Department for
Business, Energy
& Industrial Strategy

CCUS Innovation 2.0

Call 1 Guidance (July 2021)

July 2021

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

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Part 1: BEIS CCUS Innovation 2.0 – Summary

1. CCUS Innovation 2.0 – Overview

Mission Statement: To accelerate the deployment of next-generation CCUS technology in the UK so that it can deploy at-scale by 2030, and ensure UK obtains maximum benefit.

The objective of the £20 million CCUS Innovation 2.0 programme is to support, through grant funding, innovation projects that either significantly reduce the cost of Carbon Capture Usage and Storage (CCUS) or help UK industry to understand the opportunity for deploying next generation carbon capture technology on industrial, waste, or power generation sites for 2030.

Through two calls for grant funding (July 2021 and May 2022), the programme will fund innovation for capturing, using, transporting, and storing CO2, to increase its technology and commercial readiness level (TRL & CRL), in preparation for commercial deployment. Technology development can, for example, focus on the complete carbon capture process, or key underlying equipment used in the CCUS process.

It will not fund direct air capture (DAC) technology, as this is the subject of a separate £70 million BEIS GGR programme[1]. Figure 1 is the high-level schedule for CCUS Innovation 2.0, and Figure 2 illustrates how this programme fits into the wider timeline for deployment of next generation CCU and CCS technology out to 2030.

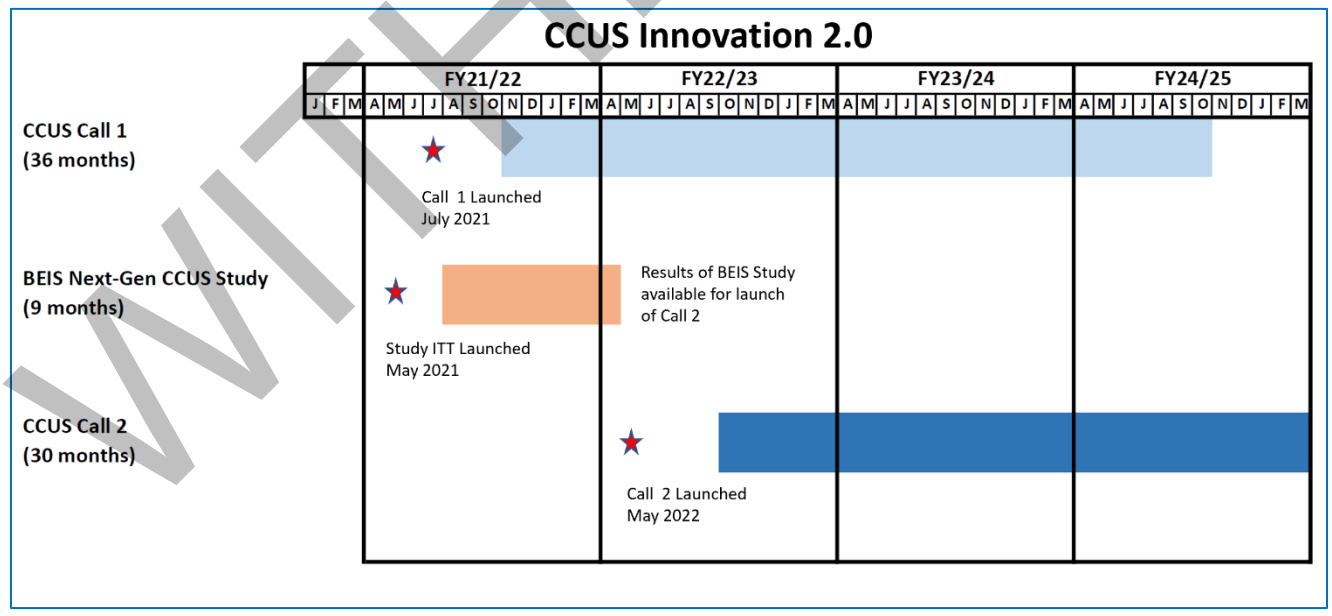

Figure 1: CCUS Innovation 2.0 high-level schedule

[1] Direct Air Capture and other Greenhouse Gas Removal technologies competition https://www.gov.uk/government/publications/direct-air-capture-and-other-greenhouse-gas-removal-technologies-competition

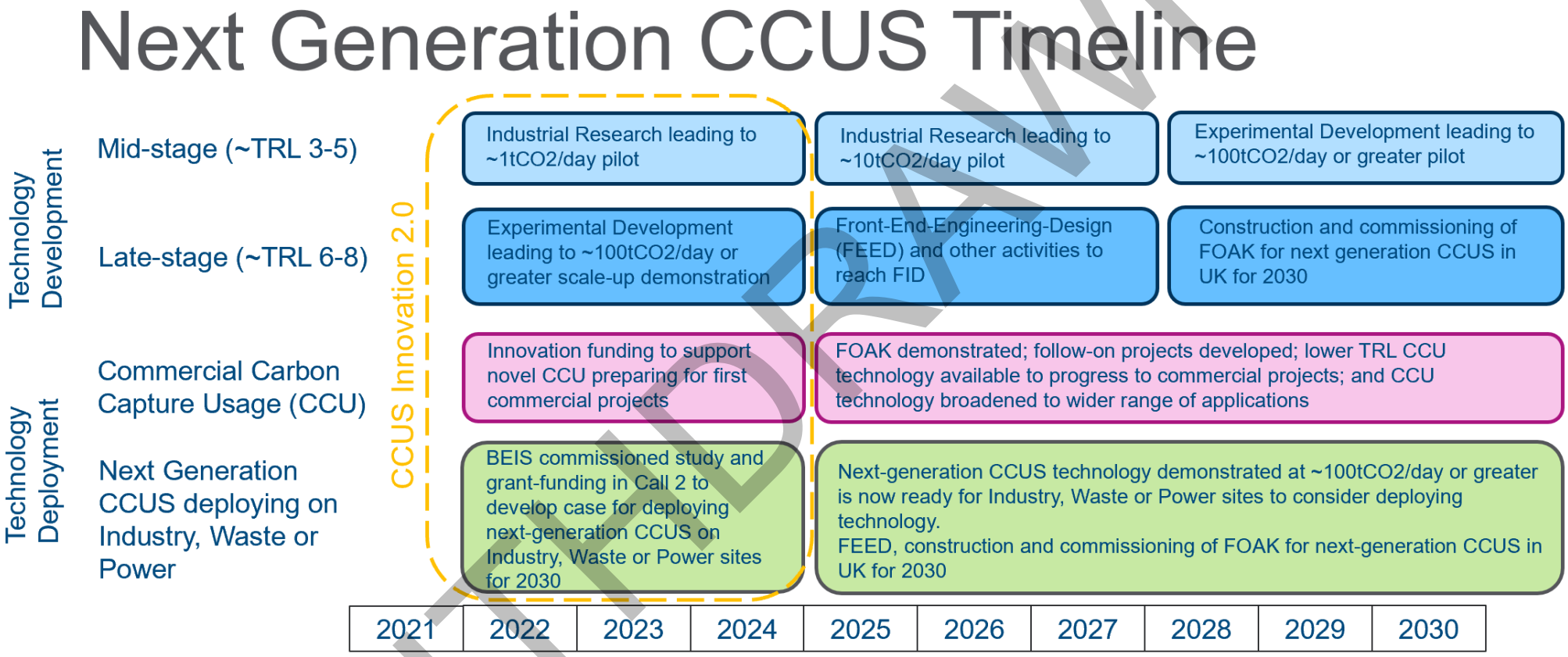

Figure 2: Next Generation CCUS Timeline

CCUS Innovation 2.0 follows on from the success of two previous CCUS innovation programmes managed by BEIS:

- The 2018 Call for CCUS Innovation, which was crucial in developing CCUS deployment projects entering the Industrial Decarbonisation Challenge managed by UK Research & Innovation (UKRI), as well as developing next generation CCUS technology; and
- The Carbon Capture Utilisation Demonstration (CCUD) programme, which supported across it three phases: funding numerous feasibility studies, Front-End-Engineering-Design (FEED) studies, and resulting in the construction of the UK's first industrial carbon capture and utilisation plant at Tata Chemicals Europe's Northwich site[2].

CCUS Innovation 2.0 has incorporated the aim and scope of these two programmes and will continue to fund both CCUS innovation that is either focussed on using CO2 (CCU), or focussed on capturing CO2 and sequestering for a geologically long timeframe to meet the ambition of the Paris Agreement.

The CCUS Innovation 2.0 programme will be split into two lots:

- **Lot 1, £3m, Mid Stage CCUS innovation:** This is for projects developing and piloting mid-stage CCUS innovation currently at ~TRL 3-5. For Lot 1 BEIS will consider grant applications of up to £1 million.
- **Lot 2, £10m, Late Stage CCUS innovation:** This is for projects developing late-stage CCUS innovation currently at ~TRL 6-8, particularly demonstrating at intermediate (~100 tonnes CO2 per day) scale or greater at site. For Lot 2 BEIS will consider grant applications of up to £5 million.

All funding requests can include aspects of engineering design up to (and including) pre-FEED, meaning any design work and activities on the approved concept in preparation for front-end engineering design (FEED). In essence this programme supports novel CCUS innovation through its entire development lifecycle: supporting it to be developed, de-risked, demonstrated and studied at pre-FEED. Note that FEED for a full-scale commercial deployment will not be supported.

In Call 1 BEIS will provide grant funding of up to £13 million, with Call 2 (see Section 1.1) providing up to £6.5 million. Within Call 1, Lot 1 will have a budget allocation of £3 million, and Lot 2 will have a budget allocation of £10 million. If either of the Lots are over-allocated or under-allocated, BEIS reserves the right to re-allocate the monies available for the different Lots.

In Call 1, BEIS is looking to offer grant funding to projects for up to 36 months. BEIS will consider project durations longer than 36 months if there is a strong project justification so long as the project finishes before 31st March 2025.

[2] TATA CHEMICALS EUROPE TO BUILD UK'S FIRST INDUSTRIAL SCALE CARBON CAPTURE AND UTILISATION PLANT WITH £16.7M INVESTMENT, June 2019, https://www.tatachemicalseurope.com/news-release-tata-chemicals-europe-build-uks-largest-carbon-capture-use-plant

Both industry and academia led projects will be considered if they lead to:

- A significant reduction in the cost of deploying CCUS; and
- A route for the intellectual property (IP) to be commercialised following the project.

The Call is eligible for all sizes of organisation. Projects can work with international partners, but at least 50% of the project funded must be conducted in the UK. It is preferred that demonstration of technologies will be at an UK site, but can be at a non-UK site if this can be shown to be reasonably justified. Small and medium size companies that are selected will also be offered additional acceleration support (see section 2).

Applicants will be expected to demonstrate that their project proposals meet the definition of either Industrial Research, Experimental Development, or a Feasibility Study. Funding levels will vary for each project type, according to conditions as set out in Section 5.

