criterion 3 Replicability of Sector Roadmap	
Weighting	30% (split into sections 3a – 15%, 3b – 10% and 3c – 5%)
Criterion 3a	Technology Diversity
Weighting	15%
Guidance	<p>Applicants are expected to:</p> <p>Describe the processes present on site, with particular focus on energy intensive processes.</p> <p>Where possible, provide details of where there are existing technologies available to decarbonise site processes, and the barriers to implementation of these solutions.</p> <p>Highlight plant items or processes where there is currently no route to decarbonisation and where a roadmap would be beneficial.</p> <p>(Maximum 2,000 words)</p>
Criterion 3b	Relevance to other UK Technologies
Weighting	10%
Guidance	<p>Applicants are expected to:</p> <p>Outline the prevalence of the processes and plant in place on site at other sites across the UK, to demonstrate the extent to which a roadmap prepared for the site could be replicated in full or in part at other sites in the same sector in the UK.</p> <p>Provide an overview of other sectors across the UK where similar processes may be in place and where parts of a roadmap may be replicable to map out routes to Net Zero for other sectors.</p> <p>(Maximum 1,000 words)</p>
Criterion 3c	Dissemination
Weighting	5%
Guidance	<p>Applicants are expected to:</p> <p>Provide a dissemination plan, describing how the learnings from the feasibility study will be shared with industry.</p> <p>The plan should include key stakeholders, lessons learnt, and any challenges faced during delivery.</p> <p>(Maximum 500 words)</p>

Criterion 4 Cluster Potential																													
Weighting	10% (split into sections 4a – no weighting (Y/N), then 4b – 10% or 4c – 10%)																												
Criterion 4a	Proximity to Existing Clusters																												
Guidance	<p>Both dispersed sites and sites within existing industrial clusters are eligible to apply, however it is intended to prioritise sites outside existing oil/refinery-based clusters for support. For the purposes of this competition, sites within an industrial cluster will be classified as those within 15km of the centre point of each of the six existing clusters. These centre points are fixed as follows:</p> <p>Table 3: Existing Industrial Cluster Centre Location</p> <table border="1"> <thead> <tr> <th>Cluster</th> <th>Longitude</th> <th>Latitude</th> <th>Approximate Post Code</th> </tr> </thead> <tbody> <tr> <td>Grangemouth</td> <td>-3.6915202</td> <td>56.012234</td> <td>FK3 9XD</td> </tr> <tr> <td>Humberside</td> <td>-0.24294091</td> <td>53.735073</td> <td>HU12 8DS</td> </tr> <tr> <td>Merseyside</td> <td>-2.8436692</td> <td>53.276740</td> <td>CH65 4BE</td> </tr> <tr> <td>South Wales</td> <td>-3.7592993</td> <td>51.567832</td> <td>SW13 2NG</td> </tr> <tr> <td>Southampton</td> <td>-1.3821085</td> <td>50.840659</td> <td>SO45 3NY</td> </tr> <tr> <td>Teeside</td> <td>-1.1154523</td> <td>54.585410</td> <td>TS90 8WS</td> </tr> </tbody> </table> <p>Sites within existing clusters will be required to demonstrate how support under this programme will be required to provide a route to Net Zero beyond participating with initiatives in the existing clusters. All applicants will also be required to outline the potential for additional clusters or mini-clusters with adjacent sites.</p> <p>Eligibility question: Is the site in question within 15km of the centre point of any existing cluster as outlined above? YES/ NO*</p> <p>If the answer to the above question is YES, your application is eligible to meet Criterion 4b in assessment of the application (validation that additional decarbonisation activities to existing cluster benefits are required).</p>	Cluster	Longitude	Latitude	Approximate Post Code	Grangemouth	-3.6915202	56.012234	FK3 9XD	Humberside	-0.24294091	53.735073	HU12 8DS	Merseyside	-2.8436692	53.276740	CH65 4BE	South Wales	-3.7592993	51.567832	SW13 2NG	Southampton	-1.3821085	50.840659	SO45 3NY	Teeside	-1.1154523	54.585410	TS90 8WS
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Criterion 4 Cluster Potential	
	If the answer to the above question is NO, your application is eligible to meet Criterion 4c in assessment of the application (planned collaboration with adjacent sites).
Criterion 4b	Sites in Existing Clusters
Weighting	10%
Guidance	<p>Applicants are expected to:</p> <p>Provide an overview of why the site requires support under this programme</p> <p>Detail how participating in the existing cluster will not be sufficient to decarbonise site activities.</p> <p>Summarise the additional benefit that will accrue from support under this programme.</p> <p>(Maximum 1,000 words)</p>
Criterion 4c	Potential for Clustering with Neighbouring Sites & Facilities
Weighting	10%
Guidance	<p>Applicants are expected to:</p> <p>Provide an overview of the potential for collaboration with adjacent sites and organisations to facilitate the transition to Net Zero. In particular, consideration should be given to how waste or excess heat could be used by neighbouring sites.</p> <p>(Maximum 1,000 words)</p>

