Department for Energy Security & Net Zero

Hydrogen Transport Business Model

Market Engagement on the First Allocation Round

Closing date: 01 February 2024

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

Introduction

In the British Energy Security Strategy (BESS), government committed to design new business models for hydrogen transport and storage infrastructure by 2025. In August 2023, following a consultation in August 2022, government set out a minded-to position on the high-level design of the Hydrogen Transport Business Model (HTBM). The minded-to positions were as follows:

- The initial focus for the business model will be on large-scale pipeline infrastructure, which transports hydrogen as a gas;
- A Regulated Asset Base (RAB) will form the basis of the business model;
- An external subsidy mechanism will be created alongside a RAB to ensure that charges to users of the pipeline(s) and/or network(s) are not prohibitive, whilst allowing hydrogen transport providers to make a reasonable return on their investment;
- The external subsidy mechanism will be delivered through private law revenue support contracts between a counterparty and a hydrogen transport provider receiving the subsidy;
- The external subsidy mechanism can be used in conjunction with or separately to a RAB;
- The business model needs to be compatible with the future gas network price control, and will be designed as such; and
- Strategic planning will form the basis of our allocation process for the business model, and it will help inform the nature and timing of support for early hydrogen transport projects.

In our minded-to publication, we aimed to provide an update on the HTBM by the end of 2023. The purpose of this document is to provide that update on our work to date – specifically on when and how the first round of a HTBM allocation process might work. It sets out our current views on:

- Potential timelines and steps;
- Eligibility and assessment criteria;
- Potential evidence requirements for future first-round applicants to the HTBM; and
- Our proposed Transport and Storage (T&S) Cohort Assessment: how Government may appraise the applications we receive in conjunction with applications to the Hydrogen Storage Business Model (HSBM) for support for storage facilities.

This update is intended to provide industry with an insight into our current thinking on the first allocation round and seek stakeholder feedback. It should also provide projects developing hydrogen transport infrastructure with reassurance that the design of the HTBM is progressing and early sight of when projects, looking for HTBM support via the first allocation round, might need to be ready to apply.

It must be noted that not all projects meeting the requirements of the first allocation round will have access to funding through the HTBM as all allocation rounds will be subject to affordability. The allocation process will be used to decide which projects, meeting the requirements, should receive funding through the HTBM.

For clarity, we intend for the HTBM support offered through the first allocation round to take the form of a RAB and revenue support contract. This is because, in line with our minded-to position set out further above, we intend to focus the first allocation round on supporting large-scale pipeline infrastructure, for which a RAB (with accompanying revenue support contract) is considered the most suitable form of support given it is monopolistic and capital-intensive infrastructure.

We will use the feedback we receive from this document to further develop the HTBM allocation process and intend to publish another update in Q2 2024, highlighting any changes we have made following stakeholder feedback.

We also, in this next update, intend to:

- Provide industry with further detail on the application process;
- Set out our approach to development expenditure (DEVEX) and local transport infrastructure (including limited and small-scale pipeline infrastructure and tube-trailering) which is not considered appropriate for a regulated framework via a RAB; and
- Share details on the roles and responsibilities between Government and Ofgem as well as further information on the interactions between the natural gas future price control and the HTBM.

We will also continue to progress work on the RAB framework, external funding mechanism and the day one market/commercial arrangements (including our approach to network charging). We will update stakeholders on these topics in due course.

Please see the ‘How to respond’ section below for details on how to engage with us on the substance of this document.

Contents

General information

Why are we engaging?

The purpose of this document is to seek views on our proposed approach to allocating HTBM support to hydrogen transport infrastructure projects, with a focus on the first allocation round. The feedback we receive from stakeholders on these proposals will help inform further policy development, ahead of launching a first round which is intended to be in 2024.

The proposals set out in this document consider feedback we have already received from stakeholder engagement, most notably through the Hydrogen Delivery Council Transport and Storage Working Group, and via our consultation published in August 2022.

