



Department for
Business, Energy
& Industrial Strategy

Net Zero Innovation Portfolio

Red Diesel Replacement

Phase 2 Competition Guidance Notes

Grant Competition

Closing Date: 30 March 2023

January 2023

Updates to this Guidance

Version (Date)

Version 1 (20/01/2023)

Publication of RDR Phase 2 Competition Guidance Notes



© Crown copyright 2023

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this publication should be sent to us at:
RDR@beis.gov.uk

Privacy Notice

This notice sets out how we will use your personal data, and your rights. It is made under Articles 13 and/or 14 of the UK General Data Protection Regulation (UK GDPR)

Your Data

We will process the following personal data:

- 1 Names and contact details of employees involved in preparing and submitting the bid;
- 2 Names and contact details of employees proposed to be involved in delivery of the contract;
- 3 Names, contact details, age, qualifications and experience of employees whose CVs are submitted as part of the bid.

Purpose

We are processing your personal data for the purposes of the tender exercise described within the remainder of this Invitation to Tender, or in the event of legal challenge to such tender exercise.

Legal basis of processing

The legal basis for processing your personal data is processing is necessary for the administration of this competition including but not limited to performance of financial due diligence and security checks carried out in the public interest or in the exercise of official authority vested in the data controller, such as the exercise of a function of the Crown, a Minister of the Crown, or a government department; the exercise of a function conferred on a person by an enactment; the exercise of a function of either House of Parliament; or the administration of justice.

Recipients

Your personal data will be shared by us with other Government Departments or public authorities where necessary as part of the tender exercise. We may share your data if we are required to do so by law, for example by court order or to prevent fraud or other crime.

Retention

All tenders will be retained for a period of 6 years from the date of submission unless the contract is entered into as a deed in which case it will be kept for a period of 12 years from the date of contract expiry.

Your Rights

You have the right to request information about how your personal data are processed, and to request a copy of that personal data.

You have the right to request that any inaccuracies in your personal data are rectified without delay.

You have the right to request that any incomplete personal data are completed, including by means of a supplementary statement.

You have the right to request that your personal data are erased if there is no longer a justification for them to be processed.

You have the right in certain circumstances (for example, where accuracy is contested) to request that the processing of your personal data is restricted.

You have the right to object to the processing of your personal data where it is processed for direct marketing purposes.

You have the right to object to the processing of your personal data.

International Transfers

As your personal data is stored on our IT infrastructure and shared with our data processors Microsoft and Amazon Web Services, it may be transferred and stored securely in the UK and European Economic Area. Where your personal data is stored outside the UK and EEA it will be subject to equivalent legal protection through the use of Model Contract Clauses

Complaints

If you consider that your personal data has been misused or mishandled, you may make a complaint to the Information Commissioner, who is an independent regulator. The Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF

0303 123 1113
casework@ico.org.uk

Any complaint to the Information Commissioner is without prejudice to your right to seek redress through the courts.

Contact Details

The data controller for your personal data is the Department for Business, Energy Industrial Strategy (BEIS).

You can contact the BEIS Data Protection Officer at: BEIS Data Protection Officer, Department for Business, Energy and Industrial Strategy, 1 Victoria Street, London SW1H 0ET. Email: dataprotection@beis.gov.uk.

Contents

1	Programme Overview	10
1.1	Programme Summary	10
1.2	Programme Structure	10
1.3	Programme Objectives	11
2	Competition Context and Scope	12
2.1	Context	12
2.2	Project Scope	13
2.3	Environmental, Health and Safety and Environmental Considerations	18
2.4	Acceleration Support	19
3	Deliverables and Stage Gates	21
3.1	Deliverables	21
3.2	Stage Gates	22
4	Competition Timetable and Process Overview	24
4.1	Competition Timetable	24
4.2	Competition Process Overview	25
4.2.1	Stage 1: Application	25
4.2.2	Stage 2: Assessment	28
4.2.3	Stage 3: Grant Award	29
5	Budget and Restrictions on Funding	30
5.1	Competition Budget and Availability	30
5.2	Grant Funding Intensities	30
6	Eligibility for Funding	37
6.1	Competition Eligibility Criteria	37
6.2	General BEIS Conditions	40
6.3	Conflicts of Interest	41
7	Assessment Process and Criteria	42
7.1	Assessment Criteria	42
7.2	Scoring Guidance	53
7.3	Selection Approach	54
8	Reporting Requirements	56
8.1	Project Monitoring and Reporting	56

8.1.1	Monthly Monitoring and Reporting.....	56
8.1.2	Quarterly Monitoring and Reporting.....	57
8.1.3	Site Visits.....	58
8.2	Milestones and Invoicing_____	58
8.3	Project Changes and Change Control_____	59
8.4	Benefits Management Plan_____	60
8.5	Evaluation and Key Performance Indicators_____	60
8.6	Knowledge Dissemination Requirements_____	62
9	Intellectual Property Requirements_____	63
10	Financial Information_____	64
10.1	Financial Viability Checks_____	64
11	Notification and Publication of Results_____	66
11.1	Notification_____	66
11.2	Publication of Results_____	66
12	Feedback, Re-application and Right of Appeal_____	68
13	Confidentiality and Freedom of Information_____	69
14	Further Instructions to Bidders_____	70
14.1	Data Protection and Security_____	70
14.2	Non-Collusion_____	70
Appendix 1: Technology Readiness Levels_____		72
Appendix 2: Eligible and Ineligible Costs_____		78
Appendix 3: Residual Value Guidance_____		81
Appendix 4: Environment and Safety Resources_____		84
Appendix 5: Exclusion Grounds_____		87

Glossary of terms and definitions

BEIS	Department for Business Energy and Industrial Strategy
CAPEX	Capital Expenditure
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DNO	Distribution Network Operator
EIR	Environmental Information Regulations (2004)
EU	European Union
FAQs	Frequently Asked Questions
FOIA	Freedom of Information Act (2000)
GB	Great Britain
GDPR	General Data Protection Regulations
GHG	Greenhouse Gas
HGV	Heavy Goods Vehicle
HVO	Hydrotreated Vegetable Oil
IPR	Intellectual Property Rights
LCHS	Low Carbon Hydrogen Supply
KPI	Key Performance Indicator
kWh	Kilowatt-hours
M or m	million
MW	Megawatts
NI	Northern Ireland
NO _x	Nitric Oxides
NMVOCs	Non-Methane Volatile Organic Compounds
NRMM	Non-Road Mobile Machinery
NZIP	Net Zero Innovation Portfolio
ORMM	Off-Road Mobile Machinery
OPEX	Operating Expenditure
PM	Particulate Matter
RCF	Recycled Carbon Fuel
RD&D	Research, Development and Demonstration
RDR	Red Diesel Replacement
RTFO	Renewable Transport Fuel Obligation
SME	Small and Medium Enterprise
SO _x	Sulphur Oxides
SSQ	Standard Selection Questionnaire
TCA	Trade & Cooperation Agreement
TRL	Technology Readiness Level
UK	United Kingdom
WTO	World Trade Organisation
VAT	Value-Added Tax

Definitions

Please note that references to the "Department" throughout these documents mean The Secretary of State for Business, Energy and Industrial Strategy acting through his/her/their representatives in the Department for Business Energy & Industrial Strategy (BEIS).

Any reference to "programme" is a reference to the Net Zero Innovation Portfolio: Red Diesel Replacement programme, run by the Department for Business Energy and Industrial Strategy (BEIS).

Any reference to "portfolio" is a reference to the Net Zero Innovation Portfolio (NZIP).

Supporting Documents

The following documents support this Competition Guidance and are available within the application form and on the [competition website](#).

- Annex 1: Grant Offer Letter & Grant Funding Agreement
- Annex 2: Declarations
 - Declaration 1: Statement of Non-Collusion
 - Declaration 2: Form of Bid
 - Declaration 3: Conflict of Interest
 - Declaration 4: Code of Practice
 - Declaration 5: Modern Slavery Statement
 - Declaration 6: Standard Selection Questionnaire (SSQ) Parts 1, 2 & 3
 - Declaration 7: The UK General Data Protection Regulation (GDPR) Assurance Questionnaire for Contractors
- Annex 3: RDR Project Cost Breakdown Form
- Annex 4: Word Version Application Form (to view only, do not submit)
- Annex 5: Partner Information Form
- Annex 6: RDR Technical Performance and Emissions

1 Programme Overview

The purpose of this Guidance is to give a comprehensive overview of the Red Diesel Replacement (RDR) programme and Phase 2 competition (the competition) and associated procedures for participation. For further information, please also refer to the information and documents available on the web page [here](#).

1.1 Programme Summary

The Red Diesel Replacement (RDR) programme is an innovation funding programme to support the development and demonstration of low carbon alternatives to red diesel for the construction, mining & quarrying sectors. The RDR programme will provide up to £40 million as part of the £1 billion [Net Zero Innovation Portfolio \(NZIP\)](#), funded by the Department for Business, Energy and Industrial Strategy (BEIS). NZIP aims to accelerate the commercialisation of innovative clean energy technologies and processes through the 2020s and 2030s. Switching industry to lower carbon fuels will be critical for meeting the UK's legally binding commitment to achieve Net Zero by 2050.

1.2 Programme Structure

The programme will deliver grant funding in two consecutive phases.

Phase 1: Development of component technologies (closed)

The purpose of the Phase 1 projects was to develop component technologies related to distribution, storage and energy delivery systems, equipment component/sub-systems, and fuel development. The projects supported the development of the project team's understanding of the core and ancillary technology, the performance of the technology, the market potential, the route to market (including competition) and costs associated, as well evaluating further development needs which could form a Phase 2 project. A strategic level public report detailing the key findings will be published on the gov.uk website following project completion. Seventeen projects were funded c. £6.7m over 11 months in this phase, find out more about these projects [here](#).

Phase 2: Demonstration (this competition)

The purpose of Phase 2 is to support the physical demonstration of an end-to-end system / solution replacing existing red diesel-using technologies on construction and mining or quarrying sites, including engineering design, build, trial, decommissioning, market assessment, and knowledge dissemination. Phase 2 is open to all applicants, whether or not they have taken part in Phase 1.

The budget for each demonstration project will be between a typical minimum of £1 million¹ and a fixed maximum of £12 million; applicants will need to provide match funding. The total budget allocated for Phase 2 will be up to £32.5 million.

1.3 Programme Objectives

The RDR programme aims to achieve the following objectives:

1. Develop commercially viable and globally applicable low-carbon alternatives to red diesel, looking at long-term solutions.
2. Demonstrate an integrated, low-carbon solution at a moderate scale on site for the quarrying and mining sector, and the construction sector.
3. Disseminate the learnings and results of the Red Diesel Replacement programme to international stakeholders, industry and other diesel-using sectors.
4. Inform policy teams on the potential of these low-carbon alternatives and create awareness of the spin-off opportunities for other sectors (e.g. maritime, aviation and road freight).
5. Deliver match funding from industry.
6. Accelerate the commercialisation of low-carbon red diesel alternatives.

¹ Exceptional Phase 2 project proposals below the minimum budget of £1 million may be considered so long as the proposal meets the goals of the competition and is of sufficient scale.

2 Competition Context and Scope

2.1 Context

In the March 2020 Budget, the Chancellor announced the partial removal of the entitlement to use red diesel and rebated biofuels from April 2022, to encourage the red diesel sector to decarbonise. As part of this announcement, BEIS was asked by HMT to launch an innovation programme for the sector to develop replacement low-carbon fuels and systems at a price that is competitive with fossil fuels.

In the absence of this intervention, the most likely scenario is that the sectors using red diesel would continue using white diesel at a higher cost. This represents a cost increase for the impacted sectors, as well as continued greenhouse gas emissions from the use of white diesel. Private investment into red diesel replacements is unlikely to happen at the pace needed to achieve Net Zero by 2050.

Red diesel is used mainly in non-road mobile machinery (NRMM, also known as off-road mobile machinery, ORMM) and data from 2019 showed that greenhouse gas (GHG) emissions from Industrial NRMM were 6 MtCO₂e, equivalent to 8% of total industrial emissions (78 MtCO₂e), and 1% of the UK's total greenhouse gas emissions. Internal BEIS analysis suggests a significant majority of industrial NRMM emissions are from construction activities, with the remaining share from mining and a variety of other industrial activities. The Net Zero Strategy recognised that further government intervention is likely to be necessary to ensure low carbon NRMM technologies continue to be developed and ensure uptake at the level needed to reach carbon budgets and net zero.

This competition aims to address this by providing innovating funding, as part of the £1 billion [Net Zero Innovation Portfolio](#) (NZIP), to demonstrate low carbon, end-to-end systems/solutions for these sectors. The NZIP is outlined in the [Energy White Paper: Powering our Net-Zero Future](#) and it runs until March 2025, with the aim to accelerate the commercialisation of innovative clean energy technologies and processes through the 2020s and 2030s.

This competition supports the [Industrial Decarbonisation Strategy](#) (March 2021), which identified that government investment is required to advance the development of low carbon technologies to address the barrier around uncertainties associated with novel technologies for the private sector. Industrial decarbonisation technologies need to be ready for large-scale deployment from the 2030s, which is why government is supporting innovation now. This funding will support Action 6.1 of the Industrial Decarbonisation Strategy: to “Support innovation in fuel switching technologies, including low carbon electricity, hydrogen and biomass”.

2.2 Project Scope

The scope of the Phase 2 RDR competition is for the development and demonstration of a number of “well-to-work” (see Figure 1) projects that brings together the stages of fuel/energy production, fuel/energy distribution and storage and operational end use for NRMM, with the deployment of equipment being relevant to the construction, mining and quarrying sectors.

The competition seeks to support projects that will maximise the reduction of GHG emissions when compared to an existing end-to-end system using red diesel. Additionally, the improvement in project site air quality along with the reduction in noise and water usage at sites, are improvements being sought by the competition.

End-to-end: Projects must provide an end-to-end solution (“well-to-work” system, see Figure 1), made up of multiple component technologies, for replacement of equipment that currently uses red diesel at a construction, mining or quarrying site. Projects must include the end-to-end solution which encompasses the following stages in a single project:

- Generation (e.g. producing electricity via a solar farm) or
- Production (e.g. taking a feedstock and converting it to a particular fuel)
- Distribution and storage, including refuelling/energy delivery
- End use

An example would be a renewable energy installation producing electricity which is then converted to hydrogen and transported to a construction site where it is used in a piece of equipment to do mechanical work.



Figure 1 Schematic examples of a “well-to-work” system

Projects must justify in their application that the end-to-end solution is a robust configuration that could reasonably be used long term on a commercial basis. The generation/production and end-use do **not** need to be co-located on the same site, although greater distances may lead to more complex arrangements which should also be justified.

Component(s) of the end-to-end solution could pre-exist, but no retrospective work will be funded. For example, the solar PV and electrolyser could already exist or be under

construction, and the project simply has an offtake agreement for the green hydrogen produced. The application therefore could be for a hydrogen distribution, storage and refuelling system and innovative end-use equipment to complete the end-to-end solution.

Innovation: Projects must justify that the end-to-end solution and/or specific technologies within it are innovative and unproven prior to launch. The end-to-end solution must be at Technology Readiness Level (TRL) 7 by the end of the project but individual components are permitted to be at varying levels of maturity up between TRL 5 to 8 at the start of the project. However, projects with low TRL may present high risk to successful project completion.

Generation: The project may include low carbon energy/feedstock generation or sourcing as an input to the fuel / energy production process, where this enables the project and is not the main focus of the project. Non-exhaustive examples include a dedicated on-site wind turbine, electricity connection to a local generator, electricity grid connection or bioenergy processing. Capital costs associated with the energy/feedstock inputs and energy supply infrastructure to the fuel / energy production are in scope, but must not be the focus of the project or the funding. Note that for mature (high TRL) technologies and processes, BEIS can only provide funding towards the reasonable 'cost of use' of capital assets for the demonstrator, excluding the residual value at the end of the demonstration period (see Appendix 3: Residual Value Guidance). Electrolyser projects should provide assurances that any potential constraints (i.e., local grid capacity) on electricity supply will be overcome. While primary energy generation is supported, it is not a requirement under the end-to-end criteria.

Fuel / Energy Production: Projects must support or align to a technology that uses one or more of the following long-term energy vectors:

- Hydrogen
- Direct electricity
- Battery
- E-Fuels (E-Diesel, E-Methanol, E-Methane)
- Ammonia
- Renewable dimethyl ether (rDME)
- Renewable Transport Fuel Obligation (RTFO) Development Fuels²
 - Biogenic waste feedstocks used must demonstrate compliance with the waste hierarchy³. Segregated waste fats/oils are not eligible⁴.
 - Non-Biogenic waste feedstocks should be aligned with the proposals for Recycled Carbon Fuels (RCFs)⁵.

² Refer to the guidance for more information: <https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-rtfo-compliance-reporting-and-verification>.

³ i.e. is sustainable and not taking feedstock supplies from existing more environmentally beneficial uses.

⁴ The current status of many feedstocks can be found [here](#). Please note that all single counting feedstocks and dedicated energy crops are not eligible feedstocks for producing development fuels.

⁵ Refer to the following for more information: <https://www.gov.uk/government/consultations/supporting-recycled-carbon-fuels-through-the-renewable-transport-fuel-obligation>.

Projects may demonstrate additionality of renewable electricity used via the same proposed method in DfT's RTFO Guidance for Renewable Fuels of Non-Biological Origin⁶.

The e-fuels described above can be produced from additional low carbon electricity, or other renewable sources like solar or geothermal energy, and captured carbon, although applicants should explain how the use of direct electricity would not be suitable for the energy pathway or end-use equipment in order to demonstrate the most efficient use of electricity is being made. Note that fuels made via low carbon electricity, e.g., from non-renewable electricity or from biomass/waste combustion, will not be eligible for RTFO support.