Criterion 5 Social Value	
Weighting	10%
Guidance	<p>Applicants are expected to demonstrate Social Value by showing how application of their Scoping Study Roadmap will:</p> <p>benefit the local and national economies across the involved sectors</p> <p>deliver employment and skills opportunities to the local and national economies.</p> <p>enhance the UK's reputation as a pioneer in green industry and technology</p>

Criterion 5	Social Value
	<p>provide opportunities for knowledge sharing both across the sector and with local communities and educational establishments.</p> <p>The applicant's approach should be clearly described in relation to community benefits in tandem with meeting the UK decarbonisation targets.</p> <p>(Maximum 1,000 words)</p>

7.3 Scoring Guidance

We will select industrial sites that provide the most compelling case overall based on their assessment against the criteria outlined in section 6.2. The projects will be scored against the five assessment criteria set out below in Table 3. Projects must score a minimum of 60% (based on total score) to be eligible for the preparation of a roadmap.

Table 3: Scoring Guidance

Score	Column 2
1	Not Satisfactory: There is no evidence to very little evidence that the question has been satisfactorily answered and major omissions are evident.
2	Partially Satisfactory: There is little evidence that the question has been satisfactorily answered and some omissions are evident. Much more clarification is needed.
3	Satisfactory: There is reasonable evidence that the question has been satisfactorily addressed but some omissions are still evident and further clarification is needed.
4	Good: The question has been well addressed with a good evidence base, with only minor omissions or lack of clarity
5	Excellent: There is clear evidence that the question has been completely addressed in all aspects, with question answered clearly, concisely with a strong evidence base.

8. Financial Information

8.1 Financial viability checks

As BEIS will not be entering into a formal contract with Industrial Sites, BEIS will not require to undertake financial viability checks on all successful applicants. However, BEIS may carry out Spotlight Due-Diligence checks on applicants prior to notifying them of the results of the competition.

9. Notification and Publication of Results

9.1 Notification

Applicants will be informed by email whether their application has been successful, subject to compliance with the terms and conditions of the Conditional Contract Offer.

BEIS may wish to publicise the results of the scheme, which may involve engagement with the media. At the end of the application and assessment process, BEIS may issue a press release or publish a notice on its website. These public documents may, for example, outline the overall results of competitions and describe some of the projects to be funded.

Some organisations may want their activities to remain confidential and you will be given a chance to opt out of any involvement in media relations activity and further case study coverage of projects, should you see this as being necessary. However, the public description of the project you provide in your application will be made available in the public domain if your application is successful, and you are not able to opt out of the project description being published, as such, you must provide a short description (<300 words) of your industrial process. In addition, all funded projects must include reporting and dissemination milestones – agreed with BEIS – as part of their project deliverables. Information about all contracts awarded will also be published on Contracts Finder.

Any organisation that wishes to publicise its project, at any stage, must contact the Competition Project Manager or their Project Monitoring Officer at BEIS before doing so.

9.2 Publication of results

A single contract involves a high degree of risk–benefit sharing. In return for provision of funding and non-financial support during demonstration activities, BEIS expects to be able to use and share the results and outputs of the demonstration activities with other government departments.

BEIS also wishes to publicise details of the award recipients. Therefore, on or after issuing a contract, BEIS will publish the following information:

- Identity of the participant and its partners
- Project summary

Following completion of the funded projects, BEIS will publish on its website a summary of the funded activities and the outcomes achieved. This will include a final summary report from each project detailing technical approach, and key achievements. BEIS may also revisit projects at a later date and publish an evaluation report for the scheme as a whole.

BEIS, however, recognises the need to maintain confidentiality of commercially sensitive information. We will consult applicants regarding the nature of information to be published, to protect commercially sensitive information. The notice of the award on Contracts Finder will also include the value of the contract.

10 Reporting, Knowledge Sharing, Evaluation and Intellectual Property Requirements

10.1 Reporting, Knowledge Sharing and Evaluation Requirements

There will be several requirements on contractors during the project, including after the final payment milestone:

Reporting: to track project progress and ensure payments are made according to a schedule of milestones to be agreed with selected projects. This reporting will be in confidence to BEIS and its technical advisers and will not be published. Any changes to schedules or project plans will need to be discussed with BEIS and applicants should expect significant interaction with the team during the project.

Evaluation of the scheme: Successful applicants will be expected to participate in an evaluation of the scheme during and after final contract payments, to assess the impact of the scheme, including value for money.

Knowledge sharing: effective dissemination and knowledge sharing are key requirements in this Competition – and applicants will be assessed on the scope and scale of their proposed knowledge sharing activities.

10.2 Intellectual Property

The proposed arrangements for intellectual property rights and exploitation of IPR are set out in the contract terms and conditions for this competition, in Appendix 5.