We intend to publish the full application guidance for the first allocation round in Q3 2024 when the window is proposed to open. Nothing in this document creates any basis for any form of expectation or reliance. Government reserves the right to amend or discontinue any proposed process at any time for any reason.

Market engagement details

Issued: 14 December 2023

Respond by: 1 February 2024

Enquiries to:

Email:

hydrogentransportbusinessmodel@energysecurity.gov.uk; or

Post:

Hydrogen Transport Business Model team

Department for Energy Security and Net Zero

6th Floor

3-8 Whitehall Place

London

SW1A 2EG

Market Engagement reference: First allocation round for the HTBM.

Audiences: Developers, investors, and users of potential hydrogen transport infrastructure, as well as Trade Associations representing these types of organisations.

Territorial extent: Our minded-to position is that the HTBM will be made up of a RAB and/or an external subsidy mechanism. The territorial scope of the RAB is intended to be Great Britain (GB)-wide, in line with the Gas Act 1986, and the scope of the external subsidy mechanism is intended to be United Kingdom (UK)- wide. Given the interest in all parts of the UK in developing the means to deliver the hydrogen economy, we will work with the devolved administrations to ensure that our approach takes account of related policies and devolved responsibilities, including working with the Northern Ireland Civil Service on understanding the potential development of hydrogen transport infrastructure for Northern Ireland.

The first allocation round for the HTBM will be looking at supporting projects that are suitable for a RAB and a revenue support contract (delivering the external subsidy mechanism). As such, the HTBM support in the first allocation round will be GB-wide.

How to respond

In order to provide a written response to this Market Engagement document, please contact us via email or via post.

For e-mail:

hydrogentransportbusinessmodel@energysecurity.gov.uk

For post:

Hydrogen Transport Business Model team

Department for Energy Security and Net Zero

6th Floor

3-8 Whitehall Place

London

SW1A 2EG

Please respond by 11.45pm Thursday 1st February 2024. Please note that responses will not be accepted after the Market Engagement exercise closing date of 11.45 pm Thursday 1st February 2024.

We intend to hold workshops to engage with stakeholders on the following dates:

- Monday 15 January 2024 (joint with HSBM team)
- Monday 22 January 2024

We intend for the joint workshop with the HSBM team (on Monday 15 January 2024) to feature discussions on our plans for the first allocation rounds of the Business Models as a high-level overview, while the other workshop (Monday 22 January 2024) is intended to feature more detailed discussions on the content of this Market Engagement document.

If you would like to register your interest in attending a workshop, please contact us at:

hydrogentransportbusinessmodel@energysecurity.gov.uk

Each organisation or project should be represented by a single individual. Government reserves the right to limit attendance if workshops are oversubscribed.

Please note that the meetings would take place virtually on MS Teams.

Confidentiality

Information you provide in response to this Market Engagement exercise, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018, and the Environmental Information Regulations 2004).

If you would like the information that you provide to be treated as confidential, please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. Please see our privacy policy for further information.

Quality assurance

This Market Engagement exercise has been carried out in accordance with the government's consultation principles.

If you have any complaints about the way this Market Engagement exercise has been conducted, please email: bru@energysecurity.gov.uk

Our proposals

This section sets out our proposed strategic objectives and ambition for the first allocation round, indicative allocation timeline, indicative steps, our proposed project assessment process, including eligibility and assessment criteria, and how we intend to coordinate the allocation of hydrogen transport and storage projects.

All of the proposals outlined in this document, including the ambition, are intended to apply to the first allocation round and may be subject to change in response to feedback from stakeholders, and further internal analysis, as well as ongoing policy developments within government. Whilst we expect many aspects to remain the same or similar for future allocation rounds, government reserves the right to make amendments. To give certainty to industry, we plan to publish the allocation process, timings, eligibility and assessment criteria ahead of each allocation round. Any changes between rounds will be clearly communicated.

