



Department for
Business, Energy
& Industrial Strategy

The Industrial Energy Transformation Fund Phase 2

Supporting the Green Industrial Revolution

September 2021



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1 Ministerial Foreword



As we look forward to hosting the COP26 summit in Glasgow, I am delighted to launch Phase 2 of the Industrial Energy Transformation Fund (IETF). This will support industry in England, Wales and Northern Ireland to achieve a green industrial revolution¹.

Phase 1, which launched last year, is already successfully helping companies to build back greener. Its funding has supported energy efficiency measures, as well as studies for future decarbonisation projects, and leveraged significant match funding from the private sector in doing so. 65% of project costs will be match funded by industry. Phase 2 expands the scope of the Fund to deep decarbonisation deployment. This includes fuel switching and carbon capture technologies.

The UK was the first major economy in the world to pass a law to end its contribution to global warming, with a 2050 net zero requirement. [Net Zero 2050](#) is now a global commitment, with over 110 countries and the EU pledging to meet this aspiration².

The IETF is a front runner and complement to the Prime Minister's Ten Point Plan for a Green Recovery³, which brings together ambitious policies and significant new public investment, while mobilising private investment. It is also part of the Industrial Decarbonisation Strategy⁴. This strategy sets out the Government's vision for a prosperous, low carbon UK industrial sector in 2050 and provides long-term certainty for industry to invest in decarbonisation.

Industry plays an essential role in society, contributing £170 billion to the overall economy. It is a high value area of employment, directly accounting for 9% of the UK's GDP and providing 2.6 million direct jobs⁵ and over 5 million jobs across the value chain⁶. Industry is particularly important to regions outside the South East of England, providing well paid jobs in areas such as the North West, Yorkshire and South Wales. However, industry also produces 16% (72 Mt CO₂e) of UK emissions⁷. For the UK to stay on the path to net zero, as well as meet our carbon budgets and nationally determined contribution under the Paris Agreement, industrial emissions need to fall by around two thirds by 2035. That is why the IETF, which provides funds for specialised projects to decarbonise industry, is so important in helping the UK to reach net zero by 2050.

¹ A separate parallel fund is administered by the Scottish Government for industries located in Scotland.

² [The Race to Net Zero Emissions and Why the World Depends on It, UN News, 2020.](#)

³ [The Ten Point Plan for a Green Industrial Revolution, GOV UK, 2020](#)

⁴ [Industrial Decarbonisation Strategy, GOV UK, 2021](#)

⁵ Annual Business Survey, ONS, 2020

⁶ UK in a Changing Europe, Manufacturing and Brexit, 2020.

⁷ Final UK greenhouse gas emissions from national statistics: 1990 to 2018: Supplementary tables, BEIS, 2020

As Minister of State, I am proud to be responsible for a portfolio of schemes that contribute towards the green recovery and the Industrial Decarbonisation Strategy. The IETF will help industry to cut its emissions and energy use, and bring down the costs and risks of industrial decarbonisation technologies by demonstrating them at scale. I am confident that the Fund will continue to deliver results as it ushers in new opportunities for UK industry to grow.

Greg Hands

Minister of State for Energy, Clean Growth and Climate Change

2 Executive Summary

Industry plays an essential role in society, and in the building of a green UK economy. To be on track to reach net zero by 2050, UK emissions need to fall by around two thirds by 2035. The Industrial Energy Transformation Fund (IETF or ‘the Fund’) plays a vital role in transforming the way industry consumes energy. Announced in Budget 2018 as a £315m fund, it helps companies with high energy use cut their bills and reduce carbon emissions.

In Autumn 2019, the Government sought views on the design proposals for the Fund in [‘The Industrial Energy Transformation Fund: Finalising the design’](#). The Government subsequently published [‘The Industrial Energy Transformation Fund: Summary of responses to the consultation’](#) in June 2020, summarising the design choices for Phase 1 of the Fund. Phase 1 launched in Summer 2020 and has held two competition windows. This document includes a second government response summarising the design choices for Phase 2.

Window timings and budgets

The Phase 2 budget is allocated across 4 competition windows, worth a combined £220m. Each window will be open for three to four months and will run sequentially from September 2021 to January 2023, enabling industry to apply in line with internal investment and replacement cycles. Anticipated budgets for each window are shown below. These may vary as the IETF evolves in response to industry demand and strategic priorities; exact funding totals and dates will be announced in advance of each window.

Window	Approximate Budget Allocation
Phase 2: Autumn 2021	£60m
Phase 2: Spring 2022	£60m
Phase 2: Summer 2022	£55m
Phase 2: Autumn 2022	£45m

Key technologies supported in Phase 2

In Phase 2, the IETF expands the current offer of feasibility and engineering studies for deep decarbonisation projects, into also offering capital funding for equipment. Eligibility rules for deep decarbonisation technologies have been refined and expanded from Phase 1 to reflect the great level of investment and complexity associated with certain decarbonisation deployment projects. Types of technologies include industrial carbon capture, fuel switches to low carbon fuels including electrification, hydrogen, and biomass (in limited scenarios).

Changes from Phase 1

- Phase 2 Budget: a second Phase 1 window worth up to £40m launched in Spring 2021. This increased the total Phase 1 budget to up to £70m, and the Phase 2 budget will use the remaining funding of approximately £220m.
- Sector eligibility: Phase 2 will be extended to include raw and recovered materials (mining and extraction SIC codes 5,7,8,9, and recycling SIC code 38320).
- Minimum grant thresholds have been reduced for all types of project.
 - Energy efficiency deployment – projects can receive between £100,000 and £14m in grant funding.
 - Deep decarbonisation deployment – projects can receive between £100,000 and £30m in grant funding.
 - Studies (both EE and DD)
 - Feasibility – projects can receive between £30,000 and £7m in grant funding.
 - Engineering – projects can receive between £50,000 and £14m in grant funding⁸.
- Project aggregation – companies can now bundle together up to five projects with the same outcome (at different sites or all on the same site) into one application. Individual studies within an aggregated application must still meet the minimum thresholds above. Individual deployment projects, however, can come under the minimum threshold providing the total grant to be claimed is above the minimum threshold.
- Assessment criteria, studies: as in Phase 1 application windows, Phase 2 study applicants will be assessed against a range of criteria designed to test the project. These include the value for money, potential carbon and energy savings, added value, replicability, technical feasibility and deliverability of each proposal.
- Assessment criteria, deployment : in Phase 2, energy efficiency and deep decarbonisation deployment projects will be assessed against a range of criteria

⁸ These are the minimum/maximum grant values that can be claimed for each project, but total eligible costs for each project must total a minimum of £30,000 for feasibility studies and £50,000 for engineering studies to be considered. More information can be found in the Subsidy Control sections of the IETF guidance.

designed to understand the project's compatibility with government net zero targets, as well as whether a project is deliverable and good value for money.

Successful projects

Case studies of organisations/projects winning IETF funding will be published on GOV.UK after every window. All potential applicants are invited to visit a Virtual Technology Marketplace which hosts videos from past winners, as well as a range of eligible technology providers.

Other funding

The IETF is part of a wider landscape of capital and operational cost support for industry. In designing Phase 2 we have minimised any conflicts in incentives where possible, through tailoring the sector eligibility, technical eligibility, and grant thresholds so that the IETF will support projects not supported by other funds. Subsidy control rules mean that funding cannot be claimed from multiple government funding sources for the same set of eligible costs.

The Industrial Net Zero Funding Service portal provides more information about government funding to help your business become greener.

The Scottish Government has allocated a capital budget of £34 million over 5 years, from 2021 to 2026 for the [Scottish Industrial Energy Transformation Fund \(SIETF\), topping up the £26m from the IETF](#). For sites based in Scotland, contact them at SIETF@gov.scot.

3 Introduction

The Industrial Energy Transformation Fund (IETF or 'the Fund') was announced in Budget 2018 as a £315m fund investment, to support businesses with high energy use to transition to a low carbon future and to cut their bills through increased energy efficiency. In Autumn 2019, the Government sought views on the design proposals for the Fund in '[The Industrial Energy Transformation Fund: Finalising the design](#)'. The Government subsequently published '[The Industrial Energy Transformation Fund: Summary of responses to the consultation](#)' in June 2020, which summarised the design choices for Phase 1 of the competition⁹. With the launch of Phase 1, the IETF team has continued to collect extensive stakeholder feedback and market intelligence, and this has been considered in the design for every element of Phase 2.

This document revisits the background and rationale for the IETF, placing it in the context of the current policy landscape. It outlines the progress and successes of Phase 1 and the

⁹ The Scottish Government subsequently decided to opt out of the scheme, so BEIS will spend £289m of the original £315m in England, Wales and Northern Ireland with £26m set aside for a separately administrated Scottish Industrial Energy Transformation Fund (SIETF) – Find more details at [SIETF](#), or email sietf@gov.scot

changes we have made moving from Phase 1 to Phase 2. We show how we have reacted to industry feedback, learned lessons and introduced the essential decarbonisation deployment aspect of the scheme.

Deep decarbonisation:

Installation of technology to reduce/capture emissions without improving energy efficiency; or a switch to a less carbon-intensive fuel.

Energy efficiency:

Installation or retrofitting of industrial equipment to reduce energy use per production unit at an industrial site.

This document should be viewed as part of the government response to the original IETF consultation, as it responds to those questions that were not originally covered. Publishing a response for Phase 2 now has allowed us to review aspects of the scheme design as Phase 1 progressed over the last year, and as we have received further feedback from industry.

As we deliver Phase 2 of the Fund, we will aim to make continuous improvements from window to window, learning lessons and updating policy as the needs of industry change. This could include expanding IETF support to cover new policy areas such as resource efficiency. Any companies with projects in these areas or any others which they think the IETF should fund in later windows are welcome to get in touch with the Department.

4 Rationale for Intervention

Role of the IETF in decarbonising industry

Since our consultation in 2019, the Committee on Climate Change (CCC) and the Industrial Decarbonisation Strategy (IDS) have both noted the need for “transformative” action in the 2020s to remain on track for net zero¹⁰ and meet legally binding carbon budgets in the interim. The IDS outlines key principles for effectively reducing emissions from industry, stressing the importance of technology-neutral government intervention in the 2020s, aligned with wider strategic priorities (such as levelling up) and sharing the cost fairly between industry, consumers and the taxpayer.

A critical step to net zero will be the adoption of energy efficiency measures by industry. Such measures could contribute to substantial annual emissions reductions, as well as reduce the

¹⁰ [CCC Sixth Carbon Budget Report](#), 2020.

overall cost of decarbonisation as the level of emissions needing to be abated through expensive deep decarbonisation measures will be lower. The IETF is already funding energy efficiency technologies and will continue in Phase 2, supporting companies to reduce carbon emissions and energy bills, and de-risking these types of technologies.

The key new element of Phase 2 is the introduction of deep decarbonisation deployment funding which will allow the IETF to further align with wider decarbonisation policy. The IETF forms part of our approach as we enter a crucial decade wherein policy and infrastructure foundations will enable deep decarbonisation and ensure that businesses do not 'lock in' high carbon technologies. This technology-neutral public funding should accelerate clean investment in the 2020s, with the market later driving reductions in industrial emissions.

The IETF will complement a package of industrial decarbonisation policies, including other key funding like the £240m Net Zero Hydrogen Fund (NZHF) and the £1bn Carbon Capture and Storage Infrastructure Fund (CIF). The IETF can also act as a next step for projects supported by BEIS innovation schemes, including the current BEIS Energy Innovation Programme and future Net Zero Innovation Portfolio, bridging the gap from demonstration to market roll-out. Further information about the policy landscape can be found in Section 11.

Barriers to Investment

As previously stated in our 2019 consultation, companies face various barriers to investment in decarbonisation. The IETF aims to address barriers common to both energy efficiency and deep decarbonisation technologies. These include:

- Lengthy replacement cycles faced by industry
- Industrial investment cycles
- Carbon price alone not stimulating investment
- Commercial viability of low carbon technology combined with industry uncertainty as policy is defined in upcoming years
- Cost competitiveness faced by UK industry
- Technical risks to production create uncertainty for investments

Energy efficiency projects can have long payback periods, skills and knowledge gaps for identifying opportunities and barriers to private finance. Grant funding through the IETF reduces the payback period of more transformative energy efficiency measures so that they are possible for industry and overcomes the problem of accessing private finance. The IETF will generate knowledge sharing of transformative energy efficiency measures and we continue to increase awareness of the fund, the technologies it supports, and their benefits.

Deep decarbonisation projects also carry specific individual barriers which makes the adoption of these technologies even more challenging. In addition to those identified above, these include high up-front capital costs, increased operational costs, and risks associated with investment in technologies which are not widely commercialised. Capital and studies funding

through the IETF will support company investment in decarbonisation over higher carbon alternatives, and go some way to mitigating costs if provided in tandem with industrial CCUS and Hydrogen business models¹¹. The IETF will be a front-runner in de-risking decarbonisation technologies for industry and, again, will generate knowledge and experience that can be shared for the benefit of wider industry.