Projects will score more highly if the hydrogen used in the demonstrator meets the Low Carbon Hydrogen Standard (LCHS). If the project cannot show compliance with the LCHS, they should provide strong justification of why the project provides significant value towards meeting the objectives of the RDR programme. Note that hydrogen produced in line with the LCHS may not be eligible for RTFO support.

Other hydrogen carriers, such as ammonia, must justify that their use is widely applicable to UK industry and fully compatible with a net zero future. They must be produced from hydrogen which meets the criteria outlined above, or if this cannot be met they must provide strong justification. Hydrogen blends are acceptable if the hydrogen component is low carbon, projects can be justified as innovative in their production or end-use, are widely applicable to the relevant sectors and compatible with a net zero future. Applicants should show how blending is a stepping-stone to 100% low carbon fuel use (without blending with any fossil fuel derived fuels or hydrotreated vegetable oil, HVO) and outline their plan to achieve this. If projects are using a solution other than hydrogen or electric, then it is expected that they consider the security of supply for any feedstocks against competing sectors.

Please note that there is no guarantee fuels supported through this competition will be eligible for current or future RTFO support.

Fuel / Energy Distribution and Storage: Projects will likely include the infrastructure to support the demonstration, such as pipework, storage and control systems, and refuelling equipment. Innovation in these components is also welcome. However, delivery infrastructure which is not innovative must not be the focus of the project or the funding requested in the application. Delivery infrastructure should be a configuration that could be used long term, and projects will score higher if it is relevant and applicable to wider roll-out and on other sites.

End Use: The end-use must be for a relevant process used under operational conditions within the construction, mining or quarrying sectors (but these could be simulated at a pilot facility if strongly justified). Non-exhaustive examples of equipment in scope are listed below, and include new retrofit equipment and systems:

⁶ "Additionality" in this context refers to whether the renewable energy can be considered additional, in that it wouldn't have been produced or would have been wasted if it were not consumed in the production process. Refer to the following for more information:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1097045/rtfo-guidance-for-renewable-fuels-of-non-biological-origin.pdf.

- Excavators, Dozers, and Backhoes
- Loaders, Tippers, and Dumpers
- Large Generators
- Forklifts, Telehandlers, and Scissor Lifts
- Crushers, Screens and Graders
- Drills, Pile Drivers, and Tunnel borers
- Mini Diggers, Loaders, Skid steers and positrack plant (small HGV)
- Surface scrapers, Track layers and amphibious specialist vehicles
- Small generators

There should be a clear pathway highlighted to provisional GB type approval or EU/UK(NI) type approval, whichever is most relevant, for the equipment being demonstrated.

Demonstration: The project demonstration of the end-to-end solution must be undertaken on a representative site for the construction, mining or quarrying sectors and be of direct relevance to the use of equipment/system simulating real-life operating conditions. Where a project proposes to use a test site, the applicant must be able to justify the reasons for its use and how the test site is representative of a real-life operational environment. Projects must ensure that the demonstration:

- runs for a minimum of 1 month with 80% operational uptime / availability (downtime for maintenance / technical interventions compared against the planned duty cycle);
- complies with the relevant environmental, safety and regulatory requirements for deployment of the demonstration and to allow safe operation of the equipment at the chosen site; and
- considers how the demonstration will be used to build the ongoing business case for the commercialisation of the end-to-end solution and how the project will be disseminated across stakeholders.

Projects will score more highly for demonstrations that showcase the greatest impact on red diesel use and thus carbon savings.

GHG, Air Pollution and Noise Emissions: Projects should aim to achieve GHG emissions reduction by 75% for the end-to-end solution (well-to-work, see Figure 1) compared to a current red diesel system, however separate components technologies are not required to achieve a 75% GHG emissions reduction individually. Additionally, projects should aim to achieve a 50% reduction in NO_x, SO₂, and PM (PM_{2.5} and PM₁₀) emissions compared to the current EU Stage V emissions standards for NRMM for the end-use equipment being demonstrated (tailpipe emissions). Projects should also aim to reduce noise to a lower level than the end-use equipment being replaced and explain how they will measure this. Applicants must complete an Excel spreadsheet entitled RDR Technical Performance and Emissions as part of their bid application submission to detail the emissions at each stage. Projects will score higher if they can achieve the emissions targets described or can provide a clear route achieving them.

OPEX (Operational Expenditure): Operational costs will only be covered where essential for the demonstration to meet its objectives (e.g. electricity costs and labour are eligible costs). The trial period is indicatively expected to be 1 month, although longer trial periods are welcome.

Long-term plan: The RDR programme covers funding for development and demonstration activities. However, it is important for BEIS to maximise the value and impact of these projects.

Proposed projects will therefore score better where the assets and knowledge will be used beyond the demonstration period to develop further evidence on decarbonisation options for NRMM in the relevant sectors. For example, subject to successful demonstration, the assets in the end-to-end solution could continue to be used commercially either on the same demonstration site or on other sites, and which could provide additional evidence on long-term operation of the equipment and systems. Alternatively, the assets could be repurposed for future innovation activities.

Projects will be required to ensure that knowledge gained during the project is widely disseminated, such as through events and reports (see Section 8.6). Projects will be required to demonstrate their plans for such activities at application stage. We also encourage projects to use the knowledge gained to support further RD&D and deployment activities after the funded project is complete.

Location: All technologies within the end-to-end demonstration chain must be located in the UK and over 50% of the project work (by value) must be conducted in the UK. There are no regional restrictions within the UK on where demonstrations can be located. This includes (but is not limited to) industrial clusters, projects in areas where there is an intensity of construction, mining or quarrying activity or aligns with other governmental objectives such as the Tees Valley Hydrogen Transport Hubs. Projects may have energy generation/production co-located with renewable energy inputs and/or with industrial sites, or at more centralised facilities where relevant.

Project delivery: Applicants should provide evidence that they have considered long lead time capital items and where these will be sourced from. Therefore, it is highly advisable that applicants engage with an organisation that can supply key capital items and provide evidence of this engagement as part of the proposal e.g. a letter of support.

Exclusions: Funding will not be provided for:

- Systems/solutions which are already commercially or widely deployed in the UK or internationally.
- Individual technologies or components being demonstrated in isolation, only complete end-to-end systems, e.g., a project to refuel equipment on-site alone is not eligible.
- Projects that do not utilise one of the long-term energy vectors described above, e.g., HVO or fossil fuels.

- Projects without the potential to achieve a significant reduction in GHG emissions (target 75%) or NOx, SO2, and PM (PM2.5 and PM10) emissions for NRMM (well-to-work) (target 50% below EU Stage V emissions standards⁷).
- Any system/solution that is below TRL 4 or will not reach TRL 7 by the end of the project (14 March 2025).
- End-use equipment that is not normally deployed in a mining and quarrying or construction environment.

For more information on types of eligible and ineligible costs, please see Appendix 3: Eligible and Ineligible Costs.

Please note that residual values of capital items should be considered, so that the eligible cost is only the use of the asset for the purposes of the demonstration (i.e. the depreciation). The size of the residual value at the end of the demonstrator will be dependent on the maturity (TRL) of the capital item. For example, for mature assets (e.g. solar PV), the eligible cost is only the depreciation costs for the duration of the project. Fully bespoke R&D assets may only have a value for the duration of the project so may have no residual value afterwards. More detail on residual value estimates can be found in Appendix 4: Residual Value Guidance.

Eligible costs are those associated with the demonstration, not the commercial deployment of the solution/system or the wider infrastructure on the industrial or pilot site. However, any industrial goods/commodities produced during the trial period can be sold on the open market and the assets installed during the funded activities can continue to be operated after the end of the demonstration period. Income generated through the sale of goods/commodities produced during the demonstration cannot be used as match funding.

2.3 Environmental, Health and Safety and Environmental Considerations

Applicants will be required to consider the environmental, health and safety impacts as well as planning requirements of their solution and the regulations which must be adhered to.

The [Environment Agency](#) is the principal regulator on environmental matters in England. The environmental regulators for Scotland, Wales and Northern Ireland are the Scottish Environment Protection Agency ([SEPA](#)), Natural Resources Wales ([NRW](#)) and the Northern Ireland Environment Agency ([NIEA](#)) respectively. BEIS strongly encourage applicants to consider the possible environmental impacts of proposed projects, and ways to minimise any negative impacts, as early as possible, to ensure that sufficient detail can be provided at the application stage. For example, emissions and air pollution, water use, waste, use of scarce materials, noise and visual impact.

Regulations: Applications must evidence that the project being proposed will comply with (and ideally go over and above) all relevant health, safety, and environmental regulations. As a

⁷ Refer to Annex II of Regulation (EU) 2016/1628 for the Stage V emission limits: <https://eur-lex.europa.eu/eli/reg/2016/1628/oj>

starting point, potential applicants should consider the Environment Agency advice and regulations signposted to in Appendix 5: Environment and safety resources.

Air Quality: Applications to the competition should demonstrate that they have considered the impacts on air quality of all four stages of the “well-to-work” cycle (see Figure 1) associated with their project. Air quality benefits will be focused within the location of project demonstration and commercial application sites, however air quality associated with each of the four stages must be no higher than an existing red diesel fuelled well-to-work cycle. Applicants must prove that they have taken steps that meet (and ideally go over and beyond) existing local and national air quality regulations to reduce emissions and mitigate impacts that are damaging to air quality. The response should provide assurance that there is scope for the project to be compliant with more stringent air quality regulations, which may be a requirement in future.

Where relevant, applications should pay attention to the damaging air pollutants that the UK currently has national emission reduction commitments for, including:

- fine particulate matter (PM2.5),
- particulate matter (PM10)
- ammonia (NH₃),
- nitrogen oxides (NO_x),
- sulphur oxides (SO_x),
- non-methane volatile organic compounds (NMVOCs).

The gov.uk website provides [guidance on air quality](#), including information on national and local regulations. As air quality is a devolved matter, regulations may vary amongst the devolved administrations.

Fugitive Hydrogen Emissions: Hydrogen itself can lead to global warming, with early research suggesting its Global Warming Potential is around 11±5 (see [Fugitive Hydrogen Emissions](#) study and [Atmospheric Implications of Hydrogen](#) study). Where hydrogen is to be used, applicants to the competition should show that they have considered the level of fugitive hydrogen emissions (e.g. during start-up, shutdown and abnormal operation), throughout the “well-to-work” cycle, and have made efforts to minimise these. Successful demonstration projects will also be expected to work with BEIS and BEIS contractors to monitor fugitive hydrogen emissions; applicants are not required to incorporate this in their costing or planning at this stage.

2.4 Acceleration Support

This Competition will offer Acceleration Support to successful applicants where a project partner in the consortium meets the definition of Small & Medium Enterprise (SME).

Acceleration Support services are delivered by The Carbon Trust and their consortium partners on behalf of BEIS and is 100% funded by BEIS (i.e. no associated cost to the project). The aim

of Acceleration Support is to help organisations to prepare commercial plans, develop marketing strategies, engage with investors and other actions that will increase the chance of successfully bringing the innovation to market or reduce the time to market.

Organisations receiving Acceleration Support must participate in a Needs Assessment meeting to identify Acceleration Support requirements. Capabilities which will be considered in the Needs Assessment include:

- Market engagement and customer value proposition
- Strategy and sales
- Business processes and controls
- Product-service design, development and launch
- Team and board
- Funding and investment readiness

The outputs of the Needs Assessment meeting will inform the development of a bespoke Acceleration Plan. This may include but will not be limited to services such as:

- Tailored support, including coaching and specialist support across the six focus areas
- Group training and learning resources, including sector specific masterclasses and techno-market workshops
- Access to industry and finance networks, providing companies with investor engagement opportunities, pitch training sessions, facilitated market engagement and networking opportunities

It is highly recommended that grant recipients take up the offer of Acceleration Support Services and co-operate with both the Acceleration Planning Session and the Acceleration Manager, who will oversee the delivery of the Acceleration Support.

To support the delivery of Acceleration Support, a Memorandum of Understanding (MOU) will be put in place between the project team and the Acceleration Support provider (Carbon Trust) and their delivery partners.

Participants will also be asked to collaborate in monitoring and evaluation activities and to provide feedback on support provided through the programme.

3 Deliverables and Stage Gates

3.1 Deliverables

Phase 2 will provide grant funding for demonstration projects, from production to distribution and storage to end-use, to prove their feasibility and provide further evidence on the real-world performance and costs. All Phase 2 projects will be expected to deliver:

- A physical demonstration of their end-to-end system and ‘demonstration day’ for key stakeholders.
- Interim findings reports for publication throughout the project lifecycle, for the purposes of knowledge dissemination (exact content and dates to be agreed between individual projects and BEIS).
- Progress reporting to BEIS (see Sections 8.1 for more information).
- Knowledge dissemination activities (see Section 8.6 for more information).
- An evidence-based final project report for BEIS (and other government departments), detailing the following, as a minimum:
 - the design and development of the system
 - demonstrator results, including performance of the solution and detailed technical data (e.g. efficiencies, % emissions reduction and kgCO₂e/kWh system)
 - costs of the solution (e.g. £/kWh and levelized cost of abatement compared to red diesel), including capital and operating costs, for the demonstration and estimates for commercial use
 - carbon, air pollution, noise and other emissions savings potential and potential contributions to net zero targets
 - environmental, safety and regulatory considerations and requirements
 - assessment of the benefits and challenges of the solution including risks to deployment
 - how the technology/system could be scaled and replicated more widely
 - how the process, technologies and knowledge will continue to be developed, commercialised and/or used after funding ends
 - key successes and lessons learned in the project, including from knowledge dissemination activities
- An accessible version of the Phase 2 final project report alongside a one-page case study which can both be published.

If there are aspects of the final project report which are commercially confidential, then project teams will be required to provide a version of the Phase 2 final project report that can be published. Omissions on the basis of commercial reasons should be discussed with BEIS at the earliest opportunity once the contract has been awarded.

BEIS will appoint a Monitoring Officer⁸ to each project to monitor the delivery of the project deliverables and review submissions. Project teams will be required to meet with their Monitoring Officer at least monthly. For more information about the monitoring and reporting requirements for this Competition, see Section 8.

Projects need to allow time for BEIS to review the final project report and supporting documentation and to address any feedback provided; this process can take up to a month. We therefore require the draft final report to be completed and sent to BEIS by 07 February 2025. BEIS will review the report and feedback accordingly by 28 February 2025. All project work related to the demonstrator, including the final BEIS-approved report, must be completed by 14 March 2025.

3.2 Stage Gates

Stage gates are expected to occur approximately every 6 months after project commencement. The purpose will be to review the technical, commercial and financial progress towards the agreed objectives for each project and they provide an opportunity for the projects to demonstrate their capability to deliver the remaining duration of the project. There are three possible outcomes of the process: 'Continue', 'Rectify', or 'Terminate'.

The first stage gate is expected to occur around February 2024. The exact timing and requirements of the stage gates will be agreed between individual projects and BEIS prior to Grant Funding Agreement being signed, based on the specific requirements of the project. The anticipated requirements for this stage gate are:

1. Detailed mobilisation and demonstration planning documents:
2. Updated project plan and evidence that delivery plan can achieve all objectives, including the demonstrator being complete by February 2025
3. Updated detailed risk register, mitigation strategies and contingency planning
4. Benefits realisation and management plan
5. FEED work to be in advanced stages or completed.
6. Formalisation of all key supply chain relationships. Heads of terms/final draft commercial contracts for key work packages and draft end-user commercial contracts if applicable (note – this is applicable for sub-contractors/suppliers only, details of project partners must be provided at application stage, with a consortium agreement completed within one month of the Grant Funding Agreement being signed).
7. Evidence of planning permission/certificate of lawfulness obtained for build and operation of the demonstrator (where relevant), or at minimum pre-application checks and a provisional plan for approval.
8. Relevant sign-off (where needed) from HSE, Environment Agency and equivalents in devolved regions, or evidence of robust plan with pre-application.

⁸ In some instances, the monitoring services will be provided by an external organisation. External organisations will be subject to a confidentiality agreement.

9. Electricity supply agreement in place as needed (e.g. formal grid connection offer or direct wire connection) with timeframes agreed, or evidence of existing infrastructure and agreement.
10. Fuel supply/equipment agreed e.g. production and delivery timescales agreed.
11. Confirmation of proof of match funding within 3 months of the Grant Funding Agreement being signed e.g. bank statement, MOU or section in consortium agreement.
12. Where needed, Final Investment Decision taken for full project.

The stage gate will include a discussion between the project team, the monitoring officer, technical experts and BEIS representatives focussed on the delivery plan and the key risks and challenges. The discussion will ascertain whether any of the residual risks are unacceptable to BEIS and the project team, to make a joint decision on if/how to progress. Where, in the opinion of the BEIS project team, unsatisfactory progress has been made, the BEIS SRO will review the evidence and make the final decision on progressing.

Projects that are deemed to have no realistic chance of completion may be cancelled and / or future funding withheld. Projects which fail the Stage Gate but deemed to have a realistic chance of completion will be given 1 month to demonstrate to BEIS that they have undertaken remedial action and can satisfy the Stage Gate criteria. If such action is not undertaken, or is unsatisfactory the project may be cancelled and future funding may be withheld.

4 Competition Timetable and Process Overview

4.1 Competition Timetable

Phase 2 is a demonstration phase, where projects are required to demonstrate their system in a relevant or operational environment. Indicative key dates applicable to Phase 2 of the competition are shown below. Please note BEIS reserves the right to vary these dates.