1.1 Next Generation Carbon Capture Study and Call 2

To help UK businesses considering the potential of Next Generation carbon capture technology might be for Industry, Waste and Power sites that can commercially deploy from 2030. BEIS will commission an independent third-party contractor, up to £200,000 to work with industry stakeholders and technology developers to conduct a 9-month review. This review will start in August 2021 and the results will be available for applicants in Call 2 which is due to launch May 2022. This review will complete the following:

- Comprehensive review of next generation carbon capture technology that is being developed in the UK and internationally, which has the potential to deploy at scale by 2035 and is of direct relevance to UK industry, waste and power sites.
- A key aim of the review is to focus on the most mature next generation carbon capture technologies. Hence the technologies that will be the predominant focus of the review and technoeconomic analysis will need to be at a technology readiness level (TRL) to allow them the potential to deploy on industrial sites at a scale of approximately 1000 tonnes CO2 captured per day from 2030.
- Technoeconomic analysis will be conducted on up to 7 combinations of next generation carbon capture technology applied to characteristic UK industrial sites or sectors (see Figure 3 below). Cost estimates for capital and operating expenditure will be produced to an AACE Class 4 (or greater).
- BEIS will establish an External Advisory Project Board; with industrial representatives from the industrial sectors whom are the focus of the study; to guide and review the study findings.
- When forming the different industrial basis of design the study will work with technology developers and UK industrial/waste/power sites to ensure the technoeconomic analysis is accurate and robust, and the characterisation of the generic (or actual) site is correct.

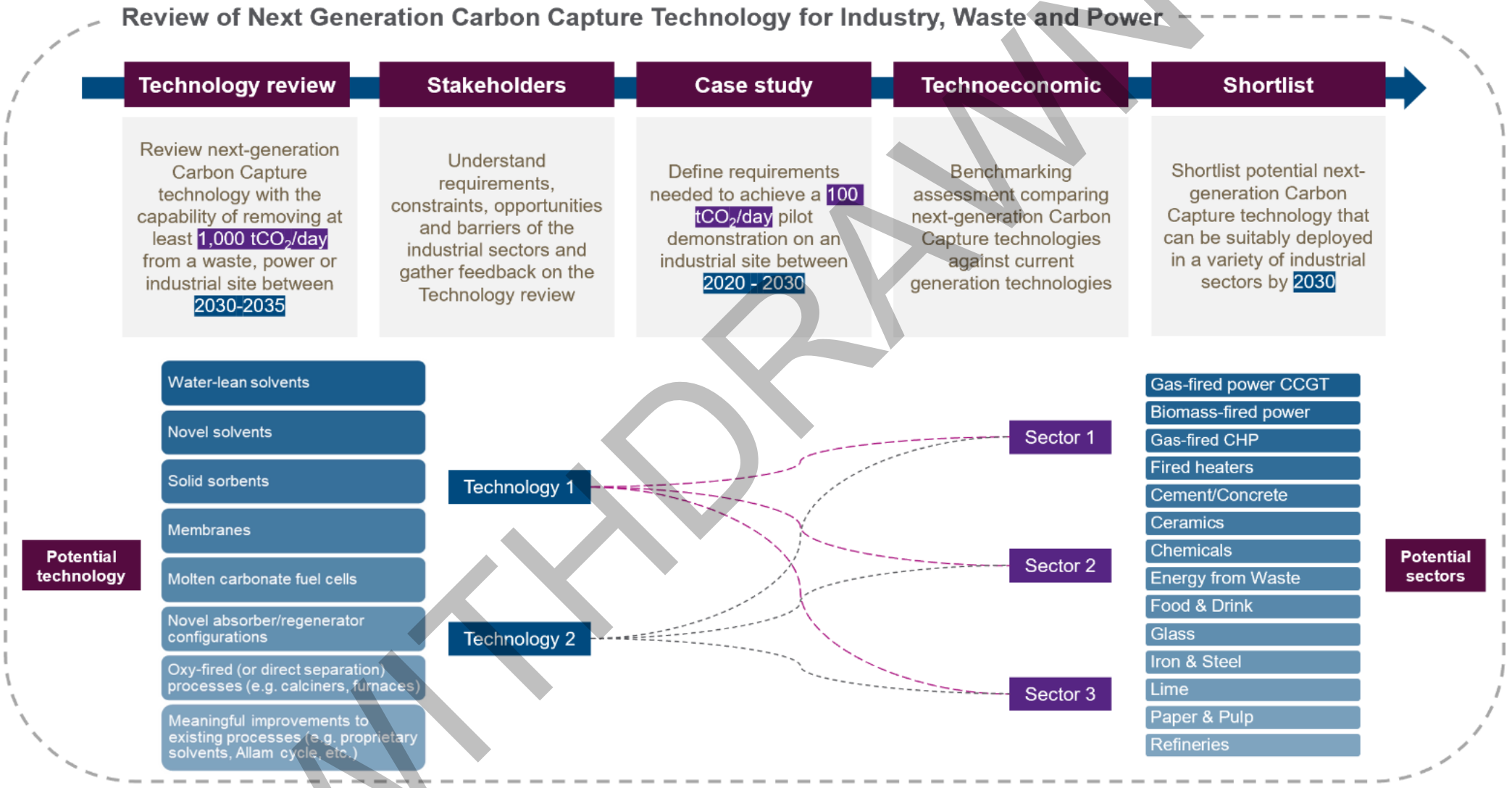

Figure 3: Review of Next Generation Carbon Capture Technology

All of the findings and outputs of the 9-month study will be published before the launch of Call 2 in May 2022. So that UK industrial, waste or power companies can consider the findings before applying for grant funding in Call 2 to conduct further analysis on the potential for deploying next generation carbon capture technology on their existing or future new-build sites. BEIS is currently minded to offer grants of up to £50,000 per applicant, and will ring-fence £500,000 of the £6.5 million Call 2 budget for these studies. Funding for technology development/demonstration of up to £1 million (Lot 1) and up to £5 million (Lot 2) will also be available in Call 2. This will all be confirmed when Guidance for Call 2 is published in May 2022.

Technology developers and interested industrial stakeholders can express their interest to participate in the 9-month study by emailing the industry and CCUS innovation team (industry.innovation@beis.gov.uk).

1.2 Key Knowledge Deliverables (KKDs)

A condition of receiving grant funding is that projects must agree to publish non-confidential project outcomes and learning as Key Knowledge Deliverables (KKDs). Previous BEIS CCUS innovation programmes have been successful in maximising what information can be shared openly with the wider CCUS community, while preserving confidential details (or competitive position) of its innovation projects.

All project reports or deliverables will be assessed to determine their status as a KKD. The three classifications are:

- deliverable will be published in full;
- deliverable will be published after redactions of commercial information; and,
- deliverable will not be published (e.g. Non-KKD).

KKDs for successful projects will be agreed with BEIS before the grant agreement is signed.

1.3 Terms & Conditions of Grant Funding

A generic Grant Funding Agreement (GFA) and Grant Offer Letter (GOL) have been provided in Appendix 4 and 5 respectively to give applicants a sense of what terms & conditions BEIS will be providing grant funding. These include:

- BEIS will reimburse its share of eligible costs in arrears on a milestone basis. Evidence will be required that the project has met the milestone and the monies have been fully defrayed.
- A Reasonable Assurance Report will need to be produced (and provided to BEIS) for the full project cost of a milestone, if the incurred expenditure of any milestone claim is £100,000 or more. If the total amount of the grant is £1 million or more, a Reasonable Assurance Report will be required for every milestone. A template for what needs to be included in the Reasonable Assurance Report can be found in the Generic Grant Offer Letter (Appendix 5). The production of Reasonable Assurance Reports are not an eligible cost and must be funded by project consortium member(s).

- The value of the final milestone must be at least 10% of total grant which will be paid once the project satisfactorily completes the final milestone. A final Reasonable Assurance Report for the full project costs will be required with the final milestone.
- BEIS will receive quarterly progress reports by the end of the second week of March, June, September and December.
- Projects will submit Key Performance Indicators (see section 1.3) to BEIS for the duration of the project and for up to 3 years after.

1.4 Key Performance Indicators & Benefits Plan

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

The Grant Recipient will be required to collaborate in reasonable evaluation activities, including, but not limited to, completing questionnaires or surveys, participating in interviews and workshops, communicating the learnings from the project, providing costs/sales data and reporting on Key Performance Indicators (KPIs) used by the Net Zero Innovation Portfolio (NZIP), for up to three years after the completion of the funded project.

These KPIs will be agreed with BEIS from the following, or a similar updated, list:

KPI 1	Number of innovation projects supported by NZIP
KPI 2	Number of projects that have successfully met objectives
KPI 3	Number (and size) of Organisations supported to deliver project (Lead Partner and Other Organisations as named on grant offer/contract
KPI 4	Number of active Business Relationships and Collaborations supported (Formal and Informal, Overall and New)
KPI 5	Advancement of Low Carbon Projects – Technology Readiness Level
KPI 6i	Initial Financial Leverage from private sector to deliver project
& 6ii	Follow-on Funding to take project further forward
KPI 7i A	Reduced Unit Cost of Energy - LCOE
& 7i B	Potential Reduced Unit Cost up to 2032
KPI 7ii A	Increased Energy Efficiency/ Reduced Energy Demand
& 7ii B	Potential Increased Energy Efficiency up to 2032

KPI 7iii A & 7iii B	Increased energy system flexibility
	Potential increased energy system flexibility up to 2032
KPI 8	Number of products (and services) sold in UK and Internationally
KPI 9	Potential Reduction in Carbon Emission Savings of Project up to 2032

Benefits Management Information provided by the Grant Recipient under Performance Criteria in the application form will be used, where practicable, to provide baseline measures for the identified benefits that the project is aiming to realise. Using the identified measures, the Grant Recipient is required to collaborate with the BEIS Project Officer to complete a benefits plan. The benefits plan will be used to track and report on benefits at quarterly project review meetings.

1.5 Definition of Feasibility Study

Feasibility Study is defined as:

'*the evaluation and analysis of the potential of a project, which aims at supporting the process of decision-making by objectively and rationally uncovering its strengths and weaknesses, opportunities and threats, as well as identifying the resources required to carry it through and ultimately its prospects for success.*'

For the purpose of CCUS Innovation 2.0, Feasibility Study can include any work up to (and including) pre-FEED, meaning any design work and activities on the approved concept in preparation for front-end engineering design (FEED).

1.6 Definition of Industrial Research

Industrial research is defined as:

'*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*.'

Activities may include:

- the creation of component parts of complex systems;
- the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems; and,
- pilot lines, when necessary for the industrial research and notably for generic technology validation.

1.7 Definition of Experimental Development

Experimental development is defined as:

'*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.*'

Activities undertaken may include 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 not 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.

2. Acceleration Support

The scheme will offer acceleration support to successful applicants that meet the definition of Small & Medium Enterprise (SME), see Section 4.1. This is highly recommended for SME grant awardees to help develop their business. This Acceleration Support is 100% funded by BEIS. This support will focus on helping the applicant to prepare commercial plans and actions that will increase the chance of successfully bringing the innovation to market or reduce the time to market.