Cutting energy costs and emissions in the near term will help UK industry across the country to remain competitive. Bringing down costs and risks of deep decarbonisation technologies will help achieve our net zero emissions target. The Fund's application window structure see page 10 should mitigate the barriers of lengthy replacement cycles and industrial investment cycles.

Places

As identified in the Industrial Decarbonisation Strategy, supporting sectors to reach net zero carbon emissions by 2050 will provide new opportunities to level up the economy across the United Kingdom. The IETF covers industrial sites within major industrial clusters as well as those dispersed across the rest of England, Wales and Northern Ireland.

IETF funding will support the Government's target for at least four low carbon clusters by 2030 and at least one net zero cluster by 2040. However, the IETF also crucially will support industry located outside of the clusters, collectively responsible for nearly half of industrial emissions. As identified in the Industrial Decarbonisation Strategy, there is significant potential at these dispersed sites for greater uptake of energy efficiency measures as well as decarbonisation via fuel switching and in some cases carbon capture.

The IETF has opened to applications in England, Northern Ireland and Wales, working with the devolved administration and industry networks. The Scottish Government has opted out of the UK-wide IETF and launched the Scottish IETF (SIETF) in December 2020. The IETF and SIETF teams are working closely to share lessons and encourage action across all regions.

5 Objectives and Benefits

The objectives of the IETF are to reduce energy costs and carbon emissions for UK industry in the near-term and to bring down costs and risks of industrial decarbonisation technologies through demonstration – backing the legally binding Net Zero target – by:

- Supporting industry in building a pipeline of future projects by supporting feasibility and engineering studies;
- Improving the energy efficiency of industrial processes by bringing payback of projects within an investable range for company decision-makers; and

¹¹ More detail on business models available in Section 11: Funding Landscape

-
- Incentivising early movers by making the low-carbon investment financially more attractive than the carbon-intensive option.

The IETF objectives have been minorly updated to reflect its broad approach to industry, and will accept applicants from EIs, non-EIS, in clusters or off clusters. The formal consultation showed broad support for a technology-neutral approach. The IETF has therefore been designed to be neutral in terms of technology, geography and sector. This is to recognise that industry has the expertise to decide on the best solution, and to reduce the risk of prescribing inappropriate technology for specific sites.

Through operating the three competition strands (deep decarbonisation, energy efficiency, and studies), the IETF acts as a portfolio in which each strand contributes to these objectives. Further identified benefits of the IETF are expected to include:

For beneficiaries of funding:

- Reduced energy intensity of industrial processes;
- Reduced carbon intensity of industrial processes;
- Improved competitiveness;
- Reduced energy costs resulting from energy efficiency deployment; and
- Increased pipeline of studies which go on to be privately funded.

More widely:

- Reducing the costs and risks of new technology;
- Improved air quality;
- Increased uptake of new energy efficiency (EE) and deep decarbonisation (DD) technologies in England, Wales and Northern Ireland, and reduced energy intensity in these parts of the United Kingdom; and
- Reduced long term emissions from roll out of EE and DD technologies.

The tracking and analysis of these benefits form the basis of the Fund's monitoring and evaluation framework. In addition, an external impact evaluation of the IETF has been commissioned to start in 2024/25 that will provide an evidence base to inform decisions in the industrial decarbonisation policy area¹².

¹² See the IETF [Phase 1 process evaluation](#) for the IETF Theory of Change

6 Phase 1 Windows Outcome

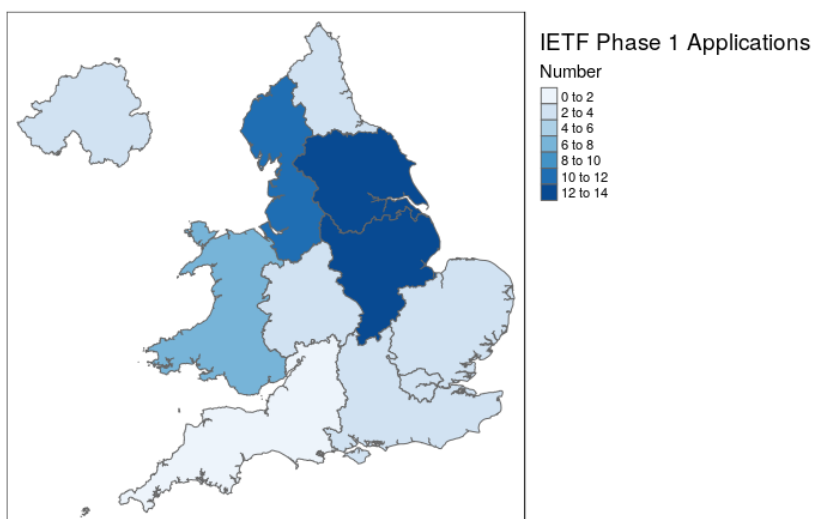
Phase 1: Summer 2020 Application Round Winners

The first application window of the IETF, Phase 1, closed in October 2020. In a challenging year for industry, we were pleased to be able to allocate the full £30m budget at assessment stage. Out of 57 eligible applications, 39 were successful in requesting around £31m in grant funding and are now subject to approval at due diligence stage or conclusion of grant funding agreements. Find case studies for successful projects [here as they are announced](#).

Phase 1: Summer 2020 Application Spread

Applications were received from companies across England, Wales, and Northern Ireland, approximately correlating to relative emissions intensities of industry in these regions. We were pleased that at least half of eligible applications came from companies outside of the largest industrial clusters, recognising the IETF's role in supporting dispersed and smaller sites on their Net Zero pathway.

Figure 1: Heat map showing regional spread of applications for IETF Phase 1: Summer 2020



The IETF is technology neutral and demand led. The first window provided useful evidence of the types of technologies that industry felt it would be unable to install without government support. Heat and energy recovery projects proved popular amongst applicants in the deployment strand of the competition, but by far the largest proportion of bids came from companies seeking to upgrade industrial equipment with more efficient models. Process control equipment also featured strongly in bids, with many companies explaining how improvement in energy management would ultimately enable them to implement further transformational technologies in future.

Of the energy efficiency deployment projects which were successful at assessment stage, the average technology lifetime was estimated at 22 years. Over this time, applicants anticipated achieving total bill savings in the region of £280m and lifetime emissions savings in the region of 2.5Mt.

35 of the eligible applications were for energy efficiency deployment projects, and 22 were bids for feasibility and engineering studies. The studies were roughly evenly split between energy efficiency and decarbonisation measures, with the latter including investigations into fuel switching and carbon capture technologies. It was noted by several stakeholders in 2020 that collaboration on bids for studies was difficult due to the circumstances of the pandemic where budgets were squeezed and it was challenging to bring project teams together on site. Nonetheless, the study bids provide a promising pipeline for future deployment projects.

The majority of applications were submitted by large companies (44 out of 57 eligible applications), and we have acted on feedback to reduce minimum thresholds so funding becomes more accessible for small and medium sized businesses.

The IETF will only fund the minimum amount necessary to deliver the project, and applications are judged on a value for money basis at assessment stage. As such it was anticipated that few applications would come close to the maximum grant limits. The maximum funding available for deployment projects and engineering studies is £14m, but applications did not exceed £7.3m and £75k respectively. Feasibility studies had a maximum of £7m but applications did not exceed £550k. Feedback from potential applicants indicates that we may see some larger bids submitted in later windows reflecting a return to pre-pandemic investment schedules.

Lessons learned from Phase 1: Summer 2020 can be found in Section 9 alongside recommendations from our interim Phase 1 process evaluation.

Phase 1: Spring 2021 Application Round Update

The second window, Phase 1: Spring 2021, closed in July 2021. We received 91 applications for funding and these bids are currently being assessed. Further announcements will be made in due course once all the applications have been assessed.

7 Policy Design for Phase 2

As the IETF enters Phase 2, it expands into support for decarbonisation technologies. Where Phase 1 funded energy efficiency and deep decarbonisation studies as well as energy

efficiency deployment projects, Phase 2 will also support deep decarbonisation deployment projects with grants available for up to £30m¹³.

Phase 2 design is based on feedback received in our formal consultation (Section 8), lessons learned from other schemes, and lessons learned from Phase 1, as well as recommendations from our interim Phase 1 process evaluation (Section 9) and ongoing dialogue with stakeholders. The IETF is intended to evolve over its lifetime, and stakeholder feedback will be integral to this evolution.

Phase 2 anticipated windows

We plan to split Phase 2 into four windows, worth a combined £220m. Each competition window will be open for three to four months and will run sequentially from September 2021 to January 2023, enabling industry to apply in line with internal investment and replacement cycles. Early applicants who are unsuccessful, and unsuccessful applicants from Phase 1 will receive application feedback and may wish to submit applications to later windows. It should be noted that the eligibility requirements and assessment criteria for future windows may change as the IETF evolves and applicants must check the latest guidance when applying.

Anticipated budgets per window are outlined below. These remain flexible. The IETF is intended to adapt over its lifetime, in line with the changing needs of industry, the wider policy picture, and maintaining compatibility with net zero. There will be sufficient funding available for each competition strand in each Phase 2 application window, but exact totals may vary depending on demand. Funding could be drawn from other windows if we receive large project applications or if we receive numerous high-quality applications. We therefore encourage applicants to apply as soon as they are able.

We aim to balance funding across energy efficiency and deep decarbonisation projects over the lifetime of the IETF, and it is our ambition to award at least 50% of funding to deep decarbonisation projects. We have already allocated considerable funding to energy efficiency measures in Phase 1. In Phase 2, we hope to achieve a balance in our portfolio overall by increasing the budget allocated to deep decarbonisation and having a maximum budget per window for energy efficiency projects.

We are aware that deep decarbonisation projects can be complex and take longer to develop. By phasing windows in this way, we hope to give both energy efficiency and decarbonisation projects the greatest chance of success.

¹³ This is the maximum grant value that can be requested for a project, but total project costs may be in excess of this figure. Applicants should refer to the Subsidy Control sections of the IETF [guidance](#) for further information.

Table 2: Our anticipated window structure

Window	Likely Window opens	Likely Window closes	Likely Funding Decision	Approximate Budget Allocation*
Phase 2: Autumn 2021	September 2021	December 2021	March/April 2022	£30m for DD, £15m for EE, £15m for studies
Phase 2: Spring 2022	January 2022	April 2022	August 2022	£30m for DD, £15m for EE, £15m for studies
Phase 2: Summer 2022	May 2022	September 2022	January 2023	£25m for DD, £15m for EE, £15m for studies
Phase 2: Autumn 2022	October 2022	January 2023	May 2023	£20m for DD, £10m for EE, £15m for studies

Delivery of Phase 2 and project assessment

Phase 2 of the IETF will be delivered by BEIS and will continue to allocate funding on a competitive basis. Studies, energy efficiency deployment, and deep decarbonisation deployment will be run as three separate competition strands.

Energy Efficiency (EE) Deployment Projects	Deep Decarbonisation (DD) deployment projects	Feasibility and Engineering Studies
<ul style="list-style-type: none"> • Installation or retrofitting of industrial equipment to reduce energy use per production unit at an industrial site. • Phase 1 & 2 	<ul style="list-style-type: none"> • Installation of technology to reduce/capture emissions without improving energy efficiency; or a switch to a less carbon-intensive fuel. • Phase 2 only. 	<ul style="list-style-type: none"> • Assessment of the suitability, scope and requirements for undertaking an EE or DD deployment project at the site. • Phase 1 & 2

As in Phase 1, there will be a single assessment stage at the end of each window where applications are checked first against eligibility rules, and then will be scored against our assessment criteria. Applicants will need to evidence how their proposal will deliver on the IETF's core objectives of reducing emissions and energy consumption in a manner which represents value for money for the taxpayer.

For studies, the process and the criteria will be very similar to those used in Phase 1. Applications will be assessed against a range of criteria designed to test the deliverability, technical feasibility, benefits, added value and replicability and scalability of proposals.

When assessing both energy efficiency and deep decarbonisation deployment projects in Phase 2, the process has been slightly adjusted, although still incorporates the same criteria set out in the consultation. The expected costs and benefits of a project, its technical risk factor and its added value will be used to generate a benefit-cost ratio (BCR) score. This will be assessed alongside a score given for the project's deliverability, and as set out in the consultation, a new suite of assessment criteria categorised as "Transformational" which will be comprised of the following criteria:

- The project's net zero compatibility
- Replicability and scalability
- Novelty (applicable to DD technology only)

Section 8.5 explains how stakeholder and consultee feedback contributed to the development of the assessment criteria.

Where appropriate to ensure good value for money, larger deep decarbonisation projects (£15m+) will be subject to further scrutiny via an additional interview stage. An awards panel will determine the final portfolio to be recommended to ministers for funding.

Where windows are oversubscribed, we may adopt a portfolio approach whereby we balance the spread of projects across various factors so that the IETF funds a wide and varied selection of projects (more details available in the Phase 2 [guidance](#)).

Projects which are successful at award stage will need to pass due diligence before being offered funding. All successful applicants who accept the grant will need to sign a Grant Funding Agreement. All work on projects must be completed by 31st March 2025.

Successful applicants will need to supply data for compliance and benefits monitoring and evaluation by BEIS. Section 8.6 explains how stakeholder and consultee feedback contributed to development of the approach to monitoring and evaluation.