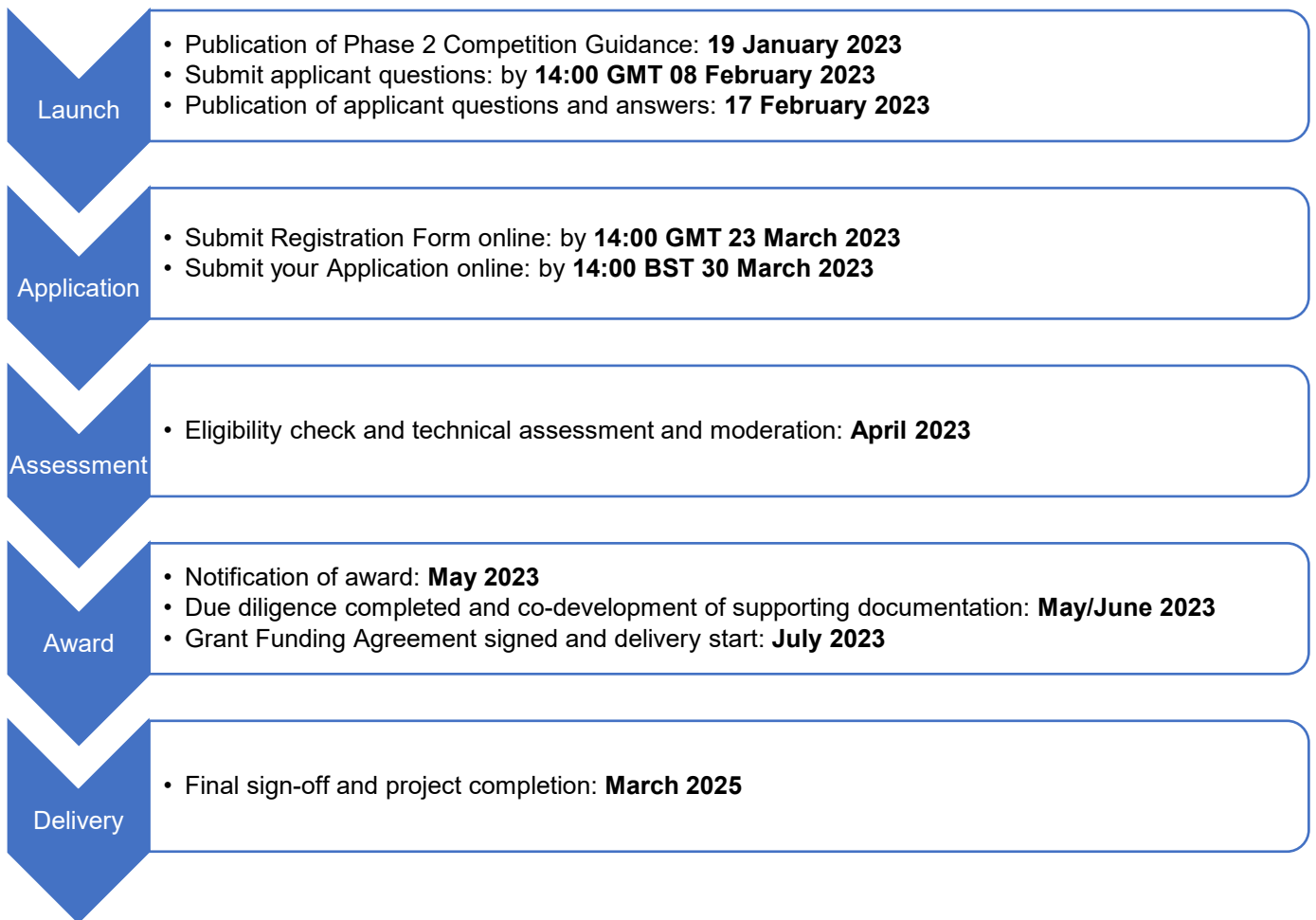


Figure 2 Phase 2 Timeline

4.2 Competition Process Overview

4.2.1 Stage 1: Application

Please make sure you have read this guidance before starting your application.

Registering interest to apply for the Competition

Prospective applicants must register their interest in applying to this competition by completing an [online registration form](#) by 14:00 GMT, 23 March 2023, following which a password will be provided in a confirmation email. This password will be required in order to access and complete the competition application form for submission. The online registration form will be closed after this time to new applicants.

Applicants that do not register will not be able to access the competition application form and hence will not be able to submit a bid application for the Competition. Previous correspondence relating to Expressions of Interest or attendance at any Red Diesel Replacement stakeholder events does not result in an automatic registration. There is no obligation to submit an application if you register.

Questions about the Competition

If you have any questions about the competition or require clarifications on the eligibility criteria after reading these guidance notes, please raise queries in the first instance through the online [Questions form](#) for the competition.

All questions should be submitted by 14:00 BST, 08 February 2023. Questions submitted after this deadline may not be answered. We will provide replies to any questions which, in our judgement, are of material significance, through an online anonymised FAQ sheet published on our [website](#) by 14:00 GMT, 17 February 2023. All applicants should take the answers to the clarification questions, the online FAQs and this competition guidance into consideration when preparing their own bids. BEIS will evaluate bids on the assumption that they have done so.

Submission of Application

To apply for this competition, applicants must complete and submit the [online competition application form](#) by 14:00 BST, 30 March 2023. Any supporting materials must be attached to the online application form and in line with the guidance on such materials. Please note that each supporting document cannot exceed the size limit set within the application form, so we advise checking these in advance.

BEIS strongly recommends that you begin to complete the application form several days before the application submission deadline, to ensure that you leave ample time to complete and submit the entire application. Applications (or any part of an application) submitted after the deadline will not be accepted. You must have uploaded all supporting information and declarations and clicked 'submit application' by the application deadline.

You can save your application at any time by clicking 'Save and Continue Later'. You will then be e-mailed a link which you can use to return to your application and complete it.

You may also find it useful to review an offline copy of the application form, available through the [competition website](#). This is a Word document copy of the questions that will be asked of you in the online application form, which you can use to view the sequence of all the questions and to plan your time allocation or content prior to submitting your application. The offline Word document is **for reference only and cannot be submitted as your application**. All applications will need to be completed and submitted through the online platform.

Alongside the offline Word application form, you will find offline examples of the forms and declarations you need to complete and return with your application. These examples are **also for reference only**. In your online application, you will be provided with links to download these forms and declarations. You then need to sign them (**please note you cannot do this directly in the application platform**) and re-upload them to your application.

If you have any enquiries regarding your online application, please contact RDR@beis.gov.uk.

Submission Content/Checklist

Each Phase 2 application must include the following:

Completed application form (online), including attachments:

1. RDR Technical Performance and Emissions, an Excel spreadsheet of technical and emissions parameters of your system/solution (a template is downloadable through the online application form and on the RDR website)
2. Project Cost Breakdown Form (a template is downloadable through the online application form and on the RDR website)
3. Project work package description
4. Project Gantt chart (PDFs versions to be provided alongside original formats)
5. Project organogram
6. Project risk register
7. Project team CVs (CVs should be no longer than 2 pages each)
8. Referenced Figures, including schematics, diagrams and pictures (optional)
9. Letters of support (optional)
10. Supporting information document (optional)
11. Partner Information Form (if you have project partners, and this can be found on the RDR website)

The following forms are downloadable through the online application form and on the RDR website; applicants must complete, sign and re-upload these to their application:

- Declarations – applying as a collaborative project, the lead applicant should collated declarations from partners and sub-contractors to upload:
 - Declaration 1: Statement of Non-Collusion
 - Declaration 2: Form of Bid

- Declaration 3: Conflict of Interest
- Declaration 4: Code of Practice
- Declaration 5: Modern Slavery Statement
- Declaration 6: Standard Selection Questionnaire (SSQ) Parts 1, 2 & 3
- Declaration 7: The UK General Data Protection Regulation (GDPR) Assurance Questionnaire for Contractors

Any supporting materials must be attached to the online application form.

You should endeavour to answer all questions on the application form in full. Incomplete applications and any containing incorrect information will very likely be rejected although BEIS may, at its discretion, request clarification before making a final decision.

Any **applications or supporting documentation received after the application deadline will not be considered**. Please do not leave the uploading of your bid to the last few days – please plan ahead and prepare well in advance.

Key information about your application

Application costs: You will not be entitled to claim from BEIS any costs or expenses that you incur in preparing your bid, whether or not your proposal is successful.

Bid Validity: Bids shall be valid for a minimum of 180 calendar days from the submission deadline (14:00 BST, 26 September 2023).

Project arrangements: Bids may be submitted by single applicants or project teams (consortia). For consortium bids, only one application should be submitted for each project.

BEIS recognises that arrangements in relation to consortia and sub-contractors may (within limits) be subject to future change. Suppliers should therefore respond in the light of the arrangements as currently envisaged and are reminded that any future proposed changes in relation to consortia and sub-contractors must be submitted to BEIS for approval.

If a consortium is not proposing to form a separate corporate entity, the project partners will need to complete a Consortium Agreement. We would expect to see included the following non-exhaustive list:

- Arrangements for the management and coordination of the project
- Responsibilities (including funding) and liabilities of the partners
- IP arrangements
- Reporting and publication arrangements, access to results and confidentiality provisions
- Consequences of termination or default and ways of handling disputes

Please note that a consortium agreement will not be required at application stage but must be provided within 1 calendar month of the funding agreement being signed. Funding will not be paid by BEIS until a signed consortium agreement has been finalised between all the members of the project consortium. BEIS reserves the right to require a successful consortium to form a

single legal entity in accordance with Regulation 28 of the Public Contracts Regulations 2015 (as amended by the Public Procurement (Amendment etc.) (EU Exit) Regulations 2020).

Applicants will be required to provide information about their project partners at application stage by completing the Partner Information Form (Annex 5) and attaching it to the online application form.

For the purposes of the RDR competition, a project partner is likely to be an organisation responsible for the delivery of a significant innovative programme element or standard service; project partners must sign the consortium agreement and use a grant intensity appropriate for their organisation. A sub-contractor is likely to be an organisation delivering a standard service, as organised through a separate contract at market value. Sub-contractors will not be required to sign the consortium agreement. Sub-contractors delivering more than 10% of the work (by value) must be named in the application, with information provided on the organisation size, what work they will be delivering, where the work will be located, who they are sub-contracted to, and evidence of their commitment to the project (e.g., a signed letter of support). If a small organisation, receiving a higher grant intensity, is sub-contracting a large portion of their work to a large organisation, BEIS will review at assessment and due diligence stage whether this is appropriate and whether the funding requested is at an acceptable level; clarifications may be required.

Terms & Conditions: The lead organisation must agree to the terms and conditions outlined within the Grant Funding Agreement. How the consortium manages the commitments that the lead organisation makes on its behalf is the responsibility of the consortium.

4.2.2 Stage 2: Assessment

Applications will initially be assessed against the Eligibility Criteria in Section 6. Applications which fail the Eligibility Criteria will not be assessed further, so it is essential to ensure that your project meets these criteria before you submit your application.

The eligible projects will be further assessed against the assessment criteria described in Section 7, by a minimum of 3 reviewers, which may include external reviewers⁹. These scores will then be moderated to determine an overall ranking list that will be used to allocate the funding for the Competition. To be eligible for funding, projects must achieve a minimum of 60% overall threshold mark, with a minimum score of 2 against all sub-criteria. For further details on the criteria and scoring, please refer to Section 7.

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

⁹ All external reviewers will have signed up to adhering to strict conflicts of interest and confidentiality terms.

4.2.3 Stage 3: Grant Award

Following notification of a successful application, the eligible costs of proposals will be checked, and the company's financial viability confirmed (refer to Section 10.1 for more detail). If the results are deemed satisfactory, a Grant Offer Letter and Grant Funding Agreement will be awarded in **July 2023**. Please note that BEIS reserves its right to not award any grant agreements under this competition.

The terms and conditions will be based on the BEIS template Grant Offer Letter and Grant Funding Agreement provided in Annex 1. These terms and conditions are final and non-negotiable: by applying to the competition, you are agreeing to these terms and conditions. It is crucial that all applicants review the terms and conditions prior to the submission of their application and ask any questions during the Q&A clarification window up to 14:00 BST, 08 February 2023 prior to submitting the bid. If an applicant refuses to agree to the terms of the Grant Offer Letter or Grant Funding Agreement, or unduly delays the signing and returning of these documents, BEIS may withdraw the Grant Offer Letter and/or Grant Funding Agreement. The application will be deemed to have been rejected/disqualified from the process.

For consortium bids, the lead company (project co-ordinator) will be the recipient of the funding agreement and will be responsible for managing payment to the other project partners.

For organisations currently involved in Phase 1 of RDR, please note that the Phase 1 final report must have been fully approved by BEIS prior to a Phase 2 grant being awarded to a consortium of which they are a member, following a successful outcome at the assessment stage.

5 Budget and Restrictions on Funding

5.1 Competition Budget and Availability

The total budget available for the Competition is £32.5 million, with up to £12 million available for each project. BEIS will award no more than £10 million to a single organisation, which may be for one project or across multiple projects. The competition funding will be awarded via grants.

Projects which meet the minimum assessment threshold will be ranked by total score and allocated funding in order of merit until the available funding is utilised or there are no more suitable projects (whichever comes first). BEIS may also, at its discretion, choose not to make an award or allocate an award that is less than the total budget depending on the quality of applications.

BEIS reserves the right to allocate more or less than the total budget depending on the number and quality of applications received and budget availability. In the event of securing additional budget, BEIS can award funding to additional projects at any point. Bidders should not rely on there being further funding available for the competition in excess of the allocated budget. BEIS may also, at its discretion, choose not to make an award or allocate an award that is less than the total budget depending on the quality of applications.

IMPORTANT INFORMATION

No Reliance

Nothing in this funding call requires BEIS to award any applicant a funding agreement of any particular amount or on any particular terms. BEIS reserves the right not to award any funding agreements.

Applicants apply for funding in this competition at their own risk and expense. BEIS will not, under any circumstances, be liable for nor make any contribution to the costs of participation, preparing proposals and taking any professional or specialist advice. Applicants accept the risk that they may not be awarded a grant. BEIS gives no guarantee or warranty as to the nature, or number of projects funded.

5.2 Grant Funding Intensities

The Competition will support successful applicants through subsidies awarded in the form of grants towards the eligible costs of the proposal. Since 1 January 2021, public authorities must comply with our international commitments on subsidies in the UK-EU Trade and Co-operation Agreement (TCA), and other trade agreements, as well as the WTO (World Trade

Organisation) rules on subsidies.¹⁰ Subsidy rules dictate the types of costs that applicants can claim grant support for, as well as the maximum level of grant funding that they can receive which may differ by organisation type, size, and location.

BEIS will operate within the UK-EU TCA requirements and WTO rules.¹¹ The funding rules set out in this Guidance Document are specific to this Competition only.

The rules set out in this document apply equally to all applicants from England, Wales, Scotland, and Northern Ireland that are eligible to receive funding (except where specifically indicated below, regarding the definition of a parent and associated grant intensity requirements). Grants awarded to applicants and partner organisations from Northern Ireland will also be subject to scrutiny from the European Commission in accordance with Article 10 of the Northern Ireland Protocol in the UK/EU Withdrawal Agreement.¹²

If the European Commission considers a business or any undertaking to have been incorrectly in receipt of grant funding, that undertaking is likely to be required to repay any aid received to the value of the gross grant equivalent.

Applicable subsidy intensities for this competition will depend on:

- The type of organisation
- Your organisation's size
- The activity being undertaken

The following section sets out how these factors affect subsidy intensity, followed by detailed definitions of the factors.

Definitions

The following definitions will apply:

Business means an organisation undertaking economic activities. As given in **Table 1**, businesses are categorised as small, medium or large determined by both their:

- staff headcount; and,
- either turnover or balance sheet total

Table 1 SME definitions

Company category	Staff headcount	Turnover	OR	Balance sheet total
Medium	< 250	≤ £45m		≤ £39m

¹⁰ <https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities>

¹¹ <https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities>

¹² <https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities/technical-guidance-on-the-uks-international-subsidy-control-commitments#section-7>

Small	< 50	≤ £9m		≤ £9m
-------	------	-------	--	-------

Applicants will be required to specify whether project costs classify as Industrial Research or Experimental Development in the Project Costs Breakdown Form at application stage.

Industrial Research means the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services. Industrial research may comprise the creation of components parts of complex systems and may include the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems as well as of pilot lines, when necessary for the industrial research and notably for generic technology validation.

Experimental Development means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services. This may also include, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services.

Experimental development may comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real-life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set. This may include the development of a commercially usable prototype or pilot which is necessarily the final commercial product, and which is too expensive to produce for it to be used only for demonstration and validation purposes.

Experimental development does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements.

Research and Knowledge Dissemination Organisation means an entity (such as universities or research institutes, technology transfer agencies, innovation intermediaries, research-oriented physical or virtual collaborative entities), irrespective of its legal status (organised under public or private law) or way of financing, whose primary goal is to independently conduct fundamental research, industrial research or experimental development or to widely disseminate the results of such activities by way of teaching, publication or knowledge transfer. Where such entity also pursues economic activities the financing, the costs and the revenues of those economic activities must be accounted for separately. Undertakings that can exert a decisive influence upon such an entity, in the quality of, for example, shareholders or members, may not enjoy preferential access to the results generated by it.

Applicants will be required to specify whether project costs classify as Industrial Research or Experimental Development in the Project Costs Breakdown Form at application stage.

Grant Intensities

The maximum amount of grant funding that can be provided towards project costs (as a percentage of the overall project cost) is summarised in **Table 2**. The maximum funding level available varies by organisation size and research category (activity). These maximum grant intensities apply to applicants and, if relevant, consortium partners.