Strategic objectives for the first HTBM allocation round

Objectives

In the Networks Pathway, we set out our overarching strategic objectives for the development of hydrogen T&S infrastructure ("T&S strategic objectives").

The three overarching objectives are:

- To promote net zero by supporting decarbonisation at pace;
- To enable whole energy system benefits, including security of supply and helping manage environmental impacts; and
- To unlock the development of an economic and efficient hydrogen market that supports wider growth.

For further detail on these objectives, please refer to the Networks Pathway document.

Based on our assessment of near-term hydrogen T&S network needs, that document concludes that to progress towards these objectives, our ambition for the first HTBM allocation round should be:

- to support projects to be in construction or operation by 2030 which will provide regional pipeline infrastructure associated with up to two hydrogen storage sites (these storage sites can be supported by the HSBM).

Context for these objectives

As mentioned as part of the minded-to positions we published in August 2023, strategic planning will form the basis of our allocation process. In the Hydrogen T&S Networks Pathway, we set out our ambition for the FSO to take on strategic planning activities for hydrogen T&S from 2026. In the interim, government will be responsible for strategic planning, and the Networks Pathway is the first stage of this process.

In the Hydrogen T&S Networks Pathway, we set out the evidence on which we have assessed that, in the near term, building regional networks to connect early production and demand to storage at scale offers the best opportunity to support early industrial decarbonisation and hydrogen power generation. Such networks can be expanded in future as certainty grows on the exact shape and size of the hydrogen economy across demand growth, locational aspects of electrolytic production, and power generation.

The approach of setting specific ambitions for each allocation round is intended to allow government to retain flexibility in how our strategic objectives will be realised.

In terms of the future allocation of the business model, we are currently developing our evidence base as to how frequently this will need to be, taking into account further identification of strategic network needs. We will provide more information on this in due course.

Early support for regional pipeline networks could extend to support the development of a core network connecting regions and sources of hydrogen production, storage, and more dispersed demand. We intend to continue to review this position, and investigate where, when and how such a network might develop, and what the possible implications for the allocation of the T&S business models may be.

Further work is also required to assess the extent to which the HTBM may need to support smaller scale local transport infrastructure to connect production and demand outside of the emerging regional networks in the future and how this would interact with the support available through the Hydrogen Production Business Model (HPBM). The HPBM can currently support the development of limited hydrogen transport and storage infrastructure associated with production facilities - agreed on a project-by-project basis by taking several factors into account, including necessity, affordability, and value for money - while we propose the (first round) HTBM supports the development of large-scale regional and shared transport infrastructure. Smaller-scale, limited transport is out of scope for the first HTBM allocation round, but may be included in future rounds.

The initial high-level proposals for eligibility and assessment criteria in the HTBM assessment process have therefore been designed with a view to make sure strategic planning guides the first allocation round and ensuring that the successful projects can contribute to the overarching T&S strategic objectives.

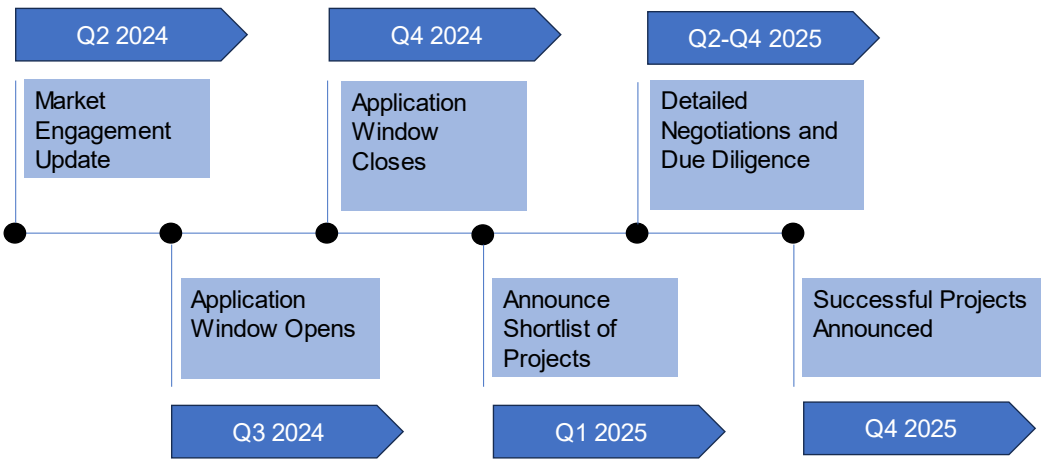
Proposed allocation process and timeline