The starting point for acceleration support is to consider the current stage of commercial preparation and identify (with the applicant) critical next steps, business strengths and gaps, benchmarked for the stage of the individual business across all key capabilities namely:

- Market understanding
- Business development and sales
- Strategy and Business Planning
- Technology
- Product
- Supply chain and operations
- Team
- Funding and investment readiness

Specialist advisers will be assigned by BEIS to support the company in the development of the appropriate knowledge and skills. This may include but will not be limited to services such as:

- Market research, segmentation and validation of market requirements
- Assistance to determine route to market and engaging industrial partners
- Intellectual property advice
- Evaluating alternative commercial strategies and support with business planning
- Investment readiness/fund raising support

All SME-led proposals that are awarded funding and wish to receive Acceleration Support will participate in an Acceleration Support Planning meeting. This planning session will be conducted by the BEIS Supplier appointed to deliver Acceleration Support.

BEIS have historically offered Acceleration Support to help grant recipients achieve maximum commercial impact from the grant. From the experience of the Energy Entrepreneur's Fund (EEF) scheme managed by BEIS, there is a clear distinction between projects that received Acceleration Support and those companies who were high-scoring applications but did not receive funding and Acceleration Support, through the EEF scheme (see Figure 4).

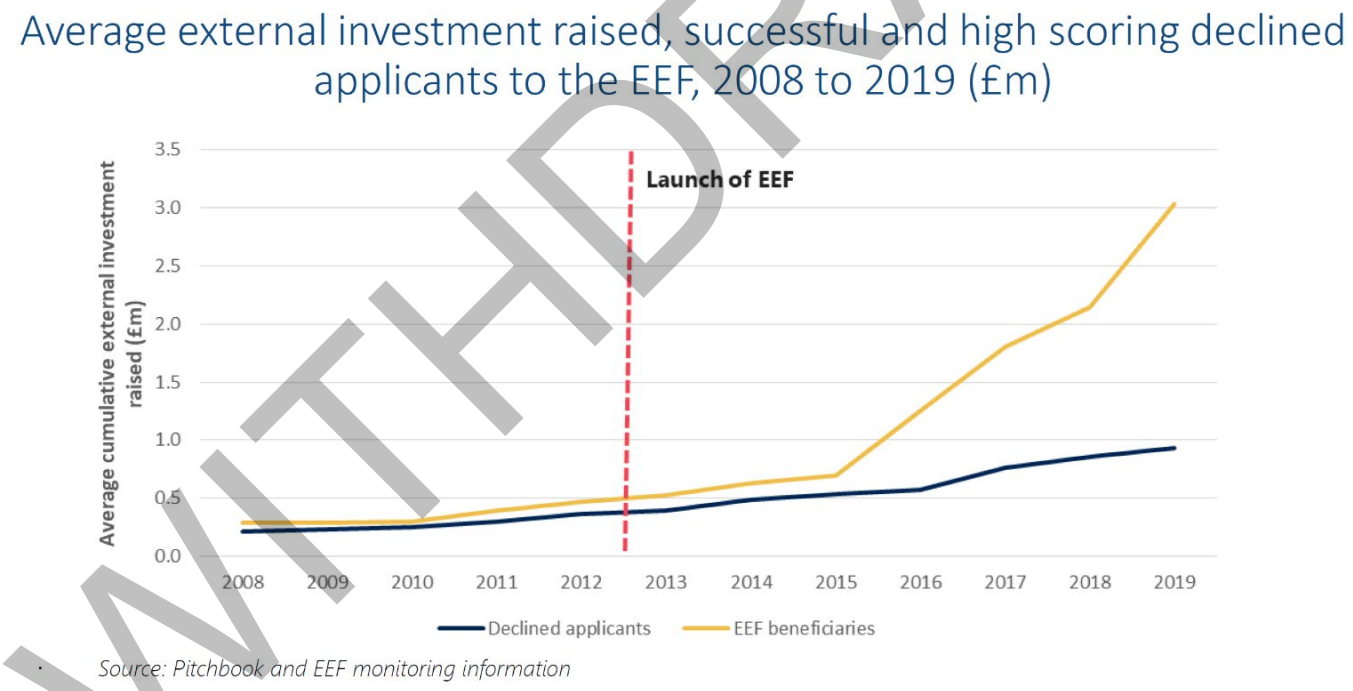

Figure 4: Average external investment raised, between successful and high scoring declined applicants to the EEF scheme, 2008 to 2019.

It is highly recommended that grant recipients take up the offer of Acceleration Support, and co-operate with both the Acceleration Planning Session and the Acceleration Manager, who will oversee the delivery of the acceleration support. However, unlike the EEF scheme, receiving the identified acceleration support is not a condition of the grant award.

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

3. Application and Assessment Process

The following dates are applicable to the CCUS Innovation 2.0 Call 1 application and assessment process. Please see the below section for more detail on the activities listed in Table 1. All dates given below may be subject to change due to prevailing circumstances (i.e. if the number of proposals received exceeds that estimated, it may take longer than planned to issue the conditional successful/unsuccessful letters).

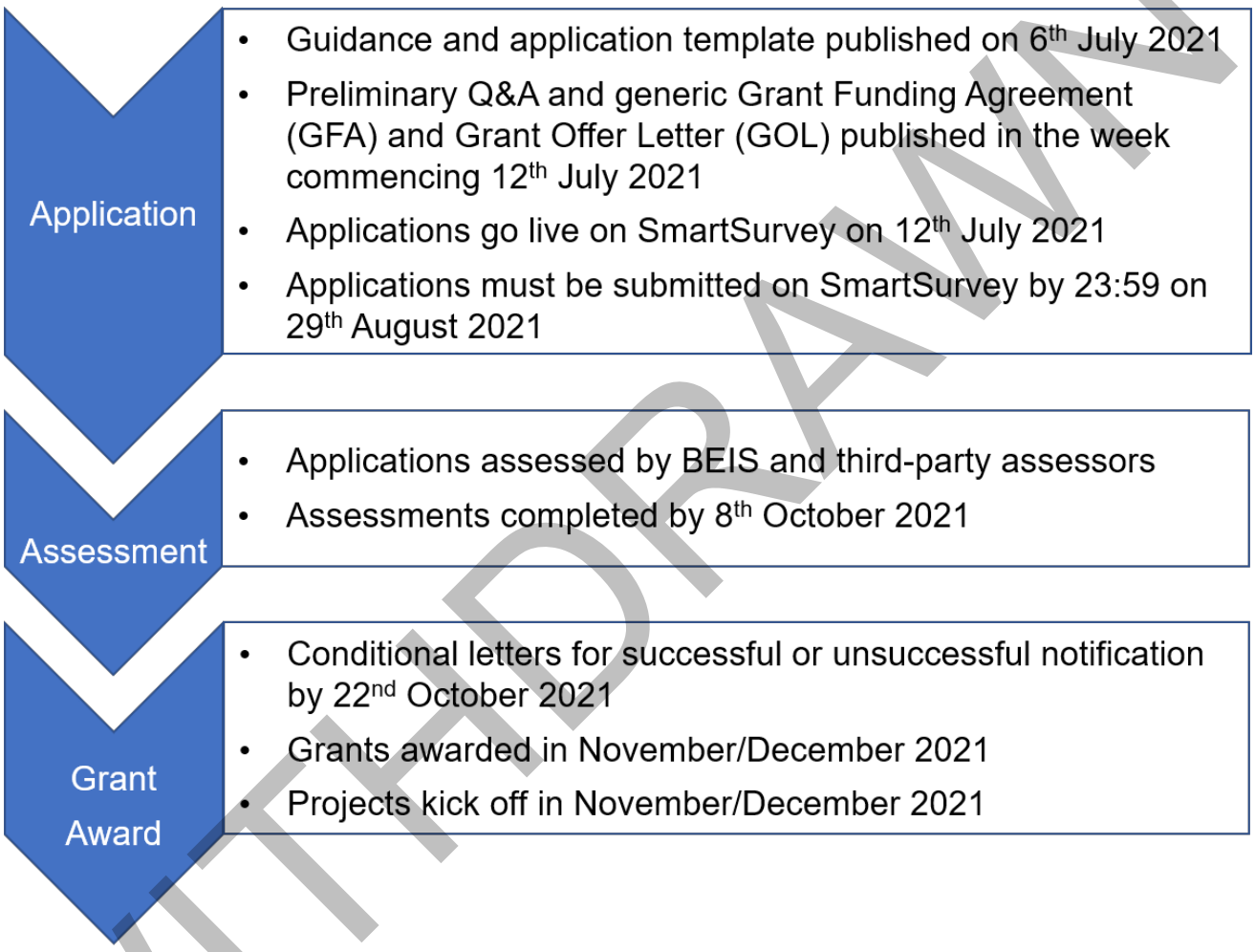

Table 1: Key dates for CCUS Innovation 2.0 Call 1 application and assessment process.

Activity	**Date**
CCUS Innovation 2.0 Call 1 Guidance and Application Template published	6th July 2021
CCUS Innovation 2.0 Preliminary Q&A, Appendix 4: Generic Grant Funding Agreement (GFA), and Appendix 5: Generic Grant Offer Letter (GOL) published	Week Commencing 12th July 2021
Applications open via SmartSurvey	12th July 2021
Deadline to submit questions about the Call	18th July 2021

Anonymised Final Q&A published	30th July 2021
Deadline to submit Expression of Interest	31st July 2021
Deadline for Applications	29th August 2021
Conditional successful/unsuccessful letters	22nd October 2021

CCUS Innovation 2.0 Call 1 Timings: Launch 6th July 2021

As outlined in the diagram above, the CCUS Innovation 2.0 Call 1 process will be undertaken in three key stages comprising application, assessment, and grant award.

Stage 1: Application

Applicants are asked to submit a project application form, with supporting information by **23:59 BST on 29th August 2021,** using the **SmartSurvey link**, which will be available by 12th July on the CCUS Innovation 2.0 webpage.

The notes below explain the details of the application process:

- **Questions about the Call:** If you have any questions about the call after reading these guidance notes, please submit them to Industry.Innovation@beis.gov.uk. All questions should be submitted by **18th July 2021**. Questions submitted after this date may not be answered. We will reply to any queries which, in our judgement, are of material significance through an anonymised Q&A sheet published on our website by **5pm BST 30th July 2021**.
- All applicants should take these replies into consideration when preparing their own applications and we will evaluate applications on the assumption that they have done so.
- **Expression of Interest:** All applicants intending to submit an application(s) into the Call should email Industry.Innovation@beis.gov.uk by **5pm BST 31st July 2021** to confirm that they intend to submit an application. Please can you confirm the following:
    - Organisation name of Lead applicant;
    - If you are applying to:
        - Lot 1 (up to £1 million grant funding for mid-stage (~TRL 3-5) CCUS innovation projects), or
        - Lot 2 (up to £5m grant funding for late-stage (~TRL 6-8) CCUS innovation projects)
- **Submission of Application:** The full application for the competition must be submitted online by the deadline: **23:59 BST on 29th August 2021.** The online

application form will be closed for submissions after this time. A template for the application is available to download with this Guidance.

- *Application documents*: All application documents must be submitted via the online application form. In the form there are opportunities to upload relevant supporting documents. In some sections, we specify the supporting information we would like to see uploaded. Uploaded documents cannot be in place of answers being provided in the SmartSurvey. The application will be assessed on the answers in the SmartSurvey fields. Uploaded documents should only be of a supporting nature to the main answer.