If an application or partner business has a parent company, the data concerning the parent company and the applicant company (cumulatively) must be used when calculating the organisation size (as outlined in Table 2) and subsequent maximum grant intensity (as outlined in **Table 2**). For applicants and project partners based in Great Britain, a parent company is defined as an enterprise with controlling interest (>50% control) of the subsidiary company.

For applicants or project partners based in Northern Ireland, for the purposes of the RDR Phase 2 Competition, the definition of a parent company includes any 'partner enterprise(s)' or 'linked enterprise(s)' as defined in Annex I of the guidance linked in the footnote below.¹³ When calculating the organisation size (as outlined in **Table 1**) and subsequent maximum funding entitlement (as outlined in **Table 2**), applicants & project partners based in Northern Ireland must adhere to the instructions outlined in Annex I of the linked guidance.

Table 2 Maximum Grant Intensities for collaborative projects

Research Category	Business Size	Maximum amount of grant funding towards total eligible Project Costs
Industrial Research	Small	80%
	Medium	75%
	Large	65%
Experimental Development	Small	60%
	Medium	50%
	Large	40%

Match funding must be provided for Phase 2 projects. Confirmation that match funding will be available must be provided at application stage, for example a Letter of Intent from the funder/investor specifying their intent/agreement to provide an amount of funding and any conditions on that funding. This can be included in the Supporting Information document. Match funding for the whole project must be confirmed/approved and evidenced within 3 months of the Grant Funding Agreement being signed, and in advance of the of the first payment milestone. The evidence provided could, for example, be a bank statement, Memorandum of Understanding or agreement within the signed consortium agreement. This will be taken into consideration for the first stage gate (approx. 6 months into delivery). Debt and equity are acceptable sources of match funding, provided that this is accessible and projects are able to provide evidence of the availability of this funding within the timescales described. In circumstances where equity or debt is not accessible for use against project

¹³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02014R0651-20210801>

costs by the first milestone, for example where equity has not been sold/released, this would not be an acceptable form of match funding. In kind contributions such as staff time can be included in the match funding total, as long as they relate to eligible project costs, are appropriately costed at a fair market value, and are robust, realistic and justified in terms of the proposed project plans.

Requirements

It is a requirement of receiving this funding that projects ensure that the results of the project are widely disseminated through conferences, publication, open access repositories, or free or open-source software. See Section 8.6 for more information.

Compliance with grant intensity and overall funding limits is a further requirement of this Competition and the risk of non-compliance rests with the grant recipient. It is therefore crucial that you address these rules within your application, as any errors at this stage may result in BEIS being able to offer only a reduced level of funding or repayment of grant by applicants.

Grant recipients must adhere to all Subsidy Control obligations set out in the Grant Funding Agreement. Failure to do so may result in termination and clawback of funding.

If an applicant breaches the grant funding requirements for this Competition, for whatever reason, BEIS requires repayment of any grant received, including interest, above that which was due. In this situation applicants will be required to repay any funding received.

Whilst applications cannot be led by universities, we welcome university consortium partners when they can add value. As with other Government funding bodies funding higher education institutions, we will not pay more than 80% of the Full Economic Costs (FEC) calculated using the Transparent Approach to Costing (TRAC) methodology. Any applications requesting items that would ordinarily be found in a department, for example non-specialist computers, should include justification. Where applicable, other research organisations (i.e. Research and Technology Organisations) that are not higher education institutions, can receive up to 100% funding if they are **not** undertaking economic activities in the project.

Advice for Collaborative Applications

For collaborations containing different sized enterprises or research organisations, funding intensity is related to the partner company (and/or parent company if applicable) receiving the aid. Hence for example, for a collaborative Industrial Research project: a large enterprise consortium member can only be reimbursed up to 65% of its costs, whereas a small enterprise collaborator can be reimbursed up to 80% of its costs. Similarly, for a collaborative Experimental Development project: a large enterprise consortium member can only be reimbursed up to 40% of its costs, whereas a small enterprise consortium member can be reimbursed up to 60% of its costs.

Applicants who have submitted an application into this Competition as a collaboration and are successful must also submit a copy of their consortium agreement within 1 month of the Grant Funding Agreement being signed. BEIS will review the consortium agreement before any grant payment is made to ensure that proposed collaborations are viable and robust. For

collaborative projects BEIS will only issue a grant to a single legal entity, so collaborative bids will be required to appoint a lead organisation/applicant for grant award.

For the purpose of the Red Diesel Replacement Phase 2 competition, projects may include a mix of industrial research and experimental development related costs. For such projects the maximum subsidy levels will be based on the individual thresholds for that type of research activity (further guidance can be found in the Project Cost Breakdown Form).

For example, a project led by a small business 25% of whose costs classified as industrial research and 75% classified as experimental development would have a maximum aid threshold, based on project out-turn costs, of 65%. A large business consortium partner 50% of whose project costs classified as industrial research and 50% classified as experimental development would have a maximum aid threshold, based on project out-turn costs, of 52.5%.

This scenario is demonstrated in **Table 3**.

Table 3 Maximum aid thresholds for research categories, as based on project out-turn costs

Business Size	Research Activity	Maximum Aid Threshold	Percentage of project	Effective Aid Threshold
Small business	Industrial Research	80%	25%	20%
	Experimental Development	60%	75%	45%
Maximum project aid rate	65%			
Large business	Industrial Research	65%	50%	32.5%
	Experimental Development	40%	50%	20%
Maximum project aid rate	52.5%			

Whilst BEIS will check the information provided to try and ensure that applicants meet the requirements of the subsidy categories, it is the responsibility of applicants to establish that they fall within the aid rules before submitting applications. BEIS requires applicants to notify them of any change to situation or circumstance during the project.

Calculating Other Public Funding

When considering levels of subsidy (described above), public funding includes the grant and all other funding from, or which is attributable to, other government departments, UK public bodies, other Governments or Government organisations. Such funding includes grants or other subsidies made available by those bodies or their agents or intermediaries (such as grant funded bodies).

In applying to this competition, you must state if you are applying for, or expect to receive, any funding for your project from public authorities (in the UK or elsewhere). Any other public funding will be cumulated with BEIS funding to ensure that the public funding limit and the subsidy intensity levels are not exceeded for the project. Public funding cannot be used as part of the match funding contribution.

Whilst BEIS will check the information provided to try and ensure that applicants meet the requirements of the subsidy categories, it is the responsibility of applicants to establish that they fall within the competition rules before submitting applications. BEIS requires applicants to notify them of any change to situation or circumstance during the project. It is essential to ensure that the total grant funding for the project from public sources does not exceed the permitted percentages stated for the relevant subsidy category.

For any breach of subsidy requirements, please consult the Grant Funding Agreement that can be found in Annex 1 of the supporting documentation to this Competition Guidance and is also available within the application form and on the [competition website](#). Grant recipients must adhere to all Subsidy Control obligations set out in Clause 15 of the Grant Funding Agreement. Failure to do so may result in termination and clawback of funding as per Clause 26.

As part of the assessment process, the added value and additionality of public funding will be tested. Applicants will need to demonstrate why public funding is required to deliver this project.

6 Eligibility for Funding

6.1 Competition Eligibility Criteria

To be eligible for funding under the RDR Phase 2 competition, proposed projects must meet all the following eligibility criteria. These will be listed in the online application form as the Yes/No questions exemplified below. BEIS will consider all information on the application form when reviewing project eligibility. If, after reading this competition guidance, you are still uncertain whether your project is eligible, organisations may seek clarifications on eligibility by entering your question into the [Questions form](#) during the Q&A clarification window.

1. Technology and Project Scope

The competition is looking to fund innovation in “well-to-work” NRMM deployed in the construction, mining and quarrying sectors. Projects must include production, distribution, storage and delivery, and end-use in a robust chain as a single project.

Please see Section 2.2 for more details on the project scope and exclusions.

Eligibility question: Is this project and technology in scope? YES/NO

2. Innovation and Technology Readiness

The competition is to support the development of a “well-to-work” red diesel replacement system for NRMM, which will be made up of component technologies, some of which may be more mature than others. There are no specific technology readiness levels required for the component technologies, but projects must be able to justify that the full end-to-end system/solution and/or specific technologies within it are innovative and unproven prior to launch (i.e. below TRL 9) and that the full end-to-end system/solution being demonstrated on the project achieves a minimum of TRL 7 by the end of the project. This includes confirming that the system can’t currently be procured as a whole on the open market and there is uncertainty over its success. Note that individual components are permitted to be mature/commercially available.

Eligibility question: Is this proposed system innovative and pre-commercial and achieves a minimum of TRL 7 by the end of the project? YES/NO

3. Project Status

BEIS is unable to fund retrospective work on projects.

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

4. UK requirements

Projects can work with international partners, but over 50% of the funded project work (by financial value) must be conducted in the UK. The physical demonstration of the proposed solution must be conducted in the UK.

Eligibility question: Can you confirm that over 50% of the work by financial value will be carried out in the UK and the demonstration would be located in the UK? YES/NO

5. Additionality

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

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

6. Grant Size and Funding

The minimum and maximum requested grant funding available per demonstration project is £1 million and £12 million, respectively. BEIS will award no more than £10 million to a single organisation, which may be for one project or across multiple projects. As this is a grant competition, project teams must provide match funding in accordance with the guidance set out in Section 5.2. Proof of match funding is required within 3 months of the Grant Funding Agreement being signed.

Eligibility question: Can you confirm the grant funding requested from BEIS for your demonstration project is between £1 – £12 million? YES/NO

Eligibility question: Can you confirm the grant funding requested for by a single organisation within your application does not exceed £10 million? YES/NO

Eligibility question: Can you confirm that you are able to source the required match funding for this project and evidence this within the timeframe? YES/NO

7. Eligible Project Costs

The eligible costs are set out in Section 2.2 and Appendix 2: Eligible and Ineligible Costs. Guidance on capital costs and residual value is given in Appendix 3: Residual Value Guidance.

The grant intensity thresholds are given in Section 5.2. Funding can only be used for activities and items directly required for the proposed demonstration project.

Eligibility question: Can you confirm that requested funding is for eligible costs and meets the grant intensity thresholds? YES/ NO

8. Project Timescale

It is anticipated that project delivery will begin in July 2023. The draft final report must be completed and sent to BEIS by 07 February 2025. BEIS will review the report and feedback accordingly by 28 February 2025. The demonstration of the end-to-end system must be complete by February 2025. All project work related to the demonstrator, including the final BEIS-approved report, must be completed by 14 March 2025.

Eligibility question: Can you confirm that your project will be completed within the timescales set out? YES/NO

9. Delivering Multiple Projects

If project consortium member(s) are part of multiple successful applications (maximum of 3), they must be able to deliver on all projects.

Eligibility question: If you or a member of your consortium are part of multiple applications, would you and/or they be able to successfully deliver all projects, if necessary? YES/NO/Not Applicable

10. Grant Terms and Conditions

The terms and conditions of the project funded through this Competition are detailed in the Grant Offer Letter and Grant Funding Agreement in Annex 1. These terms and conditions are final and non-negotiable. All questions pertaining to the contents within the Grant Offer Letter and/or Grant Funding Agreement should be raised during the Q&A clarification window.

Eligibility question: Can you confirm that if your application is successful that you are prepared to enter into a grant funding agreement with BEIS based on the terms and conditions detailed in the Grant Offer Letter and Grant Funding Agreement in Annex 1? YES/NO

11. Applicants and Project Team Composition

Applications can be led by a single organisation or by consortium. For consortium bids, a single project application must be submitted by the lead project member (the project co-ordinator) on behalf of the consortium.

Applications must be led by private organisations or research and technology organisations (RTO) and may not be led by universities or non-commercial organisations. Similarly, other Government Departments, Agencies and local authorities are not eligible to enter as the lead

applicant, but they can act as a project partner or sub-contractor. Special Purpose Vehicles are permitted to lead projects only if they are constituted as legal entities.

Eligibility Question: Do you confirm that this project is led by a private organisation or RTO? YES/NO

12. Knowledge Sharing

Projects will be expected to share the knowledge gained through the funded activities widely and publicly. See Section 3 for deliverables and Section 8.6 for dissemination requirements.

Eligibility Question: Do you agree to share the knowledge gained widely and publicly? YES/NO

13. Ukrainian conflict sanctions

BEIS will not provide funding for procurement, commercial or business development or supply chain activity with any sanctioned entity.

Eligibility question: Can you confirm that all parties involved in this bid application do not have any activities with any sanctioned entity? YES/NO

6.2 General BEIS Conditions

Applicants must not meet any of the BEIS grounds for mandatory rejection, and as a general rule they should not meet any of the BEIS grounds for discretionary rejection (see Appendix 6: Exclusion Grounds). Applicants will be required to declare this as part of completing the Standard Selection Questionnaire.

There are seven declaration forms which must be completed (see **Annex 2**):

- Declaration 1: Statement of Non-Collusion
- Declaration 2: Form of Bid
- Declaration 3: Conflict of Interest
- Declaration 4: Code of Practice
- Declaration 5: Modern Slavery Statement
- Declaration 6: Standard Selection Questionnaire (SSQ) Parts 1, 2 & 3
- Declaration 7: The UK General Data Protection Regulation (GDPR) Assurance Questionnaire for Contractors

These declarations are provided in the online application form and can also be downloaded from the [competition website](#). All declarations must be signed and uploaded to the online proposal by the applicant.

6.3 Conflicts of Interest

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

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

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

This is managed in the procurement process as follows:

- During the bidding process, applicants may contact BEIS to discuss whether or not their proposed arrangement is likely to yield a conflict of interest.
- **Suppliers are asked to sign and return Declaration 3** to indicate whether or not any conflict of interest may be, or be perceived to be, an issue. If this is the case, the contractor or consortium should give a full account of the actions or processes that it will use to ensure that conflict of interest is avoided. In any statement of mitigating actions, contractors are expected to outline how they propose to achieve a robust, impartial and credible approach to the research.
- When bids are assessed, this declaration will be subject to a pass/fail score, according to whether, on the basis of the information in the proposal and declaration, there remains a conflict of interest which may affect the impartiality of the research.
- Failure to declare or avoid conflict of interest at this or a later stage may result in exclusion from the procurement competition, or in BEIS exercising its right to terminate any contract awarded.

Applicants will be subject to financial viability checks, as described in Section 10.1. BEIS will make a decision as to the eligibility of projects based on the results of these checks.

7 Assessment Process and Criteria

All applications will be considered initially against the competition eligibility criteria (described in Section 6.1). Applications which fail the eligibility criteria will not be assessed further, so it is essential to ensure that your project meets these criteria before you submit your application. Ineligible applications will receive brief feedback on the reason for their ineligibility. Eligible projects will be further assessed against the assessment criteria described in Section 7.1 by a minimum of 3 reviewers, which may include external reviewers.¹⁴

Project scores will be moderated to determine a ranking list that will be used to allocate the funding, starting from the highest scoring projects. To be eligible to receive funding, a project must achieve a moderated score of at least 2 out of 5 against each sub-criterion (or criterion if there are no sub-criteria), with a minimum total weighted score of 60%. If budget is available after the initial award, additional projects may be funded in line with the process described in Section 7.3. Should any bidder achieve a moderated score of 1 in any of the criteria or sub-criteria, this will result in exclusion from the competition.

The Application Form and these Guidance Notes are designed to inform you about the types of information you should be prepared to provide to BEIS in your online application. The individual bullet points listed under the assessment criteria headings in Section 7.1 are not assessment sub-criteria but are an indication of the factors considered when assessing each proposal, so applicants should aim to address all of them to achieve high marks.

7.1 Assessment Criteria

There are 3 assessment criteria, with sub-criteria for the RDR Phase 2 Competition, as shown in Table 4 below. Each criterion will be awarded a score of 1 to 5 based on the scoring guidance summarised in Section 7.2.

¹⁴ All external reviewers will have signed up to adhering to strict conflicts of interest and confidentiality terms.