Table 3: Overview of Phase 2 developments

The table below shows an overview of key IETF design features for Phase 2 which are outlined in this document. Funding will continue to be awarded as grants through a competitive process for Phase 2.

Scheme design element	Final Phase 2 design following Phase 1
Who can apply?	<p>Eligibility for energy efficiency projects in Phase 1 was restricted to SIC codes 10-33, although data centres were also eligible. Eligibility in Phase 2 will be extended to include raw and recovered materials (mining and extraction SIC codes 5, 7, 8, 9, and recycling SIC code 38320). (See Section 8.1)</p> <p>Lead applicants must be the end beneficiary of the project and carry out an eligible industrial process as categorised by a defined range of eligible SIC codes. They may do so as a sole lead or as part of a wider consortium of project partners. (See Section 8.1) Please refer to our Phase 2 guidance for more detail on eligibility.</p>
Project Size	<p>Potential applicants should note that the IETF will fund a proportion of the project costs in line with UK subsidy regime rules, and Section 10: Subsidy Control, for further information.</p> <ul style="list-style-type: none"> • Energy efficiency deployment – projects can receive between £100,000 and £14m in grant funding. • Deep decarbonisation deployment – projects can receive between £100,000 and £30m in grant funding. • Studies (both EE and DD) • Feasibility – projects can receive between £30,000 and £7m in grant funding. • Engineering – projects can receive between £50,000 and £14m in grant funding¹⁴. <p>See Section 8.4.</p> <p>In Phase 1, applicants could bundle together projects at one site into a single bid. In Phase 2, project aggregation will be extended to allow companies to bundle together projects with the same outcome at different sites. (See Section 8.1)</p>

¹⁴ These are the minimum/maximum grant values that can be claimed for each project, but total eligible costs for each project must total a minimum of £30,000 for feasibility studies and £50,000 for engineering studies to be considered. Applicants should refer to the Subsidy Control sections of the IETF guidance for further information.

Scheme design element	Final Phase 2 design following Phase 1
What technologies should the Fund support?	Overall we have followed the direction set out in our initial consultation in 2019, with specific qualification criteria set out for each technology. More detail on these choices is available in Section 8.2 and the Phase 2 guidance .
What type of funding support should we offer?	We have done further research into alternative funding options and concluded that the IETF will continue to offer grant funding and will not offer support in the form of loans. (See Section 8.4)
How should the Fund be delivered?	The Phase 1 budget was increased to up to £70m (previously up to £30m) and its second window worth up to £40m was launched in Spring 2021. (See Section 8.5)
	Support for applicants in Phase 1 was offered by our delivery partner, Innovate UK. For Phase 2, the Fund will be delivered by BEIS. IETF communications and events will promote greater understanding of the IETF and give potential applicants the chance to ask questions in person. Further support will be offered by BEIS via a dedicated capacity building team. (See Section 8.5)
	Phase 2 will be split into 4 windows, worth a combined £220m, anticipated to run from September 2021 to January 2023. The average window length will be 3–4 months. (See Section 7) Companies will be permitted to reapply if unsuccessful in previous windows.
	Assessment criteria for both energy efficiency and deep decarbonisation deployment technologies will include a set of “transformational” criteria along with a benefit-cost ratio and a deliverability score. (See Section 8.5)

8 Phase 2 Government Response & Stakeholder Feedback

Summary

This chapter indicates how we have incorporated both responses to our original consultation, and market intelligence collected from stakeholders over the last eighteen months into the design of Phase 2. It acts as an additional response to the 88 responses received to the consultation on 'The Industrial Energy Transformation Fund Supporting industry on the path to net zero'. The consultation was published by BEIS on 10 October 2019, closing on 21 November 2019.

A response to the consultation was published in a separate document in June 2020¹⁵. The document presented a qualitative and quantitative analysis of the responses received and demonstrated how feedback had been incorporated into the final scheme design for Phase 1. In that document we committed to review aspects of the scheme design for Phase 2 as our understanding of Phase 1 progressed over the following year. Phase 2 scheme design has since been informed by lessons learned from Phase 1, further industry feedback and market intelligence, and the changing policy and economic landscape.

A breakdown of the consultees by company type can be found in the Phase 1 response, as can a detailed analysis of the responses to each consultation question.

We would like to thank all stakeholders who attended our events in London, Cardiff, Manchester, Glasgow, Belfast, and Middlesbrough and who submitted formal views to the Consultation. We would also like to thank stakeholders who engaged with the IETF's market intelligence team throughout the development and commencement of the scheme, whose feedback contributed significantly to Phase 2 policy development.

Phase 2 response: Overall approach to questions

The consultation consisted of 32 questions. Questions were designed to have an initial closed (yes/no) element followed by the opportunity to expand upon that answer.

In this Phase 2 response, we have revisited nineteen questions where the policy has been further developed, or where we stated in the Phase 1 response that we would address the question specifically for Phase 2. We have indicated how we have further considered not only the original responses from consultees, but also stakeholder feedback and market intelligence we have collected since the launch of Phase 1.

¹⁵ [The Industrial Energy Transformation Fund: Summary of responses to consultation](#), GOV UK, 2020.

8.1 Who can apply and project size

Consultation question:

1. Do you agree with our proposal to restrict eligibility for energy efficiency projects to organisations in manufacturing sectors as covered by SIC (Standard Industrial Classification) codes 10–33?

Summary of responses

75 respondents answered this question. There was a mixed response with some disagreement in consultation responses between those who wanted eligibility to be extended to additional sectors, and those who wanted it restricted to energy intensive manufacturing sectors.

In Phase 1 the decision was taken that IETF eligibility would cover the manufacturing sector, as defined by SIC codes 10–33, and data centres. The rationale for this is provided in the Phase 1 response.

Our Phase 2 response

As in Phase 1 energy intensity will not be a factor in deciding the eligibility of companies.

Noting the mixed views to the consultation question, intensive stakeholder engagement was carried out throughout Phase 1 for the purpose of investigating any unintended consequences or missed opportunities from our definition of sector eligibility.

SIC definitions and lead applicant rules

A key issue highlighted by stakeholder feedback, and noted in the Phase 1 process evaluation, is that companies may be carrying out an eligible category of industrial activity that is not reflected by the organisation's registered SIC code on their Companies House account. For example, an industrial site may be owned by a larger parent company which is registered under a code associated with services or supply chain activities. On this basis we have updated our eligibility rules to ensure that whilst SIC codes are used to identify eligible categories of activity, no organisation should be excluded from the fund because of a mismatch between their site level and company level records.

This adds complexity to the programme, as additional verification of industrial activities will be required, but we have had overwhelming feedback that this would be viewed positively by industry as it removes artificial administrative barriers. We have chosen not to remove the SIC definition entirely as this would remove transparency in our classification of eligible activities, and to ensure compatibility with other BEIS programmes which use SIC codes.

There was also a range of views on our requirement that the lead applicant must be the end beneficiary of the grant. This rule is designed such that we ensure we have a direct relationship with the owner of the industrial process which will be the focus of the study or investment. In practice this means that technology developers, energy service companies and

organisations such as trade associations cannot submit an application on behalf of an industrial site, though they may help to develop it. Whilst this restriction was found to be inconvenient it did not hinder the development of the vast majority of applications. We have chosen to retain this rule as it provides some reassurance that the industrial site is committed to the project, aware and willing to take on the responsibilities associated with receipt of a government grant including ongoing monitoring. We do however recognise that industrial contracts are complex and we will keep this rule under review.

Sector coverage

Throughout Phase 1 there was considerable interest from sectors outside of the manufacturing sector and data centres. The level of interest in the fund was welcomed and highlighted some potential gaps in the funding landscape, particularly for deployment projects where alternative sources of innovation support, which typically have a wider sector coverage, would not apply.

Sectors with significant latent demand were tested against the criteria below to decide whether there was a justification for expanding the sector coverage of the IETF.

- **Net zero opportunity** - Possible projects should deliver measurable and significant energy/emissions savings, which ideally should be replicable.
- **Fit within broader policy and regulatory framework** - The IETF should not fund areas already well supported by other public funding and/or regulation.
- **Fit with IETF objectives** - The IETF should only support measures that lead to a direct energy/emission saving within industrial processes.

We found there was a strong case for extending eligibility to raw and recovered materials, covering mining and extraction SIC codes 5, 7, 8, 9, and recycling SIC code 38320.¹⁶ There was considerable interest from these sectors in Phase 1 of the competition. Stakeholder feedback and analysis from the Industrial Decarbonisation Strategy showed that these sectors have similar processes, challenges, and technological solutions to the rest of manufacturing, and are typically highly energy intensive.¹⁷ There are also potential supply chain synergies as these sectors are major producers of inputs to manufacturing and bringing them in scope may allow for more innovative practices, particularly in terms of resource efficiencies.

We have not included the energy from waste sector in this definition as - though often integral to waste management and recycling processes - this would constitute energy production which falls outside of the scope of the IETF.

¹⁷ Industrial Decarbonisation Strategy, BEIS, 2020

Eligible activities	SIC codes
Mining and quarrying ¹⁸	05101 through to 05200; 07100 through to 08990; and 09900
Manufacturing	10000 through to 33200
Recovery and recycling of materials	38320 ¹⁹
Data centre	63110

We also considered adding agriculture (SIC codes 1–3), water (SIC codes (36–37), and oil and gas extraction (SIC code 6) as sectors which have key roles in the broader industrial supply chain and present a significant net zero opportunity.

- Agriculture was excluded on the basis that many of the energy efficiency and decarbonisation measures do not fall within our definition of eligible technologies, requiring adaptations to non-industrial processes and equipment. There would also be considerable overlap with initiatives offered by the Department for Environment, Food and Rural Affairs, and the Future Good Production Systems Challenge, aiming to help the sector move towards net zero emissions by 2040. Agriculture sites which undertake food processing are, however, encouraged to apply if this activity falls within the eligible SIC code definitions.
- The water sector was excluded on the basis that it is unlikely that there would be a direct emissions/energy saving for industry and because the regulatory context is too diverse from the rest of the sectors we wish to target. It was also identified that many of the potential projects were large in scale, and whilst they would drive significant energy efficiencies, with the limited IETF budget this may diminish our impact across wider industries and decarbonisation technologies. Whilst the water sector will not receive direct IETF support, we strongly encourage partnerships of the water sector and industrial sites on projects that would create on-site water use and energy savings.
- Oil and gas extraction was excluded on the basis that our fund is not intended to support the types of deployment technologies (carbon transport and storage infrastructures and energy production) that would best serve decarbonisation of this sector. However, we encourage this sector to work collaboratively with manufacturing industry in the development of “energy transition hubs”, where the IETF could support projects on industrial sites to link into the wider hub.

¹⁸ This excludes activities related to the extraction of gas or petroleum.

¹⁹ Activities associated with producing energy from waste are not eligible. Further details are provided in the technical eligibility section.

Consultation question:

3. Do you think that the IETF should allow firms to aggregate their bids?

Summary of responses

53 respondents answered this question and could choose multiple options, and the majority of responses were in favour of aggregation of bids in some form. Respondents who thought that firms should be able to aggregate bids argued that it has the potential to maximise funding through economies of scale and could be an effective way of supporting technology-specific projects that can be replicated across a number of operations.

In our Phase 1 response, we stated that the IETF would allow multiple projects to be combined into one application, providing these were located at a single site.

Our Phase 2 response

Aggregation, as outlined above, will also be permitted in Phase 2, with the added option for companies or their parent company to bundle together projects across multiple sites into single applications. This will be permitted where all proposals relate to the same strand of the competition.

This type of aggregation was ruled out of Phase 1 as it could not be accommodated within the scope of the original application and delivery model. In Phase 2, prompted by stakeholder feedback, we have sought to overcome these obstacles. In this way, we hope the IETF will be more accessible to smaller companies, who will be able to aggregate proposals to meet minimum thresholds, and to reduce the burden on applicants wishing to roll out measures across multiple sites.

We are not permitting aggregation across different competition strands, for example energy efficiency measures cannot be aggregated with decarbonisation measures, nor can studies be aggregated with deployment projects. This is because the outcomes of the proposals are different and will be assessed against different criteria.

Consultation question:

4. If you think firms should be allowed to aggregate bids, what restrictions could be put in place to prevent misuse of the aggregation system?

Summary of responses

37 respondents answered this question. 10 respondents suggested that a cap should be placed on aggregated bids to prevent misuse of the aggregation system in terms of number of projects or number of sites supported. Eight respondents stated that aggregated bids should demonstrate additional value compared to a non-aggregated bid, for example, being able to demonstrate significant cost savings over non-aggregated bids.

The point was also made that all elements of bids must meet the IETF's eligibility criteria in order to prevent ineligible activities forming part of an eligible application.

Our Phase 2 response:

As in Phase 1, any proposal which does not meet the IETF's eligibility criteria will not pass assessment.

Aggregated projects will be separable, meaning that each project will be assessed on its own merit. This is a change from our Phase 1 process and will give firms the confidence to aggregate in the knowledge that one weaker project will not make their entire application unsuccessful.