Submission Content

Each online application must include the following documents:

- Completed Application Form (the online application form can be found via the SmartSurvey link, which will be available by 12th July on the CCUS Innovation 2.0 webpage.
- Completed Project Cost Breakdown Form (this will be available to download and should be uploaded in the Finance Section of the assessed criteria in the application form).
- Completed high level project Gantt chart or project plan for the project proposed needs to be uploaded in the Project Plans section of the assessed criteria in the application form.
- Completed risk register for the project proposed needs to be uploaded in the Project Risk and Risk Management section of the assessed criteria in the application form.
- Optional: additional letters of support from collaborators/partners (where relevant) or other supporting information can also be submitted in the final section before you submit your online application form. Supporting documents should provide substantive information to the proposal. BEIS will accept additional supporting information in the form of further annexes, however, you should not assume that any additional information will be reviewed as part of the selection process and your application should not rely on information cross-referenced within annexes.
- You should endeavour to answer all the questions on the application in full, some questions will be 'mandatory fields' in the form and you will not be able to proceed to the next section until these questions are complete. Incomplete applications and any containing incorrect information may be rejected. However, BEIS may, at its discretion, request clarification before making a final decision. Any applications or supporting documentation received after the application deadline will not be considered.

Submission Costs:

- You will not be entitled to claim from the Department any costs or expenses that you may incur in preparing your bid, whether or not your proposal is successful.

Stage 2: Assessment

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

Eligible projects will be further assessed against the assessment criteria described in Section 7 (Assessment Process and Criteria), by three reviewers, these scores will then be moderated to determine an overall ranking list that will be used to allocate the funding for the Competition.

Reviewers will assess against the specific criteria summarised below and described in more detail in Section 7 and Part 2, Section 1:

- Value and Unique Nature of the Innovation;
- Cost and Performance of Innovation;
- Addressable Market of the Innovation;
- How Project Outcomes will be Commercially Exploited;
- Project Plan;
- Project Risks & Risk Management;
- Project Cost Breakdown;
- Case for Public Funding; and,
- Experience and Skills.

The reviewers will be both internal and external low carbon technology professionals appointed by BEIS, and the assessments will be quality assured by BEIS. To be eligible to receive funding, a project must also be allocated a minimum total score of 60% against these assessment criteria.

The reviewers will consider the Project Criteria as listed above and will provide feedback and recommendations to BEIS based on these considerations. Those recommendations by the reviewer to BEIS will either be recommendations for funding, recommendations not to fund or the identification of applications where clarification would be needed before funding could be recommended. The eligibility of project cost proposals will be checked at the assessment stage. As part of the assessment process BEIS will seek clarifications, such as, financial and commercial due diligence, project cost breakdown and any aspect of the project as necessary. Tenders that do not meet the 60% scoring threshold will not be considered for funding. Funding will be allocated by score in rank order across the two Lots. The indicative spend profile for the lots are £3 million for Lot 1 and £10 million for Lot 2.

After the assessment stage, all applicants will receive a short summary of key feedback regarding their applications irrespective of whether they are successful or not. BEIS aims to have provided all feedback to applicants once all applications have been reviewed and

assessed. Feedback will be given at the same time the successful/unsuccessful letters are sent to the applicants. BEIS will endeavour to provide the successful/unsuccessful letters by **22nd October 2021**.

Following notification of a successful application, the company's financial viability will be confirmed (See Section 7 for more detail). Any funding pre-requisites identified will be conditions of the grant. It will be a requirement before issuing the grant that a clear credible plan exists to raise the required company contribution for the work within three months of grant agreement approval. Where due diligence checks identify any issues with the applicant's project which were not clear from the application documents or which may impact on the successful delivery of the project, BEIS reserves the right not to proceed to the Grant Offer Letter stage.

Successful applicants will be given the opportunity to discuss the Grant Offer Letter with an official from BEIS to explain the conditions of the letter and respond to any queries which the applicant may have at this stage.

Successful applicants will be assigned a Project Monitoring Officer (PMO). The PMO will then become the projects main point of contact with BEIS. PMOs are ultimately responsible for reviewing and approving evidence at milestones claims so that invoices may be paid by BEIS finance. Therefore, projects will be required to have regular contact with their PMO; the project lead should report progress and raise any issues with project delivery to their PMO. It is not uncommon for PMOs to meet fortnightly or monthly for a project update.

Stage 3: Acceleration Planning

SME proposals awarded funding from CCUS Innovation 2.0 will be offered complimentary Acceleration Support services (see Section 2). Successful applicants are under no obligation to accept this service. Applicants wishing to receive Acceleration Support will be invited to an Acceleration Planning meeting. This meeting will include the project team, the team delivering the Acceleration Support, the assigned PMO and a representative from BEIS. We endeavour to hold Acceleration Planning meetings before the project kick off to help identify actions that might need to precede the start of the innovation project. In such cases funding may be provide at BEIS' discretion to help carry out these actions and the milestones in the project plan amended accordingly.

4. Eligibility for funding

To be eligible for funding, proposed projects must meet all of the following criteria:

Innovation and technology readiness:

The project is at Technology Readiness Level (TRL) 3 or above (Critical Function or Proof of Concept Established), and below a TRL of 9. See Appendix 2 for more information.

A TRL of 3-5 and 6-8 for funding of up to £1 million and £5 million respectively, are a guide to the level of maturity of the technology BEIS (and its assessors) are expecting. When considering applications for grant-funding in excess of £1 million, BEIS assessors will have discretion to deem a project to be at a higher or lower maturity than its TRL would suggest.

Projects must fall within the definitions of feasibility study, industrial research, or experimental development (as described above in Section 1) and be eligible under the subsidy requirements described in Section 5 of this guidance.

Project Status:

BEIS is unable to fund retrospective work on projects.

Subsidy intensity including cumulation: The funding levels applied for must be consistent with the appropriate R&D aid intensity levels (including consideration of the cumulative effect of other forms of public subsidy, see Section 5) and costs must be consistent with the eligible cost criteria (as set out in Appendix 1).

Match-funding:

Given the subsidy categories (see Section 5), applicants will need to have private funding in place to cover the balance of the eligible costs within three months of the grant agreement being approved. Such funding may come from a company's own resources or external private sector investors but may not include funding attributable to any public authority. Before the grant letter is issued, the applicant will need to demonstrate a credible plan to raise the match-funding required for the whole lifetime of the project. This needs to be evidenced - for example by relevant bank statements or letters showing intention to invest into the applicant. If an applicant has not secured match-funding within three months of grant agreement being approved. BEIS will have the right to terminate the grant agreement.

Project Location:

It is preferred that demonstration of technologies will be at an UK site, but can be at a non-UK site if this can be shown to be reasonably justified. Over 50% of the project's costs must be spent in the UK in all cases.

Technology scope:

The innovation project must relate to the capture, usage, transport and/or storage of CO2. Technology development can for example focus on the complete carbon capture process, or key underlying equipment used in the CCUS process.

Direct Air Capture is out of scope, as this is the subject of a separate £70 million BEIS GGR programme[3].

[3] Direct Air Capture and other Greenhouse Gas Removal technologies competition https://www.gov.uk/government/publications/direct-air-capture-and-other-greenhouse-gas-removal-technologies-competition

Project duration:

Call 1 will be offering funding for up to 36 months but will consider project durations beyond 36 months where this is desirable from a technology development perspective. All grants will end no later than 31st March 2025. All work carried out under the grant must be completed by this date. BEIS will be not meet claims for any work carried out on, or after 31st March 2025.

Key Knowledge Deliverables (KKDs):

A condition of receiving funding from CCUS Innovation 2.0 is non-confidential project outcomes and learning will be published as KKDs (see Section 1).

Delivering Multiple Projects:

Lead applicants can submit (and be awarded) more than one application for grant funding in Call 1, but applications must be materially different. Similarly, consortium member(s) can take part in multiple successful bids. However, if project consortium member(s) are part of multiple successful bids they must be able to deliver on all of them and they must not have applied for funding for the same piece of work more than once. Each individual applicant is limited to £5m total grant funding for this Call.

Project Funding Lot:

Depending on the funding Lot applied to, projects can only receive: up to £1 million (Lot 1), or up to £5 million (Lot 2) (see section 1) of grant funding per application. Since BEIS is seeking to maximise the impact of government funding, projects looking for public funding intensities that are lower than the applicable maximum are likely to score higher in the appraisal process.

Total Allowable Funding:

BEIS will not provide more than £5 million to a single applicant, including if they are delivering multiple projects. Applicants involved in multiple bids will be required to demonstrate their capacity to deliver requirements across each project they are a part of.

4.1 General conditions:

Companies of any size are eligible to seek funding.

Applicants who have been successful or unsuccessful under other BEIS grant schemes, such as the Energy Entrepreneur's Fund (EEF) Scheme, may apply for funding under the CCUS Innovation 2.0 call. Similarly, if a project is unsuccessful in CCUS Innovation 2.0 Call 1 they can re-submit an application in Call 2. They will neither be advantaged nor disadvantaged by any previous application(s) to BEIS funding.

5. Funding Levels and Subsidy Requirements

DISCLAIMER: While BEIS will operate within the UK-EU Trade and Co-operation Agreement (TCA) requirements and World Trade Organisation (WTO) rules, we may decide to offer lower levels of funding than the maximum permitted under the rules; additionally, the funding rules set out in this Guidance Document for the Call 1 of CCUS Innovation 2.0 are specific to this Competition only.

Subsidy Control

CCUS Innovation 2.0 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 TCA, and other trade agreements, as well as the WTO rules on subsidies[4]. 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.

Rules for Subsidies in Scope of the Northern Ireland Protocol

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. 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[5].

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.

Business Definition:

A business is defined as an organisation undertaking economic activities. As given in Table 2, businesses are categorised as micro, small, medium, or large determined by both their:

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

Table 2: Categories for business definitions.

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

[4] https://www.gov.uk/government/publications/complying-with-the-uks-international-obligations-on-subsidy-control-guidance-for-public-authorities

[5] 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#section7

Small	< 50	≤ £9m		≤ £9m
Micro	< 10	≤ £2m		≤ £2m

The businesses that fall into the categories defined by Table 2 are classed as Small and Medium Enterprises (SMEs). A large business in this context means any enterprise which is not a SME.

5.2 Aid for Research and Development Projects

CCUS Innovation 2.0 programme operates under 'Aid for Research and Development Projects' and is open to:

- all private sector organisations irrespective of size;
- collaborative proposals; and,
- 'research organisations' as defined below. Such applicant(s) will be eligible to lead projects and receive grant funding. However, it is expected that these will be part of a collaborative proposal, preferably with a private sector partner.

These applicant(s) to the scheme will be eligible to receive grant funding for a project under 'Aid for research and development projects'. The maximum percentage of public funding that can be provided towards eligible project costs for different sized consortium partner(s) is summarised in Table 3: "*Maximum public funding for projects qualifying under 'Aid for Research and Development''.*

Research Organisation Definition:

When referring to research organisations, BEIS uses the following definition:

"'*research and knowledge dissemination organisation' or 'research 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, for example in the quality of shareholders or members, may not enjoy a preferential access to the results generated by it.*"

Within this competition, this means:

- universities (higher education institutions);
- non-profit research and technology organisations (RTOs), including Catapults;
- public sector organisations (PSO);

- public sector research establishments (PSRE);
- research council institutes;
- research organisations (RO); and,
- charities

This list is not comprehensive and is subject to change and exceptions.