Table 4 Summary of Assessment Criteria

Criteria	Weighting (%)
1. Innovation & Performance	35
1a) Innovative Solution	10
1b) Performance and Feasibility	15
1c) Emissions, Environment, and Safety	10
2. Project Delivery	45
2a) Project Team Experience and Consortium Governance	10
2b) Delivery Plan and Risk Management	15
2c) Commercialisation Plans	15
2d) Dissemination	5
3. Project Financing	20
3a) Justification of Costs	10
3b) Additionality and Value for Money	10

Criterion 1	Innovation & Performance
Weighting	35%, split into: 1a 10%, 1b 15%, 1c 10%
Guidance	This criterion will be used to assess the motivation for the demonstration project, the technical performance of the proposed solution and its environmental impact.
Criterion 1a	Innovative Solution
Weighting	10%
Guidance	<p>Maximum word count: 1,500</p> <p>This sub-criterion will assess how well the project will support the competition objectives, the level of innovation and how appropriate the demonstration is in representing/simulating live conditions.</p> <p>Applicants are expected to:</p> <ul style="list-style-type: none"> • Provide an overview of the proposed demonstration project, the project aims objectives, and any benefits of the solution. Provide evidence that the integrated solution is a robust end-to-end system (i.e. it is a full

	<p>system configuration that, if successful, could reasonably be utilised and/or scaled up for use long term on a commercial basis).</p> <ul style="list-style-type: none"> • Explain how the project will support the RDR Innovation Programme objectives (Section 1.3). • Describe how the proposed system is innovative and novel and outline the core innovation(s) in the project. Explain how your solution compares against the current state of art solutions and/or competing innovative solutions, and how your proposed approach is different and improved. • Summarise the work that has been done to date on the solution. Describe what technological progress will be made through the project and the potential for knowledge gain in the system and technologies. Estimate and justify the Technology Readiness Level (TRL) of the system and separately its component technologies at the start and end of the proposed project, and how you will ensure that the system achieves TRL7 by the project end. • Describe the demonstration site you are proposing to use and how it is representative of real-life conditions for the construction, mining or quarrying sectors and particularly for the equipment that will be used in the demonstration. • Explain what a successful project looks like, stating what levels of performance constitute a successful demonstration, including metrics that will be used to measure performance. <p>Higher marks will be awarded to answers where the project is: clearly described; is innovative; will strongly support the competition objectives; is representative of the construction, mining or quarrying sectors; and will lead to a large amount of technical progress and knowledge gain.</p>
Criterion 1b	Performance and Feasibility
Weighting	15%
Guidance	<p>Maximum word count: 2,000</p> <p>This sub-criterion will assess how the project will meet the competition scope and provide a cutting edge end-to-end system to demonstrate its ability to replace red diesel at construction or mining and quarrying sites.</p> <p>Applicants are expected to download, complete and upload the following as supporting documentation that will be assessed:</p> <ul style="list-style-type: none"> • RDR Technical Performance and Emissions (Excel), including all sheets to describe the key technical and emission parameters of the proposed end-to-end system. Where needed, distinguish between the

	<p>pilot/demonstration scale and commercial industrial scale system in your answer.</p> <p>In the text box response to this sub-criterion, applicants are expected to:</p> <ul style="list-style-type: none"> • Provide evidence that the proposed approach is technically feasible, providing justifications for all technical data provided. • Describe the performance of all individual technologies in the proposed system (e.g. production, distribution, storage and end-use). Justify why these specific technologies have been chosen and why this is the best design of the system (e.g. technology choice, configuration/integration, capacity). • Provide an assessment of the overall system performance, including efficiency, reliability, availability, expected maintenance requirements and required duty cycle for the equipment being demonstrated. • Outline any uncertainty about technical and regulatory feasibility and explain how the demonstration project will address these uncertainties. • Describe how the performance will be further validated through the demonstration. Describe how your project will prove or improve knowledge about the long-term feasibility, reliability and viability of the solution. • Describe the cost of the solution (£/kWh) at each part of the system and overall, highlight the main uncertainties associated with cost estimates and explain how the design and execution of your physical demonstration will address these uncertainties. • Explain how the demonstrator will be used after this project has been completed or detail the decommissioning strategy. <p>Higher marks will be awarded to answers where the project is: clearly described; will strongly support the competition objectives; is innovative; will lead to a large amount of technological progress; and will provide a credible and ongoing demonstration.</p>
Criterion 1c	Emissions, Environment and Safety
Weighting	10%
Guidance	<p>Maximum word count: 1,500</p> <p>This sub-criterion will assess the impact the proposed solution will have on carbon emissions, air quality and other environmental factors, as well as on the approach to ensuring that the solution is utilised in a safe and secure way. Note that the Excel document ‘RDR Technical Performance and Emissions’ completed by applicants as part of criterion 1b will be used as supporting documentation that will be assessed in this sub-criterion as well.</p>

	<p>Applicants are expected to:</p> <ul style="list-style-type: none"> • Provide evidence on the expected carbon emissions intensity (kg CO₂e/kWh) at each stage of the end-to-end system. Give the emissions breakdown as follows: energy/fuel produced at the production gate; energy/fuel distributed and stored from production gate to end use; and the end use equipment considering refuelling/charging to work. Explain how the end-to-end system achieves carbon savings compared to the red diesel baseline (0.960 kgCO₂e/kWh_{LHV}¹⁵). • Explain the effect of scaling your technology on carbon emissions across the industry you are targeting and others. • Provide evidence on the expected air quality impacts of the end use equipment, with the comparator being a EU Stage V engine in NRMM. • Describe and provide evidence on the wider environmental impact and safety of your solution (e.g. methane leakage, emissions from volatile organic compounds (VOCs) and other pollutants, scarce materials, water usage, waste, noise, safety regulatory requirements etc.) and how any potential negative impacts can be mitigated in the demonstration and commercial deployment. • Explain how relevant environmental impacts would be monitored, measured and mitigated during the demonstration project. Where significant environmental risks are identified, appropriate mitigation actions must be described, and possible improvements between the demonstration project and commercial scale should be identified and justified. • Summarise the approach to safety during the demonstration/deployment, including roles of expert staff and safety plan approach. See Section 2.3 and Appendix 5: Environment and safety resources. <p>Higher marks will be awarded to answers where there is: strong evidence provided and reasonable assumptions; high abatement and minimal negative environmental impacts; and the project has a robust approach to safety and monitoring.</p>
--	---

Criterion 2	Project Delivery
Weighting	45%, split into: 2a 10%, 2b 15% 2c 15%, 2d 5%

¹⁵ “Well-to-use” red diesel GHG emission factor from 2022 BEIS conversion factors: Gas Oil (red diesel) emissions from combustion + upstream processing: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022>. “Well-to-work” red diesel GHG emission baseline derived by assuming 35% efficiency of an internal combustion engine on a representative NRMM.

Guidance	This criterion will be used to assess the robustness of the consortium and plans to enable successful delivery of the demonstration, commercialisation plans for the solution and how the project successes and learnings will be disseminated.
Criterion 2a	Project Team Experience and Consortium Governance
Weighting	10%
Guidance	<p>Maximum word count: 1,500</p> <p>This sub-criterion will assess the project team’s experience, skills and capabilities, as well as the robustness of the consortium arrangement and governance.</p> <p>Applicants are expected to provide and upload the following as supporting documentation that will be assessed:</p> <ul style="list-style-type: none"> • An organogram outlining the involvement and roles of key organisations and individuals. • Brief CVs of key individuals within the project team, including partner organisations (CVs should be no longer than 2 pages each for all named individuals shown in the organogram). <p>In the text box response to this criterion, applicants are expected to:</p> <ul style="list-style-type: none"> • Explain the nature and status of the project team/consortium arrangements. Explain the governance structure for your project and how this will work in practice. • Describe the relevant skills, qualifications, and experience of main project team members, including relevance to the role in the project and tasks to be undertaken. Provide details of previous relevant work / projects carried out by specific team members, including the date, location, client, project value and relevance to this proposal. • Demonstrate the strong commitment of all participating organisations (partners). Provide letters of support from any other organisations key to the delivery. For subcontractors delivering more than 10% of the work (by value) please provide name, organisation size, role/activities, where the work will be located and evidence of their commitment to the project (e.g. a signed letter of support); explain how you will ensure that these parts of the project do not give rise to delays in the delivery of the project. • Explain how recruitment of staff, if required by the project team to deliver the demonstration project, will be managed to prevent any delay to the project plan and project activities.

	<ul style="list-style-type: none"> • Explain how the project team will ensure they have sufficient capacity to deliver the project(s), if involved in multiple applications.
Criterion 2b	Delivery Plan and Risk Management
Weighting	15%
Guidance	<p>Maximum word count: 2,000</p> <p>This sub-criterion will assess how realistic and achievable the project's plans and risk management approach are to ensuring the project will be delivered successfully.</p> <p>Applicants are expected to provide and upload the following as supporting documentation that will be assessed:</p> <ul style="list-style-type: none"> • A key work packages document for the demonstration project. Outline and describe a project plan, listing the work packages and deliverables, along with the skills and competencies required, partner(s) responsible, and timescales. Include the cost of each work package, with the total cost equalling the total project cost. • A separate detailed Gantt chart (suggested Level 3 schedule) for the project, including identifying key milestones, dependencies and critical path items. Please start your Gantt chart on 03/07/2023, with the draft final report and any demonstration complete by 10/02/2025 and all work finalised prior to 14/03/2025. • A detailed project risk register for the project, identifying key risks and grouping into appropriate categories, such as: technical, legislative/regulatory, environmental, policy, economic, commercial, financial, health & safety or project management. Include description of risk; cause of risk; risk owner; overall risk rating (probability x impact), mitigation action, and residual risk after mitigation action. <p>In the text box response to this criterion, applicants are expected to:</p> <ul style="list-style-type: none"> • Outline a high-level testing plan for the project, ensuring a demonstration of a minimum of 1 month with 80% operational uptime/availability, and detail the approach of the performance validation process that will be followed. • Explain what planning permissions/environmental permits are required on the demonstration site. Justify and provide reasonings as to how these permits will be place to successfully complete demonstration of the end-to-end solution before February 2025. • Provide evidence of access to any specialist facilities, materials or other resources needed to complete the project, as well as confirming a pathway to provisional GB/EU/UK (NI) type approval for the

	<p>equipment being demonstrated and the freedom to operate the end-to-end system and its components. Provide early information (e.g. letters of support or draft agreements) from key organisations and authorities (other than consortia members) to provide evidence that the delivery plan is feasible in the timeframes i.e. to complete by February 2025. For example, site/facility owners, electricity/gas DNO, planning authorities, Environment Agency, suppliers of long lead time capital items and equipment suppliers. Consider the impact of current supply chain disruption. Show that you have considered the appropriate planning regulations for the deployment of your demonstration and show how you aim to ensure the appropriate permissions will be obtained in line with the project schedule.</p> <ul style="list-style-type: none"> • Provide a description of the risk management process to be applied throughout the duration of the project, including how risks will be identified & rated, risk ownership, monitoring, reporting and escalation. • Provide information on contingency planning and suitable management and mitigation strategies. Consider, and minimise, dependency on external factors beyond the project's control.
Criterion 2c	Commercialisation Plans
Weighting	15%
Guidance	<p>Maximum word count: 2,000</p> <p>This sub-criterion will assess the project's plan for further development, commercialisation and exploitation.</p> <p>Applicants are expected to:</p> <ul style="list-style-type: none"> • Outline the target market(s) for the solution, and any other potential markets (domestic / international). Explain the dynamics of the target market(s), including quantifying its current size and value, actual and predicted growth rates. • Explain your target customers or end users, and the value proposition of your solution to them. Explain how this project fits with your current product, service lines or offerings and how it will make you more competitive. • Explain the current UK position in targeting these markets, your current position in the markets and supply/value chains, and how your solution may enable you to extend/establish your market position, including estimates of adoption rates that might be achieved for the solution. • Describe (and if possible quantify) the applicability, adaptability and scalability of the solution and wider knowledge across the construction, mining and quarrying sectors, and beyond.

	<ul style="list-style-type: none"> • Describe your long-term development plan for the solution and/or the component technologies towards commercial deployment at scale beyond Phase 2, and explain your approach and timescales to achieving this, and any plans for promoting wider use. • Describe how you will protect and exploit the innovation(s) , for example, through know-how, patenting, licensing, etc.. • Outline any barriers or challenges in commercialisation and how you will mitigate them. <p>Higher marks will be awarded where there is: a clear understanding of the structure/dynamics of the market; a convincing route to market with realistic outcomes; and clear understanding of the steps required to achieve commercialisation.</p>
Criterion 2d	Dissemination
Weighting	5%
Guidance	<p>Maximum word count: 1,000</p> <p>This sub-criterion will be used to assess the effectiveness of the project’s plan to disseminate the successes and learnings of the proposed project. Refer to Section 8.6 for dissemination requirements.</p> <p>Applicants are expected to:</p> <ul style="list-style-type: none"> • Provide a dissemination plan, identifying the relevant sector(s) and key stakeholders and describing how the learnings from the demonstration project will be shared with them. This should also include any challenges faced during delivery. • Provide details of the channels that the information will be disseminated through (e.g., meetings, webinars, events, industry publications). Responses will score higher where applicants are able to include specific events/activities.

Criterion 3	Project Financing
Weighting	20%, split into: 3a 10%, 3b 10%
Guidance	<p>This criterion will be used to assess the project costs, including assessing whether the project delivers fair market value and provides additionality.</p> <p>In recognition of the fact that the risks of the project development are shared with HM Government, but the applicant stands to gain all the benefits</p>

	<p>occurring after completion of the project, the applicant is asked to explain where cost savings, from the point of view of HM Government, will be provided compared to the case where the project would be carried out under an exclusive development contract.</p> <p>Eligible project costs are expected to be at fair market value. Project costs are also expected to be robust, i.e., realistic and justified for the proposed project, and sufficient to meet proposed objectives.</p>
Criterion 3a	Justification of Costs
Weighting	10%
Guidance	<p>Maximum word count: 1,500</p> <p>This sub-criterion will assess the justification of project costs and whether these costs are eligible and realistic to deliver the proposed demonstration project.</p> <p>Applicants are expected to download, complete and upload the following as supporting documentation that will be assessed:</p> <ul style="list-style-type: none"> • Project Cost Breakdown Form (Excel), including all sheets. Only costs associated and required for the demonstration can be included. Please carefully read the instructions within the document. Please see Appendix 4: Residual Value Guidance for further guidance on calculating eligible cost and residual value of capital items. Justify overheads and provide a detailed breakdown of the overhead costs; BEIS will not normally pay overheads over 20%, unless robust justification is provided for this being surpassed. Consider the latest predictions of energy costs, inflation and other changes in your project costing. <p>In the text box response to this criterion, applicants are expected to:</p> <ul style="list-style-type: none"> • Explain the total projects costs, the split between consortium partners and the size of the grant funding requested. Justify how the project costs are realistic for the scale and complexity of the project. • Describe, and justify the selection and costing of suppliers and subcontractors, including why they are not project partners. • Explain any major costs items greater than £10,000 (material, capital items, sub-contract and other costs). <p>Higher marks will be awarded where:</p> <ul style="list-style-type: none"> • The proposed costs are eligible, accurate, represent fair market value and are realistic in terms of the proposed project plans.

	<ul style="list-style-type: none"> • The costs are necessary and sufficient to provide the deliverables sought, including covering all costs needed to execute the delivery plan in criterion 2. • The cost items are explained, evidenced and justified, as well as sufficiently disaggregated to understand contributing components, rates etc. • For labour costs, that different grades of staff are assigned to tasks in a way that is appropriate for and proportionate to the complexity of the task. There is assurance of costs provided. For example, draft supplier agreements or budgetary quotes for large spend items can be attached in the Supporting Information document, and referenced in the project cost breakdown form.
Criterion 3b	Additionality and Value for Money
Weighting	10%
Guidance	<p>Maximum word count: 1,500</p> <p>This criterion will assess the level of additionality and Value for Money represented by the project.</p> <p>Applicants are expected to:</p> <ul style="list-style-type: none"> • Explain how and why the availability of public funding makes a material difference to the ability of this project to progress (at all, and in the proposed timeframes), and what would happen in the absence of public funding. Please make clear the key uncertainties / risks around the outcome of the project that mean public funding is necessary to de-risk the project. • Describe why the proposed project provides good value for money and fair market value for BEIS. Qualify and quantify the savings that are being passed on to HM Government to reflect the balance of risks and benefits accruing to the project consortium and HM Government. For example through widely sharing the knowledge to support HMG goals, through 'in kind' contributions, or through reasonable day rates or reduced rates on subcontracts. Assessors will consider your answer and the information in the project cost breakdown form when evaluating value for money of the project. Higher marks will be awarded to projects where a good VFM for HM Government is demonstrated, where a large proportion of the funding is used for innovative technologies/activities, to develop new evidence and deliver against programme objectives. • Explain where the match funding required for the demonstration will come from and confirm the level of that match funding; include

	<p>supporting evidence such as a Letter of Intent in the Letters of Support attachment. Projects which are requesting lower than the eligible grant intensity % will score better on value for money. Explain whether you are reliant on any other public funding sources for the demonstration to go ahead and the source and value for these; applications will not be successful if the project delivery relies on other funding sources which are not confirmed at the point of application.</p> <ul style="list-style-type: none"> • Outline whether there is a plan to further prove the long-term reliability, viability and feasibility of the solution beyond the RDR project. Explain the proposed use of the assets post-demonstration (e.g. operational deployment at construction site, further RD&D uses) to maximise value for money. Projects will score higher if future use of assets will provide additional evidence on low emission replacements for red diesel.
--	--

7.2 Scoring Guidance

We will select projects based on their assessment against the criteria outlined in Section 7.1. The projects will be scored using the scoring system set out below in Table 5. Should any bidder achieve a moderated score of 1 in any of the criteria or sub-criteria, this will result in exclusion from the competition.

Table 5: Scoring guidance

Score	Description
1	Not Satisfactory: There is no evidence to very little evidence that the question has been satisfactorily answered and major omissions are evident. The response does not give confidence that the project will result in a satisfactory outcome.
2	Partially Satisfactory: The question has been satisfactorily answered in part however, notable omissions are evident and considerable clarification is needed Supporting evidence is lacking and there is uncertainty whether the project will result in a satisfactory outcome.
3	Satisfactory: The question has been satisfactorily addressed, with reasonable evidence provided but some omissions are evident and further clarification is needed. There is a reasonable expectation that the answer provided can lead to satisfactory project outcomes.
4	Good: The question has been well addressed with only minor omissions or lack of clarity and good evidence provided. There is a good probability that that the answer provided will lead to a strong project outcome.
5	Excellent: The question has been addressed clearly and concisely in all aspects with strong evidence provided. Very minor clarifications may be needed however, the answer provides confidence that a strong project outcome is likely to be achieved.

7.3 Selection Approach

Applications will be assessed by a minimum of three assessors, which could include BEIS assessors and independent assessors¹⁶ (technical and commercial experts). The score given to each sub-criterion (or criterion where there are no sub-criteria) will be based on the information provided in the response to that sub-criterion; however, assessors will consider the information in the context of the wider application for the purposes of clarity and consistency. Applicants should ensure all information key to each sub-criterion is included in the response to that sub-criterion, and where relevant documents are attached that these are clearly referenced. A moderation meeting will be held at the end of the assessment process to agree the overall weighted scores for each of the projects. To be eligible to receive funding, a project must achieve a score of at least 2 out of 5 against each sub-criterion, with a minimum total weighted score of 60%. Therefore, an application which leaves a sub-criterion answer blank will not be eligible.