The number of projects which can be aggregated in one application is limited to five. This is so that the IETF continues to fund projects with high impact and strong value for money. In the case of studies, which can be relatively low in value, a further restriction will require that each individual study forming part of the aggregated bid must meet the minimum cost criteria. As the minimum threshold for deployment projects is substantially bigger, the minimum threshold can be applied to the total costs of the aggregated deployment application.

It is left to the applicant's discretion whether they choose to aggregate bids into one application or apply separately. Applicants should consider whether there are any interdependencies between the bids which assessors should be aware of, and how to ensure they have presented their strongest overall application(s).

More information on project aggregation can be found in the Phase 2 [guidance](#).

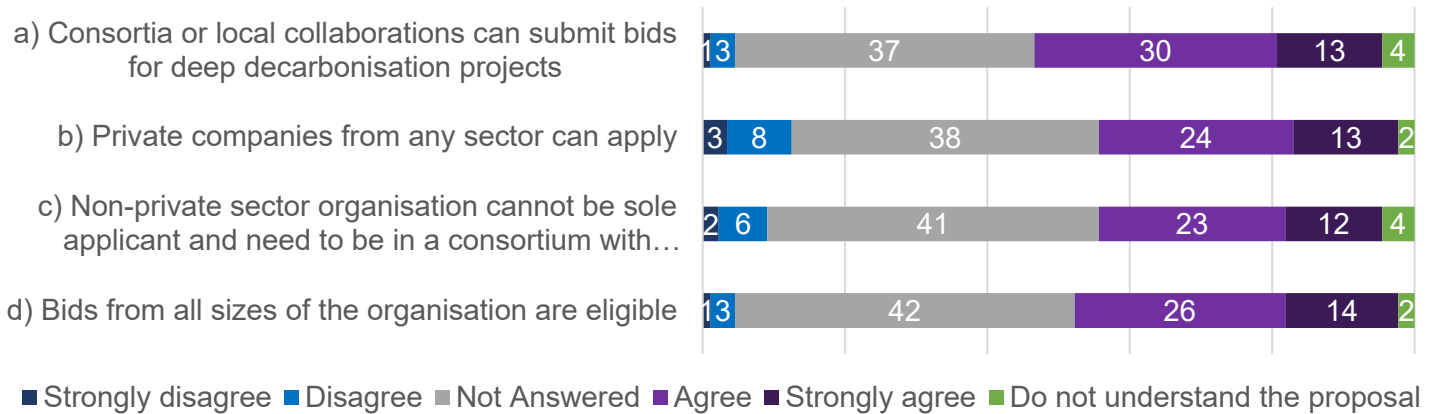
Consultation question:

7. Please give us your views on our proposals for eligibility for deep decarbonisation projects.

In the consultation, we proposed that private companies from any sector would be eligible to apply as sole applicants or as part of a consortium with other companies, academics, research or public sector organisations. To be eligible, applicants from outside the private sector would need to be in a project consortium with one or more private sector organisations and not be sole applicants. Bids from all sizes of organisation would be eligible. There were four proposals within question seven, presented here as proposals a, b, c and d.

Summary of responses

Q7 : Please give us your views on our proposals for eligibility for deep decarbonisation



Our Phase 2 response

Consultees' feedback showed strong support for each of the four proposals. We will allow applications from consortia on the same basis as Phase 1. Allowing collaboration across sectors and organisation types will help applicants to reduce knowledge gaps through collaboration and make use of expertise through partners, as well as share the burdens of costs and work amongst businesses.

The lead organisation must be from a private sector company based in the England, Northern Ireland, or Wales, and from an eligible sector which also owns the industrial process which will be subject of the project. The site of this process must be located in England, Northern Ireland, or Wales. Stipulating that the lead applicant must own the industrial process avoids the complicated financial and compliance risks which come from allowing a separate company to apply for funding on a process which they do not own. Sector eligibility will be as defined in our Phase 2 response to Question 1.

For detailed information on eligibility for Phase 2, please refer to Phase 2 [guidance](#).

8.2 What technologies should the Fund support?

Consultation questions:

8. Please give us your views on our proposals for which technologies would be supported to improve energy efficiency.

10. Do you agree with the kind of deep decarbonisation activities the IETF is looking to support?

11. Please give us your views on our approach towards deep decarbonisation technologies.

- a. The IETF will support technologies that are either ready for demonstration in an operational environment or ready for deployment (TRL 7 or higher), keeping in scope industrial carbon capture, fuel-switching options and material efficiency.
- b. The IETF will not provide support solely for standalone production projects or transport and infrastructure projects.

Our Phase 2 response

We answered consultees on these questions in the Phase 1 response and the design will be carried over for Phase 2. Technological eligibility for energy efficiency projects will remain as stated in the Phase 1 response, and technological eligibility will not be changed from Phase 1 to 2. We anticipate that certain energy efficiency technologies will mature as time progresses while the Fund is delivered, making them more affordable and reducing payback periods to the extent that projects will no longer be eligible for the Fund.

Our approach on deep decarbonisation support will be as stated in the Phase 1 response, except for our approach on hydrogen as detailed in the following sub-question, 11b and response.

As highlighted in the Industrial Decarbonisation Strategy, we cannot predict the exact mix of technologies that will get industry to net zero, although we know that supporting a broad range of innovative technologies should put us in a good position to reach this goal. The IETF will remain technology neutral for Phase 2, supporting eligible projects where they are consistent with businesses' pathways to net zero.

Section 11 covers how BEIS policies and ambitions should further support strategically important and eligible deep decarbonisation technologies such as CCUS and hydrogen. There is more information about technology eligibility for Phase 2 in the Phase 2 [guidance](#).

Our overall approach to the major deep decarbonisation technologies is as follows:

Carbon Capture Utilisation and Storage (CCUS):

As identified in the Ten Point Plan, CCUS is a priority and essential to medium/long-term emissions reductions in industry. In recognition of the importance of innovative deep decarbonisation technologies, the IETF should support both CCUS studies and deployment projects. It is critical that the UK acts now to demonstrate CCUS from a wide range of industrial sources, since CCUS from industrial sources can be expensive and technically challenging.

The scope of IETF projects will focus on the on-site equipment relating to the industrial process itself, but we understand that the nature of CCUS technologies is that projects often rely on wider infrastructures. Any assessment of projects for IETF funding decisions are for IETF purposes only and will not be used for decisions made as part of the CCUS cluster sequencing process. To understand the interactions and overlaps with the CIF and industrial carbon capture business model, please refer to Section 11.

The IETF should provide capital support for carbon capture technologies on-site, where the captured CO₂ will be utilised in an industrial process (on or off site, for which there can be a payback) or transported and stored. The intention is for all industrial process carbon capture technologies to be eligible. This includes post combustion; oxyfuel; pre-combustion; and emerging carbon capture technologies such as calcium looping, membranes, and others. Technologies must be deployed on an existing eligible industrial process on an industrial site.

For upcoming windows, we have not set a requirement for a minimum capture rate of the total CO₂ content of flue gases or similar. We want to mitigate the risks of locking in technologies that do not optimise emissions abatement potential, so the capture rate will be reviewed in future windows and a minimum rate introduced if appropriate.

Accurate monitoring is important for determining the CO₂ capture rate, CO₂ quality and quantity of CO₂ captured from the industrial facility and sent for storage or utilisation. This is a key data point for the IETF in terms of measuring benefits, but also more widely as this data will be needed to ensure accurate payments between parties across the CCUS chain.

Fuel Switching: Gas Grid

The Ten Point Plan and the Energy White Paper both outline how government plans to investigate decarbonisation of national and local gas grids through blending with low carbon fuels like hydrogen and biomethane. The IETF should support fuel switching projects where they switch from more carbon intensive fuels to the gas grid in anticipation of later gas grid decarbonisation.

Gas sourced from the national grid was chosen as the reference carbon intensity, such that any switch must be to a fuel with a carbon intensity equal or below this threshold at the date of implementation. This will provide a well understood but increasingly high standard for fuel switches to meet as the gas grid decarbonises and its published intensity is re-assessed.

The IETF should also support hydrogen-ready projects that involve a switch to the gas grid, or an upgrade of their existing gas fuelled equipment due to the decarbonisation pathway associated with the current gas-grid. .

Fuel Switching: Hydrogen

Hydrogen is also a priority identified in the Ten Point Plan, and the government is committed to developing a low carbon hydrogen economy with an ambition for 5GW of low carbon hydrogen production capacity by 2030. Hydrogen production will be supported by the Net Zero Hydrogen Fund and proposed hydrogen business model, providing capital and revenue support respectively. The IETF should support the expansion of hydrogen applications in UK industry and help develop an industrial user base for low carbon hydrogen as a fuel. The IETF should fund fuel switching measures and support generating industrial demand for hydrogen production – bolstering the commercial case for hydrogen production projects. For more information on why the IETF will not support hydrogen production please refer to sub question 11b below.

We are ensuring through eligibility and assessment criteria that IETF grant funding is only awarded to hydrogen fuel switching projects where there is clear evidence of a pathway to a net zero compliant low carbon hydrogen fuel supply. For this reason:

- We should support projects that will make sites “hydrogen ready”, provided that there is a credible and evidenced plan for switching the site to low carbon hydrogen within a “reasonable” timeframe, capped at 5 years after project completion (see monitoring rules below).
- We should support projects that will enable sites to switch to low carbon hydrogen where a non-low carbon source (such as natural gas) may be used on a transitional basis until a low carbon supply is available. As above, there must be a credible and evidenced plan for the switch within a maximum of 5 years of project completion.
- We should support projects that will enable a site to switch to a blended hydrogen fuel supply. This will be provided that: the site is supplied with a blended fuel within 5 years of project completion; the overall blend is not more carbon intensive than the gas grid; and the blended supply incorporates low carbon hydrogen. Projects of this type have typically proposed a blend of natural gas and hydrogen from an identified source. Where there is an opportunity to increase the low carbon hydrogen share of the blend the site should evidence a credible plan to achieve this.

Once a low carbon hydrogen fuel standard is published, we will update Phase 2 guidance and eligibility criteria for future windows to refer to it, which will provide more clarity to applicants and project holders.

Fuel Switching: Electrification

These types of projects can provide high reductions in emissions, especially where they involve a switch from higher carbon fuels. As identified in the Industrial Decarbonisation Strategy, sites beyond the reach of deep decarbonisation infrastructure must rely on measures like electrification to reduce emissions. Key electrification technologies are also already commercially available, such as heat pumps that can reduce energy demand from industrial processes, particularly in low-temperature heat applications.

Supporting low regret fuel switching to electrification in the 2020s is part of the Government’s strategy, since, as new technologies emerge and renewable electricity prices continue to drop, electrification will become a more attractive option for industry. In providing capital support the IETF can improve the commercial case for these projects, though we understand that high ongoing operational costs will make these sorts of projects difficult to justify in some sectors. As set out in the IDS, elsewhere in BEIS we will continue to engage with industry and consumers to ensure that fairness and affordability sit at the heart of our approach to decarbonising the energy system.

Biomass:

Biomass is a finite resource. The Climate Change Committee (CCC) recommends its use in industry should be limited and, where possible, combined with carbon capture and storage

(BECCS). The IETF has therefore balanced the need to ensure best use and limited application of biomass in industry with the understanding that for some industrial sites, biomass offers one of the only viable methods for reducing emissions.

The IETF considers biomass proposals where these relate to a solid fuel of recent biological origin. Examples of fuels that meet this definition and are considered eligible feedstocks for IETF grant funded biomass projects include but are not limited to:

- Wood logs, chips, and pellets;
- Straw and agricultural residues;
- Paper and pulp residues from the paper manufacturing process; and
- Biomass residues from the food processing industry.

The IETF does not support projects which will convert biomass to biofuels for later use or to upgrade to biomethane for injection into the gas grid. To be eligible for the IETF, biomass applications must demonstrate that the source of the biomass considered is sustainable, and its use will not result in adverse environmental impacts such as air pollution or soil erosion, through compliance with existing local and national environmental regulation and biomass sustainability criteria.

The output from the biomass combustion must be used in high temperature applications in which the operational temperature of the industrial process being heated is at least 240 degrees Celsius. The rationale here is that a wider array of alternative technologies is commercially available for lower temperature applications, whilst decarbonising high temperature heat is more challenging. The minimum temperature threshold was reviewed in Phase 1 following considerable stakeholder feedback, and the decision was made to maintain the rule based on the wider strategic need to limit biomass and encourage the uptake of alternative low carbon fuels in industry.

Applicants will also need to justify the reasons for their technology choices over alternative decarbonisation options within scope of IETF funding. Successful biomass proposals will therefore need to demonstrate that they are net zero compatible, and that biomass is the best available decarbonisation technology. This will form part of the assessment of the transformational nature of the proposal.

We have not made it a requirement that biomass projects must incorporate carbon capture technologies in the short or longer term. Such as requirement risks conflict with our intention to support biomass at sites with limited decarbonisation options, as such sites may not be located near proposed carbon capture transport and storage networks.

Alternative fuels, such as waste, may also contain bio-derived contents or have a similarly broad range of environmental impacts to consider. Please refer to the Phase 2 [guidance](#) for further details, including rules on wider bio-derived fuels which were informed by the principles laid out in the consultation.

