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Evaluation of the Track-1 Cluster Sequencing Processes

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1. Executive summary

In August 2022, the Department for Energy Security and Net Zero (formerly known as the Department for Business Energy and Industrial Strategy) commissioned ICF Consulting (ICF) to carry out a process evaluation of the Track-1 Cluster Sequencing process. Government has committed to deploying carbon capture, use, and storage (CCUS) in two industrial clusters by the mid-2020s, then in a further two clusters by 2030¹. The Track-1 Cluster Sequencing process is the model that was used to select the first two priority clusters and shortlist the CCUS projects (emitters) that would potentially connect to the transport and storage (T&S) infrastructure in the clusters. Track-1 was split into two, sequential phases: Phase 1 to select the two priority clusters, and Phase 2 to select shortlisted emitter projects. This process evaluation of Track-1 is based on research carried out during autumn 2022 and reflects the opinions of and evidence available to interviewees at that point in time.

1.1 Evaluation objectives and methodology

The purpose of this study was to capture feedback about the design and delivery of the Track-1 Cluster Sequencing process, to inform the development of the planned Track-2 process. The evaluation involved of a mixture of desk research and primary research:

- A review of documentary evidence about the design and delivery of Track-1, including the results of internal reviews and lessons learned exercises undertaken by BEIS.
- Interviews with 25 organisations that had submitted bids under Track-1 (5 within Phase 1 and 20 within Phase 2), and 3 organisations that had submitted expressions of interest (EoIs) under Phase 2 but had not gone on to submit a bid. Interviewees were selected to achieve a balance across Phases 1 and 2 and incorporate a diversity of viewpoints.
- Interviews with 10 officials from BEIS and from organisations that were contracted by BEIS to support the design and delivery of Track-1; interviewees were selected to ensure coverage across a range of roles within the delivery model.

Evidence from the research activities was analysed and synthesised to answer the evaluation questions. Interview evidence is presented anonymously throughout this report.

1.2 Evaluation findings

Design of the Track-1 processes

The original rationale for splitting Track-1 into two phases was generally thought to have been sound: to ensure competition and value for money in emitter selection, and to provide flexibility given the uncertain funding envelope and cluster landscape. There is some evidence that this

¹ <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

decision did impact the configuration of clusters and emitter projects, and new commercial relationships between T&SCos and emitters were established, which was welcomed. Emitters welcomed knowing which clusters were favoured before bidding. However, there were downsides. The sequential phasing has caused delays in the selection of emitters.

Interviewees noted that there is uncertainty about when the T&S infrastructure will be in place and if and when the various shortlisted emitters will be ready to connect, making it hard for all parties to plan ahead. As well as creating new commercial opportunities, the split did cause some dislocation of commercial relationships.

Interviewees understood the rationale for the reserve cluster and largely agreed that it was useful if anything went wrong with the two priority clusters. However, Phase 1 and 2 participants suggested that more could be done to set out the procedure for switching in the reserve.

The five evaluation criteria (deliverability, emissions reduction potential, economic benefits, cost considerations, learning and innovation) were widely believed to have been the right choices. Several interviewees thought the weightings assigned to each of them could have been slightly different. There was some support for a slight increase in the deliverability weighting (30% for both Phases 1 and 2), given the policy goal to deploy two clusters quickly. Several interviewees thought cost considerations should have been weighted higher than it was (15% for both Phases 1 and 2), and that for Phase 1 this criterion should have included an assessment of T&S affordability (which should not just have been assessed as part of the portfolio consideration). Some participants queried why economic impacts and learning and innovation (weighted 20% and 10%/15% respectively) were weighted as high as they were, believing that the focus should have been on deliverability and commerciality, and that more qualitative impacts were very hard to measure accurately at this stage in a cluster or project.

Participants mostly had positive experiences using the templates to submit their bids. The Word documents worked well, bar some formatting issues. Some participants had problems completing the Excel files. Phase 2 projects that did not quite 'fit the mould' found the cost template challenging as the cells did not quite correspond to their own understanding of their project. Several participants would have preferred the Excel files not to be locked or use hidden formulae as this made their own cross-checks difficult. The submission portal worked well, though several participants were almost caught out by the requirement to submit some information via the portal which they only discovered late in the process (even though this was mentioned in the supporting guidance).

Phase 1 and 2 participants felt the timetables for submission (9 and 11 weeks respectively) were challenging but about right. However, both submission windows fell over holiday periods (summer 2021 and the 2022 festive period) which created challenges for participants due to staff holidays and delayed responses from partners.

Communication between BEIS and participants

Most Phase 1 and 2 participants felt sufficiently forewarned that the selection processes were coming; many were active participants in public policy debates and had contributed to the

February/March 2021 market engagement exercise. Interviewees would have appreciated greater granularity on the timetable, particularly Phase 2 since this spanned a holiday period and required advance commissioning of external studies. Interviewees would also have welcomed more advance notification about the type and scale of the information that BEIS was going to ask for. Some Phase 1 participants had not appreciated how much information would need to be sourced from emitters. Some Phase 2 participants had not anticipated BEIS's evidence expectations, and had to rapidly commission external studies (engineering, economic impacts) to fill gaps. Being involved in a Phase 1 submission had given some Phase 2 participants advance warning about some of the information required.

Phase 1 and 2 guidance was largely perceived by interviewees to be clear, though some interviewees were uncertain how to complete the economic impacts sections and templates and had to commission external studies to support them.

Participants submitted large numbers of clarification questions after Phases 1 and 2 launched. Interviewees welcomed this mechanism, which for the most part had provided them with the information they needed. Some participants found the question response time (BEIS set a target of one week, though sometimes took longer) somewhat slow, and a few interviewees noted that the answers they received were not helpful (e.g., referred participants back to the guidance).

Participants were happy to receive supplementary questions since this gave them a chance to correct errors and highlight where information could be found. The three-day time limit was widely believed to be sufficient. Participants generally understood that they could not provide any new information, but some did not seem to fully understand the rationale that, to ensure a fair process, participants could not be allowed to improve their bid by adding additional information after the submission deadline. Some participants were frustrated that new material they submitted in response to supplementary questions was not reviewed.

Unsuccessful participants welcomed feedback, particularly the verbal feedback some received during follow-up meetings with BEIS. Feedback helped them understand where they needed to do more work (potentially to inform a Track-2 bid) and often helped them understand how to bid for public funding support. Unsuccessful Phase 2 participants would have liked to have known their scores, or at least some information about how they had ranked relative to the successful participants, because they wanted to know how far off selection their bids had been. Successful Phase 2 participants did not receive feedback on their bids when they were notified that they had been selected, since their project was instead discussed as part of the due diligence process. Interviewees believed that they should have received the same amount of feedback as unsuccessful bids, at the same time, since this would have helped them with other bids for public funding and would have enabled them to prepare for the due diligence stage.

Participants' resource expenditure

Participants typically used a mixture of internal and external resource when preparing submissions. Internal resource usually meant small teams (2-10 people) working almost full-time for the duration of bid writing. External inputs were typically engineering studies and

economic impacts estimates, though some used consultants to project manage and/or write bids. Phase 1 bids were complex and required substantial inputs from the T&SCo² lead and contributing emitters. Interviewees often struggled to even give ballpark estimates of expenditure, though two estimated this at £1m (one successful and one unsuccessful) and another at £0.25m (unsuccessful); all costs exclude costs incurred by the emitters who contributed. Phase 2 bids were slightly less complex and expensive, though given that some were smaller companies, proportionally the resource need was often more significant. Unsuccessful participants estimated costs at around £50k, up to £100k in some cases and even as far as £250k. Successful participants had mostly spent more: between £100-200k was common. Generally, participants saw this as expenditure as proportionate given the potential outcome, though noted that there was an opportunity cost to having project teams focussed on bid-writing rather than project implementation.

1.3 Considerations for Track-2

Based on the evaluation findings, the ICF team suggests DESNEZ takes the following suggestions from the Track-1 experience into consideration when designing Track-2, and other future processes:

Design of the Track-2 processes

- Review the rationale for splitting Track-2 into two phases, considering whether the objectives for Track-2 merit such a separation and taking into account the lessons learned from Track-1.
- If there is a reserve cluster, review the process for supporting them while in reserve, and provide detail on the procedure for switching them in.
- Consider reviewing the weightings assigned to the Track-2 evaluation criteria to ensure they remain aligned with the strategic objectives for CCUS, taking into account any changes and learning since Track-1. Consider a higher weighting for the cost criterion, and potentially deliverability. The cost model for T&S bids (i.e., what was Phase 1) could focus more on T&S and less on the proposals from emitters.
- Explore whether the amount of information that participants need to submit at Track-2 can be simplified and/or reduced, to lessen the wordcount and volume of supporting material needed for bid submission and thus reduce the resource requirements for participants and officials. This exercise could consider what information is truly required to select clusters and projects, and whether some questions can be deferred to the due diligence stage.
- Aim to avoid running the Track-2 bidding window over a holiday period, or if it is, its launch date should be communicated well in advance (see below).