Table 3: Maximum public funding for projects qualifying under 'Aid for Research and Development'.

Research Category	Size of Enterprise	Maximum amount of aid towards eligible Project Costs
Feasibility Study	Small	70%
	Medium	60%
	Large	50%
Industrial Research - Single Companies	Small	70%
	Medium	60%
	Large	50%
Industrial Research - Collaborations can be Business to Business; Business and Research Organisation(s); or between Research Organisations.	Small	80%
	Medium	75%
	Large	65%
Experimental Development - Single Companies	Small	45%
	Medium	35%
	Large	25%
Experimental Development - Collaborations can be Business to Business; Business and Research Organisation(s); or between Research Organisations.	Small	60%
	Medium	50%
	Large	40%

The figures represent the maximum aid intensity that BEIS will provide private sector project consortium member(s) under CCUS Innovation 2.0.

We welcome university partners when they can add value, but 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 Organisation that are not higher education institutions, can receive up to 100% funding.

For collaborations containing different sized enterprises or Research Organisations, funding intensity is related to the company 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.

If you are applying as a collaboration, you must also submit a copy of the Heads of Terms for your collaboration agreement. BEIS will review the collaboration agreement before issuing the Grant Offer Letter 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 CCUS Innovation 2.0, projects can include a mix of feasibility study, industrial research and experimental development. For such projects the research activities will be based on their individual thresholds. For example, a small enterprise conducting a R&D project by itself, whose costs includes 15% feasibility study, 25% industrial research and 60% experimental development. The maximum threshold, based on project out-turn costs, would be as given in Table 4.

Table 4: Maximum aid thresholds for research categories, as based on project out-turn costs.

Research Activity	Maximum Aid Threshold	Percentage of project	Effective Aid Threshold
Feasibility Study	Up to 70%	15%	10.5%
Industrial Research	Up to 70%	25%	17.5%
Experimental Development	Up to 45%	60%	27%
		Maximum project aid rate	55%

Please note: to be eligible for 'Aid for Research and Development Projects', you will be required to demonstrate that your project activities meet the definition of industrial research, experimental development or feasibility study as defined in Section 1.

5.3 Public funding

When considering levels of aid intensity (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 Call 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 aid intensity levels are not exceeded for the project.

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.

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 aid requirements, please consult the generic grant funding agreement that BEIS will be providing with this Guidance. Grant recipients must adhere to all Subsidy Control obligations set out in Clause 14 of the Grant Funding Agreement. Failure to do so may result in termination and clawback of funding as per Clause 25.

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. Since BEIS is seeking to maximise the impact of government R&D funding, projects looking for public funding intensities that are lower than the applicable maximum are likely to score higher in the appraisal process.

6. Project Plans, Finances and Financial Viability

6.1 Project Plans

Call 1 is looking to provide funding for up to 36 months but will consider longer durations where there is a strong justification. However, all projects must be complete by 31st March 2025. All projects must submit a detailed Gantt chart, or equivalent project plan as part of their application, which details the project timeline, the various work packages and the project milestones.

6.2 Project Lead

BEIS specifies that there should only be **one lead organisation assigned to each project proposal**. Grant Offer Letters for successful applicants will be made out to the delegated lead organisation and as such BEIS is only responsible for making claim payments to the delegated project lead. Payments to collaboration partners or sub-contractors are the responsibility of the lead organisation.

BEIS require that all partners in a collaborative application have signed a Collaboration Agreement (CA) prior to a Grant Offer Letter being awarded. The CA should as a minimum reference the terms of the GOL and GFA, specify the work division, intellectual property arrangements and a dispute rectification process. BEIS will, in event of a dispute between partners, expect for the dispute to be resolved within the terms of the CA.

6.3 Project Costs

All applicants must complete the CCUS Innovation 2.0 Project Cost Breakdown Form, detailing their expected expenditure and spending profile for the project on a quarterly basis. Further details about this form can be found in Part 2 of this document. You should complete a single form covering your entire project and including all of your partners, clearly identifying which costs relate to which partner.

During the assessment of applications, the project costs and plans that are submitted as part of the application process will be assessed along with the answers to the questions on the application form to ensure they are what might be reasonably expected.

The eligibility of all costs under subsidy rules and the financial viability of your organisation will be checked following the decision to pre-select an applicant but before a formal offer is made. Being contacted for this information does not indicate either success or failure in the assessment process.

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

6.4 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.

6.5 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.

6.6 Financial Viability Checks

BEIS will undertake financial viability checks on all successful applicants. These will include looking at the latest independently audited accounts filed on the Companies House database.

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 project appropriately, so the information we request will be focused on understanding how your business operates in this respect.

Within three months of signing the grant agreement BEIS will ask for credible 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, letters of intent to invest from individuals or organisations or other such mechanisms. We do not expect you to have cash deposits to cover the entirety of your project at the start. If you do not complete your project due to cash flow problems that you could have anticipated and managed, we may request repayment of any grant already issued to you.

BEIS will not make payments in advance of need. 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 within the Grant Offer Letter. 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.

6.7 Grant Use

Companies should note that the grant may not be used to subsidise commercial activities and that where BEIS awards a grant for the purpose of the development of commercially usable prototypes or pilot projects, any revenue generated from such commercial use will be deducted from the grant (and, where the grant has already been paid, will be required to be returned to BEIS).

7. Assessment Process and Criteria

All applications will be considered against the assessment areas and ranked against each other. The online application form and guidance notes are designed to inform you about the types of information you should provide to BEIS for your proposal to be assessed.

A TRL of 3-5 and 6-8 for funding of up to £1 million and £5 million, respectively, are a guide to level of maturity of the technology BEIS (and its assessors) are expecting. When considering applications for grant-funding in excess of £1 million BEIS assessor will have discretion if they deem a project to be at a higher or lower maturity than its TRL would suggest.

We will select projects that offer the best value for money, taking account of the criteria and associated weightings, as given in Table 5.

Table 5: Assessment criteria and associated weightings for applications.

Number	Criterion	Weighting (%)
1.	Value and Unique Nature of the Innovation	15
2.	Cost and Performance of the Innovation	10
3.	Addressable Market of the Innovation	10
4.	How Project Outcomes will be Commercially Exploited	10

Number	Criterion	Weighting (%)
5.	Project Plan	10
6.	Project Risks and Risk Management	10
7.	Project Cost Breakdown	10
8.	Case for Public Funding	10
9.	Experience and Skills	15

For examples of the types of questions assessors will consider for each criterion and for detailed guidance on completing the application form for each criterion, please see in Part 2, Section 1.

For the avoidance of doubt, the individual questions listed for each assessment criterion in Part 2, Section 1, do not constitute assessment sub-criteria but indicate the kinds of factors that will be considered in assessing each aspect of a proposal.

8. Notification

Applicants will be informed by email whether their application has been successful, subject to rigorous financial and commercial due diligence of the bid and compliance with the terms and conditions of the Conditional Offer that will be received.

BEIS may wish to publicise the results of Call 1 which would include 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 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 BEIS Programme Manager of the CCUS Innovation 2.0 before doing so.

9. Feedback, re-application and right of appeal

A short summary of key feedback regarding the applications will be provided to all applicants, this feedback will be based on the summary comments of the Assessment Stage. 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 check list of points which must be answered or argued in a resubmitted application as the assessors may be different and it is your decision as to whether you act on the suggestions made.

There is no right of appeal - the reviewers' scores are final - so it is important that you make any points you wish to make clearly and concisely in the application form.

10. Confidentiality and Freedom of Information

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

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.

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

11. Frequently Asked Questions

As part of the launch documents for Call 1 of CCUS Innovation 2.0, we will publish a set of Frequently Asked Questions (FAQs) covering questions that applicants might have week commencing **12th July**.

If you have any other questions about Call 1 or the wider CCUS Innovation 2.0 programme, these should be sent by e-mail to Industry.Innovation@beis.gov.uk by **18th July 2021**. To ensure an open and transparent competition answers to questions, and those raised at the Industry Engagement Day on 16th June 2021, will be added to our FAQs. These final FAQs will be published **30th July 2021**.

Please note, we are unable to enter into detailed discussions about individual project ideas.

Part 2 - Completion of the Application and Finance Forms

1. Completion of the Application Form

This section aims to guide you through the completion of the online Application Form for Call 1 of CCUS Innovation 2.0. It is important that a response is provided to every question. This guidance is intended to explain what type of information applicants should consider providing to BEIS to best demonstrate the merit of their application.

Applications will be judged based on the information provided in the application form and any supporting information provided. Although questions relating to the call can be asked by **18th July 2021** (see Part 1 Section 11), there will not be the opportunity to enter into discussion about your project with the assessors or BEIS. These guidance notes are not intended to be exhaustive; applicants are expected to develop their own responses based on your own skills, knowledge and experience. You are encouraged to be concise and to the point whilst providing all the necessary and relevant information.

Throughout the form there are boxes, in order to answer the question or provide information you should simply click on the box and begin typing or select from the drop-down menu. Questions do have word limits and when the text has reached the word limit you will not be able to add any further information and the text must be edited to fit within the word limit. CVs have a 2-page limit per individual, if individual CVs are longer than 2 pages assessors will not read beyond the second page.

All application documents must be submitted via the online application form. In the form there are opportunities to upload relevant supporting documents. In some sections, we specify the supporting information we would like to see uploaded. Uploaded documents cannot be in place of answers being provided in the SmartSurvey. The application will be assessed on the answers in the smart survey fields. Uploaded documents should only be of a supporting nature to the main answer.

Any graphs, diagrams or supporting evidence that you are providing to support your application should be uploaded to your submission.

1.1 Proposal Summary, Contact & Organisation Details

The initial section of the application asks you to provide details about your organisation.

Section/Field	Guidance
Names of Bidder	Provide the name of the lead applicant

Project Title	A brief title that can be used to summarise the project
Project Lot Number	Confirm if you are applying to Lot 1 (Mid-Stage CCUS Innovation) or Lot 2 (Late-Stage CCUS Innovation)
Technology Category	Which of these categories best describes your project: CO2 Capture; CO2 Utilisation; CO2 Transport; CO2 Storage; Full Chain; or CCUS Software.
Estimated Start Date	Select the date you would propose to start work assuming successful funding
Project Duration	Enter the expected duration in months, taking into consideration the project must be complete before 31 March 2025.
Estimated End Date	Select the date you propose to finish the project
Total Project Costs	This figure should match the figure calculated in the Project Cost Breakdown Form. It should be the total value of the project including all eligible costs.
Company contribution	This is the amount of total eligible project costs that you will be paying from your own resources/private sector investment into the project.
BEIS Grant Applied for	This is the amount you will be asking for from BEIS. You should ensure that you do not request a grant higher than the maximum allowed, taking into account all public-sector funding for the project.
Grant Funding requested as percentage of total funding	This is the percentage of total costs that the grant makes up. It cannot be more than you are eligible for as set out in Section 5.