Following considerable stakeholder feedback on the matter, we note that standalone biomass plants, anaerobic digestors and energy from waste plants are not supported to apply to the IETF as eligible industrial sites. These sites are ruled out of scope on the basis that the IETF targets industrial processes and does not support adaptations across the wider energy system.

Eligibility rules for biomass will be kept under review, and will be informed by any further recommendations from the Bioenergy Strategy due to publish in 2022. This will review the amount of sustainable biomass available to the UK and how this could be best used across the economy to help achieve our 2050 net zero greenhouse gas emissions target and our wider environmental targets.

Fuel switching: Off gas grid sites:

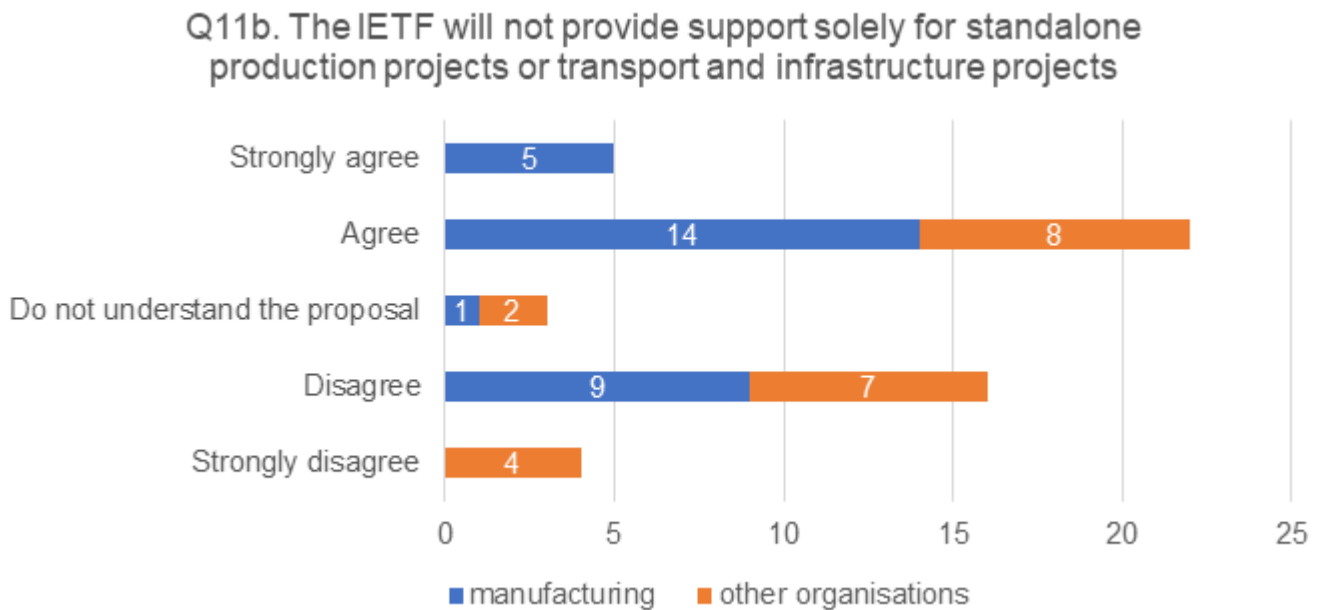
Whilst IETF eligibility is not contingent on a site's geographical location within England, Wales, and Northern Ireland, we understand that specific challenges are faced by dispersed, off gas grid sites in decarbonising. This is often due to lack of access to current and proposed distribution infrastructure for low carbon fuels or means to transport and store CO₂. Despite the limited decarbonisation pathways available at these sites, there remains significant potential for emissions savings since they are typically reliant on highly carbon-intensive fossil fuels such as oil, coke, and coal to meet their current energy needs.

For the majority of eligible industrial sites, the IETF will only support fuel switches from an existing fuel to a new fuel that has a carbon intensity equal to or below that of the gas grid. However, for sites off the gas grid which can demonstrate that no other decarbonisation options in scope of the IETF are possible at the site, fuel switches to biogas, biomethane or "transitional fuels" are permitted. By transitional fuels we mean Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) which will lead to short term emissions reductions where the switch is away from oil and coal, but which are themselves more carbon intensive than the gas grid, which is also on a decarbonisation pathway. The aim in supporting these fuel switches would be to support a site in eventually converting to lower carbon fuels such as bioCNG, bioLNG, and in some cases perhaps even hydrogen.

Widening eligibility for sites off the gas grid to transitional fuels during the lifetime of the IETF is important because of the length of time between industrial equipment replacement cycles. Industrial equipment replaced or upgraded during the 2020s could operate for decades and, in some case, extend beyond 2050. Without support for industrial sites to switch to lower carbon fuels these sites may be locked in to using equipment that runs on higher carbon intensive fuels up to the net zero target date without additional support in the future.

For further specific rules on eligibility for off gas grid sites please read the Phase 2 [guidance](#).

Figure 12: Summary of responses received by sector for question 11b



47 respondents answered this question. Of those that answered: 57% strongly agreed or agreed, and 43% strongly disagreed or disagreed with our proposal. Some respondents who disagreed saw a clear role for the IETF in supporting low carbon hydrogen production, and that interaction with the Low Carbon Hydrogen Production Fund will need to be made clear.

Our response

Our Phase 1 response stated that the IETF would not provide support for standalone fuel production projects due to funding available from other schemes. These included the then Low Carbon Hydrogen Production Fund (now the Net Zero Hydrogen Fund) and Renewable Heat Incentive. We also stated that support would not be provided for transport or infrastructure projects. This is because the focus of the IETF is on reducing emissions from industrial processes in the UK, which was widely supported by consultees. Please refer to the Phase 1 document for full rationale.

We also stated that projects combining low-carbon hydrogen production and use on-site would be eligible for funding through the decarbonisation strand of the IETF, if the hydrogen was not then exported. In Phase 1, the IETF did not support decarbonisation deployment projects, so this rule was not tested. For Phase 2, we have reviewed the position considering changes in the wider funding and policy landscape. As set out in the Ten Point Plan and the Hydrogen Strategy²⁰, published in Summer 2021, support for hydrogen supply will be made available through the Net Zero Hydrogen Fund (launching in early 2022), and the proposed hydrogen business model. The IETF will therefore not support hydrogen production, in order to provide clarity to applicants on the sources of potential funding.

²⁰ The UK Hydrogen Strategy can be found [here](#).

8.3 What type of funding support should we offer?

Consultation questions:

16. Out of the following funding mechanisms – grants, loans, guarantees, and equity – which do you prefer for energy efficiency projects?
17. Would you like us to consider other potential funding mechanisms for energy efficiency projects?
18. Out of the following funding mechanisms – grants, loans, guarantees, and equity – which do you prefer for deep decarbonisation projects?
19. Would you like us to consider other potential funding mechanisms for deep decarbonisation projects?
20. What type of energy efficiency projects would be suitable for a Government loan?
21. What value could an IETF loan scheme add to private provision of loans?

The consultation proposed grants; loans; guarantees; and equity as funding mechanisms for energy efficiency projects.

Summary of responses

Responses to these questions indicated that the majority of responses were in favour of grants, with some support for loans as the second most popular option.

In our Phase 1 response, we stated that we would consider the case for providing some IETF Phase 2 funding for energy efficiency projects in the form of loans. This was because a number of responses to Question 19 mentioned the potential for a loan scheme for energy efficiency projects.

In the case of deep decarbonisation projects, the nature of these technologies means they are likely to incur increased operational costs, and extensive or non-existent payback periods. Therefore, a loans option is unlikely to overcome the barriers faced with these technologies and the provision of non-grant funding was not explored further for deep decarbonisation.

Our Phase 2 response on loans

We have now investigated the option of provision of loans for energy efficiency projects and found that it is unlikely that this type of IETF intervention would add value.

We found that in order to be attractive to industry loans would need to be offered against the full cost of the energy efficiency investments and have highly preferential terms. Whilst the government would eventually recover most of its funding, in the short term we could support fewer energy efficiency investments than if we provided partial grant funding towards the investment.

Loan financing also does not alone overcome the barriers of high payback periods, and it is these types of projects (which the market will not undertake itself) that the IETF aims to support. Grant funding can overcome this hurdle in two ways: firstly, by reducing the upfront costs of capital investment and therefore bring paybacks closer to acceptable investment thresholds; and secondly, by de-risking technologies by subsidising first movers to demonstrate these technologies at scale providing data and trusted case studies to encourage wider uptake.

The IETF aims to complement the private finance market, which is increasingly offering loan and lease options for mature energy efficiency technologies. If the IETF offered loans it could have the adverse effect of crowding out the private market rather than stimulating new activity.

For the reasons stated above, and based on considerable stakeholder consultation, we have therefore decided against offering loans for energy efficiency projects. All awards from the IETF will be awarded as grants. This position will be kept under review, and applicants should note other potential sources of non-grant funding available in this area.

Government initiatives offering alternative finance options continue to be developed, including Sovereign Green Bonds²¹, and the super-deduction²². The government will issue its first Sovereign Green Bond in 2021 subject to market conditions – and intends to follow up with a series of further issuances to meet growing investor demand for these instruments. These bonds will help finance projects that will tackle climate change, finance much-needed infrastructure investment and create green jobs across the country.

The super-deduction will last until 2023, encouraging firms to invest in productivity-enhancing plant and machinery assets that will help them grow, and to make those investments now, as companies recover from the pandemic. Subject to meeting the eligibility criteria of both programmes, industry can apply for support under both the IETF and the super-deduction, but the super-deduction can only be used against the percentage of private match-funding rather than against the full cost of the equipment.

8.4 Application process

Consultation question:

24. Do you support Phase 2 having a single application window or multiple application windows?

25. If you support multiple application windows, how long do you think each window should be, and why?

²¹ [Chancellor sets out ambition for the future of UK financial services](#), GOV UK, 2020.

²² [Guidance: The Super Deduction](#), GOV UK, 2021.

Summary of responses

Q24. Do you support Phase 2 having a single application window or multiple application windows?

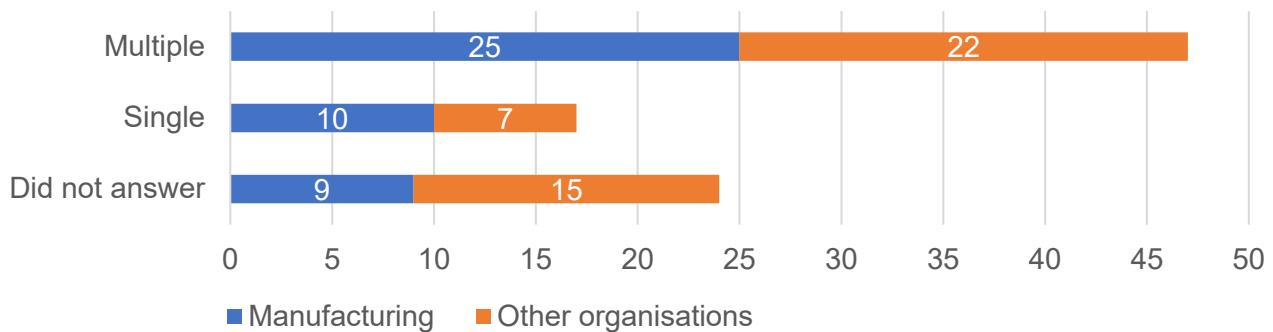


Figure 1: Summary of responses received by sector for question 24

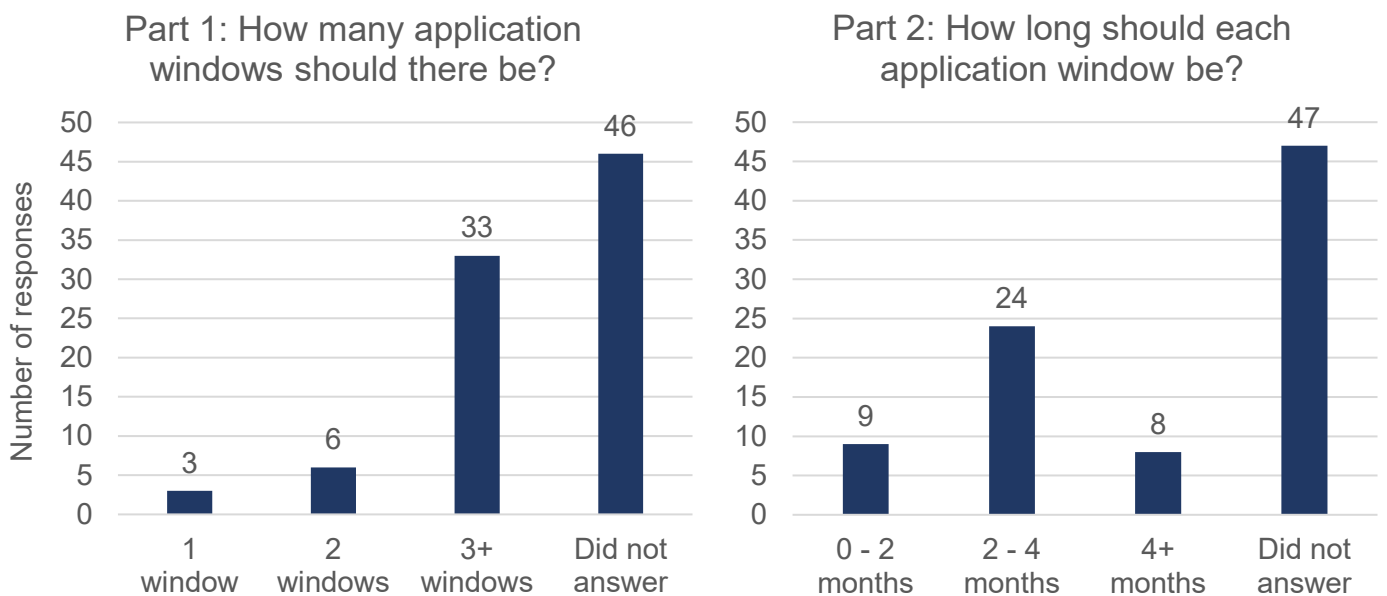


Figure 25: summary of responses for how many application windows there should be

Figure 26: summary of responses for how long each application window should be

Our Phase 2 response

Feedback highlighted that flexibility is important and multiple windows enables this by allowing businesses to align their investment plans to application windows. This also requires clear communication of application window timescales. We also heard that ensuring enough time between funding windows would give companies time to prepare bids. Furthermore, that it would give those that might have been unsuccessful in a previous window time to consider feedback and resubmit an improved application. The majority of consultees responding to

question 25 suggested that there should be three windows or more, and that each window should be 2–4 months long.