² A company licensed to provide transport and storage services

Communication between DESNEZ and participants

- Aim to communicate the bidding timetable well in advance, including the anticipated launch date, and indicate what will happen after submission (i.e., inform participants about the due diligence timetable as well).
- Consider running additional demonstration session when Track-2 is launched to show prospective participants how to complete the more technical sections of template(s) (e.g., economic impacts), or consider alternative templates for measuring more technical sections of the submission.
- Seek to provide all necessary information requirements in the Track-2 guidance document and templates, including anything that is to be submitted via the bidding portal. Consider consolidating all requirements within the template(s), rather than also requiring some information to be submitted via the Portal. Where possible, ensure that guidance anticipates the information needs of participants who might not quite fit the archetype of an emitter bidder.
- Ensure that guidance explains the purpose and scope of the supplementary question process where possible, and explore whether clearer guidance can be provided on the interpretation of 'new material' when asking supplementary questions and deciding whether participants' responses can be assessed.
- Consider providing a reasonable level of feedback to all participants, including those who are successful. Consider providing both bid-specific feedback and generic feedback that will help organisations with other funding bids. Consider exploring whether some information about scoring, or distance from shortlisted bids, can be provided to all participants.

2. Introduction

In August 2022, DESNZ (formerly known as BEIS) commissioned ICF Consulting (ICF) to carry out a process evaluation of the Track-1 Cluster Sequencing process. This is a report of the evaluation findings. It is based on research carried out during autumn 2022 and reflects the opinions of and evidence available to interviewees at that point in time.

2.1 The Track-1 Cluster Sequencing process

The Ten Point Plan for a Green Industrial Revolution³, published in November 2020, included a commitment to deploy carbon capture, use and storage (CCUS) in two industrial clusters by the mid-2020s, then in a further two clusters by 2030. The Track-1 Cluster Sequencing process is the model that was used to select the first two priority clusters and shortlist the CCUS projects (emitters) that would potentially connect to the transport and storage (T&S) infrastructure in the clusters. The process did not award funding; rather it identified the clusters and projects that government would then enter into a process of due diligence and a bilateral negotiation with, in order to develop and agree a package of measures to support the deployment of CCUS. This latter stage is still ongoing at the time of this evaluation and falls outside the scope of this piece of work.

Track-1 was split into two, sequential phases: Phase 1 to select the two priority clusters, and Phase 2 to select shortlisted emitter projects. These two phases were preceded by a market engagement exercise that BEIS used to gather feedback on its proposed model for the Track-1 processes. Figure 1 (overleaf) shows a high-level timeline of the Track-1 Cluster Sequencing process, identifying the main milestones in the delivery of the Phase 1 and 2 processes. Further details about the elements of the Track-1 model are discussed in the Evaluation Findings chapter of this report.

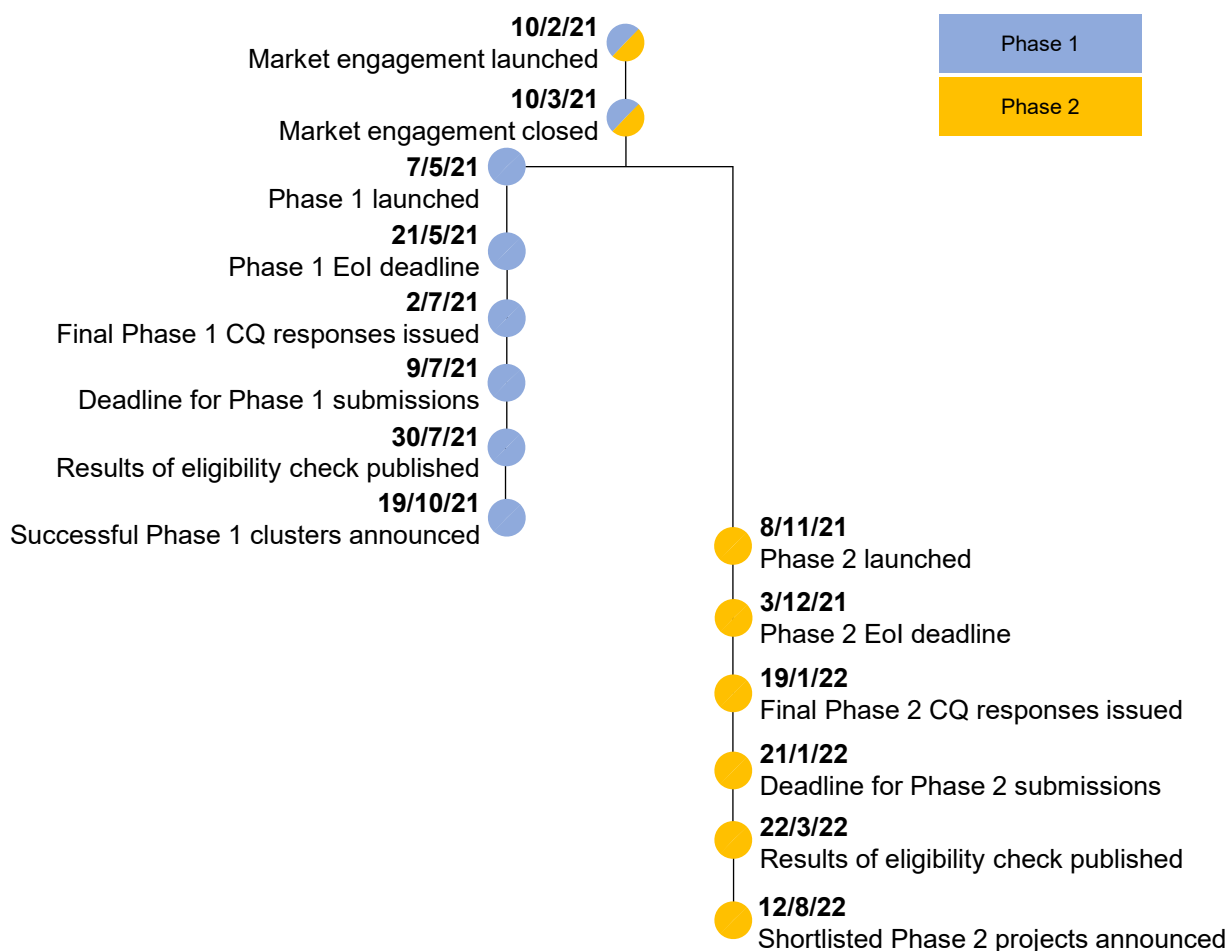
2.2 The evaluation methodology

Evaluation objective and scope

The objective of this study was to capture feedback about the design and delivery of the Track-1 cluster sequencing process, to inform the development of the planned Track-2 process. The evaluation was set 16 evaluation questions to answer, structured around four themes: design, application, communication, and future considerations. These questions are repeated in the Main Findings chapter of this report.

³ <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

Figure 1: High-level timeline of the Track-1 Cluster Sequencing process



Methodology

The evaluation methodology consisted of the following activities:

- Desk review and scoping: the evaluation team reviewed documentary material provided by BEIS and conducted preliminary interviews with 6 BEIS officials with perspectives on Phases 1 and 2. The results of this scoping research were used to develop a ‘process map’ that described the Track-1 processes (shown in Annex 1). This map was used to review the evaluation method to ensure it aligned with the reality of the Track-1 processes, and to further develop the evaluation framework and research instruments. The results of the scoping research were written up in a short note⁴, and presented to BEIS at a meeting held on 4 October 2022.
- Interviews with Track-1 ‘participants’ (i.e., organisations that submitted Expressions of Interest (EoIs) and/or bids under Phases 1 or 2). A total of 28 interviews were completed (see Table 2), spread between Phases 1 and 2 and across, stream and outcome. Interviews explored participants’ experiences of the Track-1 processes and identified potential areas for improvement.

⁴ ICF (4 October) Note of evaluation plan (unpublished)

- Interviews with Track-1 ‘officials’ (individuals involved in the design and delivery of Track-1 processes, including BEIS officials and external consultants contracted to deliver specific aspects of the programme). A total of 10 interviews were completed (see Table 3) involving 19 individuals. Interviews explored officials’ experiences of the delivery of Track-1 processes, lessons learned, and potential areas for improvement.
- Analysis and synthesis of evidence. Transcripts from interviews with participants and officials were coded using an analysis framework derived from the evaluation questions. Evidence from the interviews was synthesised to identify the key themes and evaluation findings. The results are presented in the Evaluation Findings chapter of this report.

Further information about the interviews with participants and officials is below.

Interviews with participants

The term ‘participant’ is used to describe organisations that only completed an EoI, and organisations that submitted a bid under Phases 1 or 2 of Track-1. Data on participants was provided to ICF by BEIS, from which a sample of participants was drawn. Sampling was purposive, aiming to achieve a balance of interviews across Phases, streams, and outcomes. There were a total of 93 ‘participations’ (see Table 1), though this included cases of organisations submitting multiple EoIs (four from a single organisation in one case) and/or multiple bids. Once duplicates and non-contacts⁵ were removed there were a total of 67 unique participant individuals⁶ within the sampling frame.

Table 1: Profile of participations in Phases 1 and 2 of the Track-1 process

Participation outcome	Phase 1	Phase 2 Power	Phase 2 ICC	Phase 2 H2	Total
All EoIs submitted	5	10	53	25	93
Of which dropped out after EoI	0	2	24	16	42
All bids submitted	5	8	29	9	51
Deemed not eligible	0	0	4	1	5
Successful*	3	3	14	4	24
Unsuccessful	2	5	11	4	22

Note: * Includes the Phase 1 reserve cluster; ‘successful’ includes shortlisted Phase 2 participants

⁵ Non-contacts refers to organisations that submitted unsuccessful bids which were removed from the sampling frame as the feedback discussions were ongoing at the time that the feedback was carried out.