¹⁶ All external reviewers will have signed up to adhering to strict conflicts of interest and confidentiality terms.

Additionally, any sub-criterion which receives a moderated score of 1 will not be eligible. BEIS may, at its discretion, request clarifications and additional information before making a final decision.

Suppliers will be ranked in order of merit. The highest-scoring proposals will be put forward for Phase 2 funding if they meet the minimum scores and eligibility for funding. BEIS will fund projects up to the Phase 2 total of £32.5 million, giving a minimum of 3 funded demonstration projects, provided sufficient eligible and quality applications are received. BEIS reserves the right to not to award up to £32.5 million for Phase 2 depending on the number and quality of applications received and budget availability.

8 Reporting Requirements

8.1 Project Monitoring and Reporting

BEIS will appoint a Monitoring Officer¹⁷ to each successful project to monitor and support the delivery of the demonstration project, including agreeing on the deliverables and milestone payment schedule for the project, project reporting via the BEIS online project monitoring tool, collection of Key Performance Indicators (KPIs) and approval of materials for publication.

There will be several requirements on lead organisations during the project. Such requirements are at the discretion of the BEIS Monitoring Officer and Programme Manager and these may change during the project duration. It is the responsibility of the lead organisation to meet the requirements as outlined by BEIS during the project and by applying to the competition you are committing to do so.

Sections 8.1 to 8.6 provide a brief, high level overview of requirements. However, more detailed guidance on requirements will be communicated by BEIS at the start of the project. This guidance may also change during the project if BEIS requires.

8.1.1 Monthly Monitoring and Reporting

Applicants will undertake their own project management and will be overseen by their appointed Monitoring Officer throughout the project duration.

Project teams will be required to meet with their Monitoring Officer once per month to update on project progress. These meetings will typically cover:

- project progress against milestones and deliverables and highlight successes;
- upcoming milestones;
- project risks, issues or opportunities identified during the prior month and risk scores for these, highlighting any changes in project timeline or cost forecasts;
- changes to the project plan or forecasts;
- any communications requests, such as press releases (BEIS will require sight of, and must approve, all press releases/publications associated with the project before they go out);
- upcoming site visits; and
- questions the projects team have for BEIS.

The outcomes of each meeting and report will be reported internally within BEIS. This information will not be shared outside of BEIS, unless the project team gives permission to do so.

¹⁷ In some instances, the monitoring services will be provided by an external organisation. External organisations will be subject to a confidentiality agreement.

8.1.2 Quarterly Monitoring and Reporting

On a quarterly basis, projects are expected to provide a quarterly report to BEIS and hold a quarterly review meeting with the wider project team, BEIS Monitoring Officer and RDR team. The report must be submitted to BEIS at least 5 working days prior to the quarterly review meeting.

A quarterly report will typically require:

- a summary of work and activities undertaken in the quarter versus the plan for that quarter (as copied from the previous quarterly report or project plan), and an overall project RAG rating;
- a plan for activities and work to be undertaken in the upcoming quarter;
- an update on progress for each milestone and deliverable in the project plan;
- any highlights from the previous quarter, including any publications;
- an update on the financial progress, including actual spend to date and forecasted spend for the next quarter against planned spend;
- detailed reporting on risks, including an updated risk/issues/opportunities register with risk ratings, mitigations and any new risks highlighted;
- an updated log of any proposed or required changes to the project, including any change requests versus the original project and finance plan with reasoning and justification for each (any changes will require approval from BEIS before being agreed);
- an update on any dissemination activities that have been undertaken as part of the project as compared to the dissemination plan in the original application and/or agreed upon at the start of the project;
- any key lessons learnt during delivery; and
- progress against relevant performance metrics, e.g. KPIs (where applicable) and the benefits plan.

For each milestone, projects will typically be required to provide:

- a RAG status and reason for this status;
- % of work completed to date for the whole milestone;
- original and forecast completion date of the milestone;
- whether the spend is on target; and
- reasons for any deviations in scope from the plan within each milestone.

Timings for the quarterly review meetings will be set from the start of the project.

Within the quarterly review meetings, projects will be required to deliver a short presentation on ongoing project work to BEIS. Feedback on the quarterly report submissions and general project progress will also be discussed. Following the quarterly review meeting, your Monitoring Officer will let you know if there are any further questions on the report and will confirm when the review is signed off and complete.

The outcomes of each meeting and report will be reported internally within BEIS. This information will not be shared outside of BEIS, unless the project team gives permission to do so.

8.1.3 Site Visits

As part of each demonstration, it will be a requirement for Monitoring Officers and/or BEIS representatives to visit the projects on the demonstration or organisation site. Two to three site visits are expected to be completed throughout the duration of the project. Typically, this will include a visit near project start for BEIS representatives to meet the project team and discuss plans, an interim visit during the demonstration set-up at a key point in the project (such as arrival or installation of critical equipment for the demonstration), and a visit towards the end of the project in order to see the demonstration in action on the industrial site.

Timings of site visits should be agreed between the Monitoring Officer and project team at project start and the visits should be included as deliverables within the milestone payment plan and schedule. It will be the responsibility of the project team to organise visits, including any personal protective equipment (PPE) requirements for attendees. Arrangements for the visits will be at the discretion of, and require approval from, the Monitoring Officer and Programme Manager.

8.2 Milestones and Invoicing

Milestone payments will only be made by BEIS after an agreement has been signed between the project team and BEIS. Further details on payments and financial requirements will be provided by BEIS as part of any funding agreement. These will include the requirement for detailed statements of expenditure and requests for funds in a specified format. Payments will be made on a milestone basis upon receipt of a detailed statement of expenditure. They will be subject to satisfactory progress against the project's work plan. The exact milestones and associated payment amounts will be agreed on a project-by-project basis prior to the start of delivery.

Applicants must satisfy the due diligence, financial and organisational checks required prior to receiving public funds.

Milestone claims must be invoiced in time to be processed and paid by 31 March 2025. If circumstances outside the control of the project occur which impact on delivering the expected outputs, the project must inform their Monitoring Officer as soon as possible. The Monitoring Officer will consult with BEIS to determine the best course of action.

After each stage of work is completed, you will be expected to complete and submit a claim form. Claims should be submitted to the Monitoring Officer for processing and will be paid within 30 working days of a complete and satisfactory claim being received. Finance is released against work carried out rather than a lump sum on approval.

For a milestone invoice, BEIS expects a complete invoice cover sheet (template to be provided by BEIS), a company headed invoice from the lead organisation and evidence that the milestone deliverables are complete. BEIS will only pay projects for actual costs and in arrears of work done. Projects must provide BEIS with evidence of work done and costs incurred with each invoice. Acceptable evidence of work done will be agreed with BEIS in advance. Evidence of work done and costs incurred will be checked by the Monitoring Officer for quality before the invoice can be approved and payment can be made. Typical submission requirements with an invoice are as follows but are subject to change:

- Evidence of **work done** that is being claimed for; this should be as per the agreed evidence outlined in the BEIS Project Plan and Finance Tables document that is to be completed during the Grant Award stage. This should prove that the work being claimed has been done e.g., written reports, drawings, presentations, photographs of equipment, meeting minutes, test data, etc.
- Evidence of **costs incurred**:
 - A breakdown of all costs should be given across the partners and across each cost category (labour & overheads, materials, capital, subcontract, travel & subsistence and other). This breakdown should be given for each consortium organisation (lead organisation and partner organisations).
 - Labour & Overheads claim (for lead and project partners) taking the form of a consolidated time sheet for the invoiced milestone containing each member of staff, labour cost (day rate based on annual gross salary plus employer contributions), number of days spent on project milestone, overheads, and total labour costs including overheads.
 - For materials, capital, subcontract, travel & subsistence, and other costs, an itemised list with costs must be submitted along with invoices and proof of payment for any items over £10k (excluding VAT).

8.3 Project Changes and Change Control

BEIS recognises the importance of remaining flexible and pragmatic throughout project implementation and will consider changes to ensure the most effective use of funds. Any change that impacts the delivery of the project must be identified, documented and effectively assessed to ensure that the consequences of that change are understood as part of the decision-making process. Projects will discuss any changes (e.g. to time, budget, project team, scope, etc.) with their Monitoring Officer and where required will submit a change request to BEIS for approval. Requesting a significant change may necessitate a re-examination of project purpose or implementation or in some circumstances, may invalidate the Grant Funding Agreement. An updated work plan and budget may also be needed when requesting changes.

Any significant changes that emerge before the first stage gate will need to be reviewed and BEIS will consider material changes to ensure the project can complete by March 2025 within the scope of the original project and programme objectives.

8.4 Benefits Management Plan

This competition also has a requirement to demonstrate the benefits that it is seeking to realise for the RDR programme and the wider NZIP.

During the application process, each project will be asked to select one or more benefits that their project will contribute to, within the Programme Performance Indicators and Benefits section of the online application form. Projects should select benefits for which they can report on a minimum of one measure, and should note that if successful, they will be encouraged to report on more than one measure for their selected benefits. The Programme Performance Indicators and Benefits section is not scored as part of the application process but is mandatory to complete.

Based on the benefits selected in their application form, each successful bidder will be asked to complete a Benefits Plan at the project kick-off meeting. Some benefits will have a quantitative measure that will be tracked using metrics that the project provides; other benefits are qualitative, the success of which could be determined by the quality of reports and other evidence produced. At this stage, projects may also identify additional measures that they will report on to demonstrate a particular benefit, although this is not a necessary requirement.

Progress against projects' benefits reporting will be monitored on a quarterly basis by the project Monitoring Officers. Projects will be required to make available any project data that is reasonably necessary for reporting against the project benefits. They will also be required to declare where they may need assistance in contributing to the project benefits.

8.5 Evaluation and Key Performance Indicators

BEIS requires all funded projects under NZIP to report on key performance indicators (referred to as NZIP KPIs) to provide a consistent approach to reporting evidence, and to track and measure key outputs, outcomes and impacts. The evidence collected is used to demonstrate the impact of the NZIP on achieving the government's Net Zero ambitions and is necessary to be able to run future competitions.

Project lead organisations will be required to report on KPIs at various intervals for each project, including at the start of the project, during project delivery, at project closure and for three years after project closure. BEIS will supply funded projects with a reporting template to complete at set intervals, and recipients are expected to return the template to their Monitoring Officer upon completion, who will review and quality assure it. At project start, your BEIS Monitoring Officer will provide further details about the calculation of these KPIs and assist with the initial completion and measurement.

Please note that it may at times be necessary to make changes to the NZIP KPIs, data collection modes or frequencies. We will endeavour to keep all changes to a minimum and communicate any implications to you via the Monitoring Officers in advance of collection.

BEIS will be collecting the following KPIs, with data provided by Monitoring Officers marked in *italics*. Not all data will be collected annually.

KPI	KPI description	Metrics
KPI 1	<i>Number of NZIP projects supported</i>	<ul style="list-style-type: none"> • <i>Project start and completion.</i>
KPI 2	<i>Number of NZIP projects that have met objectives</i>	<ul style="list-style-type: none"> • <i>Extent to which project objectives have been met to date.</i> • <i>Change in objectives and reasons for change</i>
KPI 3	<i>Number of organisations supported to deliver the project</i>	<ul style="list-style-type: none"> • <i>Lead partner delivering the project: name, organisation size and number and type of jobs supported within the organisation to deliver the project.</i> • <i>Other partner organisations involved in delivering the project as named on the Contract or Grant: name, organisation size and number and type of jobs supported within the organisation(s) to deliver the project.</i>
KPI 4	Number of active contractual and non-contractual business relationships supported	<ul style="list-style-type: none"> • Number of contractual relationships: name and type of contractual relationship. • Number of informal non-contractual business relationships: name and type of non-contractual relationship. • Extent to which your organisation expanded its network of business relationships as a result of the project
KPI 5	Technology Advancement	<ul style="list-style-type: none"> • Technology Readiness Levels (current and anticipated). • Other technology improvement indicators: patents applied for or granted; academic, technical or non-technical publications generated and knowledge exchange events attended (such as conferences)
KPI 6i	<i>Initial Financial Leverage to deliver project</i>	<ul style="list-style-type: none"> • <i>Project funding structure: Amount in £m of BEIS, Other Public Sector and Private Funding.</i>
6ii	Follow-on Funding secured	<ul style="list-style-type: none"> • Amount of follow-on funding raised and the source (public or private).
KPI 8	Commercialisation advancement	<ul style="list-style-type: none"> • Commercial readiness levels (current and anticipated) • Steps towards commercialisation incl. licensing agreements, commercial partnerships, product certifications etc.; national/ international standards passed • UK and International sales secured and their value (£m)
KPI 9	CO2 emissions reductions	<ul style="list-style-type: none"> • Scope and scale of project impact on carbon emissions • Route to achieving carbon emissions reductions
KPI 10	Policy impact	<ul style="list-style-type: none"> • Whether, how, and to what effect evidence from the project has informed policy development • Whether projects have engaged in activities with industry or civil society

Beyond these NZIP KPIs, BEIS conducts independent evaluations of many of its programmes. The funded project organisation will be required to collaborate in reasonable evaluation

activities, including, but not limited to, providing programme-specific KPIs, completing questionnaires or surveys, participating in interviews and workshops, communicating the learnings from the project, providing costs/sales data and elaboration of any of the measures covered in the NZIP KPIs.

By submitting a bid, you agree that BEIS can hold your contact details for evaluation purposes for the duration of the competition, even if your bid is not successful. BEIS may, within that time, contact you to request your participation in an evaluation, exploring issues such as the application process or the development of your technology in the absence of BEIS funding. You are not required to participate in such an evaluation.

8.6 Knowledge Dissemination Requirements

Effective dissemination and knowledge sharing are key requirements of the RDR competition, and applicants will be assessed on the scope and scale of their proposed knowledge dissemination and sharing activities.

Projects will be required to contribute to a minimum of three knowledge dissemination activities, including to a range of BEIS and industrial stakeholders. Projects will be expected to contribute to sector capacity-building, engaging significantly with industry conferences or trade shows, as well as engaging in wider knowledge dissemination activities. The specific knowledge dissemination activities to be delivered are at the discretion of the project and will be agreed at project award.

Projects will be required to produce evaluation reports of their knowledge dissemination activities, detailing their activities & lessons learnt. The Monitoring Officer assigned by BEIS will monitor the knowledge dissemination of project teams.

Projects must agree to publish non-confidential project outcomes and learning and provisional findings throughout the project lifecycle, as well as a final report, to enable knowledge dissemination. Specific outputs and timings will be agreed with projects before the Grant Funding Agreement is signed.

9 Intellectual Property Requirements

The proposed arrangements for intellectual property rights (IPR) and exploitation of IPR are set out in the grant funding agreement for this competition, in Annex 1.

Subject to the requirements of section 16 of the standard Grant Funding Agreement (Annex 1), applicants will retain ownership of the intellectual property generated from the project. In accordance with the terms set out in this agreement, the Grant Recipient will be required to grant BEIS a non-exclusive irrevocable and royalty-free, sub-licensable, worldwide licence to use all the IPR Material for the purpose of supporting the Funded Activities and any other related non-commercial project.

10 Financial Information

Applicants are requested to provide a firm price quotation for the work. A detailed cost breakdown is required to enable assessment of value for money. Financial information should include costs for the project, detailing labour (including manpower rates), material and capital equipment costs, and any travel and subsistence requirements. Applicants are required to complete a Project Cost Breakdown Form as part of the application process.

While BEIS understands that project costs are subject to change prior to agreeing a Grant award and throughout the course of the project, we do expect the final version of the Cost Breakdown Form to be our guide to project expenditure through delivery and costs should not vary significantly from this without prior written agreement from BEIS.

10.1 Financial Viability Checks

BEIS will carry out financial due diligence on all preferred bidder(s). This may include, but not be limited to, credit checks and the detailed scrutiny of comprehensive reports resulting from said credit checks.

BEIS may need to check with bidder(s) that the information within the report is correct. BEIS may also request the latest accounts and financial information from the preferred bidder(s).

Financial due diligence checks will include looking at the latest independently audited accounts filed on the Companies House database. BEIS reserves the right to also verify the financial viability of all project partners and key sub-contractors.

Where a business is not required to file accounts with Companies House, other financial information may be requested to enable an appropriate financial viability review to be undertaken. We will be looking for evidence of your ability to resource the cashflow for the project appropriately, so the information we request will be focused on understanding how your business operates in this respect.

The outcome of BEIS financial due diligence may result in preferred bidder(s) not being awarded a grant.

Before your project starts, BEIS will ask for evidence that you have the funding mechanisms in place to manage your cash flow across the life of your project. This could include letters of credit or other such mechanisms.

BEIS will not make payments in advance of need and typically makes grant payments in arrears on satisfactory completion of agreed milestones and deliverables. BEIS understands, however, the difficulties which small businesses may face when financing this type of project. BEIS will explore cash flow issues with the applicant as part of developing the financial and milestone profile during the grant award process.

BEIS will offer flexibility in terms of profiles and payments, within the confines of the requirements for use of public money within which it operates.

11 Notification and Publication of Results

11.1 Notification

Applicants will be informed by email whether their application has been provisionally successful, subject to compliance with the terms and conditions of the Conditional Offer (conditional on successfully passing due diligence and satisfactory responses to clarifications from assessors).

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

Some organisations may want their activities to remain confidential and you will be given a chance to opt out of any involvement in media relations activity and further case study coverage of projects, should you see this as being absolutely necessary. However, the public description of the project you provide in your application will be made available in the public domain if your application is successful, and you are not able to opt out of the project description being published.