In response we are aiming to split Phase 2 into four windows, which should last 3–4 months on average. Our likely window structure and funding decision points are set out on p16. These are likely to run from September 2021 to January 2023, with the purpose of enabling industry to apply in line with internal investment and replacement cycles. To give companies enough time to prepare bids we are providing indicative windows now. Windows close in 2023 to enable assessment, award, and completion of all projects by 2025. Running a series of consecutive windows enables businesses more opportunity to apply at a time which is compatible with their own cycles.

8.5 Project assessment criteria

Consultation question:

26. Do you agree with the proposed assessment criteria for energy efficiency projects?

27. Do you agree with the proposed assessment criteria for deep decarbonisation projects?

28. Please suggest the types of evidence that would help to prove the additionality of a given project at application stage.

Our Phase 2 response on assessment criteria

Consultees responded positively to each set of proposed assessment criteria for both energy efficiency and deep decarbonisation projects. The energy efficiency assessment criteria were applied and a benefits-cost ratio (BCR) scoring system was calculated and used as a minimum threshold for energy efficiency projects in Phase 1.

When assessing both energy efficiency and deep decarbonisation deployment projects in Phase 2, we will add a suite of assessment criteria categorised as “Transformational” to be assessed alongside the BCR. This was proposed for deep decarbonisation in the consultation and positively received by consultees. It will also be applied to energy efficiency deployment projects in a proportionate manner that allows energy efficiency applicants to demonstrate their potential through answering enhanced questions from the technical concept and feasibility areas of Phase 1 assessment. This is so that all projects, regardless of technology, are transformational. It should provide assurance that technologies funded by the IETF are genuinely compatible with net zero. This approach will also allow for a more holistic and detailed assessment of projects in the event that any application windows are oversubscribed.

The transformational assessment criteria includes an assessment on:

- The project’s net zero compatibility
- Replicability and scalability

- Novelty (applicable to DD technology only)

We will continue to assess deliverability & risk, technical concept & feasibility and value for money/cost-effectiveness, developing a full economic and strategic appraisal of projects. To understand how we have incorporated lessons learned from Phase 1 to 2 into our thinking on assessment criteria, please refer to p41. For more information on how Phase 2 applications will be assessed and the types of evidence required, please refer to the application [guidance](#).

8.6 Evaluation, monitoring and reporting

Consultation question:

29. What topics would you find useful for BEIS to investigate through any monitoring and evaluation, to develop more effective policy to deliver the objectives of the IETF?

Summary of responses

42 respondents answered this question.

From the responses, we have identified five common themes:

- Respondents wanted to see monitoring against our main policy objectives (emissions reduction and bill savings);
- Several respondents encouraged BEIS to assess the forecast benefits of supported projects against actual delivery;
- The replicability of funded projects was highlighted as a key area to monitor;
- Respondents encouraged BEIS to log challenges and issues during project delivery, including barriers to action following FEED/feasibility studies.; and
- Several respondents wanted BEIS to record the technology type and geographical region of supported projects.

There was limited content in the responses on how to deliver monitoring and evaluation. However, some respondents highlighted issues of proportionate burden on applicants and beneficiaries of the scheme, saying that “the heavier [monitoring and evaluation] is, the more budget and resource has to be devoted to it, sometimes to the point of distracting from the real purpose.”

Our Phase 2 response

We responded on this question in our Phase 1 response. We have further developed our evaluation, monitoring and reporting approach based on lessons learned (see more detail in Section 9) and the themes identified by consultees.

We have identified benefits (see Section 5) which we will actively monitor through a measurement and verification plan and regular site visits and reports, in order to monitor against our main policy objectives.

Consultees made it clear that we will need to consider the proportionate burden of our approach to monitoring. To ensure that monitoring will not be overly burdensome, monitoring will be biannual until project completion and then proportionate for the next five years (this is likely to involve biannual collection and analysis of monitoring data, with occasional site visits, depending on project size).

The replicability of funded projects was highlighted as a key area to monitor and we will track this through interviews and surveys. Following the delivery of the feasibility and engineering studies, replicability and “barriers to action” are interrelated issues which we will consider in our evaluations. Recommendations in the interim Phase 1 process evaluation, delivered on 31st March 2021, have already fed into the design of Phase 2 of the fund, and have been published alongside this document ([Phase 1 process evaluation](#)). More detail on how these recommendations have been implemented can be found in Section 9.2.

The interim evaluation also includes proposals for the following stages of the process evaluation and the final impact evaluation. For more detail on these recommendations please refer to the Interim Phase 1 process evaluation document. The final Phase 1 process evaluation will be published after the scheme ends at the latest, or in 2023 at the earliest.

9 Lessons Learned

The lessons below were learnt from the delivery of Phase 1 of the IETF, stakeholder feedback received, and lessons learned from other BEIS schemes which have arisen since the launch of the Fund. These do not include lessons the IETF took from other schemes during the development of the Fund prior to its launch, as these were taken into account for Phase 1.

The IETF team has sought out opportunities to learn from previous application rounds of the Fund and other public sector policies and initiatives. This focussed on those with a similar remit in terms of objectives, the scale of support offered, and sectors targeted. The team engaged with BEIS funds like the Regional Growth Fund (RGF), Heat Networks Investment Programme (HNIP), the Industrial Heat Recovery Support programme (IHRS) and the Industrial Energy Efficiency Accelerator programme (IEEA). We also engaged with other government departments such as Defra, HM Treasury, and the Infrastructure and Projects Authority, along with representatives from the Devolved Administrations.

Evidence from both published and informal evaluations of BEIS schemes, including the Climate Change Agreements (CCAs), were also considered.

9.1 Lessons Learned from Phase 1 for Phase 1: Spring 2021

Lessons learned from the first round of applications and other schemes, which resulted in changes implemented ahead of launching Phase 1: Spring 2021, can be found below.

Lower Minimum Grant Thresholds

Stakeholder feedback and market intelligence collected during the first window indicated that the minimum grant threshold should be lowered. This was because many eligible, quality proposals across companies of all sizes and sectors were considerably less expensive than the minimum threshold would allow. The decision was also taken to make the scheme more accessible to SMEs, though we recognise that the thresholds will remain difficult to achieve for many small businesses. As a fund with a large potential set of applicants, we must balance accessibility against the need to be able to apply rules around the application process, assessment and monitoring equally to applicants.

Following an assessment of market intelligence data on potential applications, the minimum cost thresholds for feasibility studies were lowered from £60,000 to £30,000. Minimum cost thresholds for engineering studies were lowered from £100,000 to £50,000. EE and DD deployment minimum grant thresholds were lowered from £250,000 to £100,000.

We have seen evidence from the Spring 2021 window that lowering the thresholds has had a positive impact on application numbers, as compared to the first application window where higher thresholds were applied.

Clearer Applicant Guidance

The first window of applications and our interim Phase 1 process evaluation highlighted that the clarity of applicant guidance should be improved since there was a relatively high incidence of applications being found ineligible. For example, it was flagged to us that using SIC codes to define eligibility caused some confusion for applicants (more information in Section 8.2). We amended the guidance for Phase 1: Spring 2021 to clearly state that the SIC code assigned to the industrial site would determine whether the project was eligible. This clarification is also included in the Phase 2 guidance.

There were also some clarifications made to the technological scope guidance to add more details to address frequently asked questions. This included clarifications around the eligibility of combined heat and power plants, heating and cooling technologies and renewables.

There were some enquiries and applicant confusion surrounding the portion of their total investment costs they could request as a grant. Guidance was redrafted to increase clarity and signposting on how we establish eligible costs through use of a reference investment case.

9.2 Lessons Learned from Phase 1 for Phase 2

Applicant Support

Due to the high level of applicant queries and experience from other schemes, it was clear that it would be beneficial for applicants to have access to greater levels of support when applying. Market intelligence collected by the team indicated that companies face significant capacity challenges in making DD and EE investments. These included not just the prohibitive costs of

these types of technologies, and uncertainty about the policy and regulatory environment, but also:

- Lack of knowledge about site and sector specific technology solutions, and skills gaps
- Difficulties and high search costs of finding suitable technology and industry partners
- Inexperience at taking part in competitive grant funding programmes

Applicant experience in Phase 1 has indicated that applicants should be encouraged to use eligibility screening services early, and in Phase 2 applicants will be offered increased 1:1 support.

In Phase 1, support for applicants was offered by Innovate UK. In Phase 2, this level of support will be continued through a dedicated team within BEIS. The IETF is also partnered with KTN, an organisation experienced in engaging industry and supporting matchmaking and knowledge sharing.

The knowledge gap on how to undertake and implement green projects is also a key barrier to applying and completing applications correctly. This is a particular problem with SMEs who often do not have the funds for a dedicated energy manager or external expertise that is required to inform them of necessary changes.

While we already work to share the findings of projects supported by the Fund, more is now being done to work with local groups (like Growth Hubs, Local Enterprise Partnerships, and others) which have a regional presence and an established relationship with companies, to bridge some of the knowledge gaps. Ahead of Phase 2, the team will provide case studies and tangible examples of technologies, for example via our Virtual Technology Marketplace. This is a site, hosted by the Knowledge Transfer Network, that applicants can use to browse technology videos, and find out more about energy efficiency and decarbonisation technology options for their site²³.

These services will be provided in a fair and transparent manner and be open to all applicants to use on a voluntary basis.

Monitoring and Evaluation

A key learning from other schemes is that monitoring and evaluation should be proportionate, to avoid placing an undue burden on firms. Respondents to our consultation also emphasised this point. Talks with IETF delivery partners for Phase 2 will therefore ensure that reporting requirements are not overly burdensome on the grant recipient.

Some projects can have long lifetimes which may go beyond the length of the scheme timelines, which makes reporting on any benefits challenging. In response, the IETF stipulated that projects should be completed in the lifetime of the fund so that these benefits can be recorded. At the start of a project an energy baseline will be established along with the methodologies to be used to calculate future energy and emissions savings. Once the projects

²³ To express an interest in accessing the Virtual Technology Marketplace, access this [site](#).

are built, monitoring will occur for the following five years to ensure sufficient data has been collected. This data is compared against the baseline to understand savings and benefits and will inform future policy development.

Assessment Criteria

Whilst EE deployment projects were asked questions about their transformational nature in Phase 1 (such as replicability, scalability, and compatibility with net zero), these were part of broader questions on technical concept and project overview and so did not fully explore the importance of EE technologies in our progress towards net zero. Consequentially, questions previously included under the 'technical concept and feasibility' criterion are now a separate 'transformational' criterion for EE deployment projects, which highlights this element of the questions more clearly to applicants and assessors.

Stakeholder feedback reported that the IETF could have given more detail around the assessment criteria throughout Phase 1, including details on whether any minimum thresholds for energy and emissions savings would be applied. As a result, greater detail on the assessment process and scoring system will be made available to applicants in the guidance.

9.3 Recommendations from Interim Phase 1 Process Evaluation

Our interim [Phase 1 process evaluation](#) has been published alongside this policy statement. Find the key recommendations for Phase 1 and how we have implemented those below.