⁶ Information provided by BEIS included a named individual per participation, assumed to be the lead contact that organisations had identified in their EoI/bid. The sampling unit was individuals; that is, if an individual was named as the lead contact on multiple EoIs/bids, they would only be sampled once. Organisations that submitted multiple EoIs/bids, each with different named individuals, could thus be sampled multiple times. In practice, no organisation was sampled more than twice, to minimise the burden on organisations and ensure a greater diversity of views.

The evaluation targeted 25-30 interviews with bidders and 3-5 interviews with non-bidders (i.e., organisations that dropped out after submitting an EoI⁷). A total of 25 interviews were completed with bidders and 3 with non-bidders. To achieve this, a total of 41 participants were sampled and contacted by email: 28 agreed to be interviewed, 3 declined⁸, 1 agreed to be interviewed but it was not possible to agree an appointment within the fieldwork window, and 9 did not respond to the invitation or reminder email. Interviews were carried out using MS Teams and recorded, subject to interviewees' consent. A semi-structured interview guide was used. Average duration was 30-60 minutes for bidders, and 20-30 minutes for non-bidders. A profile of the completed interviews is shown in Table 2.

Table 2: Profile of completed participant interviews⁹

Participation outcome	Phase 1	Phase 2 Power	Phase 2 ICC	Phase 2 H2	Total
Non-bidders (EoI only)	0	1	2	0	3
Deemed not eligible	0	0	1	1	2
Successful#	3	2	4	4	13
Unsuccessful	2	3	3	2	10
All	5	6	10	7	28

Note: # Includes the Phase 1 reserve cluster; 'successful' includes shortlisted Phase 2 participants

Interviews with officials

The term 'officials' is used to describe individuals who were involved in the delivery of the Track-1 processes. This includes BEIS officials and external consultants who were contracted to deliver specific tasks. The sample of officials was developed by the evaluation manager at BEIS, drawing on departmental knowledge of the key individuals with perspectives on Track-1 processes. The sample was designed to include individuals with experience of the different components of the Track-1 processes (Phases 1 and 2, experience of assessing bids under each of the five evaluation criteria) and from a range of organisations (BEIS, plus representatives from consultancies WSP, Crondall Energy, EY, Arup, and Mott MacDonald).

The evaluation targeted 10 completed interviews with officials. A total of 10 interviews were completed, each with between one and three individuals (19 individuals were interviewed in total). One-to-many interviews were used to increase the total number of interviewees and to

⁷ Some of the interviewed bidders had also submitted an EoI for a project that did not proceed to a full bid. During interview, discussion also covered these non-bids and their reason for not proceeding, so although there were only three interviews with non-bidders, reasons for not bidding were discussed more widely.

⁸ Reasons given for declining were: 1) no available time to participate (successful bidder), 2) did not want to take up the opportunity to provide feedback (unsuccessful bidder), and 3) had made a business decision not to bid and did not see the value of being involved (non-bidder)

⁹ Though not shown in Table 2, the distribution of completed interviews by cluster was as follows: 17 from the East Coast cluster, 7 from HyNet, 2 from the Scottish Cluster, and 1 each from DelpHYnus and V Net Zero.

encourage group discussion. Interview duration was either 30 or 45 minutes (the latter was for BEIS stream leads). An indication of the thematic ‘coverage’ of the 19 individuals who were interviewed is shown in Table 3. Note that individuals typically contributed to multiple parts of the delivery model – e.g., an individual would assess bids’ responses to the economic impact criterion across multiple phases and/or streams. Interviews thus covered multiple topics.

Table 3: Thematic coverage of completed interviews with officials (out of 19 interviews)

Track-1 component (e.g. evaluation criteria review/assessment)	Phase 1	Phase 2 Power	Phase 2 ICC	Phase 2 H2
Delivery	✓	✓		✓
Legal/commercial	✓	✓		
Assurance	✓	✓	✓	✓
Deliverability	✓	✓	✓	✓
Emissions reductions	✓		✓	✓
Cost considerations	✓	✓	✓	✓
Economic benefits	✓	✓	✓	✓
Learning and innovation			✓	✓

2.3 The remainder of this report

The remainder of this report is structured as follows:

- Chapter 2 sets out the evaluation findings, consisting of analysis of the evidence provided by participants and officials.
- Chapter 3 presents the main findings of the evaluation, which are structured around the evaluation questions set by BEIS. It also outlines the lessons identified by the ICF team.

Supporting material is contained in the Annexes: Annex 1 presents the process map for Track-1.

3. Evaluation Findings

This chapter presents results from interviews with participants and officials. It is structured around the key evaluation themes:

- The design of the Track-1 processes.
- Communication of the Track-1 processes.
- The resource requirements for submitting a Phase 1 or 2 bid.

The following drafting principles have been applied throughout:

- Where relevant we differentiate between Phases 1 and 2; if not, material is combined.
- All results are presented anonymously, including verbatim quotes from interviewees.
- The term ‘participants’ is used to describe any organisation that submitted an EoI at Phases 1 or 2, regardless of whether they went to submit a full bid. The term ‘bidders’ is used to describe organisations that submitted a bid, regardless of the outcome.

3.1 Design of the Track-1 processes

Splitting Track-1 into Phases 1 and 2

Track-1 was split into two sequential selection processes. Phase 1 involved bids submitted by cluster leads and contained information on the transport and storage infrastructure, and information about the emitters that would potentially be involved in the cluster. Phase 2 followed after the priority clusters had been named, and involved bids submitted by emitters that concerned the carbon capture projects that would be developed and connected to the priority clusters. Phase 2 was open to any emitter that met the eligibility criteria for the three streams (power, ICC and H₂), regardless of whether they had been named within a Phase 1 bid. Track-1 was split into two sequential phases so that the selection of emitters did not sit with the T&S lead (T&SCo), meaning all emitters were considered rather than just those with an established commercial relationship with the T&SCos.

Phase 1 participants largely backed the initial rationale for separating the selection of clusters from the shortlisting of emitters, even if they had concerns about how it had been implemented (see below). Splitting in to two phases provided valuable flexibility whilst the affordability envelope was being refined.

The biggest downside of splitting out Phases 1 and 2, in the opinion of Phase 1 and 2 participants, was that it had caused delays in the selection of emitters. Phase 1 and 2 interviewees noted that there is uncertainty about when the T&S infrastructure will be in place and if and when the various shortlisted emitters will be ready to connect, making it hard for all parties to plan ahead. Many Phase 2 participants also disliked what they saw as a dislocation of T&S and emitters, made worse by the fact that they were still going through the due

diligence process and did not have a clear timetable for when they would have the green light to proceed.

“The consequence of having these phases has meant delay...the parties that need the most lead time are not necessarily the T&S element...it’s actually getting the confidence of the emitters to invest. The consequence of the phase two separation was this very substantial hiatus in timing where the emitting companies didn’t know where they stood”.

Phase 1 participant, successful bidder [Ref 10]

“[We have] no clarity on whether [our project is] proceeding. The [cluster has] got a short list of potential emitters feeding in but...still aren’t able to confirm where they’re going and what’s coming into them”.

Phase 2 participant, successful bidder [Ref 4]

“I understand from a competition perspective why you want to desegregate integration between the emitter projects and T&S. From a project director perspective, the last thing you want to do is pull that apart because you’ve spent all that time trying to integrate them”.

Phase 1 participant, unsuccessful bidder [Ref 8]

Participants agreed that the original rationale for splitting Track-1 into two phases was thought to have been sound in encouraging competition. However, Phase 1 and 2 participants queried whether this had happened to the extent intended. Some Phase 1 interviewees reported that, when cluster plans were being developed, the more mature emitters had tended to gravitate towards what were perceived to be the more mature clusters with the greatest likelihood of success. This was seen by some Phase 1 interviewees as being to the detriment of the two less mature clusters, who were thus less able to assemble what they saw as the optimal ‘portfolio’ of emitters for their own bids. Separating support to T&S from emitter support and competitively selecting both parties was seen by Phase 1 and 2 participants to have shaken up existing commercial relationships. Interviewees saw this as both positive and negative, creating opportunities for new commercial relationships and disrupting existing relationships. Some emitters, particularly those that were less mature and/or who had not been included in a Phase 1 bid, noted that this had enabled them to participate when they might otherwise have been passed over by clusters looking to include more mature and/or large emitters for their bids.

“One positive feature [was] that it did draw people out of the woodwork. It gave certain parties who hadn’t [previously] joined us in the phase one application more time...and removed a certain element of risk: ‘we now know that that [] is a cluster that is favoured and can put more effort into making the phase two application”.

Phase 1 participant, successful bidder [Ref 10]

“The projects that had been part of a Phase 1 [bid]...would have been in a better place [than those that had not]. If you’d had it as one [phase] there’s every chance you would have missed our project”.

Phase 2 participant, unsuccessful bidder [Ref 16]

Phase 1 and 2 participants noted that emitters were named within and contributed significantly to Phase 1 bids; indeed, the proposals from emitters were integral to the content of the cluster plans. It was not seen as a “clean split” between T&S and emitters, therefore.