Figure 1 below sets out our proposed high-level allocation process and timeline, and there are some key elements to highlight:

- Following stakeholder engagement, most notably through the Hydrogen Delivery Council Transport and Storage Working Group, as well as feedback to our 2022 consultation, where we received views on the timing of the business model, we now aim to open the first allocation window in Q3 2024; and
- Whilst we initially committed to only completing the design of the business model by 2025, we are now aiming to announce a shortlist of projects to be taken through to the due diligence and negotiations stage in Q1 2025, and to announce successful projects in Q4 2025 subject to administrative and legislative arrangements (including licensing).

Whilst ambitious, we consider this to be a deliverable timeline to aim for, and we believe it would provide support at the right pace to bring projects forward.

Figure 1: Proposed indicative allocation timeline



Detailed steps

Allocation process design: In Q1 and Q2 of 2024, we plan to work on finalising the assessment process for applications, including developing supporting evidence requirements, using the feedback we receive from stakeholders on this market engagement exercise. We will also continue working on the indicative timeline for all of the steps involved in a first allocation round.

Next Market Engagement Update: In Q2 2024, we intend to publish a further update. This document is intended to include further detail on the assessment process for potential applicants, taking into account feedback received in response to this market engagement exercise. This is also intended to cover updates on other elements of the HTBM design, including our approach to DEVEX, local transport infrastructure (including limited pipeline infrastructure and tube-trailering), and the roles and responsibilities split between Government and Ofgem.[1]

Application window opens: We aim to open the application window in Q3 2024, alongside detailed application guidance. We may also implement an expression of interest process to gauge the number of potential applicants in advance of this window opening.

Whilst the design of the HTBM will not be finalised by this point, we consider it important to start the allocation process as soon as we reasonably can to enable hydrogen transport infrastructure projects to start construction and become operational as soon as possible, thereby supporting the hydrogen economy and the 10GW low-carbon hydrogen production capacity ambition. We intend for there to be sufficient detail on the design of the HTBM by Q3 2024 to enable kickstarting the first allocation round.

Application window closes: We aim to close the application window in Q4 2024.

Review of applications: Following closure of the application window, applications would be assessed against eligibility criteria, which applicants must meet to progress further in the process. Eligible projects would then be evaluated against the assessment criteria. We set out initial high-level proposals for these criteria below. We intend to provide further detail on this step in Q2 2024, following stakeholder feedback, including the weightings of each criterion.

Following this step, projects would be ranked by assessment score, and the top-scoring projects will progress. To note, these top-scoring projects may need to meet a minimum threshold for all or some of the criteria within the assessment criteria assessment to progress, and depending on affordability, only the top-scoring projects may progress.

Projects would then progress onto the next stage of the assessment process: the hydrogen transport and storage (T&S) cohort assessment. At the T&S cohort assessment stage, we would combine the hydrogen T&S projects to create a cohort. This cohort would be assessed

[1] Stakeholders should note that this allocation process is separate to the future gas network price control which Ofgem also runs. Although the timelines for the two processes as proposed are not completely aligned, we will continue to work closely with Ofgem, natural gas networks and other potential hydrogen network stakeholders to help ensure the two frameworks sit coherently together and that there is clarity around how the two processes interact.

to check T&S projects are able to align, and that the cohort as a whole also contributes to our strategic objectives in a coherent way.