Subject to the requirements of Conditions 27(3) and 28(5) of the standard terms and conditions (Appendix 5), applicants will retain ownership of the intellectual property generated from the project. Applicants are required to identify and record any such intellectual property and to protect patentable knowledge in accordance with Condition 28 of the standard terms and conditions. If within five years of its creation applicants have not commercially exploited intellectual property generated from the work, then in line with clause 28(5) of the standard terms and conditions, BEIS may request the Arising Intellectual Property be assigned to BEIS.

For further information please refer to clause 27 in the T&Cs.

10.3 Ownership of Demonstration Devices

Chosen suppliers will retain responsibility and ownership for the technologies and related equipment developed and used during the delivery of the contracts.

11. Feedback, Re-application and Right of Appeal

A short summary of key feedback regarding the applications will be provided to all applicants. This feedback will be based on the comments of technical assessors and the Industry and

CCUS programme board. No additional feedback will be provided and there will be no further discussion on the application.

The feedback from the assessors is intended to be constructive. Comments are not a checklist of points which must be answered or argued in a resubmitted application as the assessors/requirements may be different and it is your decision as to whether you act on the suggestions made.

12. Confidentiality and Freedom of Information

Where any request is made to BEIS under the Freedom of Information Act 2000 (“FOIA”) for the release of information relating to any project or applicant, which would otherwise be reasonably regarded as confidential information, BEIS will notify you of the request as soon as we become aware of it. An applicant must acknowledge that any lists or schedules provided by it outlining information it deems confidential or commercially sensitive are of indicative value only and that BEIS may nevertheless be obliged to disclose information which the applicant considers confidential.

All assessors used during the assessment of applications will be subject to a confidentiality agreement.

13. Further Instructions to Bidders

The Department reserves the right to amend the enclosed Competition documents at any time prior to the submission deadline (**12pm noon BST 29th October 2021**). Any changes are most likely to include editorial errors and include FAQs from questions asked from stakeholders/applications before **12pm noon BST 13th September 2021**. Any such amendment will be numbered, dated and issued on the website (<https://gov.uk/government/publications/>). Where amendments are significant, the Department may, at its discretion, extend the deadline for receipt of tenders.

The Department reserves the right to withdraw this contract opportunity without notice and will not be liable for any costs incurred by contractors during any stage of the process. Contractors should also note that, in the event a proposal is considered to be fundamentally unacceptable on a key issue, regardless of its other merits, that proposal may be rejected. By issuing this Competition document, the Department is not bound in any way and does not have to accept the lowest, or any, proposal and reserves the right to accept a portion of any proposal unless the tenderer expressly stipulates otherwise.

Appendix 1 – Q&A

This Q&A covers answers to questions that may be relevant to applicants to Scoping Study Stage of the Industry of Future Competition. Further questions should be submitted before 12 noon BST, 13 September 2021. Questions submitted after this date may not be answered. We will reply to any queries which, in our judgement, are of material significance through an anonymised Q&A sheet published on our website.

Slides from the Stakeholder Engagement Day are available online at the Industry of Future web page <https://www.gov.uk/government/publications/industry-of-future-programme-ifp>.

Abbreviations:

Abbreviation	Description
TRL	Technology Readiness Level
ITT	Invitation to Tender
IETF	Industrial Energy Transformation Fund
IFS	Industrial Fuel Switching
ESCO	Energy Service Company
RHI	Renewable Heat Incentive

How many applications can one company make?

Lead organisations may only enter one bid for one industrial site.

How many applications can one Industrial Type (e.g. food and drink) make?

BEIS will aim to select projects from a variety of industrial types to deliver a balanced portfolio, therefore BEIS retain the option to have a maximum number of sites in each individual sector.

Could you confirm whether the fund is limited to UK based companies?

Only UK industrial sites can apply.

We are a collaborative application and need to submit a Heads of Terms for our eventual collaboration / partnership agreement. What should we include in this?

The contents of the Heads of Terms is at your discretion. However, the Heads of Terms could outline the main relevant issues and could include, for example:

Roles and responsibilities of each collaborator / partner

Agreed response times / deadlines for each collaborator / partner in respect of queries or information needed for claims or queries on the same

Milestones and deadlines for activities

Treatment of IP, confidentiality, etc.

Dispute resolution

Handling of risks and liabilities between the partners

Financial reimbursement terms

Are references (e.g. to market research, scientific literature) required in the application form? If yes, how and where should these be formatted?

You can use appendices for information you think will support your bid.

If a feasibility study has already been undertaken for a similar project but that project has not been developed commercially, can you still use this feasibility study for the competition?

Yes, sites who have previously had feasibility studies carried out can still enter the competition.

Is there a definition for "emitter" please?

For the purposes of this competition an emitter is an industrial site which produces Scope 1 & 2 carbon emissions.

Can you confirm that this competition is applicable to industrial sites across the whole of the UK?

Yes. The Competition is applicable to the whole of the UK.

You have provided a list of eligible technologies, can technologies not on the list apply?

The list of eligible technologies is not exhaustive. Other low carbon fuel types that are not listed are not specifically excluded.

This publication is available from: www.gov.uk/beis

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