Some Phase 2 participants also valued the sequencing of Phases 1 and 2. In part this was simply because it had bought them valuable time, since they had not been ready to bid in summer 2021 but were by winter 2021/22, as they had commissioned engineering studies. Other interviewees valued the fact that they knew the identity of the government’s two preferred clusters, meaning they could focus resources on projects that linked to these two locations. As discussed below, some non-bidders who submitted EoIs valued the fact that the two phases gave them an opportunity to access documentation and gain insights into the emitter selection process, believing that this would help them plan ahead to a potential Track-2 bid.

“[At Phase 1] we aligned ourselves with an unsuccessful bid... [having a separate selection process] allowed us to enter the phase two competition”.

Phase 2 participant, successful bidder [Ref 5]

Several Phase 2 participants noted that they had effectively had to participate in two selection processes, albeit their contribution to Phase 1 bids was more limited. Organisations involved in both phases were able to re-use some material from their Phase 1 bids, but interviewees stressed that there was limited overlap, in part because they had often needed to undertake further studies to prepare for their Phase 2 projects that had rendered some of their earlier work obsolete.

“We had to put in a lot of work for the phase one...that effectively could have been wasted if [the cluster] wasn’t selected. Then we had to do a huge amount more work because we couldn’t use that much for our phase two [bid]...from a total effort expended perspective, a single stage would have been dramatically lower effort”.

Designating a reserve cluster during Phase 1

Alongside the two chosen priority clusters, Phase 1 also involved the selection of a reserve cluster (the Scottish Cluster). The rationale for the reserve cluster was that it might be necessary to discontinue engagement with a Track-1 cluster, for example if the cluster encountered technical problems with its proposed storage solution. The reserve cluster could be then ‘switched in’. The reserve cluster could also be elevated to increase the number of Track-1 clusters, if capital and revenue affordability envelopes permitted.

Phase 1 and 2 participants understood the rationale for choosing just two priority clusters, given resource constraints and the need to prioritise. Interviewees noted, however, that the UK has challenging targets for reducing carbon emissions and that there would have been benefits to supporting more than two clusters. As to the actual role of a reserve cluster, interviewees understood the benefits of having a reserve should a priority cluster encounter any difficulties. Phase 1 and 2 participants suggested that more could be done to make clear the procedure for switching in the reserve, including the conditions upon which this decision would be based and the procedure that would be followed.

Most Phase 2 participants did not have an opinion on the use of a reserve cluster¹⁰. One organisation that submitted a Phase 2 bid that was linked to the Scottish Cluster believed that there was a rationale for using a reserve cluster, since it had maintained some momentum within the industry that would be needed if there was a Track-2 cluster submission. They also noted that they had submitted a bid under Phase 2 in part because, at the time, they had considered the possibility that BEIS might decide to expand support to three clusters rather than two. However, for another interviewee, the decision to designate the Scottish Cluster as a reserve cluster led them to abandon a potential Phase 2 submission for a Scotland-based project, and instead to focus on a project that was located within one of the two priority clusters. For organisations that had previously built a commercial relationship with the Scottish Cluster, the reserve cluster designation left them unsure about what to do when Phase 2 launched and ultimately led them to quickly build new links with one of the two priority clusters.

Evaluation criteria, weighting and scoring methodology

Phases 1 and 2 used five broadly similar evaluation criteria and weightings: deliverability (weighted 30%); emissions reduction potential (25% or 20% for H2); economic benefits (20%); cost considerations (15%); and learning and innovation (10%) (market development and learning, weighted 15% for H2). Each headline criterion had several component sub-criteria. The evaluation criteria reflected the objectives of Track-1 and wider government policy goals (e.g., levelling up). The scoring system varied between evaluation criteria. For most criteria, submissions were scored qualitatively on a scale of either 1 to 10 (Phase 1) or 1 to 5 (Phase 2), with a single consolidated score awarded per criterion based on an assessment of performance across several sub-criteria. For the cost criterion, scoring was proportionate, with submissions scored relative to the best performing submission. In other cases, scoring was based on a quantitative assessment of performance (e.g., emissions reduction). For Phase 2, a minimum score was applied to the deliverability criterion (and emissions reduction for ICC), such that any submission that did not meet the threshold was rejected.

Most Phase 1 and 2 participants broadly agreed with the choice of five evaluation criteria and believed that the scoring model was a robust method for assessing bids.

¹⁰ We were only able to interview a single Phase 2 bidder who was linked with the Scottish Cluster, with other potential interviewees either declining to participate or not responding to the request. There were also only a handful of Phase 2 bids that were linked to the Scottish Cluster, thus limiting the available sample. However, at least one Phase 2 bidder who was not linked to the Scottish Cluster had submitted an EoI for a Scotland-based project and expressed an opinion on the use of a reserve cluster.

There were mixed views amongst interviewees as to whether the weightings assigned to the five criteria were optimal. Several Phase 1 and 2 participants believed that deliverability could have been weighted even higher than 30%, since quick deployment was perceived to be the key priority for the Cluster Sequencing process. Some interviewees also believed that cost considerations should have been weighted higher than 15%, especially given the government's stated goal to achieve value for money.

“If you were independently thinking about the project, you’d put more weighting on deliverability and commerciality”.

Phase 2 participant, successful bidder [Ref 2]

Whilst Phase 1 and 2 participants understood why government had included the economic benefits and learning and innovation/market development criteria, several interviewees questioned why they were weighted as high as they were. Interviewees noted that this was in part because, for them, it was often too early to accurately assess either the economic benefits of their project or its future impact on innovation. They reportedly found the skills profile of jobs created, for example, difficult to assess with any certainty where they were still at a feasibility or pre-FEED stage. Likewise for innovation, it was not known how this would work in practice.

“We weren’t at a place where we had a technology partner on board and it’s not for us to talk for them about knowledge sharing when the IP is theirs in a lot of instances”.

Phase 2 participant, unsuccessful bidder [Ref 13]

Reasons for not bidding

The evaluation team spoke to three organisations that had submitted an EoI at Phase 2 but chose not to proceed to a full submission. All three had elected not to proceed due to aspects of the way they perceived that Phase 2 was designed:

- One organisation was deterred by what they perceived to be a requirement to have secured local support for their proposal (as demonstrated in the Stakeholder Engagement section of the bid). The organisation was planning a greenfield site development and both the local parish council, and their constituency MP had declined to support the proposal.
- One organisation decided not to proceed because they believed that Phase 2 favoured bidders with projects that planned to capture larger volumes of carbon, and their planned projects were relatively small. They also believed that Phase 2 would favour sites located within one of the two priority clusters, whereas they would have to ship in captured carbon. Finally, they also believed that greenfield developments were implicitly favoured, and that installing equipment at an existing and relatively older asset would not secure support.
- One organisation did not bid because of the absence of a GGR-specific model, which to them meant that it was too risky to proceed. They were also not confident that their

project was sufficiently advanced that they would have been able to complete the submission template adequately.

These non-bidders had chosen not to pose a clarification question as they felt the guidance, or their interpretation of it, was clear. They preferred not to bid at Track-1, and instead to wait until Track-2 when the overall design might have changed and/or their project would have advanced further. Submitting an EoI had enabled them to access documentation and keep sighted of how Track-1 worked, which would be useful when planning a potential Track-2 bid.

A few organisations that submitted bids at Phase 2 had also submitted EoIs for other projects that did not proceed to a full bid. Interviewees from these organisations gave various explanations. As noted above, in one case it was because their prospective project would have been located in Scotland, and they were only willing to submit a bid for a project located within one of the two priority clusters. Another interviewee noted that they had a project that needed to ship carbon to a cluster, and their impression was that this was not what BEIS was likely to prioritise (even if the guidance and clarification questions had not ruled out this model).

Some Phase 2 unsuccessful bidders expressed similar uncertainties or concerns about whether their project was appropriate but had decided to bid anyway. Again, their issue was whether their project was what BEIS really wanted, and whether the design of Phase 2, including the treatment of different costs and business models, placed them at a disadvantage when compared to what they regarded as more 'conventional' CCUS projects. Interviewees reportedly wanted an opportunity to discuss their project bilaterally with BEIS to ascertain whether it was worth bidding but felt they could not within the framework of the Phase 2 processes (the clarification question mechanism was not seen as a suitable way of doing this).

The submission templates

Phase 1 and 2 participants were obliged to use templates, published on the gov.uk website, to submit their proposals. For Phase 1, this consisted of a Word-based Cluster Plan document, Excel spreadsheets on economic benefits (Annex B) and cost considerations (Annex C), and a references matrix (Annex D). For Phase 2, this consisted of a Word-based Project Plan, Excel spreadsheets on economic benefits (Annex B), cost considerations/emissions reductions (Annex C), and financial statements, and a references matrix (Annex E). Excel spreadsheets contained locked calculators, with bidders expected to input their variables. The Word documents consisted of questions and answer boxes, with word limits. The use of standard templates and definitions ensured consistency across bidders.

Overall, interviewed participants thought the various templates were generally clear, particularly the Word-based cluster and project plans. Often, they had downloaded the cluster and project plan template and separated it into its component parts, only filling in the complete document prior to submission. Some interviewees believed it would have been simpler if BEIS had split the Word document template into several smaller parts to reduce file size; equally, others noted that they liked having a single document with everything in one place (which they continued to use and refer to outside of the Phase 2 process). Some participants had experienced formatting problems when pasting material back into the Word template, but generally speaking, these were minor problems.

Interviewees were all supportive of the use of word counts. There were some sections where interviewees felt the count was either slightly too generous or too tight, but for the most part they believed that the limits were sufficient to allow them to convey their main points, provided they were concise.