TRL at start of project	Select the TRL from the drop-down menu that most accurately represents your technology at the start of the project. A list of TRL definitions are provided at Appendix 2.
TRL at end of project	Select the TRL from the drop-down menu that most accurately represents where your technology will be at the end of the project. A list of TRL definitions are provided at Appendix 2.
Project Summary	This should be a summary description of the project which should set the scene for the assessors and introduce your proposed project. You should use language that can be understood by people without specialist knowledge or expertise. This question is not scored but will be used by assessors to gain a high-level understanding of the project before they start their detailed assessment.

The fields described below appear in the application form in sections 5 to 11 of that document and are included in this table to group the descriptions of high-level paraments together.

Contact Details	Name and details of the person who will be the main point of contact for the application process
Organisation Name	Provide the full registered name of the organisation applying for funding
Registered Address	This is the address where the organisation is registered
County	The county where the organisation is registered
UK Region	The UK region where the organisation is registered
Country	The country where the organisation is registered

Project Location	The location, if it is different from the registered address, where the main activity of the proposed project will be carried out
Organisation Type	Please select from the drop-down menu
Organisation Size	Please select your organisation size
Number of employees (including directors)	Number of staff in your organisation (this will help us confirm the nature of your company)
Number of employees that will be directly involved in the proposed project	State the number of employees from your company that you expect to be directly involved in the project you are proposing.
Organisation Registration Number	Your business registration number as listed by Companies House, or equivalent.
Turnover (in most recent annual accounts)	Please provide your most recent turnover figure from annual accounts and the date of those accounts
Balance Sheet Total (total assets net of depreciation)	Please provide your most recent balance sheet total (total assets net of depreciation) and the date of the calculation.
Organisation maturity	Please enter the age of the business since its formal formation, this includes any periods of dormancy with Companies House.
How is the organisation currently funded?	Please select all the types of funding that are applicable.
Organisation Status	This should be a summary description of your company which should set the scene for the assessors and introduce your company. You should use language that can be understood by people without specialist knowledge or expertise.

	This question is not scored but will be used by assessors to gain a high-level understanding of the company before they start their detailed assessment.
Does the business have a parent company?	We need to understand if there any significant shareholders in your business. The parent company details should be provided in the Parent Company details section.
Parent Company Details	If you have a parent company, or are more than 25% owned by another enterprise, you must provide the details of that enterprise here.
Which aid category are you applying under?	You must select one of the subsidy categories from the drop-down list. The options are: • Aid for Research and Development projects – Industrial Research • Aid for Research and Development projects – Feasibility Study • Aid for Research and Development projects – Experimental Development For more details on the subsidy requirements, see Section 5 of these Guidance Notes. You must indicate that you comply with the financial obligation rules by providing the relevant information.
If you are applying under Aid for Research and Development projects, is this a collaborative project?	If you are applying collaboratively, please provide details of the partner organisations in the CCUS Innovation 2.0 Partner Form. If you are applying as a collaboration you must also submit a copy of formal Heads of Terms agreed between all the collaborators. Prior to the issuing of a Grant Offer Letter, you will have to submit to BEIS a copy of the collaboration or joint venture agreement that you propose to work under. You should be aware that BEIS will not issue a Grant Offer Letter until they have seen, reviewed and approved a final draft of this agreement. Sub-contracting work to a third party does not classify as a collaboration.

1.2 Eligibility Criteria

See Section 4 for guidance on Eligibility Criteria. This section of the application confirms if the application meets the eligibility criteria of CCUS Innovation 2.0.

1.3 Value and Unique Nature of the Innovation (15% weighting)

This section focuses on the CCUS innovation that you are looking to develop, its technological development, value to CCUS deployment, and its novelty in comparison to other technologies.

Any data or references that might help to support your answer that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 1: **How valuable and unique is the innovation?** Describe the technology that is the focus of the innovation, and how through this project the cost of deploying CCUS at-scale will be meaningfully reduced. What is the current status of your technology and what has been completed or proven to date? State the current TRL of your innovation, and why your innovation meets this level. Describe when the innovation will be ready for commercial deployment, and what	You should describe the innovation and technology for which you are seeking funding. This description can be supported by a photograph or schematic as an additional attachment if necessary. The description must be sufficient for the assessors to understand the technology and how it works. You should describe: • The stage of your technology and justify the TRL number selected earlier (TRL levels indicate the level of maturity of the product or process). Using the guidance in Appendix 2 of this document, you should choose the TRL you feel most appropriate to the current state of your technology. The TRL chosen should be supported by the information provided. • What work has been done to date, (lab or bench demos, component tests, development prototypes, engineering or operational prototypes) and over what timescale. • The latest position with the innovation and where it is located. If you were showing the innovation to us today, what would we see? • The unique impact your innovation will have on meaningfully reducing the cost of deploying CCUS, or a quicker more widespread deployment of CCUS. • When the innovation will be ready for deployment, and what preceding scale-up steps will be required.

preceding scale-up steps will be required. Describe the problem that your innovation overcomes and its customer value proposition. Describe the competing solutions/technologies to your innovation, and how the uniqueness of your solution is different. Describe if there are additional non-cost aspects (e.g. technology maturity, analogous industrial experience, improved HSE, etc.) that reduce the risk of deploying your technology	• If the technology is applicable to multiple CCUS applications and end uses, and if can be retrofitted to existing processes. • What level of early CCUS deployment might be achievable, following the success of the project. • What adoption rates might be achieved, and how learning can meaningfully affect widescale deployment of CCUS. You should outline any results that you have had to date and any sources of technology you have used. You should demonstrate the level of reliability and current effective run time (if appropriate) of your innovation.

Assessor's questions to consider:

Question 1: To what extent is the innovation unique and valuable? Is the innovation credible?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

Is the underlying technology technically feasible? Is the technology that is the focus of the innovation well described and understood?

Is the TRL chosen an appropriate assessment of the technology readiness based on the description and activities to date?

Are the remaining stages of the technology's development and deployment well understood and robust?

How unique is the innovation and what are the comparative benefits against similar technologies? Is the technology expected to be widely deployable? What impact will the innovation have on reducing the cost of CCU or CCS and how reliable is the evidence provided to support this? Which problem(s) does the innovation solve and how valuable is this solution? Is the innovation well-planned and based on reasonable technical assumptions and/or proven data points? Is the early level of CCUS deployment achievable? Does the innovation have potential for scale-up? How robust is the case for explaining that the additional benefits will appeal to customers and will help to generate value? Have additional benefits, other than cost reduction, been identified?

1.4 Cost and Performance of Innovation (10% weighting)

This section focuses on the CCUS innovation that you are looking to develop, the cost reduction potential, its likely performance following the project, its potential impact on the widespread deployment of CCUS.

Any data or references that might help to support your answer that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 2. Quantify what the improvement in cost and performance of your innovation is against your competitors. Quantify the expected improvement in cost and performance of your innovation as a result of undertaking the	You should complete the table setting out the following specifics at the current time, as they are expected to be at the end of the project and as you expect them to be within five years from now: • The unit size of the innovation. • The performance of the innovation (please use a standard industry performance metric, e.g. GJ to capture and compress a tonne of CO2).

project and in 5 years' time. Describe the technology that is the focus of the innovation, and how it compares against other competitors. Describe how the cost of deploying CCUS at-scale will be meaningfully reduced through this project. Describe what specific cost reduction can be achieved through widespread deployment. Describe what makes you believe that the cost reduction potential of the innovation can be realised. Describe the supporting evidence you have that backs up this argument. Describe how any numbers given can be achieved.	• Estimated cost to capture and sequester a tonne of CO2. • For CO2 Utilisation projects, the estimated cost reduction of utilising CO2 in a final manufactured end product. • For CO2 Utilisation projects, the reduction of lifecycle emissions of the final manufactured end product. How does your innovation compare to your competitors? For the purpose of technology comparison, when defining the cost and performance of your innovation please assume the captured CO2 must meet the Gathering Network specification in Appendix 3. Please note, Appendix 3 does not necessarily apply to CO2 that is due to be used in a manufactured end product. You should provide calculations to support your claims and explain and justify any assumptions you have made. You should provide supporting evidence to back up the cost and performance pathway anticipated and provide a comparison with existing/competing technologies. You should explain how the cost reduction potential of your innovation will be achieved. You should explore what needs to happen to achieve this, the risks that may prevent it and how these risks might be mitigated. You need to justify what evidence you have that gives you confidence that the cost reductions can be achieved. Your answer should reflect back on any figures provided and you should demonstrate what makes the potential cost reduction possible. You should provide evidence for your statements, including any independent corroboration, and set out any assumptions you have made and their rationale. Supporting evidence accompanying your application should be summarised here and you should reference specific sections of supporting evidence only, as you must not assume that an assessor will be able to read all supporting documents that are submitted.

Assessor's questions to consider include (but not limited to):
Question 2: How far does the innovation show performance/cost improvements over incumbent or competing technologies? How significant are the improvement in performance/cost as a result of undertaking the project; and in 5 years time? How robust is the evidence (or justification) for the improvement in performance/cost against competing technologies and in 5 years time? For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following: How does the cost and performance of the innovation compare to currently available technology or its likely competition? Does the available supporting information give confidence that the innovation will achieve its target cost and performance? Is the learning and associated cost reduction from early deployment credible?

1.5 Addressable Market of the Innovation (10% weighting)

This section focuses on the addressable market of the innovation, the potential for market adoption, and the business opportunity that you believe exists.

Any data or references that might help to support your answer that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 3. What is the addressable market for your innovation? Describe if your technology is applicable to multiple CCUS applications and end uses, and if it can be retrofitted to existing processes	You should outline the business opportunity that you have identified. You should describe the size of the market opportunities that this project might open up, including details of: • Current nature of the specific market(s) at which the project is targeted; • The dynamics of this market including quantifying its current size, value, actual and predicted growth rates;

Describe the size and nature of the addressable CCUS market for your innovation Describe if your innovation is applicable to other non-CCUS target markets Describe what will be the initial target market(s) for you innovation in the first three years of commercialisation, including the size of this market(s)	For highly innovative projects, where the market may be unexplored, you should explain: • What its size might be, national/global • How the project will seek to explore the market potential • What sources you have used to reassure yourself that sufficient demand exists to justify the investment You should describe the business model and route to market and how this will generate value / revenue. You should explain what you need to do to address the market described in the previous question successfully, within the desired timeframe and cost.

Assessor's questions to consider:

Question 3: Has an addressable market been identified and to what extent are the business opportunity and market problem that this innovation and project address compelling?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

Has the applicant clearly identified and understood their target market?

Is the innovation applicable to multiple CCUS applications and end uses? Can it be retrofitted to existing processes and sites?

Does the applicant demonstrate a realistic understanding of size and nature of the target market(s) and its potential for growth relevant to the innovation?

Does the venture demonstrate an understanding of the competitive landscape?

Does the innovation have other uses beyond CCUS application that could open alternative target markets?

What is the chance of success in market adoption?

For early TRLs (3-5) they may not be certain which markets will be more appropriate but should be able to describe an anticipated target market. For later TRLs (6-8)

justification for market selection would be expected. Does the applicant demonstrate an understanding of the customer value proposition appropriate to its TRL level?