Recommendation	Action
<p>The Objectives and Outcomes in the Theory of Change should have timing and quantification detail added to them as a priority.</p>	<p>We have developed quantified and time-bound metrics to align with most elements of the Theory of Change. Work to further incorporate quantification into the Theory is ongoing as the policy continues to change and develop, and this will feature in regular Theory of Change reviews.</p>
<p>Steer proposed adding a four-fold typology of 'strategic added value' (SAV) to the Theory of Change to incorporate the fund's role in delivering; Strategic Leadership and Catalysis, Engagement, Synergy, and Leverage regarding national decarbonisation and energy efficiency. Benefits reporting should include qualitative</p>	<p>We will assess 'strategic' impacts of the IETF through qualitative research as part of formal policy evaluation. In addition, Government regularly reviews the Fund (including with independent peer reviewers) as part of governance processes. Future Theory of Change reviews will consider whether and how effectively these more intangible benefits could be incorporated. To minimise reporting burden on industry, we have decided for now to continue</p>

Recommendation	Action
<p>effects alongside formal quantified Output/Outcome metrics; the combination of qualitative and quantitative effects will comprise the IETF's long-term legacy.</p>	<p>restricting formal benefits reporting just to more easily measurable quantitative metrics.</p>
<p>The Theory of Change should operate as a 'living document' to support the IETF's management, being reviewed explicitly and formally on a regularised six-monthly cycle; this can build on the review work which the IETF team reports is now occurring.</p>	<p>We intend to review the Theory of Change throughout the project lifecycle to maintain a 'living document'. Our evaluation activity will explore the extent to which implementation is aligning with theory.</p>
<p>The IETF's ongoing implementation should remain alert to, and aligned with, adjacent policy areas, with the IETF team making links with these, when/wherever possible.</p>	<p>The IETF has formal governance procedures in place, which provide a link to other BEIS policies and wider governmental priorities. This allows for key developments to be cascaded between all project teams and their working groups while identified dependencies between policy areas are actively managed and discussed at dedicated programme management meetings.</p>
<p>Similar and current industrial energy efficiency and decarbonisation schemes implemented in the UK and internationally will continue to provide useful lessons for the IETF. The IETF's strategic and tactical development should continue to reflect on this substantial evaluative research resource, so that when necessary the IETF can deploy purposefully relevant practice.</p>	<p>The IETF team will continue to implement its lessons learned activity through its dedicated PMO function which not only covers internal experience but also that of other projects.</p>

Recommendation	Action
<p>The inclusive and agile approach which the early phase of the IETF has demonstrated should continue; it is important that this is not driven out by the 'routine' of fund operation.</p>	<p>The success for the IETF is a high priority for the Government and we will continue to monitor and look for ways to refine and improve the fund based on outcomes and stakeholder feedback. The chosen delivery models were assessed and scored highly for flexibility and scalability, as they can adapt to changes in Net Zero policy and the IETF's value and timeline.</p>
<p>The IETF team should remain open to further policy design and delivery changes, particularly as new technologies and sector opportunities emerge.</p>	<p>The IETF is designed to adapt over its lifetime, and will continue to consider policy design and delivery changes to ensure its objectives are met.</p>
<p>Improvements made to the eligibility guidance in the Summer 2021 Application Window should be reviewed against applicant feedback to inform future phases of the fund.</p>	<p>Changes have been made to the Phase 2 guidance where possible, to clarify issues raised during Phase 1. We will keep this under review.</p>
<p>As the IETF continues to evolve with each Phase, changes must be communicated clearly to the applicant base.</p>	<p>We are using key moments such as this policy statement to communicate changes for Phase 2, and their rationale. We will continue to communicate key information about the fund as we progress from window to window.</p>
<p>Dedicated effort should be given to ensuring that SMEs, in particular, are aware of the opportunities presented by the IETF and its application requirements.</p>	<p>We are committed to making the IETF accessible to all eligible companies and will continue to promote the fund through a range of channels. We are actively looking to better target our messaging at SMEs in Phase 2 and will consider additional measures to encourage them to apply to the Fund.</p>

Recommendation	Action
<p>The timing of Application Windows, including their elapsed length, should be kept under review particularly with respect to the need to align with applicants' long-term corporate capital cycles and the challenges for firms 'fitting in' with short windows.</p>	<p>We have responded to this feedback by detailing the anticipated structure of the programme on p16.</p>
<p>The IETF team should think through how service providers in the market can be engaged more effectively as substantive partners in the IETF going forward, this as part of building an effective supply-side capability to provide expertise and finance once the IETF has run its course.</p>	<p>The IETF team actively engages with private lenders through our market intelligence team to understand the wider funding landscape and to jointly promote the fund across their client base. Technology providers, including those that provide energy service and lending, are also able to pitch their offers on our Virtual Technology Market Place and via the business-to-business networking platform. As the market for eligible IETF technologies matures, we will build on these relationships to explore any remaining barriers to a self-sustaining private finance market, engaging with the work of the UK Infrastructure Bank to consider opportunities and barriers.</p>
<p>Further training for assessors should be incorporated into future funding rounds to reduce any inconsistency of application assessment.</p>	<p>Assessors will be provided with comprehensive guidance and training and will provide feedback to applicants as a combined comment at the point of moderation, ensuring that assessor feedback is consistent.</p>
<p>Changing to a two-stage assessment should be considered for future application windows, reflecting applicant feedback around minimising wasted effort on ineligible bids.</p>	<p>We aim to continually improve our offer to industry, ensuring that applicant guidance and support services are accessible and high quality. We have made the guidance clearer and will encourage applicants to test their eligibility with BEIS prior to submission. Whilst this service is at the discretion of applicants to use, we will promote this service so it is accessible to all, particularly companies unfamiliar with applications, or with complex proposals. We will</p>

Recommendation	Action
	do scope and eligibility checks ahead of assessment.

10 Subsidy Control

The IETF was designed and launched in 2020. At this time, providing financial assistance to companies was regulated by the European Union under its EU State aid rules. Phase 1 provided competitive grant funding for EE and DD feasibility and FEED studies, and EE deployment projects. For further information on State aid regulations in Phase 1, please see the [IETF Consultation](#).

There were two application rounds in Phase 1. Successful projects from the first round were approved funding by spring 2021. The second round of applications, called ‘Phase 1: Spring 2021’, launched in March and closed in July 2021. Because this round was launched after the EU State aid rules had ceased to apply, new rules had to be considered for this round, and for Phase 2.

The Transition Period following the UK’s departure from the EU ended on 31 December 2020. Following the end of the transition period, EU State aid rules no longer apply in general to subsidies granted in the UK, and our subsidy obligations are primarily defined by our international commitments including at the WTO.

An exception is aid within scope of the of the Northern Ireland Protocol to the EU-UK Withdrawal Agreement. Article 10 of the Protocol refers to aid which affects trade in goods and wholesale electricity between NI and the EU. In these cases, EU state aid rules may apply. For a subsidy to a business in England and Wales to trigger Article 10, there would have to be ‘a clear benefit from and a genuine, direct link between the subsidy and companies in NI.’²⁴ The fact of whether or not the EU state aid rules apply to the subsidy granted an applicant will not affect the form or amount of the grant, but for reporting purposes we will need to consider whether an applicant is subject to the NI Protocol.

For further information on the application and scope of the Northern Ireland Protocol and Article 10 please see the IETF Phase 2 [guidance](#).

Phase 1: Spring 2021 and Phase 2 of the scheme, which introduces deep decarbonisation deployment projects, have been developed in line with both the UK and EU subsidy control rules. This means that, as with Phase 1, no aid will be provided to businesses that are deemed

²⁴ [Technical Guidance on the UK’s International Subsidy Control Commitments](#)

Undertakings in Difficulty, and only the minimum amount of aid that is necessary in order to undertake the project will be provided to applicants.

All applicants have the same access to support regardless of the relevant subsidy regime. As it remains compliant with both subsidy regimes, the IETF will continue to provide significant support for industry to decarbonise, with the maximum grant amounts available being: 70% of eligible costs for EE and DD feasibility studies, 60% of eligible costs for EE and DD FEED studies, 65% of eligible costs for EE deployment and 85% of eligible costs for DD deployment.

Further information on subsidy control rules and how they determine eligibility can be found in the [Supplementary Grant Award Guidance](#) for the Phase 1: Spring 2021, and the Guidance for Phase 2 projects.

11 Funding Landscape

As detailed in Section 4, 'Rationale for Intervention', the IETF forms part of a wider landscape of capital and operational cost support. A table detailing government industrial energy policy in full can be found in Annex B.

Amongst those policies, the IETF interlinks with previous support provided by government through the following roles:

- A **successor** to energy efficiency projects previously supported by the Industrial Heat Recovery Scheme, Enhanced Capital Allowance and Renewable Heat Incentive (grant or tax relief);
- The **next step** for projects supported under the current BEIS Energy Innovation Programme and future Net Zero Innovation Portfolio, bridging the gap from demonstration to market roll-out;

The IETF also will provide more funding opportunities to sites outside of clusters, across a range of technologies. 47% of industrial emissions are concentrated in dispersed sites, which are likely to be late adopters of hydrogen and CCUS technology. The IETF will accept bids from both cluster based and dispersed sites.

IETF fit with other policies

For key decarbonisation technologies like CCUS and hydrogen, the CCS Infrastructure Fund (CIF) will provide infrastructure support, and the NZHF intends to support the development and construction of low carbon hydrogen production projects respectively. Government is also intending to provide revenue support through the CCUS and hydrogen business models. The hydrogen business model is intended to provide revenue support to hydrogen production projects to enable hydrogen to be sold cost competitively to end users, while the proposed Industrial Carbon Capture (ICC) business model has been designed to incentivise the

deployment of carbon capture technology for industrial users who often have no viable alternatives available to achieve deep decarbonisation.²⁵

The IETF aims to support adaptations to on-site processes by the early movers who will be crucial for increasing the momentum towards the widespread adoption of these types of decarbonisation technologies. The IETF can provide funding which makes industrial processes CCUS-ready, and will support hydrogen fuel switching by industrial sites, rather than hydrogen production. In the case of hydrogen, this support should incentivise demand for low carbon hydrogen from industry, delivering carbon savings. This demand will in turn encourage investment in future production projects, adding to the momentum in building the UK's low carbon hydrogen economy.

In designing Phase 2 we have made efforts to ensure that we have minimised any conflicts in incentives available to those eligible for the IETF, through tailoring the sector eligibility, technical eligibility, and grant thresholds so that the IETF will support projects not financed by other funds where possible. Subsidy control rules mean that funding cannot be claimed from multiple government funding sources for the same set of eligible costs. Where a company cannot claim for eligible costs from multiple funding sources, they can claim for separate projects. For more detailed information on what companies can claim as eligible costs, please refer to the Phase 2 [guidance](#).

As suggested above, the NZHF is intended to complement the IETF, through funding low carbon hydrogen production projects while the IETF will fund fuel switching. However, in the case of the CIF, the IETF will fund the same types of technologies and there could be overlap. While projects may be eligible to receive funding from the IETF or the CIF, if successful in receiving funding from one fund they will not be permitted to claim support from another fund for the same set of eligible costs and will need to comply with any relevant subsidy control requirements.

Phase 2 of the cluster sequencing process will open to applications in Autumn 2021 and projects are able to bid for CIF support alongside other funds²⁶. We acknowledge the possibility of overlap with the CIF, which will support these types of projects as well as the connecting transport and storage infrastructure. For example, it is possible that a company could claim support from the IETF for a CCUS engineering study before claiming support from CIF for a CCUS deployment project as part of the cluster sequencing process. We will continue to work through the subsidy control requirements in relation to the interaction between the IETF, CIF, and CCUS business models.

²⁵ Links to further information on business models can be found in Annex B: Table of Decarbonisation Support

²⁶ [Design of the Carbon Capture and Storage \(CCS\) Infrastructure Fund, GOV UK, 2021](#)

Any companies who are uncertain about a project and whether they should apply for IETF funding or for other funds can refer to the list of decarbonisation and efficiency options in Annex B. Alternatively, any companies uncertain of which fund to apply for are welcome to get in touch with BEIS (contact details can be found in Section 13).

12 Next steps

As we deliver Phase 2 of the Fund, continuous improvements from window to window will be made as required. We have already considered and implemented changes from Phase 1 to 2 based on further internal analysis and stakeholder feedback and will continue to consider feedback from industry going forwards.

Evolution of the Fund could include withdrawing funding for certain technologies where government support is no longer warranted. It is therefore advisable that companies apply to the scheme with their projects in as early a window as they are able.

Improvements could also include expanding IETF support to further accommodate resource efficiency and industrial symbiosis measures. The Industrial Decarbonisation Strategy set out an action to “support increased resource efficiency and material substitution within industry, by driving the transition towards a circular economy model and increasing reuse, repair and remanufacturing”. Resource efficiency and material substitution measures have significant potential, these measures could save 9 MtCO₂e per annum in industry within the UK by 2050²⁷, including a reduction in territorial emissions of 3MtCO₂e relating to UK consumption²⁸.

If your company has any projects in these areas, or any others that you think the IETF should fund in later windows, please do get in touch with us using the contact details in Section 13. We will continue to look at how the IETF can further support industry on the path to net zero.