“Word counts [were] something we were very conscious of...we produced a draft but then had to do some serious editing to get down to the word counts at times... Risk management...that was 400 or 600 words but was very tight”.

Phase 2 participant, successful bidder [Ref 3]

Several Phase 2 participants believed that Annex C (cost considerations) was difficult to fill in, especially where their project did not neatly fit what they perceived to be a ‘model’ emitter project that BEIS had in mind. These projects found that their cost data and working assumptions did not map exactly to the cells in Annex C, with the result that they had had to guess what needed to be entered where and try to explain their assumptions.

“It was a force fit. We had to sort of twist around our numbers, in order to make them sort of fit into the template...it was an uncomfortable fit for us”.

Phase 2 participant, unsuccessful bidder [Ref 15]

Some Phase 1 and 2 participants also believed that the Annex C should not have been locked and should not have used hidden calculations. They often could not follow how numbers were derived and struggled to quality assure their own cost data. It was also noted that the Phase 2 H2 stream Annex C template had initially contained an error that had required the file to be re-published; some interviewees noted that they had already started completing the template by the time this was done and had to manually copy across material into the new version because the file was locked. They requested more thorough checks of templates before they were published, to avoid wasted effort.

“When you’re trying to debug a spreadsheet and you can’t follow the formula, that’s really, really hard to do”.

Phase 1 participant, unsuccessful bidder [Ref 8]

Several Phase 1 and 2 participants found the economic impacts template (Annex B) difficult, primarily because they were unfamiliar with the methodology. Several interviewees had commissioned economics consultants to generate these data for them. Interviewees also noted that they had struggled to complete the template because they felt their project was not yet at the point where they had accurate data available (e.g., they did not know the skills profiles of project employees because they had not reached a point where they could forecast this information).

Bidders found the references template challenging to complete where they had many reference documents. For projects with a lot of supporting material this template had often taken an individual a whole day to populate.

The submission portal

Phase 1 and 2 participants were largely satisfied with the usability of the portal for submitting responses. None reported any technical problems on the day of submission, though it was noted that the amount of information required had meant that it had taken several hours, and in some cases an entire day, to upload all the material needed. Interviewees had some relatively minor functionality complaints. For example, the portal had required them to input that they had at least one employee, which was not necessarily true for special purpose vehicles. Another interviewee reported that file size limits had caused problems for files that contained graphics, and that whilst the application requested supporting files in native format, the portal had not always accepted these file types.

Several interviewees had reportedly been unaware until late in the process that they were required to submit some information via the Portal. Even though Phase 1 and 2 guidance listed that information was required (under 'Submission structure') to be submitted on the portal and separately via attachments, participants had typically assumed that the attachments (Word and Excel templates) contained all the required information. Many interviewees had discovered this late in the process, and in some cases only when they started uploading material on the day of submission. They had consequently faced problems collating some of the information needed in time, particularly if they were large multinational organisations and needed to obtain information from an overseas parent company. Several interviewees believed that this requirement should have been made clearer (though in fact it was listed in the guidance), or that all submission requirements should have been included in the Word templates.

"We discovered fairly late that on the portal there are quite a lot of other questions. Some...were a little bit sensitive to get answered and that took a long time because we have to get lawyers or accountants... You had to commit that no one in the entire company in the last 10 years had committed fraud...and [it took time] to get the lawyers to actually put something on paper that gave a suitable commitment".

Phase 2 participant, successful bidder [Ref 4]

The submission timetable

The timetable for bidders to prepare submissions was as follows:

- Phase 1: launched Friday 7 May 2021, closed Friday 9 July 2021 (open for 9 weeks).
- Phase 2: launched Monday 8 November 2021, closed Friday 21 January 2022 (open for 11 weeks).

There was a consensus amongst Phases 1 and 2 participants that the duration of both windows for submissions was challenging but ultimately about right. Almost all interviewees noted that getting their bids in on time had been difficult, requiring small teams of people working entirely or almost entirely on their bids for most of the submission window (see below for further discussion of resourcing); despite this, none of the interviewees believed the window should have been open longer.

“It could have been a month longer [but] I don't think it would have made it much better. Frankly, it would have just been more temptation to put yet more stuff in there and my argument is that there is actually too much stuff in there anyway”.

Phase 1 participant, successful bidder [Ref 11]

The timing of the Phases 1 and 2 submission windows, both of which spanned holiday periods, caused problems for participants, particularly Phase 2. Key staff – internal and external – were either unavailable or unable to take time off. Resource planning and bid drafting thus became far more complex than it otherwise might have been. Some interviewees from Phase 2 bids also noted that the end of the year is a particularly challenging time in the oil and gas industry as it clashes with business planning and budget cycles, and gas and energy security planning. Several Phase 2 interviewees noted that they would have been better able to plan their resource requirements, including ensuring that people were available over the holiday period, if they had known exactly when the process was going to launch. As discussed below, some Phase 2 participants noted that whilst they had been aware that the launch was due to follow on from the announcement of the priority Phase 1 clusters, they had not had sufficient notice of exactly when Phase 2 would commence.

“I think that it would be helpful for projects and bidders if it's clearer what the whole path looks like as opposed to just it being revealed as it goes”.

Phase 2 participant, successful bidder [Ref 3]

3.2 Communication between BEIS and participants

Forewarning of the launch and content of the processes

All Phase 1 participants felt sufficiently forewarned about the process. All interviewees had been engaged with CCUS policy development to some extent and had contributed to the February/March 2021 market engagement exercise that pre-dated the launch of Phase 1. They had also typically tracked and been involved in policy debates preceding this and had had time to prepare for the Phase 1 launch.

“If you draw the line back from the 2018 report about ‘why clusters?’, I think that you can draw very straight line through to the structure of the cluster sequencing. And I think that continuity when we look back on it now is very helpful because essentially BEIS and government did exactly what they had signposted since 2018”.

Phase 1 participant, unsuccessful bidder [Ref 8]

Some Phase 1 participants noted that prior to the launch of the process, they had not appreciated quite how much input would be needed from emitters, having assumed that their submission would largely focus on the T&S infrastructure. With a better understanding of this, it was noted, they could have started discussions with emitters sooner, to ensure they were able to provide the information that was going to be needed.

“I actually had anticipated that the process would be more focused on the transport and storage system rather than effectively on the emitters that might feed into it at some point over the next 30 years”.

Phase 1 participant, successful bidder [Ref 6]

Most Phase 2 participants felt sufficiently forewarned, with several having monitored and participated in CCUS public policy debates and contributed to the February/March 2021 engagement exercise. Most interviewees had also been included in a Phase 1 bid, which gave them advance warning about the Phase 2 timetable and provided some information about what the process would involve. Even then, several interviewees noted that they would have preferred to have known exactly when Phase 2 would be launched, since this would have allowed them to schedule internal resource and start to commission external contractors.

“We knew it was coming roughly...I think originally it was suggested September... suddenly on like a Friday afternoon in October there was an early piece of guidance issued [then] suddenly about a week later the full guidance document got issued”.

Phase 2 participant, successful bidder [Ref 4]

A handful of Phase 2 participants only learned about Phase 2 during autumn 2021, in at least one case only learning about it after the guidance had been published. In each case they attributed this to their own internal shortcomings, either because they had relatively recently started to seriously consider CCUS and/or because they were not used to participating in government initiatives and did not actively keep track of public policy support announcements.

Some Phase 2 participants noted they would have benefited from earlier communication about BEIS's expectations as regards projects' maturity. They reported that they not understood in advance what information BEIS would seek, and therefore what engineering and other studies needed to have been commissioned. Projects that were included in a Phase 1 bid had some advantage in this respect, since they had had sight of the depth of information that BEIS was asking for and could plan ahead somewhat, though the lead-in time was still very short. In at least one case, after being involved in a Phase 1 bid, a Phase 2 participant had rapidly scheduled a feasibility study so that it was completed in time for them to incorporate the results into their Phase 2 bid.

“In June 2021 we understood that we'd have to really get after our feasibility from July through to December 2021. [But] we were going somewhat blind. We understand what our feasibility study is, and we felt that by completing that, it would give us a chance of making a submission into the emitter process...but it wasn't clear what the expectations were going to be”.

Phase 2 participant, successful bidder [Ref 3]

Phase 2 participants that had not been involved in a Phase 1 bid and/or that had not been involved with engagement activities reported that they had little forewarning about what was expected of them. This generally applied to organisations that did not see themselves as

'conventional' CCUS projects and/or which had not previously sought government support for their activities. At least one interviewee from this group had understood Track-1 to be about support to projects at a conceptual design stage, but that having read through the guidance they believed they needed to provide information that would typically only be available once projects were at a pre-FEED or even to some extent FEED stage.

"It sounded very high level...we thought we were at concept...but when we got the request for information [and] started to fill in the response, it felt more like we were in FEED".

Phase 2 participant, unsuccessful bidder [Ref 16]

Interviewees also reported that they wanted more forewarning about the volume of information required and the likely resource needs. Despite knowing the Phase 2 timetable, some bidders found themselves overwhelmed when they read the guidance and quickly had to marshal additional resources to be able to complete the bid template. This was even true of some organisations that had contributed to Phase 1 bids since they had not seen the entirety of these submissions, and thus misunderstood the scale of what was needed once they were bidding on their own.