Any organisation that wishes to publicise its project, at any stage, must contact the Programme Manager for BEIS approval.

11.2 Publication of Results

In return for the provision of funding, BEIS expects to be able to use and share the results and outputs of the activities with other government departments and on the government website (www.gov.uk).

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

- Identity of the participant and its partners
- Project summary information including aims and expected outcomes of the project and technology area
- Total award value

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

BEIS, however, recognises the need to maintain confidentiality of commercially sensitive information. We will consult applicants regarding the nature of information to be published, to protect commercially sensitive information. BEIS will further report the outcome of the Phase 2 Competition on the UK's Subsidy Database¹⁸, in line with the UK Subsidy Control guidance.

¹⁸ <https://searchforuksubsidies.beis.gov.uk/>

12 Feedback, Re-application and Right of Appeal

A short summary of key feedback regarding the application will be provided to all applicants. This feedback will be based on the comments of technical assessors. The RDR programme team will provide comments where an applicant is considered ineligible in light of financial viability checks, or other eligibility criteria. No additional feedback will be provided and there will be no further discussion on the application.

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

BEIS' decision regarding any application is final and no appeal process is in place, so it is important that you make any points you wish to make clearly and concisely in the Application Form.

13 Confidentiality and Freedom of Information

The Freedom of Information Act 2000 (“FOIA”) and the Environmental Information Regulations 2004 (“EIR”) apply to the Department.

You should be aware of the Department’s obligations and responsibilities under FOIA or EIR to disclose, on written request, recorded information held by the Department. Information provided in connection with this competition exercise, or with any grant that may be awarded through this exercise, may therefore have to be disclosed by the Department in response to such a request, unless the Department decides that one of the statutory exemptions under the FOIA or the exceptions in the EIR applies. Where any request is made to BEIS under the FOIA for the release of information relating to any project or applicant, which would otherwise be reasonably regarded as confidential information, BEIS will notify you of the request as soon as we become aware of it.

If you wish to designate information supplied as part of your bid as confidential, or if you believe that its disclosure would be prejudicial to any person’s commercial interests, you must provide clear and specific detail as to the precise information involved and explain (in broad terms) what harm may result from disclosure if a request is received, and the time period applicable to that sensitivity. Such designation alone may not prevent disclosure if in the Department’s reasonable opinion publication is required by applicable legislation or Government policy or where disclosure is required by the Information Commissioner or the First-tier Tribunal (Information Rights).

As part of the application process all applicants are asked to submit a public description of the project. This should be a public facing form of words that adequately describes the project but that does not disclose any information that may impact on Intellectual Property (IP), is confidential or commercially sensitive. The titles of successful projects, names of organisations, amounts awarded, and the description of the project may be published once the award is confirmed as final.

By submitting a bid, you agree that your participation in this procurement may be made public. Aside from the public description of your project (see above), the answers you give in this response will not be published on the transparency web site (but may fall to be disclosed under FOIA or EIR (see above)). Where bid documents issued by the Department or contracts with its suppliers fall to be disclosed the Department will redact them as it thinks necessary, having regard (inter alia) to the exemptions/exceptions in the FOIA or EIR.

All assessors (internal and external to BEIS) used during the assessment of applications and project Monitoring Officers (internal and external to BEIS) will be subject to a confidentiality agreement. Assessors and Monitoring Officers external to BEIS will also be required to declare any potential conflicts of interest in a written and signed declaration. If any identified individual encounters a conflict of interest, they will be removed from the process.

14 Further Instructions to Bidders

The Department reserves the right to amend the enclosed competition documents at any time prior to 14:00 BST, 06 April 2023. Any changes are most likely to adjust editorial errors and to include FAQs from questions asked by stakeholders/applicants before 14:00 GMT, 08 February 2023. Any such amendment will be numbered, dated and issued on the RDR [website](#). Where amendments are significant, the Department may, at its discretion, extend the deadline for receipt of bids.

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

14.1 Data Protection and Security

The successful bidder must comply with all relevant Data Protection Legislation, as defined in the terms and conditions applying to this Invitation to Tender. A guide to the UK General Data Protection Regulation published by the Information Commissioner's Office, can be found [here](#).

Annex 2 contains a "The General Data Protection Regulation (GDPR) Assurance Questionnaire for Contractors" (Declaration 7) to evidence the extent of readiness. The Authority may ask the Contractor to provide evidence to support the position stated in the questionnaire. The Authority may require the successful Contractor to increase their preparedness where the Authority is not satisfied that the Contractor will be in a position to meet its obligations under the terms and conditions. If the Contractor fails to satisfy the Authority that it will be in a position to meet its obligations under the terms and conditions in the event that the Contractor is successful, the Authority reserves the right to exclude the bidder from this procurement.

14.2 Non-Collusion

No bid will be considered for acceptance if the contractor has indulged or attempted to indulge in any corrupt practice or canvassed the bid with an officer of the Department. Annex 2 contains a "Statement of non-collusion" (Declaration 1); any breach of the undertakings covered under items 1 - 3 inclusive will invalidate your bid. If a contractor has indulged or attempted to indulge in such practices and the bid is accepted, then grounds shall exist for the Authority to terminate the contract and claim damages from the successful bidders. You must not:

- Tell anyone else what your bid price is or will be, before the time limit for delivery of bids.
- Try to obtain any information about anyone else's bid or proposed bid before the time limit for delivery of bids.
- Make any arrangements with another organisation about whether or not they should bid, or about their or your bid price.

Offering an inducement of any kind in relation to obtaining this or any other award with the Department will disqualify your bid from being considered and may constitute a criminal offence.

Appendix 1: Technology Readiness Levels

Technology Readiness Levels (TRL) are an indication of the maturity stage of development of a technology on its way to being developed for an application or product. The **Table 6** below defines TRLs 1 to 9.

Table 6 Technology Readiness Levels

Research	
TRL 1 – Basic Research	Scientific research begins to be translated into applied research and development.
TRL 2 – Applied Research	Basic physical principles are observed, practical applications of those characteristics can be 'invented' or identified. At this level, the application is still speculative: there is not experimental proof or detailed analysis to support the conjecture.
Industrial Research (guideline)	
TRL 3 – Proof of technical concept	<p>Experimental proof of critical technical functions and validation of feasibility for application. Active research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include showing the performance of critical technical features or components are feasible (even if not yet integrated or representative of real-life environment).</p> <p>This stage is beyond “discovery science” (TRL1) and applied research (TRL2) and investigates a novel technological or scientific advance with some category of application in mind. The scientific principles of the novel or innovative aspect are already characterised with hard experimental data points that enable prediction of performance, but the science is not necessarily in the final engineered format. In this stage, analytical and experimental studies measure parameters of interest, characterise properties and performance, and validate the theoretical predictions. For example, with new materials or combinations of materials, a range of formulations or combinations may be tested to</p>

	<p>explore the boundaries of performance and to select a combination with the necessary properties for commercial exploitation. System components are not yet fully integrated e.g. the lab demonstration of a new photovoltaic material may show desired properties in a controlled atmosphere but applications will require a suitable encapsulation method. Technology principles may be demonstrated in computer models and computer simulated environments where appropriate. A key output from this stage is to identify how results differ from the expected or necessary performance for future applications and where improvement is necessary.</p>
<p>TRL 4 – Lab and Test Bench Demonstrations</p>	<p>Lab and Test Bench Demos of sub-systems & key components. Modelling & experimentation with parameters representing future conditions.</p> <p>Application proof-of-concept. Modelling and experimentation with data or parameters that represent future conditions (cf. TRL4). “Bench” demonstrators’ show that the core technology components or subsystems based on the lab research could be engineered in practice, behave as predicted, and results indicate that the performance needed for a future application is achievable albeit with further optimisation. Bench demonstrations may focus on the key innovative component of the proposed system/product or demonstrate an entire system with simulated inputs or use of substitute subsystems. For large scale technologies the “bench” demonstration may be at smaller scale and would include tests of scale models in tanks and tunnels. If new manufacturing methods will be required, the feasibility of these will be investigated at this stage.</p>
<p>TRL 5 – Development Prototypes</p>	<p>The system, sub-system, components, or sub-scale units are integrated with reasonably realistic supporting elements so it can be tested in a simulated or representative environment.</p> <p>Critical cost assumptions are carefully investigated, and the feasibility of the proposed manufacturing process is tested. A new</p>

	<p>manufacturing step may require a separate “product development” process for the manufacturing equipment. Prototype components and sub-systems are developed and improved to show that all the proposed technical components can provide the performance which will be required for future application (including: longevity, reliability, energy efficiency). Representative hardware and software components are tested in way that realistically simulates anticipated operating conditions or allows realistic predictions to be made. A relevant environment may be: laboratory test rigs with simulated use conditions, a controlled operational environment, or basic field tests. A test rig for new component technologies may be a version of the end-product. Intended functionality, size/form factor, and performance features are known at this stage. Successful development prototypes (components) become the basis for a demonstration prototype for full field tests.</p>
<p>Experimental Development (guideline)</p>	
<p>TRL 6 – Engineering or Demonstration Prototype</p>	<p>Full-scale system in representative conditions - Engineering Prototype. Representative full-scale prototype system is tested in a relevant environment. Proof-of-application.</p> <p>Critical cost factors and new manufacturing capability are refined at this stage e.g. use of cost effective materials, demonstration that new components can be manufactured, demonstration of any new manufacturing steps or processes. Not all secondary interfaces or user features are (necessarily) available yet. Representative prototype is demonstrated in a relevant environment to prove engineering feasibility. The component/sub-system designs selected at previous stage are validated. Demonstration prototypes are typically fitted with a range of monitoring/measurement systems and operated in real-life systems and conditions with continual adjustment to confirm or optimise performance claims. Core functionality, size/form factor, and benefits of the proposed product should</p>

	<p>all be demonstrable but not all end-user features or interfaces are necessarily available at this stage. Some third part measurement validation or tests are usually best done at this stage (particularly to validate improved performance over other technologies or to confirm any necessary certification and approvals that need to be obtained).</p>
<p>TRL 7 – Operational Prototype (Alpha Product)</p>	<p>Near or at planned operational system, requiring demonstration of an actual system prototype in an operational environment. Prototype for prolonged use at “tame” client or user site. All planned functions, interfaces integrated for monitored trials under the developer’s control.</p> <p>Alpha product prototypes are at or close to the proposed final product configuration which can be fully tested in an “in-house” trial in operational or client-like environments with integration to all systems or interfaces which will be experienced in-use. Alpha trials should validate in-use performance and also test the following: integration to all other relevant systems, features needed to support proposed installation and maintenance procedures, exposure to all other influences likely to be experienced in the “user-environment” etc.</p> <p>All the manufacturing steps will be tested at this stage and repeatable samples provided. Third party specialist tests would be done at this stage if not possible earlier. Prototypes may have minor re-designs following alpha tests but should not be subject to major re-designs if earlier stages have been completed properly. “In-house” means the developer runs and the trial and has access to the system(s) during the trial. Performance is not public but Alpha tests could be at “tame client” sites. Companies would not typically expect to sell prototypes at this stage.</p>
<p>TRL 8 – Production Prototype (saleable Beta product)</p>	<p>System Incorporated in Commercial Design - Production Prototype (or process). Development is complete, final design and feature set, limited release to appropriate number of clients, all fulfilment procedures trialled and documented. Trials under</p>

	<p>client / users control and operation. Technology is proven to work - technology design for production or roll-out is completed and qualified through test and demonstration.</p> <p>Development complete, final design and feature set, limited market release to appropriate number of clients, all fulfilment procedures trialled and user documentation complete. Saleable product. (cf. TRL 8 / 9)</p> <p>A beta or pre-production prototype is the configuration which the venture expects to sell repeatedly. These designs are finalised to a product specification and ready for repeat production. Client trial would validate: all the features and functions of the system perform as needed under expected conditions.</p> <p>A full product beta test includes trialling sales processed (to some extent by signing up “beta-clients”), delivery and installation procedures, integration and commissioning procedures, instructions for use, monitoring, support and maintenance procedures. Suppliers will provide short-runs of components or assembled product. There needs to be a sufficient number of beta-sites to validate the product or solution is repeatable and reliable. At the end of a successful beta test the company should be in a position to sell the product to a client for reliable on-going use.</p> <p>Repeated sales may be measured in 10’s or 1000’s depending on the technology and the cost of making iterations or improvements to the product design. However, by the above staged process, when the “beta” product prototype is prepared the venture has confidence that they could make repeated sales which will not require a re-call or levels of remedial support that would hamper the company’s future progress.</p>
TRL 9 – Marketable Product	<p>Marketable Product: proven in repeated use - Product being sold in market, scaling up sales</p>

	volumes. Actual application of technology is in its final form - Technology proven through successful operations.
--	---

Appendix 2: Eligible and Ineligible Costs

Applicants must complete the Project Cost Breakdown Form (attached to the online application form) to provide the necessary cost information for the assessment process; further itemisation of costs and methods of calculation may be requested to support the application. The project costs quoted must reflect actual costs at a 'fair market value' and for this competition.

Timing: BEIS will only provide the grant funding to cover eligible costs incurred and defrayed in the period between the project start date specified in the Grant Funding Agreement, and the deadline specified in the Grant Funding Agreement for completion of the project.

Who can incur eligible costs: The definition of eligible costs includes the applicant's own costs, eligible costs incurred by consortium members and eligible costs incurred by companies sub-contracted to the applicant or consortium members as defined in the application or subsequent agreements between the successful applicant and BEIS.

Non-sterling costs: Costs must be denominated in GB pounds. If relevant, applicants should indicate where conversion has been made to GB pounds from other currencies and indicate the conversion rate and assumptions used.

VAT: Applicants must indicate when completing their bid whether their organisation is able to recover VAT on project costs. VAT that you are able to recover from HM Revenue and Customs is not an eligible cost and cannot be claimed. Non-recoverable VAT is an eligible cost and can be included in the project costs in the Project Cost Breakdown Form. Grants are outside the scope of VAT and so non-recoverable VAT should be added into the 'excluding VAT' line on the invoice. Please include all the costs that you are expecting BEIS to pay for. The total funding requested should not exceed the maximum allowable amount per project.

Decommissioning costs: Projects will have responsibility for decommissioning demonstration equipment/assets when the project has been completed if it is not feasible to continue to operate/develop the equipment. When applying, applicants need to include any decommissioning costs, at fair market value, in the total estimated costs for the demonstration project.

Sub-contract use: You will be expected to state and justify in your project application the amount of sub-contract funding (if any) within the expected spend of the project. You will be expected to explain the necessity for this spend as opposed to the addition of collaboration partners within the project proposal.

Overhead rates: Overheads are additional indirectly incurred costs that are necessarily incurred by the applicant in undertaking the work. BEIS normally calculate overheads as a fixed percentage of all direct labour costs at 20% but will consider overhead rates in excess of 20% where a strong justification has been provided. The overhead rate is agreed with BEIS before the Grant Offer Letter is issued and cannot be changed during the work.

Staff costs: BEIS would not normally expect to see contractors in key posts, e.g. CEO, FD, etc included in applications. Exceptionally, where BEIS is willing to provide a grant which covers the cost of staff in key posts, the day rate attributed to each member of key staff within the project must be agreed with BEIS at the outset and cannot be varied without written agreement.

University consortium partners: University partners can be part of a consortium where they are needed to add value to a project. Where higher education institutions are carrying out non-economic activities, they can claim 80% of the Full Economic Costs (FEC) of their project work, calculated using the Transparent Approach to Costing (TRAC) methodology. This is in line with the approach taken by other Government funding bodies which are funding higher education institutions. If higher education institutions are carrying out economic activities on a project, they will be allocated grant funding at the relevant grant intensity level for the size of the organisation and the type of innovation activity undertaken (see Section 5.2 for guidance on grant intensity levels).

Changes between application and grant award: The costs supplied by the applicant will be the costs on which your application is assessed. If an application is successful, and the project costs subsequently increase, the applicant will need to cover the increase in costs. If the project costs transpire to be less than those of the Project Cost Breakdown Form, BEIS will only pay the actual costs incurred as evidenced by appropriate information (i.e. timesheets for labour costs and suppliers invoices for external costs).

Considerations for inflation: Applicants should ensure that their cost estimates are as realistic and as accurate as possible, giving due cognisance to the forecast project start date given in this guidance document. Any assumptions applicants make for the effects of inflation in respect of materials or capital expenditure items shall be clearly stated and justified in their responses. Where such inflation allowances are made, these shall be itemised in the Project Cost Breakdown Form. Where such cost inflation effects are estimated and accounted for, the total cost of the project shall be deemed by BEIS to be a “not to exceed cost”, and the total sum paid by BEIS for the grant may be less than this amount in accordance with the previous paragraph. This methodology for price inflation cannot be applied to the following cost categories:

- i. Labour and overheads;
- ii. Sub-contract
- iii. Travel and subsistence; or
- iv. Other costs.

Eligible costs are defined as the following:

- Personnel costs: researchers, technicians and other supporting staff to the extent employed on the project.
- Costs of instruments and capital equipment to the extent and for the period used for the project. Where such instruments and equipment are not used for their full life for the

project, only the depreciation costs corresponding to the life of the project. Please see Appendix 4: Residual Value Guidance for further guidance on calculating residual value.

- Costs of buildings and land, to the extent and for the duration period used for the project. With regard to buildings, only the depreciation costs corresponding to the life of the project, as calculated on the basis of generally accepted accounting principles are considered as eligible. For land, costs of commercial transfer or actually incurred capital costs are eligible.
- Costs of contractual research as well as costs of consultancy and equivalent services used exclusively for the project; and,
- Additional overheads and other operating expenses, including insurance costs for demonstration projects, costs of materials, supplies and similar products, incurred directly as a result of the project.