Due diligence and negotiations: Successful projects from the cohort assessment stage would progress to the next stage of due diligence and negotiations. At this point, projects will be notified of the outcomes of their application and, for those shortlisted for the next stage of due diligence and negotiations, notified on the next steps. We aim to do this in Q1 2025, and to enter into due diligence and detailed negotiations between Q2 and Q4 2025.

To note, this stage would include considerations of affordability and value for money throughout, but we are still considering appropriate sequencing of the various steps that make up this stage.

Successful projects announced: We aim to announce the successful projects in Q4 2025, subject to administrative and legislative arrangements (including licensing).

Table 1 below provides a summary of proposed steps and indicative timelines for the first allocation round.

Table 1: Proposed indicative timelines for the first allocation round

Proposed Timing	**Activities**
Q1 - Q2 2024	Feedback is gathered on the proposals in this document from stakeholders and used to inform further policy development
Q2 2024	Next Market Engagement Update is published, providing further details on the first allocation round
Q3 2024	First HTBM allocation round is launched
Q4 2024	First HTBM allocation round application window closes
Q4 2024 – Q1 2025	Review of applications
Q1 2025	Shortlisted projects are announced
Q2 – Q4 2025	Due diligence, and bilateral negotiations between shortlisted projects and government
Q4 2025	Successful projects announced
2028 - 2032	Successful projects become operational (subject to contract and/or licensing arrangements)

Project assessment process

This section sets out the three parts which make up our process for applications.

Part 1: Eligibility criteria

Below, we set out our initial high-level proposals for eligibility criteria and potential supporting evidence requirements for the first allocation round. These are grouped according to four main themes and are designed to support the strategic objectives of the first allocation round set out further above - in particular, the objective for the initial focus to be on supporting large-scale, regional and shared pipelines transporting hydrogen as a gas.

By “shared” in this context, we mean projects with planned connections to multiple producers and multiple users. We consider that regional, shared infrastructure can best facilitate and enable growth in the hydrogen economy and best support the 10GW low-carbon hydrogen production capacity ambition (subject to affordability and value for money).

Due to the desire to support regional infrastructure, the HTBM support intended to be on offer in the first allocation round is a RAB and an external subsidy mechanism. This is because a RAB is considered suitable for monopolistic and capital-intensive infrastructure, appropriate for a regulated approach.

The eligibility criteria serve several functions. They will:

- Provide clarity to market participants on which projects are eligible to apply for HTBM support through the first allocation round; and
- Discourage speculative applications.

All eligibility criteria must be met for a project to advance to the assessment phase of the allocation process. We have set out the proposed eligibility criteria in Table 2 below.

Projects that are already in receipt of government funding may be eligible to apply for support in this first allocation round, subject to meeting subsidy control rules and preventing subsidy cumulation in relation to the same costs.

Table 2: Proposed eligibility criteria, proposed evidence requirements, and reasons for proposals (Part 1)

Theme	Proposed eligibility criteria	Proposed evidence required	Reasons for proposals
Technical Specifications	• Project must consist of an onshore pipeline transporting hydrogen as a gas (as opposed to transportation via vehicular means or rail; or the transportation of liquid hydrogen or chemical carriers; or offshore transportation via any means).	• Confirmation of an applicant's intention to build an onshore pipeline transporting hydrogen as a gas. • Supporting documentation evidencing this intention, such as: • pre-FEED or FEED studies; and/or • Desk-top engineering studies.	• We consider the initial need for the hydrogen economy is for the transportation of hydrogen as a gas, predominantly onshore. Early projects are expected to produce and use low-carbon hydrogen as a gas and are largely located onshore. Our view is that transporting hydrogen by pipeline will be the most cost-effective way of scaling up.[2] • Further to this, end-users will have a range of different demand profiles, and pipelines, unlike other means of transportation, can offer volume and flexibility of supply efficiently.