"We didn't really have a great understanding of what it might look like for a specific project...we'd submitted costing data [to the cluster], a little bit on employment...the written submission was amounting to 3-5,000 words...It was a bit of a shock when [Phase 2 guidance] came through".

Phase 2 participant, successful bidder [Ref 2]

Clarity of guidance

BEIS published detailed guidance documents on the day that Phases 1 and 2 launched. These documents provided bidders with contextual information, set out general principles, and explained the model for evaluating and scoring bids. The templates that bidders had to complete also contained some additional guidance about BEIS's expectations and what information bidders should submit.

Phase 1 participants were broadly satisfied with the clarity of the guidance document, noting that it explained the bidding process – including how bids would be assessed and scored – clearly and they understood what was required. Some interviewees noted that the portfolio assessment, which took place after bids were scored, was more qualitative/discretionary, but understood why this was needed and did not perceive it to have affected the transparency of the selection process. Interviewees noted that there was scope to address any specific ambiguities or uncertainties that emerged via the clarification question mechanism.

"The guidance notes were really good. We really didn't have concerns in terms of the information that had to be conveyed".

Phase 1 participant, successful bidder [Ref 10]

Most Phase 2 participants were also largely satisfied with the clarity of the guidance documentation, which they felt had explained the overall design of the process clearly and effectively. Given the large number of questions and sub-questions, some interviewees had struggled to identify the critical pieces of information that BEIS wanted.

“I think it was extremely clear, [a] very comprehensive package. The criteria were very well set out, [it] clearly explained the scoring method, that was really helpful”.

Phase 2 participant, successful bidder [Ref 3]

“It was a little bit difficult to sometimes interpret what were they were really asking for. There were a lot of questions within each section: even one section would have maybe 10 questions and sometimes it felt a little bit like they were just fishing”.

Phase 2 participant, successful bidder [Ref 2]

For Phase 2 participants, the most significant area of ambiguity in the guidance was in relation to projects that believed that they did not quite fit the model that BEIS had in mind. This was particularly true of projects that intended to ship carbon in rather than connecting to the T&S infrastructure via a pipeline, sustainable aviation fuel (SAF) producers, and other carbon capture projects whose model did not quite fit any of the three Phase 2 streams. Interviewees from these projects had typically found the guidance unclear and had also not found the clarification question mechanism satisfactory as a way of obtaining answers to their questions.

“We don’t fit into the box...the documentation made perfect sense if you were a cement works or something like that, but for us it didn’t make sense. We spent a considerable time even trying to decide which of the sets of forms to fill in because none of them were quite a fit”.

Phase 2 participant, unsuccessful bidder [Ref 15]

Several Phase 1 and Phase 2 participants noted that they had not fully understood how to complete the economic impacts template (see also the above section discussing the design of the Annex B Excel spreadsheet). This was typically because they felt their organisations did not have the economics expertise to complete the template with any degree of certainty, and many contracted external consultants for this reason. Several officials also highlighted the variable quality of bidders’ economic impacts submissions, which they often also attributed to a lack of understanding of what was required and what key economics terms meant.

Clarification questions

Phases 1 and 2 of Track-1 included a window for participants to pose clarification questions. BEIS officials had to respond to hundreds of clarification questions during Phases 1 and 2¹¹

¹¹ Counts of published responses were as follows: Phase 1 - 136; Phase 2 – 254 (61 general, 74 Power, 65 ICC, 54 H2). This is an underestimate of the number of questions received, as duplicates were only answered once. Sources: <https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-1-expressions-of-interest> and <https://www.gov.uk/government/publications/cluster-sequencing-for-carbon-capture-usage-and-storage-ccus-deployment-phase-2>.

and had an internal process for generating answers which consulted a range of stakeholders. Interviewees believed the system for allocating questions and drafting responses had worked well within the limitations imposed by the fact that answers had to be visible and fair to all potential bidders.

Most of the interviewed participants had reportedly asked at least one clarification question and had typically done so throughout the bidding window as new queries emerged or if they were uncertain how to complete the templates issued by BEIS. Phase 1 and 2 participants welcomed the opportunity to ask questions and were, for the most part, satisfied with the clarity of the answers. Whilst they understood why answers were published for all bidders to see, some interviewees noted that they had decided not to pose questions for this reason, either because the subject matter was commercially sensitive, or because they did not want to 'reveal' aspects of their submission to all prospective bidders.

"It's a competition...so the reality is people are quite cautious about what they say".

Phase 2 participant, successful bidder [Ref 7]

Several participants believed that it had taken BEIS too long to respond to some of the questions they had posed. Even the target of a week to respond was seen by some interviewees as too long, given that the submission windows for the two Phases were 9 and 11 weeks respectively. Phase 2 interviewees reported longer response times to questions they regarded as integral to their submission, particularly questions that were submitted around the festive period.

"It was the fact that you were targeting that particular time of the year... [the answer took] 2-3 weeks...our bid was pretty much done by the time we heard back".

Phase 2 participant, unsuccessful bidder [Ref 16]

Other Phase 1 and 2 participants questioned the value of many of the answers, which they believed just referred back to the published guidance – which they had read and found unclear – rather than responding to the specific question in a satisfactory level of detail. Some interviewees were also dissatisfied with responses that left decisions to the discretion of bidders, which they felt was too ambiguous when they were competing against other submissions who might interpret requirements differently. Where there was uncertainty, participants had either hedged their bets in their answers, or tried to anticipate what BEIS was most likely to score highest.

"If we didn't get the right clarification we always went for the most conservative option, so the lowest of the carbon capture...we were worried, 'is that the right thing to do? Are we going to get penalised?'"

Phase 2 participant, successful bidder [Ref 2]

Supplementary questions

After bidders had submitted their bids, to inform the review process, BEIS asked some of them supplementary questions. The purpose was to clarify and check material that had been submitted (e.g., if there were ambiguities or inconsistencies). Bidders were not allowed to submit new material. Bidders were given three working days to answer any supplemental questions.

All Phase 1 participants reportedly received many questions, whilst interviewed Phase 2 participants had reportedly received a handful each. Interviewees typically had no problems responding within the three days allowed and welcomed the opportunity to clarify points and provide further explanation. For Phase 1 participants, this was particularly true of information that emitters had provided, since for all the centralised quality assurance they undertook, they were ultimately reliant on other parties to have provided accurate data. Interviewees explained that most requests were relatively minor and required referencing the relevant source material, correcting minor errors, or clarifying the assumptions they had used. In one or two cases, interviewees reported that they had misunderstood the question and subsequently realised they had not provided BEIS with an adequate answer.

“One of them ended up being a very, very important question that we answered in a very narrow sense, which is what the question suggested it was looking for”.

Phase 2 participant, unsuccessful bidder [Ref 17]

Whilst Phase 1 and 2 participants generally understood that they could not provide new material as part of their answers, in practice they often did not understand exactly how this would be interpreted by BEIS. In some cases, there was uncertainty about what information they were allowed to reference and how far they were permitted to fill any gaps. Some participants only learned that their supplementary question answers had not been considered when they received feedback about their unsuccessful bid.

“We responded to those clarifications...but it doesn't seem that information was taken into account...when you're providing a response for a clarification [and] not providing anything substantially new...that bit was less clear to me”.

Phase 2 participant, unsuccessful bidder [Ref 26]

Some Phase 1 participants had received multiple supplementary questions spread out over weeks, and interviewees noted that this had caused resource planning problems since there was no advance notice and all questions had to be answered within three days. This was exacerbated because staff had deferred summer holidays until after the bid was submitted, meaning availability of key individuals was constrained. Interviewees believed that it would have been preferable if questions had been grouped by theme and submitted in batches according to a pre-publicised timetable, to enable them to plan ahead.

Communication of the outcome

Under both Phases 1 and 2, successful bidders only received notification that they had been selected and were notified about areas of concern or clarification as part of the due diligence process that followed their selection. Unsuccessful bidders received written feedback consisting of key points from the assessment process. Unsuccessful Phase 1 bidders were also provided with their scores and the scores of the highest scoring bidder (for each criterion). After receiving feedback, unsuccessful bidders were able to arrange bilateral meetings with BEIS to discuss the feedback in more detail.

Successful Phase 1 and Phase 2 bidders believed that they should have received full feedback about their bids when they were notified that they had been selected, rather than as part of a discussion about their project during due diligence. It was felt that this would have been a courtesy given the amount of effort they had expended bidding. It was also noted that feedback would have helped them understand how BEIS viewed their cluster or project and would have helped them with forward planning. Several interviewees explained that they planned to bid for other funding streams (for their cluster or project, or other projects they planned) and that feedback would have provided useful lessons about how government assesses bids. This was particularly true for organisations that were relatively inexperienced in bidding for government support.

Unsuccessful Phase 1 and Phase 2 bidders typically welcomed the provision of feedback, which had helped them with ongoing project development (potentially to support a Track-2 bid) and with understanding how BEIS assesses projects. The latter was particularly useful for organisations that were relatively new to public sector support schemes, who welcomed insights into what government was looking for when assessing bids.

“We’ve gone through that document and wrung it for all it’s worth in terms of our readiness for Track-2”.

Phase 1 participant, unsuccessful bidder [Ref 8]

Most unsuccessful bidders would have liked to have received more detailed feedback, noting that it typically amounted to a few pages of material, when their submissions were several orders of magnitude larger. Some interviewees felt that the feedback was too ‘high level’ and could have been more specific on key points, where they believed that their bid had been lost.