Ineligible Costs

Under no circumstances can costs for the following items be claimed:

- Commercialisation activities
- Profit (i.e., applicants should not include profit for themselves or the other project team members within indirect costs or include it as a separate project cost)
- Contributions in kind
- Interest payments or service charge payments for finance leases
- Gifts
- Statutory fines, criminal fines or penalties civil penalties, damages or any associated legal costs
- Payments for works or activities which the grant recipient, or any member of their Partnership has a statutory duty to undertake, or that are fully funded by other sources (either from other public authorities or from the private sector)
- For activities of a political or exclusively religious nature
- For entertaining (entertaining for this purpose means anything that would be a taxable benefit to the person being entertained, according to current UK tax regulations)
- In respect of VAT that you are able to claim from HM Revenue and Customs
- Payments for unfair dismissal or other compensation
- Contingency sums beyond the expected costs of the project work
- Depreciation, amortisation or impairment of assets owned by the Grant Recipient (other than those Assets that are used for delivery of the Funded Activity)
- The acquisition or improvement of Assets by the Grant Recipient (unless the Grant is explicitly for capital use – this will be stipulated in the Grant Offer Letter)
- Liabilities incurred before the commencement of the Grant Funding Agreement unless agreed in writing by the Authority
- Costs associated with securing intellectual property arising from or associated with this project.

Appendix 3: Residual Value Guidance

Capital equipment costs are eligible for funding, but only those which are essential for the demonstration. The eligible capital cost excludes the value of assets at the end of the demonstration (i.e. the residual value). Applicants are asked to include in the **Project cost breakdown form** the capital costs at purchase and the residual value of the capital items at the end of the demonstration. The eligible cost is the difference between the purchase capital cost and residual value (for items which are used solely for the funded activities during the funding duration i.e. 100% utilisation):

Eligible capital cost = Purchase cost – residual value at end of demonstration

This section provides basic guidance on our expectations around residual value.

Asset Classes

For the purposes of this competition we can divide capital assets into three classes, which can be treated differently:

1. **Mature assets:** Fully mature with functioning market (e.g. solar farm or new laptops). The eligible cost is only the depreciation costs for the duration of the project i.e. excluding the residual value at the end of the demonstration. The residual value should be calculated using standard accounting practices for depreciation, such as the reducing balance or straight line depreciation methods, with the key assumptions and the lifetime of the asset clearly stated and justified.
2. **Developing assets:** Assets without a mature market but with a potentially significant residual value. These may have a market developing (and therefore resale value), or may have a value in their continued use on the site of the demonstrator (value in use). For example, a mid-high TRL electrolyser which is not significantly bespoke. A fair residual value for such assets should be calculated using the principles in this Appendix.
3. **Fully bespoke R&D assets** which only have value for the duration of the innovation project and have no residual value afterwards. An example of this asset class is a bespoke burner system designed to trial hydrogen at pilot scale for a specific application, but which cannot be used for commercial operation. The eligible cost of these assets is 100% less the scrap value (funded at the appropriate grant intensity).

Developing assets

With regards to the '**Developing assets**' above, if standard depreciation is not considered a fair and appropriate method, applicants could alternatively consider the:

- A. **Resale value** – value which could be achieved in selling the asset to another party at the end of the demonstration.
- B. **Value in Use** – the value of the asset for the current site or owner, for example through revenue generation in commercial operation.

- C. **Scrap value** – for example the salvage value of the equipment when it is disposed of as scrap material/components after its useful life.

For these developing assets, applicants should use the highest of the above three values as the residual value, except where continued use in the proposed industrial application is planned. **If you plan to use the asset for the duration of its lifetime (>3 years) in the proposed industrial application**, providing further evidence on hydrogen fuel switching, the scrap value can be used as the residual value. The applicant must provide evidence that the asset is being used for the agreed purpose and time period, including after the end of the demonstration funding period.

Examples

For an applicant considering selling the fuel after the funding period ends: the applicant could consider using standard depreciation on the asset, or could consider the value of the asset based on its estimated revenue generating ability through the remaining lifetime (e.g. using the expected market price of such fuel).

For an applicant considering selling the asset after the funding period ends: the residual value would be the resale value minus any costs of selling. The resale value is uncertain due to the emerging market and will depend on the technology, scale and condition. The value could be estimated based on:

- discussions with technology suppliers or potential purchasers
- standard accounting practices for depreciation
- the expected value of the asset in another application e.g. transport application under the RTFO (Renewable Transport Fuel Obligation).

The applicants would be expected to clearly and robustly justify the assumptions based on the particular circumstances of the project.

Application, assessment and delivery

Applicants are expected to select a reasonable approach for their assets and project and justify this in the application and **Project cost breakdown form**. The BEIS and external assessors will use their expert knowledge to determine if the residual value provided is appropriate. If the residual value provided is deemed too low, the project is likely to score lower on value for money. BEIS may request clarification on residual values during the assessment period.

At the end of the demonstrator, prior to project sign off, BEIS will review the residual value of the largest assets and if there is a material change in the residual value (e.g. due to market conditions or the outcome of the demonstrator), this may be adjusted and the final invoice amended (up to the maximum project grant limit agreed). For example, if a sale price has been agreed for an asset that is greater than the anticipated residual value, this will be reflected.

Applicants are reminded that BEIS reserves the right to review the status of the project and assets 2 years after the end of the demonstrator to ensure the agreed funding, residual value

and asset use remains valid and as agreed. If there is found to be a material change in the agreement or value, BEIS reserves the right to claw back any grant overpaid.

Appendix 4: Environment and Safety Resources

BEIS strongly encourages applicants to consider the possible environmental impacts of proposed projects as early as possible, to ensure that sufficient detail can be provided at the application stage. This consideration is needed at every stage of technology development to ensure that the risks to the environment and human health are adequately understood and managed. Applicants should seek to design out and minimise environmental risks and maximise wider environmental co-benefits. There are three environmental principles that summarise how applicants should approach this:

1. **Consider environmental risks early and comprehensively**, including providing robust evidence and management, considering the impact of deployment at scale, and engaging the public so they understand the risks and benefits. Impacts should be assessed cradle-to-grave, including harvesting feedstocks & raw materials, decommissioning, and safe long-term recovery or disposal of waste.
2. **Minimise the impacts and risks to people and our environment** – air, land and water. This includes: maximising greenhouse gas reduction, improving air quality, maximising resource, energy and water efficiency and maximising co-benefits for people and the environment.
3. **Ensure technologies are fit for the future**, including resilience to the impacts of climate change.

Further suggestions for how projects can prevent or minimise their emissions and impacts on the environment is available through the EA's [Best Available Techniques](#) guidance.

Please read and follow the regulatory guidance relevant to your technologies, some of which are listed below. Please note that relevant authorities may charge for detailed pre-application and permitting advice. The scope and costs associated with this service will be discussed and agreed prior to providing detailed regulatory advice. Further details of the Environment Agency pre-application advice service [here](#).

Examples of guidance for specific Environment Agency regulations of relevance

Does your innovation project involve...		Regulations you may need to consider:
Planning Permission		<ul style="list-style-type: none"> • Environmental advice on planning proposals
Getting an environmental permit		<ul style="list-style-type: none"> • Check if you need an environmental permit • Risk assessments for specific activities: environmental permits • For further guidance on exemption for R&D projects, contact the relevant environmental regulator
Control of Major Accident Hazards Regulations		<ul style="list-style-type: none"> • COMAH
Air	<i>Carbon Capture and Storage</i>	<ul style="list-style-type: none"> • Carbon Capture and Storage Best Available Techniques • Environmental Risk Assessment for Carbon Capture and Storage
	<i>Hydrogen Production and Use</i>	<ul style="list-style-type: none"> • Inorganic chemicals sector: additional guidance • Guidance in development for hydrogen production from methane/RFG with CCS is available on request. • We are in the process of developing other guidance to support hydrogen production and use. Please refer to Technical Guidance for regulated industry sectors: environmental permitting, for our latest publications.
	<i>Gasification</i>	<ul style="list-style-type: none"> • Gasification, liquefaction and refining installations: guidance
	<i>Anaerobic digestion</i>	<ul style="list-style-type: none"> • Regulation Anaerobic Digestion (biogas-info.co.uk)
	<i>Emissions to air</i>	<ul style="list-style-type: none"> • Air quality in planning • Emissions Trading Scheme
Land	<p><i>Waste management</i></p> <p><i>(Think very carefully about potential waste status of each output and check guidance)</i></p>	<ul style="list-style-type: none"> • Check if your material is waste • Get an opinion from the definition of waste service • New waste management techniques • Waste and environmental impact • Register or renew waste exemptions • Incineration of waste (EPR5.01): guidance
Water	<i>Water abstraction</i>	<ul style="list-style-type: none"> • Fresh Water - Apply for a water abstraction or impoundment licence • Seawater - Do I need a marine licence Engage with Marine Maritime Organisation
	<i>Effluent to water</i>	<ul style="list-style-type: none"> • To Fresh Water and Sea water - engage with EA if novel, otherwise enhanced pre-application for Discharges to surface water and groundwater permit

	<i>Farming</i>	<ul style="list-style-type: none"> • Farming rules for water • Storing silage, slurry and agricultural fuel oil
--	----------------	---

If you have any further technology or regime specific queries then contact:

- In England, Ross Lowrie, Senior Advisor (Decarbonisation & Net Zero), at ross.lowrie@environment-agency.gov.uk
- In Scotland, please contact SEPA: ppc@sepa.org.uk
- In Wales, please contact NRW: enquiries@naturalresourceswales.gov.uk
- In Northern Ireland, please contact NIEA: IPRI@daera-ni.gov.uk

Safety Approach Guidance

Applicants are required to detail their safety approach as laid out below **in the early stages of the demonstration**. A high-level summary should be provided in the application form in sub-criterion 1c.

- General approach to safety including roles and responsibilities of named senior management. The approach to the hiring of appropriately skilled staff at all levels from chartered engineer to craft for system design, installation, and operation. In particular, the employment or hiring of senior staff with chemical engineering or gas engineering degrees or equivalent with experience of the energy vector in question.
- Development of process flow diagram and energy and mass balance during start up, continuous operation and shutdown with special reference to choice of appropriate pressure tiers and minimising energy/fuel inventory whilst still meeting project objectives where relevant.
- A plan for compliance with any site wide requirements set by, for example, COMAH for a large industrial plant.
- Purchase of UKCA compliant Gas Appliance Regulation, Pressure Equipment Directive and ATEX approved equipment and compliance with any other regulations as required.
- If hydrogen is to be transferred to site by pipeline, the involvement of an appropriately experienced gas network operator would be expected.
- If hydrogen is to be moved using tube trailers an understanding of the complexity of this legislation would be appropriate.

Applicants are not expected to submit extensive high-level corporate health and safety documentation but are to provide (in the early stages of delivery) documentation which can clearly be seen to have been developed for their project, with named individuals and support organisations, that have a track record in the specific technology concerned.

Appendix 5: Exclusion Grounds

Mandatory Exclusion Grounds

Public Contract Regulations 2015 R57(1), (2) and (3)

Public Contract Directives 2014/24/EU Article 57(1)

Participation in a criminal organisation

Participation offence as defined by section 45 of the Serious Crime Act 2015

Conspiracy within the meaning of

- section 1 or 1A of the Criminal Law Act 1977 or
- article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983

where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA on the fight against organised crime;

Corruption

Corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906;

The common law offence of bribery;

Bribery within the meaning of sections 1, 2 or 6 of the Bribery Act 2010, or section 113 of the Representation of the People Act 1983;

Fraud

Any of the following offences, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the convention on the protection of the financial interests of the European Communities:

- the common law offence of cheating the Revenue;
- the common law offence of conspiracy to defraud;
- fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978;
- fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006;
- fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994;
- an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993;

- destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969;
- fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006;
- the possession of articles for use in frauds within the meaning of section 6 of the Fraud Act 2006, or the making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of that Act;

Terrorist offences or offences linked to terrorist activities

Any offence:

- listed in section 41 of the Counter Terrorism Act 2008;
- listed in schedule 2 to that Act where the court has determined that there is a terrorist connection;
- under sections 44 to 46 of the Serious Crime Act 2007 which relates to an offence covered by the previous two points;

Money laundering or terrorist financing

Money laundering within the meaning of sections 340(11) and 415 of the Proceeds of Crime Act 2002

An offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996

Child labour and other forms of trafficking human beings

An offence under section 4 of the Asylum and Immigration (Treatment of Claimants etc.) Act 2004;

An offence under section 59A of the Sexual Offences Act 2003

An offence under section 71 of the Coroners and Justice Act 2009;

An offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994

An offence under section 2 or section 4 of the Modern Slavery Act 2015

Non-payment of tax and social security contributions

Breach of obligations relating to the payment of taxes or social security contributions that has been established by a judicial or administrative decision.

Where any tax returns submitted on or after 1 October 2012 have been found to be incorrect as a result of:

- HMRC successfully challenging the potential supplier under the General Anti – Abuse Rule (GAAR) or the “Halifax” abuse principle; or
- a tax authority in a jurisdiction in which the potential supplier is established successfully challenging it under any tax rules or legislation that have an effect equivalent or similar to the GAAR or “Halifax” abuse principle;
- a failure to notify, or failure of an avoidance scheme which the supplier is or was involved in, under the Disclosure of Tax Avoidance Scheme rules (DOTAS) or any equivalent or similar regime in a jurisdiction in which the supplier is established

Other offences

Any other offence within the meaning of Article 57(1) of the Directive as defined by the law of any jurisdiction outside England, Wales and Northern Ireland

Any other offence within the meaning of Article 57(1) of the Directive created after 26th February 2015 in England, Wales or Northern Ireland

Discretionary Exclusions

Obligations in the field of environment, social and labour law.

Where an organisation has violated applicable obligations in the fields of environmental, social and labour law established by EU law (as retained in UK law in accordance with Section 4 Section 4 of the EU Withdrawal Act 2018 (as amended by the EU (Withdrawal Agreement) Act 2020)), national law, collective agreements or by the international environmental, social and labour law provisions listed in Annex X to the Directive (see copy below) as amended from time to time; including the following:-

Where the organisation or any of its Directors or Executive Officers has been in receipt of enforcement/remedial orders in relation to the Health and Safety Executive (or equivalent body) in the last 3 years.

In the last three years, where the organisation has had a complaint upheld following an investigation by the Equality and Human Rights Commission or its predecessors (or a comparable body in any jurisdiction other than the UK), on grounds of alleged unlawful discrimination.

In the last three years, where any finding of unlawful discrimination has been made against the organisation by an Employment Tribunal, an Employment Appeal Tribunal or any other court (or incomparable proceedings in any jurisdiction other than the UK).

Where the organisation has been in breach of section 15 of the Immigration, Asylum, and Nationality Act 2006;

Where the organisation has a conviction under section 21 of the Immigration, Asylum, and Nationality Act 2006;

Where the organisation has been in breach of the National Minimum Wage Act 1998.

Bankruptcy, insolvency

Bankrupt or is the subject of insolvency or winding-up proceedings, where the organisation's assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State;

Grave professional misconduct

Guilty of grave professional misconduct

Distortion of competition

Entered into agreements with other economic operators aimed at distorting competition

Conflict of interest

Aware of any conflict of interest within the meaning of regulation 24 due to the participation in the procurement procedure

Been involved in the preparation of the procurement procedure

Prior performance issues

Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions.

Misrepresentation and undue influence

The organisation has influenced the decision-making process of the contracting authority to obtain confidential information that may confer upon the organisation undue advantages in the procurement procedure, or to negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection, or award.

Additional Exclusion grounds

Breach of obligations relating to the payment of taxes or social security contributions.

ANNEX X Extract from Public Procurement Directive 2014/24/EU

LIST OF INTERNATIONAL SOCIAL AND ENVIRONMENTAL CONVENTIONS REFERRED TO IN ARTICLE 18(2) —

- ILO Convention 87 on Freedom of Association and the Protection of the Right to Organise;
- ILO Convention 98 on the Right to Organise and Collective Bargaining;
- ILO Convention 29 on Forced Labour;

- ILO Convention 105 on the Abolition of Forced Labour;
- ILO Convention 138 on Minimum Age;
- ILO Convention 111 on Discrimination (Employment and Occupation);
- ILO Convention 100 on Equal Remuneration;
- ILO Convention 182 on Worst Forms of Child Labour;
- Vienna Convention for the protection of the Ozone Layer and its Montreal Protocol on substances that deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention);
- Stockholm Convention on Persistent Organic Pollutants (Stockholm POPs Convention)
- Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (UNEP/FAO) (The PIC Convention) Rotterdam, 10 September 1998, and its 3 regional Protocols.

Consequences of misrepresentation

A serious misrepresentation which induces a contracting authority to enter into a contract may have the following consequences for the signatory that made the misrepresentation: -

- The potential supplier may be excluded from bidding for contracts for three years, under regulation 57(8)(h)(i) of the PCR 2015;
- The contracting authority may sue the supplier for damages and may rescind the contract under the Misrepresentation Act 1967.
- If fraud, or fraudulent intent, can be proved, the potential supplier or the responsible officers of the potential supplier may be prosecuted and convicted of the offence of fraud by false representation under s.2 of the Fraud Act 2006, which can carry a sentence of up to 10 years or a fine (or both).

If there is a conviction, then the company must be excluded from procurement for five years under reg. 57(1) of the PCR (subject to self-cleaning).

This publication is available from: <https://www.gov.uk/government/publications/red-diesel-replacement-competition-phase-2>

If you need a version of this document in a more accessible format, please email altformats@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.