13 Contact details

Enquiries to:

The Industrial Energy Transformation Fund Team

Tel: 0207 215 5000 Email: IETF@beis.gov.uk

²⁷ Annex 4, Industrial Decarbonisation Strategy, BEIS (2021)

²⁸ Annex 4, Industrial Decarbonisation Strategy, BEIS (2021)

Annex A: Glossary of acronyms

Acronym	Term
BCR	Benefit-Cost Ratio
BEIS	Department for Business, Energy and Industrial Strategy
CCC	Committee on Climate Change
CCS	Carbon Capture and Storage
CCUS	Carbon Capture, Utilisation and Storage
CIF	CCS Infrastructure Fund
CSF	Clean Steel Fund
DAs	Devolved administrations
DD	Deep decarbonisation
Defra	Department for Environment, Food & Rural Affairs
EE	Energy efficiency
EII	Energy Intensive Industry
EIP	Energy Innovation Programme
ETS	Emissions Trading System
FEED	Front-End Engineering and Design
GBER	General Block Exemption Regulation
HNIP	Heat Networks Investment Programme

Acronym	Term
IEEA	Industrial Energy Efficiency Accelerator
IETF	Industrial Energy Transformation Fund
IHRS	Industrial Heat Recovery Support
ISCF ICM	Industrial Strategy Challenge Fund Industrial Clusters Mission
ISCF TFI	Industrial Strategy Challenge Fund Transforming Foundation Industries
LCHPF (NZHF)	Low-Carbon Hydrogen Production Fund (Net Zero Hydrogen Fund)
NI	Northern Ireland
NIP	Northern Ireland Protocol
OPEX	Operational Expenditure
SIC Code	Standard Industrial Classification of economic activities code
SIETF	Scottish Industrial Energy Transformation Fund
SME	Small and Medium-sized Enterprise
SICE	Science and Innovation for Climate and Energy Directorate
RHI	Renewable Heat Incentive
UKRI	United Kingdom Research and Innovation

Annex B: Table of decarbonisation support

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
<p>Carbon Capture and Storage Infrastructure Fund (CIF) and CCUS Business Models</p> <p>UK Government</p>	<p>The CIF aims to support the deployment of Carbon Capture Usage and Storage (CCUS), and the reduction of associated risks and costs, to deliver at least two CCUS clusters by the mid-2020s, and a further two by 2030 at the latest.</p> <p>In addition to the CIF, the government is also developing business models to support the deployment of CCUS projects, including in industrial applications.</p>	<p>The CIF will primarily contribute to the capital costs of establishing Transport and Storage (T&S) and early Industrial Carbon Capture (ICC) infrastructure.</p> <p>We will set out details this year on the provision of a revenue mechanism to fund our business models.</p>	<p>Detail on timelines are set out online and can be found on Gov UK.</p> <p>£1 billion is available from 2021 - 2025.</p>	<p>CIF on Gov UK</p> <p>Carbon capture, usage and storage (CCUS): business models on GOV UK</p>
<p>Clean Steel Fund (CSF)</p> <p>UK Government</p>	<p>The CSF aims to enable the transition to lower carbon iron and steel production through supporting new technologies and processes. It aims to maximise longevity and resilience in the UK steel sector by building on longstanding expertise and skills.</p>	<p>It is expected that the Fund will focus on supporting the development of and trialling key low-carbon processes.</p> <p>Further details can be found on the fund's webpage.</p>	<p>The timing of the new Fund will be developed in consultation with industry and other stakeholders.</p> <p>£250 million available in funding.</p>	<p>Clean Steel Fund consultation on GOV UK</p>

Industrial Energy Transformation Fund: Supporting the Green Industrial Revolution

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
<p>Green Gas Support Scheme (GGSS)</p> <p>UK Government</p>	<p>The GGSS will follow on from support for biomethane under the Non-Domestic Renewable Heat Incentive. To encourage deployment of new anaerobic digestion (AD) biomethane plants, minimise a market hiatus for biomethane and contribute to carbon budgets 4 and 5.</p>	<p>The GGSS will only support biomethane produced via AD and new AD plants. It will not be supporting conversions of existing plants.</p> <p>Further details can be found on the fund's webpage.</p>	<p>Due to open for applications in Autumn 2021 and close 2025.</p> <p>The scheme will be funded through the Green Gas Levy.</p>	<p>Green Gas Support Scheme page on GOV UK</p>
<p>Heat Networks Investment Project (HNIP)</p> <p>Triple Point Heat Networks Investment Management</p>	<p>The aim of HNIP is to create the conditions for a self-sustaining heat network market that contributes to the decarbonisation of the UK energy system at the lowest cost to the economy by 2050.</p>	<p>The construction of new heat networks (generation, distribution, and customer supply) in England and Wales.</p> <p>Further details can be found on the fund's webpage.</p>	<p>Quarterly funding rounds with last funding round closing in October 2021.</p> <p>£320 million available until 2022.</p>	<p>HNIP information on GOV UK</p> <p>Triple Point website</p>
<p>Industrial Energy Transformation Fund (IETF)</p> <p>UK Government (administered for NI, Wales, England)</p>	<p>The IETF aims to support businesses to cut their energy bills and carbon emissions through energy efficiency and low-carbon technologies, and lay a pipeline for future green developments, encouraging wider decarbonisation</p>	<p>Phase 1 supports energy efficiency studies and deployment projects as well as decarbonisation studies.</p>	<p>Phase 1</p> <p>Summer 2020 (closed)</p> <p>Spring 2021 (closed)</p> <p>Phase 2</p> <p>Autumn 2021</p>	<p>IETF information on GOV UK</p>

Industrial Energy Transformation Fund: Supporting the Green Industrial Revolution

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
	<p>across industry, contributing towards achieving net zero by 2050.</p>	<p>Phase 2 will expand to include deployment of decarbonisation technologies.</p> <p>Further details can be found on the fund's webpage.</p>		
<p>Scottish Industrial Energy Transformation Fund (SIETF)</p> <p>Scottish Government</p>	<p>The SIETF aims to support Scottish manufacturing industries to transition to a low carbon future and to reduce energy costs and emissions through increased energy efficiency. Aimed primarily at businesses with high energy use.</p>	<p>Competition 1 – deployment of readily available energy efficiency technologies.</p> <p>Competition 2 – studies into industrial energy efficiency or deeper decarbonisation projects.</p> <p>Call in autumn 2021 will expand in scope, similarly to IETF.</p> <p>Further details can be found on the fund's webpage.</p>	<p>Initial call for applications is now closed.</p> <p>The fund will be reviewed in mid-2021 before the next call in Autumn 2021.</p> <p>£34 million available from 2021-2026.</p>	<p>SIETF information on GOV SCOT</p>
<p>Net Zero Hydrogen Fund (NZHF)</p> <p>UK Government</p>	<p>The NZHF intends to support the commercial deployment of new, low-carbon hydrogen production projects, ensuring the UK has a</p>	<p>This fund is still under development, with further</p>	<p>£240m in funding is available until 2025.</p>	

Industrial Energy Transformation Fund: Supporting the Green Industrial Revolution

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
	diverse and secure decarbonised energy system.	details to be provided in 2021.		
Hydrogen Business Model	The Government is developing a hydrogen business model to incentivise the production and use of low carbon hydrogen, and help kick start the development of a hydrogen market in the UK.	The hydrogen business model intends to provide ongoing revenue support to hydrogen producers over a defined contractual period bring through private investment in hydrogen projects. The hydrogen business model is still under development and we are currently consulting on our preferred model design, with further details to be provided in our consultation response in Q1 2022.	We aim to finalise the business model in 2022, with a view to allocating the first support contracts for projects from 2023. We will set out details this year on the provision of a revenue mechanism to fund our business model.	https://www.gov.uk/government/consultations/design-of-a-business-model-for-low-carbon-hydrogen
Net Zero Innovation Portfolio (NZIP) UK Government	The NZIP will decrease the costs of decarbonisation and set the UK on the path to a low carbon future.	The portfolio will focus on ten priority areas that correspond with the Ten Point Plan. Further details can be found on the fund's webpage.	This project has a funding profile from 2021 and 2025. £1 billion funding until 2025.	Net Zero Innovation Portfolio on GOV UK

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<p>Green Distilleries Competition (GDC) (closed to new applicants, future phases funded through NZIP) UK Government</p>	<p>The aim of the GDC is to identify, support and then develop credible innovative fuel switching technologies/enabling technologies bringing about a step change in their development. The ultimate objective is to trial the technologies at pilot scale.</p>	<p>Phase 1 was focussed on initial feasibility studies; Phase 2 will support a pilot demonstration. Those successful and completed of Phase 1 may enter Phase 2. Further details can be found on the fund's webpage.</p>	<p>Phase 1: Feasibility (closed) Phase 2: Demonstration (Jun 2021 - Mar 2023) £1.01m available for Phase 1, £8.99m available for Phase 2.</p>	<p>Future phases to be funded through NZIP – see Net Zero Innovation Portfolio on GOV UK</p>
<p>Industrial Energy Efficiency Accelerator (IEEA) (closed to new applications, future phases with NZIP) UK Government</p>	<p>Aims to increase the number of innovative energy efficiency technologies available to industry to help reduce energy consumption and cut carbon emissions. Aiming to strengthen the global competitiveness of UK industry.</p>	<p>The IEEA targeted Technology Readiness Levels (TRL) 5-8. The competition targeted all industrial and manufacturing sectors in the UK – including data centres, water utilities and the waste sector.</p>	<p>Winners for Phase 1 were announced in Jan 2019, winners from Phase 2 were announced in February 2020. £8.1m available in funding</p>	<p>Future phases to be funded through NZIP – Net Zero Innovation Portfolio on GOV UK</p>
<p>Transforming Foundation Industries Challenge (TFIC)</p>	<p>The TFIC aims to fund businesses on a cross-sector basis and designed to improve collaboration and research aimed at improving the productivity and</p>	<p>This programme contains several competitions aimed at different TRL levels, from businesses of any size, or</p>	<p>Future competition dates to be confirmed. £66 million funding from 2020 until 2024.</p>	<p>TFI Challenge on UKRI</p>

Industrial Energy Transformation Fund: Supporting the Green Industrial Revolution

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
UKRI / Innovate UK	competitiveness of the sectors' companies and supply chains.	research and technology organisations.		
CCUS Innovation Programme (closed to applications)	BEIS launched a call for CCUS Innovation in July 2018 to offer grant funding for world-leading research and innovation projects that offer a reduction in cost of capturing and sequestering carbon dioxide and / or quicker, more widespread deployment of CCUS in the UK and internationally.	The project must focus on the capture, transport, utilisation, and storage of CO2 or a greenhouse gas removal approach that captures and sequesters CO2. Further details can be found on the fund's webpage.	The call closed to applications in November 2018. £24 million available funding.	CCUS innovation programme on GOV UK
UK Government				
Industrial Decarbonisation Challenge (IDC) (closed to new applicants)	The IDC aims to support the development of low-carbon technologies. It will reduce the carbon footprint of heavy and energy intensive industries in the UK. It will develop at least one low-carbon industrial cluster by 2030, and the world's first net-zero carbon industrial cluster by 2040.	Competition 1 – To develop plans for decarbonising an industrial cluster. Competition 2 – To develop decarbonisation roadmaps for UK industrial clusters Further details can be found on the fund's webpage.	This competition closed to new applications on 4th December 2019. £171 million available up until 2024.	IDC information on UKRI
UKRI				

Industrial Energy Transformation Fund: Supporting the Green Industrial Revolution

Policy / Lead Organisation	Aim / Purpose	Eligibility and Type(s) of Project	Timing / Funding	Links to webpage
<p>Industrial Heat Recovery Support programme (IHRS)</p> <p>(closed to applications)</p> <p>UK Government</p>	<p>The Industrial Heat Recovery Support (IHRS) programme was designed to encourage and support investment in recovery and reusing heat that would otherwise be wasted from industrial processes.</p>	<p>Open to companies in all industrial manufacturing sectors classified under SIC Codes 10-33 and data centres (SIC 63110).</p> <p>Further details can be found on the programme's webpage.</p>	<p>The IHRS programme closed to applications as of 31 July 2020 but runs until March 2022.</p> <p>£18 million from 2018 - 2022.</p>	<p>IHRS information on GOV UK</p>
<p>Renewable Heat Incentive (Non-Domestic) (RHI)</p> <p>(closed to applicants)</p> <p>UK Government</p>	<p>The RHI supported businesses, public sector and non-profit organisations to meet the cost of installing renewable heat technologies by providing financial incentives for the uptake and installation of renewable heat technologies.</p>	<p>Organisations can apply if equipment was installed in England, Scotland or Wales on or after 15 July 2009 (or later in some cases).</p> <p>Further details can be found on the fund's webpage.</p>	<p>Closed to new applicants on 31 March 2021.</p> <p>£684 million available from 2019-2020.</p>	<p>Non-domestic RHI on OFGEM</p>
<p>Green Heat Network Fund (GHNF)</p> <p>UK Government</p>	<p>The scheme is the target successor to the Heat Networks Investment Project and is intended to help new and existing heat networks adopt low carbon technologies</p>	<p>BEIS has consulted on the scheme design. The consultation ended in January and the Government response will be published in due course.</p>	<p>The scheme is intended to run from April 2022-March 2025.</p> <p>The Chancellor announced £270m for the fund in the March 2020 Budget</p>	<p>Consultation document on Gov.uk</p>

This publication is available from: <https://www.gov.uk/government/publications/industrial-energy-transformation-fund-ietf-phase-2-autumn-2021>

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