“It doesn’t really give a very clear reason why we weren’t successful...I don’t think any of those points are unreasonable, but they don’t really explain why we were not shortlisted”.

Phase 2 participant, unsuccessful bidder [Ref 15]

Many interviewees from unsuccessful Phase 2 bids wanted to know their individual scores so they could interpret the feedback more effectively and understand where they had ranked when compared to other bidders. Some bidders explained that they had reviewed the list of shortlisted projects and had drawn their own conclusions about how they might have ranked based on their project maturity and own ideas about BEIS’s priorities for investment.

“We didn’t know how we compared to [successful] projects...we’ve had to go at ranking them based on our own views. But we don’t know exactly where we stand...whether we were competitive or whether we were outside the ballpark. That would have been helpful”.

Phase 2 participant, unsuccessful bidder [Ref 25]

Some of the unsuccessful Phase 1 and 2 participants had had calls with officials to discuss their feedback in more detail. Interviewees had found these sessions very useful and welcomed this opportunity to discuss their proposals bilaterally.

3.3 Participants’ resource expenditure

Phase 1 bids were complex to prepare since they required inputs from both the T&SCo cluster lead and each of the emitters that they included in their plan. All Phase 1 participants combined internal resource from within the lead organisation with external consultancy support that provided specialist technical inputs (e.g., engineering studies or economic impact studies) and/or project/bid writing management. Interviewees were asked to give a ballpark estimate of the costs incurred by bidding. These estimates included the costs of externally commissioned studies and an estimate of the internal staff costs. Of the five participants, estimated ballpark costs were: £1 million (two bidders, one successful and one not) and £250,000 (an unsuccessful bidder, who described their approach to resourcing as “lean”). Two other successful bidders were unable to provide an estimate, though noted that the costs were considerable (one cited “hundreds of thousands of pounds” spent just on external consultants, plus a team of ten people working full-time for three months). Phase 1 participants stressed that these cost estimates excluded whatever costs the emitters who contributed to their bids had incurred.

Whilst significant amounts of resources had been spent bidding, Phase 1 participants largely believed that these were proportionate, given the magnitude of what was being developed and the scale of the public funding at stake. Unsuccessful bidders noted that preparing a bid had helped to move their project along and enabled them to build links with emitters, though emphasised that the expenditure could only be justified if they were able to secure support under Track-2. One interviewee noted that whilst the process had generated momentum, it was time-limited to an extent because market changes meant cost estimates etc. would soon become obsolete.

“I think it was ultimately worth it because we positioned ourselves well for the second track...it wouldn’t have been worth it if the government isn’t intending to run a second track”.

Phase 1 participant, unsuccessful bidder [Ref 8]

“[The Phase 1 bids] have only got a limited validity because we’re seeing huge volatility...huge changes in prices for just about everything and a supply chain crunch”.

Phase 1 participant, successful bidder [Ref 6]

On average, Phase 2 bids required less resource to prepare. Phase 2 participants typically used a mixture of internal and external resource, the latter to provide specialist technical inputs (as with Phase 1, this often included engineering and economics studies). Some interviewees decided to only use internal resource, to keep costs down and/or because they wanted to build internal bid-writing capacity. Amongst Phase 2 participants that had used external consultants, some interviewees noted that they had experienced difficulties commissioning this support, because so many organisations were looking to bring in external expertise at the same time. Other interviewees noted that the lack of precision from BEIS about when Phase 2 would launch had meant they had ended up having to rush their procurement of external support.

“The contractors...obviously get swamped because they get approached by three or four companies in parallel”.

Phase 2 participant, successful bidder [Ref 4]

Some Phase 2 participants who had also been part of Phase 1 submissions were reportedly able to re-use some of the material they had already prepared. However, most interviewees emphasised that their inputs into Phase 1 bids had been relatively limited and high-level, which reduced the reproducibility of this material.

Interviewees' estimates of the resource spent bidding – internal and external – varied. Amongst Phase 2 participants who were unsuccessful, several estimated that their costs had been in the region of £50,000, a couple estimated £100,000, and one bidder who had brought in more substantial external support estimated their costs to have been £250,000. Internal costs primarily consisted of time spent managing the bid and drafting responses, which would not otherwise have been spent. External costs included engineering studies that bidders noted would have been needed at some point if the project was to progress, but also studies that were specifically commissioned for bidding purposes (e.g., economic impact assessments). Unsuccessful bidders generally saw this as a proportionate amount of investment given the scale of the potential outcome but noted that this was contingent on whatever came next with Track-2.

“We’re definitely in a better place now for a Track-2 bid or also other things”.

Phase 2 participant, unsuccessful bidder [Ref 16]

Successful bidders' estimates of the cost of bidding were, in general, slightly higher than that of unsuccessful bidders. A couple of interviewees spent between £75,000-£100,000 on external studies alone, in addition to having small teams work full-time on bid writing for three months. Other interviewees estimated combined internal and external costs to be between £100,000 to £200,000, with an approximate average of around £150,000. Successful bidders all agreed that this expenditure, though significant, was proportionate given what they anticipated to be the outcome.

Both successful and unsuccessful Phase 2 participants noted that there was an opportunity cost to preparing a bid as core project team members were typically focussed exclusively on

bidding for at least three months. Some interviewees reported having to put engineering studies on hold for the duration or diverting resource from other projects underway within their organisation.

“We’re a small company and every bit of time we are spending on that is time we’re not spending on something else”.

Phase 2 participant, unsuccessful bidder [Ref 15]

“[Bidding is] a significant effort but probably more painful is the delay it causes to the project...effectively they’re not moving the project forward during that period. It did feel a little bit like ‘this level of effort doesn’t matter’ but it does, it slows down progress”.

Phase 2 participant, successful bidder [Ref 7]

4. Main Findings and Lessons Identified

This final chapter of the report presents the main evaluation findings, structured around the evaluation questions, and outlines the lessons identified by the ICF team.

What were the implications of splitting the process into two phases, in particular, increasing competition and potential value for money?

- Some new commercial relationships were catalysed, though most emitters aligned themselves with clusters they had existing relationships with.
- Competitively selecting clusters incentivised clusters to focus somewhat on emitter costs, though at this relatively early stage it is not yet possible to determine whether this will ultimately result in better value for money.
- Splitting Track-1 into two phases introduced delays in the selection of emitters. Uncertainty about when T&S infrastructure will be in place and if and when emitters will be ready to connect has made forward planning difficult.
- Separating clusters and emitter projects has caused a dislocation of some commercial relationships and increased the amount of friction in the system.

Were the design parameters of the Track-1 cluster sequencing process appropriate, including the eligibility and assessment criteria? Was it designed in a way likely to achieve its intended objectives?

- Several interviewees thought cost considerations should have been weighted higher than it was (15% for both Phases 1 and 2), and that for Phase 1 this criterion should have included an assessment of T&S affordability (which should not just have been assessed as part of the portfolio consideration).
- Some interviewees believed economic impacts and learning and innovation (weighted 20% and 10%/15% respectively) should have been weighted lower since the focus should have been on deliverability and commerciality. More qualitative impacts were seen to be very hard to measure accurately at this stage in a cluster or project.
- Some Phase 2 participants felt that their CCUS application or technological solution did not quite 'fit the mould' and that Phase 2 had not quite been designed with them in mind.

Did projects/clusters find it a fair and transparent process?

- Most participants were satisfied with the design of Phases 1 and 2 and none of the interviewees questioned its fairness or transparency. Evaluation criteria and scoring methodology were generally perceived to have been an effective and equitable way to select clusters and projects.
- Participants felt that all participants had access to the same information, whether through published guidance or clarification question responses.

- Some Phase 1 participants noted that the portfolio assessment, which took place after bids were scored, was more qualitative/discretionary, but understood why this was needed and did not perceive it to have affected the transparency of the process.

Is the design of the process likely to be effective in selecting commercially and technically viable clusters considering both emitters and T&SCos?

- Deliverability had the highest weighting of all evaluation criteria, and interviewees noted that this was a critical consideration within the selection process.
- Several interviewees reported that CCUS deployment at scale remains at a relatively early stage technologically and commercially, meaning there was inevitably some uncertainty in the drafting and assessing of bids.

Was the process design agile enough to withstand unforeseen challenges?

- The assessment process did encounter challenges, notably the volume of submissions (particularly under the Phase 2 ICC stream). Whilst the EoI process provided some early indication of the likely volume of submissions, interviewees noted that the scale and profile of bids had presented a challenge.
- External market conditions did have some impact on Track-1, for example leading to a Phase 2 bid needing to be terminated because the project in question had been closed. The selection process was sufficiently agile to be able to select a viable alternative.

What were the strengths and weaknesses of the application process?

- The application process was generally well designed and delivered. Potential applicants were mostly given adequate forewarning, guidance effectively communicated BEIS's requirements, templates were generally well designed, and the portal worked well.
- Applicants found that the volume and depth of material required a lot of resources. Some also had difficulty providing the necessary detail, either because it was not available to them (in some cases because they had not reached the necessary step in their project development) or because they did not fully understand what was required (e.g., in relation to measuring the economic benefits of their project).

Were there any unexpected challenges and/or costs at any stage of the process?