[2] According to analysis by Frazer-Nash, published in 2022, the levelized costs for transporting hydrogen via road costs £1.23/kg and transporting hydrogen by pipeline costs £0.17/kg based on the distance hydrogen is expected to be transported. Although we recognise there'll be a range of transport methods, beyond road and pipeline, that will play a role in the hydrogen economy – we think pipelines will be the most cost-effective way to transport large volumes of hydrogen gas.

Theme	Proposed eligibility criteria	Proposed evidence required	Reasons for proposals
Project Maturity	• Project must be able to complete their Front End Engineering Design (FEED) studies by 31 December 2025. • The project must have a Commercial Operation Date (COD) between 1 January 2028 and 31 December 2032.	• Any pre-FEED studies and/or evidence of an ongoing FEED study. • A project plan which sets out the critical path to delivery within a 2028-2032 COD window.	• This is to help ensure the first HTBM allocation round can focus on mature projects rather than projects in the early stages of development, enabling the HTBM to boost the UK's hydrogen economy as quickly as possible by helping to bring online large-scale transport infrastructure as soon as possible.

Scale	• Project must consist of large-scale regional, shared infrastructure. By "shared" in this context, we mean projects with planned connections with multiple producers and multiple users.
	• Project must include planned interface with at least one large-scale (i.e. geological) storage facility. To note, a project would not need to have a planned direct connection to the storage facility to meet this criterion.
		• Evidence which sets out the scale of the proposed project, for example:
		  • Pre-FEED or FEED which sets out the proposed scale of the pipeline project;
		  • Evidence of the routing of the pipeline, which also makes clear the shared nature of the pipeline by highlighting producers, end-users, and stores; and
			• We consider that regional, shared hydrogen transport infrastructure can better grow the hydrogen economy and support the 10GW low-carbon hydrogen production capacity ambition. As such, our focus is on large-scale infrastructure.
			• As explained in the introduction of this document, we intend to set out our approach to limited or small-scale and point-to-

Theme	Proposed eligibility criteria	Proposed evidence required	Reasons for proposals
		• Agreement in place with users including names, locations, and commitment to use low-carbon hydrogen by users. • Evidence of planned interfacing with at least one large-scale storage facility.	point or non-shared infrastructure (inappropriate for a RAB/regulated approach) in Q2 2024.
Great Britain-based	• Project must be located entirely in Great Britain. • The applicant must be led by a UK registered business that is incorporated in the UK.	• Evidence that the project site is within GB by providing the location of the project. • Projects will be required to provide their UK registration Number.	• The first allocation round for the HTBM will be looking at supporting projects that are suitable for a RAB and a revenue support contract (delivering the external subsidy mechanism). The territorial scope of the RAB is intended to be GB-wide, in line with the Gas Act 1986. As such, the HTBM support in the first allocation round is proposed to be GB-wide. We will work with the Northern Ireland Civil Service on understanding

Theme	Proposed eligibility criteria	Proposed evidence required	Reasons for proposals
			the potential development of hydrogen transport infrastructure for Northern Ireland.

Part 2: Assessment criteria

Below, we have set out our initial high-level proposals for the assessment criteria and sub-criteria, as well as potential supporting evidence requirements, for the first allocation round. These are grouped around six main themes. They are designed to support the strategic objectives of the first allocation round set out further above, and to ensure that projects are viable in terms of their proposed function and timelines.

The assessment criteria serve several functions. They will:

- Test a project's viability;
- Understand whether a project is able to meets the government's strategic objectives; and
- Allow government to start analysing whether a project will represent value for money.

After this assessment, projects would be ranked by their overall assessment score, with a view to the top-scoring projects progressing further in the process (subject to affordability). To note, these top-scoring projects may need to meet a minimum threshold for all or some of the criteria within the assessment criteria assessment to progress, and depending on affordability, only the top-scoring projects may progress to the hydrogen T&S cohort assessment (explained below).