1.6 How Project Outcomes will be Commercially Exploited (10% weighting)

This section focuses on the methods for commercial exploitation of the project outcomes, the potential return on investment and the products, processes, or outcomes from the project and how you plan to derive value from them, and your competitors.

Any data or references that might help to support your answer that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 4. **How will the outcomes for the project be commercially exploited?** Describe how the outcomes of the project will be commercially exploited. Describe the route for the IP for your technology to be commercialised. Describe the business model that your company will use to generate value from the innovation (i.e. how will you generate revenue?) Describe how you will develop your first commercial project(s) When the technology is commercially deployed,	Applicants should list the potential exploitable outcomes of the project such as: • Products or services; • Processes; and, • Applications. You should describe how these outcomes will be exploited including where applicable protection of intellectual property rights, changes to business models and business processes and other methods of exploitation and protection. You should explain your anticipated routes to market, highlighting the initial one(s) and outline your strategy for developing market share. You should explain the projected market share for the project outcome, with justification in the light of any potential competitors. If you have customers or potential customers already in place these should be identified and evidence of their support provided. In addition to the immediate practical exploitation of the outcomes, you should identify and quantify the likely impacts of a successful project on your business and

what number of projects or deployment do you envision in the first five years of commercialisation.	indicate the timelines over which these impacts will be realised. You should provide a potential sales forecast based on the target markets identified previously, showing both sales and revenues. For highly innovative projects, where the market may be unexplored, you should explain what the route to market could or might be.

Assessor's questions to consider:

Question 4: To what extent is the proposed commercial exploitation of the outcomes for the project realistic?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

Does the venture demonstrate an understanding of the competitive landscape?

Is the innovation applicable to multiple CCUS applications and end uses? Can it be retrofitted to existing processes and sites?

Does the innovation have other uses beyond CCUS application that could open alternative target markets?

What is the size and breadth of addressable markets this innovation is applicable for? What is the chance of success in market adoption?

Has the applicant clearly identified and understood their target market for the first 3 years of commercialisation and is this credible?

Do they demonstrate a realistic understanding of the size and nature of their target market(s)? What is the potential for market growth relevant to the innovation?

1.7 Project Plan (10% weighting)

This section focuses on what work you plan to do during your project, the key milestones and timings and how you propose to manage the project. A project Gantt chart (or similar) should also be submitted as a separate file. The details provided below should match what is provided in the Gantt chart.

Any data or references that might help to support your answers that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 5. **Describe the Scope of Work, key work packages and milestones for the project.** Describe the technical approach which is being taken to develop and demonstrate the technology. Include an explanation as to why this is the most suitable technical approach. Describe how the components you are proposing to develop are different from those already commercially available, and how this affects your work activity and project plan. List other individuals / organisations that you plan to contract/work with as part of delivering this project. Describe where the innovation will be at the end of the project and	You should describe the programme of work you intend to undertake with the funding. You should provide an overview of the technical approach you propose to take including the main objectives including an estimate of the minimum level of technical or cost performance that the proposed project needs to demonstrate (how big a step is this?). You should include alternate R&D strategies that could be used and explain why the approach you have chosen will provide better outcomes. The timeliness and novelty of the research aspects of the project should be highlighted and explained in an industrial/business context. Identify the key milestones of the project and any interdependencies between the various work packages. Applicants should also outline the key deliverables for the project. Identify any go/no-go decision points in the project (e.g., dependencies on achieving particular performance milestones or component solutions). You should identify who will be carrying activities out (including any collaborators, customers, suppliers, subcontractors, research organisations, certifying bodies, etc.) and outlining the resource and management requirements and highlighting any sub-contracted work and how you propose to manage the project. This includes demonstrating sufficient resource commitment and capability to undertake the project, with clear management reporting lines identified. Using the guidance in Appendix 2, you should choose the TRL they feel will be most appropriate to your innovation at

state what TRL you expect to have reached. Please submit a detailed Gantt chart, or equivalent project plan with your application.	the end of the proposed project. You should justify the TRL which you have selected. You should demonstrate the expected level of reliability and effective run time (if appropriate) of your innovation by the end of the project. If you were showing the innovation to us at the end of the project, what would we see? You should provide evidence for your statements, including any independent corroboration, and set out any assumptions you have made.

Assessor's questions to consider:

Question 5: How appropriate is the technical approach for the demonstration and development of the technology? Are the project schedule and milestones realistic?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

How appropriate is the technical approach for the demonstration and development of the technology?

Are the work packages and milestones realistic? (e.g., is it well planned, thought through, costed, under/over ambitious for the timeframe, skills in place or to be recruited).

Will the deliverables demonstrate tangible progress/value inflection?

Given the stage of the technology development and the context of what the project wants to achieve, give your view of the strength of the industrial/partner relationships that are mentioned in the application (e.g., is there indication that they have the necessary relationships for this next stage of development)?

Is the outcome TRL chosen commensurate with the activities and outcomes of the project?

1.8 Project Risk and Risk Management (10% weighting)

This section focuses on what are the top challenges to successfully delivering this project and commercialising the technology. What risks will be associated with the work you plan to do during your project, how you propose to mitigate or manage the risks, and how you propose to deal with any unforeseen circumstances. A detailed Risk Register should be submitted as part of the application, using the template provided.

Any data or references that might help to support your answers that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Question 6. **Describe the project challenges, what are the risks associated with the project and how will these be mitigated or managed?** Describe the top 3-5 challenges to successfully deliver this project and commercialise the technology. Please provide a risk register covering: key commercial, technical, resourcing, financial, regulatory, operational, and environmental risks including how these will be monitored and managed. Provide evidence as to why these mitigations are appropriate.	You should describe the main challenges to delivering the project, which should link to the risk assessment description. Identify key project management tools and mechanisms that will be implemented to provide confidence that sufficient control will be in place to minimise operational risk and, therefore, promote successful project delivery. This should include the arrangements for managing any significant sub-contractors. In addition to the basic risk register template provided in the application form, you may provide a separate Risk Register for your project. You should consider risks and issues of the following types: • Commercial • Technical • Resourcing • Financial • Personnel / Health and Safety • Regulatory • Operational • Environmental BEIS recognises that projects of this type are inherently risky. However, it seeks assurance that the projects it funds have adequate arrangements for managing this risk.

Describe plans for dealing with unforeseen circumstances.	In the summary risk register, describe the main risks, and then rate as High/Medium/Low (H/M/L) for both impact and probability. Describe whether each described risk can be accepted, transferred, or mitigated. Assign the residual risk to the project as: • Red • Amber-Red • Amber • Amber-Green • Green

Assessor's questions to consider:

Question 6: What are the risks associated with the project and how will these be mitigated or managed?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

What risks are associated with the project, from a technical, project, and environmental perspective?

Does the applicant identify the main risks in the risk register and score them appropriately and honestly?

What are the likelihood and impact of the identified risks and are their assessments realistic?

Are the monitoring and mitigation activities proposed for each risk appropriate and realistic?

What governance frameworks are in place to deal with unforeseen risks/issues?

Has the applicant demonstrated sufficient resource commitment and capability to deal with these risks?

1.9 Project Cost Breakdown (10% weighting)

This section focuses on the finances and expected costs of the project. The Project Cost Breakdown Form should also be downloaded, completed, and submitted as part of the application. Part 2 Section 2 provides further guidance to completing the Project Cost

Breakdown Form. The numbers provided in the application form should match those within the Project Cost Breakdown Form.

Any data or references that might help to support your answers that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	Guidance
Total company contribution	This is the amount of total eligible project costs that you (and any partners / collaborators) will be paying from your own resources/private sector investment into the project.
Source of company contribution	Please state the source of your company contribution to the total costs (your match funding). If you have partners / collaborators, include their contributions here as well.
Amount of BEIS grant applied for	This is the amount you will be asking for from BEIS. You should ensure that you do not request a grant higher than the maximum allowed, taking into account all public sector funding for the project.
Other Public sector funding applied for	Please provide full details of other funding that you are currently applying for or have already applied for or received in relation to this particular project. This data is important as other public sector support is counted as part of the grant you can receive for the project and total subsidy contribution. Do not include grants that have been used to reach this point in the development process and are now completed. Please include this information in 1.1.
Total project value	Please add total company contribution, amount of BEIS grant applied for and other public sector funding applied for to give the total value of the project
Grant funding requested as a percentage of total funding	Input percentage calculated in the Project Cost Breakdown Form. *N.B. This figure must be compliant with the relevant subsidy category under which you are complying.*

Project Start Date and End Date	Please indicate when (subject to approval) you would expect to be able to start your project, and when you expect it to complete. Please be aware that there are restrictions on project length and make sure your project completes within the maximum time allowed. The start date should only be considered as an indication. Should you start your project before final approval any costs will be incurred at your own risk, will not be eligible for grant, and will not be included in project costs you can claim against.

Section/Field	Guidance
Question 7. Provide a summary of the main areas of spend within the project, making clear the level of contribution from the business and the level of funding required from BEIS. This should include: • Why you consider these cost to represent fair market value; • The expected source of any company contribution; and • A breakdown of costs between your organisation and any partners/collaborators	Please provide a narrative description of the anticipated project costs, making clear the level of contribution from the business and the level of funding required from BEIS. This should match the details provided at the start of the application form as well as within the Project Cost Breakdown Form, with any supporting information and explanation provided in this section of the application form. This is the section where you can describe the breakdown of costs between your organization and any partners / collaborators. You should attempt to demonstrate that: • The budget you are proposing is realistic for the scale and complexity of the project. • If applicable financial commitment from other sources is demonstrated for the balance of the project costs. • The budget breakdown is realistic and consistent with what is being proposed. • The spend profile matches the work packages and project plan. Please state the amount of sub-contract funding (if any) within the expected spend of the project and

	justify the necessity for this spend as opposed to the addition of collaboration partners. Please state the amount of funding requested for academic partners (if any) and justify this spending using the Transparent Approach to Costing (TRAC) methodology to calculate 80% full economic costs. Guidance on eligible costs is provided in Appendix 1.

Assessor's questions to consider:
Question 7: How appropriate is the proposal financially? Is the overall budget realistic and justified in terms of the aims and methods proposed? Do the project costs provide fair market value? For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following: How well thought out and appropriate are the project financial plans? Is the overall budget realistic in terms of the aims and methods proposed? Is the project's match funding realistic? (If required) Is the case for sub-contract funding well made as opposed for sub-contractors being consortium partners? (If required) Is the case for academic partner spend well justified?

1.10 Case for Public Funding (10% weighting)

This section follows on from section 1.9 and focuses on what sources of funding you have already considered and what is the justification for the funding that you require.

Any data or references that might help to support your answers that cannot be included in the application form should be provided to BEIS as a separate attachment. These may include for example tables of data, diagrams.