- Unexpected challenges often stemmed from insufficient advance preparation, typically because participants had not understood the level of detail that BEIS was going to require. Some participants thus did not initially have all the information they needed and had to commission external studies at short notice.
- Some Phase 2 projects did not perceive themselves to have quite fitted the intended project 'model' and faced unexpected challenges completing some templates, particularly the cost template as the cells did not quite correspond to their own understanding of their project.
- Other participants encountered unexpected challenges completing the economic benefits template (Annex B), typically because they were not familiar with the concepts

and methodology, and/or because they were uncertain how to calculate the benefits of their project.

- Participants incurred significant costs when bidding, and for some many the scale of these costs was unexpected in the sense that they had not anticipated in advance the level of resource that would be required. Once they had completed an initial resource planning exercise, participants typically did not identify any further unexpected costs.

Were the timelines for the process appropriate?

- The duration of the Phase 1 and 2 submission windows (9 and 11 weeks respectively) was appropriate, and for the most part allowed participants to submit responses that they were satisfied with.
- It would have been better if the two bidding windows had not included holiday periods as this created significant resourcing challenges for participants due to holidays and delayed internal communications.

Did applicants find the level of engagement and its content helpful before and during the consultation phase?

- Participants were largely satisfied with the level and content of the market engagement activities that BEIS undertook prior to the launch of Phases 1 and 2 and felt that BEIS had successfully engaged the industry and provided adequate forewarning that Track-1 was coming.
- Participants would have appreciated greater granularity on the timetable (particularly Phase 2) and more detail about the type and scale of the information that BEIS was going to ask for. Some Phase 1 participants had not appreciated how much information would need to be sourced from emitters, and some Phase 2 participants had not anticipated BEIS's evidence expectations.

Did applicants find the communication of the criteria and assessment process clear and effective?

- Participants believed that the published guidance documents were largely clear and effectively communicated the evaluation criteria and assessment process. Interviewed participants from Phases 1 and 2 almost all reported that they understood what information they needed to provide within each of the submission templates.
- The most notable exception was the economic impacts template (Annex B), which several participants reportedly found unclear, though in many cases this reflects their lack of expertise in this area.

Was the feedback received on successful / unsuccessful applications useful? Was the communication around the process outcome (Phase 2 shortlisting announcement / Phase 1 cluster announcements) clear and helpful?

- Unsuccessful participants welcomed the feedback they received, particularly the verbal feedback some received during follow-up meetings with BEIS. For the most part they had found this information clear and useful, though several believed that feedback

would have been more helpful if it had contained more detail. Unsuccessful Phase 2 bidders expressed a wish to have seen some scoring information, so that they knew how far off selection their bids had been.

- Successful Phase 2 participants were not provided with feedback and many believed that they should have, since this would have helped them with other bids for public funding and would have enabled them to prepare for the due diligence stage.

How did applicants find the Clarification Question ('CQ') and Supplementary Question ('SQ') process?

- Interviewees welcomed the CQ mechanism and were generally happy with how quickly BEIS responded. Some participants found the question response time somewhat slow and noted that they did not always receive useful answers.
- Many participants had received SQs from BEIS and welcomed this mechanism since this gave them a chance to correct errors or highlight where information was located. For the most they had found the questions clear and simple to respond to. Participants generally understood that they could not provide any new information but some did not seem to fully understand the rationale that, to ensure a fair process, some participants could not be allowed to improve their bid by adding additional information after the submission deadline.

Were there any areas where communication could have been improved? What lessons should the government take onboard for any future processes? What actions should the government take as a result of lessons learnt?

The ICF team makes the following suggestions as to how BEIS can learn from the Track-1 experience when designing Track-2, and other future processes:

Design of the Track-2 processes

- Review the rationale for splitting Track-2 into two phases, considering whether the objectives for Track-2 merit such a separation and taking into account the lessons learned from Track-1.
- Review the process for operationalising the reserve cluster and the clarity of the procedure for switching them in.
- Consider reviewing the weightings assigned to the Track-2 evaluation criteria to ensure they remain aligned with the strategic objectives for CCUS, taking into account any changes and learning since Track-1. Consider a higher weighting for any cost criterion, and potentially deliverability. The cost model for T&S bids (i.e., what was Phase 1) could focus more on T&S and less on the proposals from emitters.
- Explore whether the amount of information that participants need to submit at Track-2 can be simplified and/or reduced, to lessen the wordcount and volume of supporting material needed for bid submission and thus reduce the resource requirements for participants and officials. This exercise could consider what information is truly required

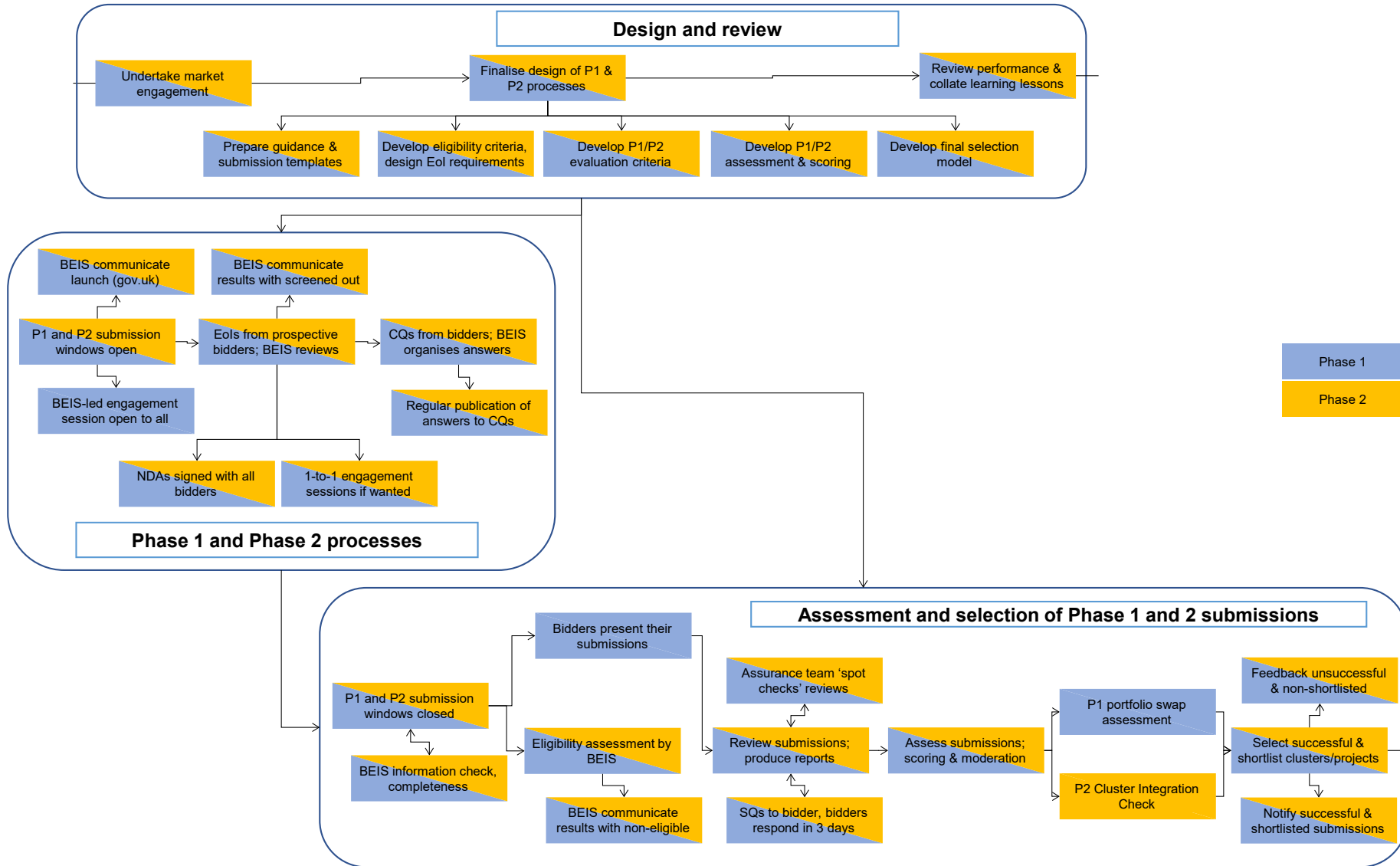
to select clusters and projects, and whether some questions can be deferred to the due diligence stage.

- Aim to avoid running the Track-2 bidding window over a holiday period, or if it is, its launch date should be communicated well in advance (see below).

Communication between BEIS and participants

- Communicate the bidding timetable well in advance, including the anticipated launch date, and indicate what will happen after submission (i.e., inform participants about the due diligence timetable as well).
- Consider running additional demonstration session when Track-2 is launched to show prospective participants how to complete the more technical sections of template(s) (e.g., economic impacts).
- Specify all information requirements in the Track-2 guidance document and templates, including anything that is to be submitted via the bidding portal. Consider consolidating all requirements within the template(s), rather than also requiring some information to be submitted via the Portal. Ensure that guidance anticipates the information needs of participants who might not quite fit the archetype of an emitter bidder.
- Ensure that guidance explains the purpose and scope of the supplementary question process, and explore whether clearer guidance can be provided on the interpretation of 'new material' when asking supplementary questions and deciding whether participants' responses can be assessed.
- Give a reasonable level of feedback to all participants, including those who are successful. Consider providing both bid-specific feedback and generic feedback that will help organisations with other funding bids. Explore whether some information about scoring, or distance from shortlisted bids, can be provided to all participants.

Annex 1: Track-1 process map



This publication is available from: www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-track-1-cluster-sequencing-evaluation

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