Section/Field	**Guidance**

Question 8. **Please provide a summary of your funding and spending history on the innovation to date; and evidence to show that your innovation warrants use of public money.** Provide the total invested in the innovation to date, itemised by category e.g.: Grant funding, own cash invested, external funding received/invested, non-cash investment i.e. personnel resource etc. Provide a high-level breakdown of how funds have been spent to date and what has been achieved. Describe the other sources that you have approached to raise funds for this project. Name the other organisations and companies that you have contacted. Please list all grant funding received to date and currently being applied for: include funding body, project/activity funded, amount, and date. Describe why your innovation needs public funding from CCUS Innovation 2.0	You must provide a clear breakdown of previous funding and spend on your innovation, including any grants or awards received, and how these have been deployed to achieve the current maturity and technology status of your innovation. You will need to demonstrate the added value of public funding for your proposed project. To demonstrate this, you will need to provide evidence that: There will be an increase in your total Research & Development spend on CCUS technologies in the UK; and either: • Why you are not able to wholly fund the project from within your business's own resources; or • How BEIS's funding would allow you to undertake the project differently or more quickly and why this would be beneficial to the UK. Please provide full details of other public funding that you have received, including but not limited to grants and investments, received to date, in relation to this, or related, projects. Related projects mean any projects using resources or assets (including intellectual property) which are being used by this project. You must include any grants that have been used to reach this point in the development process and are now completed or close to completion and any for which an application is underway or in progress. You should describe other sources of funding you have explored to fund this project and the outcome of these discussions. Public funding should not be the first option for your project.

Assessor's questions to consider:

Question 8: To what extent has the applicant demonstrated value for money on historic spend to date on this innovation? How strong is the case for added value of public funding? For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following: Has appropriate progress been demonstrated in the innovation given the level of funding received to date? Can the innovation be funded by other means? How strong is the case for public funding and is this justified? Have alternative sources of funding been explored and explained? What added value does public funding bring to the development of the innovation?

1.11 Experience and Skills (15% weighting)

This section focuses on the experiences, skills and track record of your business and its personnel.

Section/Field	Guidance
Question 9. **Please summarise:** The company's relevant experience in delivering projects and successfully commercialising technology. Describe relevant experience of the key personnel in the project. Describe what the roles and responsibilities of key personnel involved are for this project.	You should highlight the experience of your management and delivery team and key personnel within your organization (and any partner organisations) that are involved in the project. This should focus on experience in project management, technology commercialisation, business development and raising finance (i.e., loans, equity finance). You should detail any track record individuals involved or your business has in undertaking and exploiting the results of research and development projects, to show your capability to develop and exploit the technology. If you feel the Acceleration Support aspect of the scheme might be able to provide additional skills or knowledge necessary for the successful completion of the project you should highlight these in this section.

Please demonstrate that you have all the necessary industry and supply chain relationships in place to deliver this project.	You should detail and explain any industry or supply chain relationships which are necessary, or which will help you to deliver this project. You should demonstrate sufficient resource commitment and capability to undertake the project, as described in Question 5 and 7, with clear management reporting lines identified.

Assessor's questions to consider:

Question 9: To what extent does the organisation and delivery team have the right skills and experience to deliver the projects intended benefits to time and quality? Can any skills gaps be addressed by the acceleration support?

For this aspect of the proposal assessors will consider a range of questions. These will include (but not be limited to) the following:

Has the delivery team been described?

Does the business have the right, available mix of skills and experience to deliver the project successfully?

Have all the partners/sub-contractors been described?

Is appropriate use being made of sub-contractors where in-house skills are either insufficient or not available in the right timeframe?

Where sub-contractors are being used, does the management team have experience of managing external contractors?

Are there any skills gaps, if so, is the applicant aware of them?

How will any skills gaps be addressed? Can any skills gaps be addressed by the acceleration support?

Are industry / supply chain relationships adequate to deliver the proposed project?

N.B. please consider within context of the TRL of venture and expected team experience/size for a venture of that TRL.

1.12 Public Statement

This section provides a public statement that BEIS can use for publicity purposes.

Section/Field	Guidance
Public statement	This should be a brief summary of the project which should describe your company and project. You should use language that can be understood by people without specialist knowledge or expertise. It should explain why the project is innovative and describe the key aims and objectives. BEIS reserves the right to amend the description before publication if necessary but will consult you about any changes. This should not contain reference to any intellectual property as this description will be made available in the public domain if the application is successful. This question is not scored.

1.13 Scoring Guidance

We will select projects that offer the best value for money overall based on their assessment against the criteria outlined in this section. The projects will be scored against the five assessment criteria set out in the table below. Projects must score a minimum of 60% (based on total score) to be eligible for funding.

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.
2	Partially Satisfactory: There is little evidence that the question has been satisfactorily answered and some omissions are evident. Much more clarification is needed.
3	Satisfactory: There is reasonable evidence that the question has been satisfactorily addressed but some omissions are still evident and further clarification is needed.

4	Good: The question has been well addressed with a good evidence base, with only minor omissions or lack of clarity
5	Excellent: There is clear evidence that the question has been completely addressed in all aspects, with question answered clearly, concisely with a strong evidence base.

2. Completion of the CCUS Innovation 2.0 Project Cost Breakdown Form

You will need to complete the financial details in the Financial Summary section of the application form and also complete the CCUS Innovation 2.0 Project Cost Breakdown Form. The information in both sections should be consistent.

You should only submit one project cost breakdown form for the project, which should combine the costs of all project partners. Within the project cost breakdown form and the application, you should make clear how funds will be split between partners.

The CCUS Innovation 2.0 Project Cost Breakdown Form consists of 8 worksheets:

- Summary
- Project Location
- Labour and Overhead costs
- Material costs
- Capital equipment costs
- Sub-contract costs
- Travel and subsistence costs
- Other costs

Each of these sheets can be accessed by using the scroll bar at the bottom of the worksheets.

Within the spreadsheet there are grey cells which are auto-calculating based on data in the manual entry cells, information should not be entered into these. All blue cells are manual entry boxes or drop-down boxes into which data can be input; Each tab provides example in the first row on how to fill out the form. Additional guidance on exactly what information should be input often be found by clicking into cells.

Guidance on eligible costs is provided in Appendix 1 of these guidance notes.

Guidance on what needs to be entered in some fields is provided within the sheet when you click on the box.

Worksheets only need to be completed if you have costs in those categories, so for example, if your project has no planned capital equipment or sub-contract costs, the form will assume these entries are £0 and calculate without them.

2.1 Project Quarterly Breakdown Worksheet

This worksheet provides the breakdown of all costs across the duration of the project. It represents the spending profile you expect for your project. In entering this information, you should ensure that the profile is consistent with the timings of the various work packages you are proposing within the project plan.

You must ensure that the total, in the spreadsheet, for each category matches the total that has been calculated on the individual worksheets.

Appendix 1 – Eligible Costs

BEIS will only provide the grant to cover eligible costs incurred and defrayed in the period between acceptance of the BEIS grant and the deadline specified in the grant offer letter for completion of the project.

The definition of eligible costs includes the applicant's own costs, eligible costs incurred by consortium members and eligible costs incurred by companies connected to any of these. The cost of work contracted to connected companies, to consortium members or to companies connected to consortium members should be on the basis of eligible costs.

Costs must be denominated in GB pounds. Applicants should indicate where conversion has been made to GB pounds from other currencies and indicate the rate and assumptions used.

List of Eligible 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 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, as calculated on the basis of generally accepted accounting principles are considered as eligible;
- Costs for 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, knowledge and patents bought or licensed from outside sources at arm's length conditions, as well as costs of consultancy and equivalent services used exclusively for the project; and,
- Additional overheads and other operating expenses, including costs of materials, supplies and similar products, incurred directly as a result of the project.

List of Ineligible Costs

Under no circumstances can the grant be claimed or used:

- For activities of a political or exclusively religious nature;
- In respect of costs reimbursed or to be reimbursed by funding from other public authorities or from the private sector;
- In connection with the receipt of contributions in kind (a contribution in goods or services as opposed to money);

- To cover interest payments (including service charge payments for finance leases);
- For the giving of gifts to individuals, other than promotional items with a value no more than £10 a year to any one individual;
- 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);
- To pay statutory fines, criminal fines or penalties; or,
- In respect of VAT that you are able to claim from HM Revenue and Customs.

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.

Appendix 2 – Technology Readiness Levels (TRLs)

Technology Readiness Levels are an indication of the maturity stage of development of particular technology on its way to being developed for a particular application or product. Below are some broad definitions of the TRLs.

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	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). 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 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.
TRL 4 – Lab and Test Bench Demonstrations	Lab and Test Bench Demos of sub-systems & key components. Modelling & experimentation with parameters representing future conditions. 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.
TRL 5 – Development Prototypes	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. Critical cost assumptions are carefully investigated, and the feasibility of the proposed manufacturing process is tested. A new 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.
Experimental Development (guideline)	
TRL 6 – Engineering or Demonstration Prototype	Full-scale system in representative conditions - Engineering Prototype. Representative full-scale prototype system is tested in a relevant environment. Proof-of-application. 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 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).
TRL 7 – Operational Prototype (Alpha Product)	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. 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. 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.
TRL 8 – Production Prototype (saleable Beta product)	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 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. 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) 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. 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. 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.
TRL 9 – Marketable Product	Marketable Product: proven in repeated use - Product being sold in market, scaling up sales volumes. Actual application of technology is in its

	final form - Technology proven through successful operations.

Appendix 3 – CO2 Specification

For the purpose of innovation projects funded by CCUS Innovation 2.0 BEIS is providing an indicative carbon dioxide specification. This is for the sole purpose of helping projects when developing novel CCUS technology to have a sense what CO2 specification their technology might have to meet to transport and store CO2 via pipeline or ship.

When a technology developer commercially deploys their technology it will have to meet the CO2 specification of the T&S or shipping infrastructure.

Composition	Units	Gathering Network	Export Pipeline	Ship
Pressure	barg	25-30	90-110	5-10 15-20 45-72
Temperature	°C	25-30	25-30	-55 to -41 -30 to -19.5 10 to 30
Carbon dioxide, CO2	% mol	> 96	> 96	Still to be determined
Total non-condensable gases (N2+Ar+O2+H2+CH4+Other Hydrocarbons)	% mol	< 4	< 4	Still to be determined
Total methane & other hydrocarbons	% mol	< 2	< 2	Still to be determined
Hydrogen, H2	ppmv	5000-7500	5000-7500	≤ 50
Carbon Monoxide, CO	ppmv	1000-2000	1000-2000	≤ 100
Water, H2O	ppmv	30-50	30-50	≤ 30
Oxygen, O2	ppmv	10-100	10-100	≤ 10
Hydrogen Sulphide, H2S	ppmv	5-200	5-200	≤ 10

Composition	Units	Gathering Network	Export Pipeline	Ship
Sulphur Oxides, SOx	ppmv	10-50	10-50	≤ 10
Nitrogen Oxides, NOx	ppmv	10-50	10-50	≤ 10
Amines	ppmv	2-10	2-10	≤ 10
Ammonia	ppmv	10-50	10-50	≤ 10
Aldehydes	ppmv	≤ 20	≤ 20	≤ 20
Glycol	ppmv	≤ 10	≤ 10	≤ 10
Mercury	mg/m3	≤ 0.03	≤ 0.03	≤ 0.03
Total Cadmium & Thallium	mg/m3	≤ 0.03	≤ 0.03	≤ 0.03

Appendix 4 – Generic Grant Funding Agreement

Separate document.

Appendix 5 – Generic Grant Offer Letter

Separate document.

This publication is available from: www.gov.uk/government/publications/ccus-innovation-20-competition

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