We aim to design a scoring methodology as part of the next stage of our work in early 2024. The scoring methodology would allow us to differentiate between projects based on their individual merits. We expect scoring to take into account considerations such as levels of confidence on the basis of, and the credibility of, the evidence provided.

Table 3: Proposed high-level assessment criteria, proposed sub-criteria, and, proposed evidence requirements (Part 2)

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
Deliverability	This criterion considers a project's capability and capacity to successfully deliver within the set commercial operation date of 2028-2032. We propose that this criterion would be assessed according to the following sub-criteria: • Organisation and Governance: the projects credibility and capability to deliver the project – including the credibility and capability of any relevant consortium partners. • Financial and Commercial Deliverability: the robustness of the project applicant and ultimate parent company. • Project Deliverability: the project's overall delivery execution plan for completing the project. • Technical Deliverability: the projects overall technical coherence and viability.	**Organisation and Governance** We propose to require evidence which: • Demonstrates the project organisations competence to manage and coordinate a project of this scale and complexity; and • Demonstrates that the individuals within the project organisation have the relevant competence and experience to manage and contribute to the development of a project of this scale. **Financial and Commercial Deliverability** We propose to require evidence from the project applicant and the ultimate parent company which demonstrates their financial and commercial deliverability of the project, such as: • Copies of the filed statutory financial statements for each of the past three financial year ends – and latest available set out management accounts; • A breakdown of the proposed sources of funds for the project along with the current status and proposed timings to receive those funds; and • A copy of the financial forecasts for the project applicant and parent company for the next five years.

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
	• Environmental: the impact the project may have on the natural and social (i.e. local communities in the vicinity of the proposed project site) environment, both locally and more broadly.	**Project Deliverability** We propose projects produce evidence of their overall delivery execution plan for completing the project – which includes information on how the project is set up and governed – and how the development and construction phases will be managed and completed. Specifically, we propose to require sight of an integrated Project plan which includes; • Details of the schedule logic that incorporates activity durations which can be judged to be reasonable, for example in comparison to other similar processes and projects; • Accurate identification of the critical planning and identification stages; • Details of the status of necessary planning approvals, including permits. This can include correspondence with all requisite planning authorities from applicants, including evidence of relevant approvals being sought by applicants; and • Details of the critical path, risks (through a scope risk register including mitigations), and the capability and capacity of supply chains to deliver the required materials, goods and skills.

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
		Technical Deliverability We propose to require evidence of the overall technical deliverability of the project. This may include, for example: • User profiles, including location and how the network is being set up to cater for these users – ensuring a secure and resilient security of supply (including interaction with storage); • Whether the proposed build is new or repurposed methane assets (or a mix of both); • Pipeline sizing (length and diameter), pressure and routing; and • Whether the proposed build is new or repurposed assets. **Environmental** We propose to require applicants to consider their potential environmental and social impacts and provide evidence of their plans to avoid, mitigate, or compensate for such impacts in line with legal requirements. This may include, for example: • Specific information on applicants plans for monitoring and mitigating hydrogen leakage from transport infrastructure;

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
		• Information on applicants plans for preventing and mitigating nutrient pollution from run-off from construction sites; and/or • Specific information on applicants' plans for traffic management schemes around proposed project sites.
Costs	This criterion considers the project's cost estimates as an initial step of ascertaining value for money and overall affordability. Applicants should note, a more in-depth assessment of cost will take place during the due diligence and negotiation phases.	**Cost** We propose to require information on cost which sets out: • The projects base cost estimate of the most likely cost of each macro component (DEVEX, CAPEX, and OPEX) based on available data and a final cost estimate; • Financing costs and capital structure; • Decommissioning costs and saleable assets; • The sensitivity around these cost estimates; • The risks to achieving the cost estimates; and • Details of the cost estimation methodology used to get to these costs.
Net Zero	This criterion considers a projects overall contribution to Net Zero by assessing how, and the extent to which, they will contribute to Net Zero.	**Net Zero** We propose to require that projects provide a plan which sets out their Net Zero strategy, which includes:

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
		• Details on the volume of low-carbon hydrogen to be transported to, and used by, off-takers; and • Qualitative details on the broader Net Zero benefits the project will provide.
Market Development	This criterion considers the extent to which projects enable development and growth of the hydrogen economy for the region in which they are located.	**Market Development** We propose that projects are required to provide their strategy for developing and growing both initial and future demand and for interfacing with large-scale hydrogen storage facilities. This plan must set out: • Details of who is expected to use the pipeline infrastructure both initially and in the future; • Details of the year-on-year demand growth projections which justify the project's sizing; • An explanation of the strategic role and need of this infrastructure in relation to hydrogen demand; and • Details of how the project will interface with large-scale hydrogen storage including how the planning and COD timelines align.
Whole System Benefits	This criterion considers the extent to which projects may improve the UK's overall security of energy supply through sustainable and resilient transportation of	**Whole System Benefits**

Criterion	Explanation & proposed sub-criteria	Proposed evidence required
	hydrogen as well as other benefits to the wider energy system such as lowering the cost of the electricity system or reducing the costs for decommissioning the natural gas network through repurposing assets.	We propose that projects share evidence of whole system benefits where they exist, such as: • Details on how projects can improve the security of supply of electricity; • Details of costs reduced or avoided across the whole energy system, including but not limited to electricity network constraints or gas network decommissioning costs; and • Details on how projects can enable low-carbon hydrogen producers and end-users to make more efficient locational decisions.
Wider Economic Benefits	This criterion considers the contribution the project will make to economic growth.	**Wider Economic Benefits** We propose that projects share evidence of the economic benefits associated with the construction and operation of the projects, such as: • Number and quality of jobs created; • Training provided and supporting hydrogen skills; • Benefits to the supply chain; and • Investment attracted.

Part 3: Transport & Storage cohort assessment

Our ambition for the first allocation round, as set out in the Networks Pathway document, is to allocate support for up to two storage projects at scale, with associated pipeline infrastructure. These projects should be in construction or operation by 2030. It is very important, therefore, for storage projects to have a corresponding project providing pipeline transport: for storage projects in Great Britain, this means an associated transport project seeking HTBM support, and for offshore storage projects and storage projects in Northern Ireland, this means having credible plans in place for an appropriate transport provider.

We have taken steps to align the HTBM and HSBM allocation processes with a view to meeting this ambition. The proposed HSBM eligibility criteria include a requirement that storage projects should identify and work with a transport partner, whilst the proposed HTBM eligibility criteria include a requirement that projects provide a credible plan for interfacing with large-scale hydrogen storage facilities.

We propose a final stage of the assessment process as a failsafe mechanism to ensure alignment between transport and storage projects coming through the respective allocation processes, and with our overarching transport & storage strategic objectives. To do this, assessors would combine the progressed projects for transport and storage to create a 'cohort'.[3] Our proposed process for this is set out below.

Step 1: HTBM and HSBM projects that progress to the cohort assessment are combined to create a cohort of transport and storage projects, ranked according to their scores from the individual business model assessment processes.

Step 2: Do the transport and storage projects within the cohort align?

Assessors would check the alignment of the cohort of progressed projects.

For the first allocation round, this would mean checking each transport project has a corresponding storage partner and this may involve considering:

- The relative locations of transport and storage projects – are the storage and transport facilities suitably co-located?
- The alignment of commercial operational dates – will the projects be operational within a reasonably similar timeframe to support one another?
- Demand – as a 'partnership', can the co-located transport & storage projects demonstrate sufficient demand and use to justify choosing these projects in this allocation round?
- Sizing - are the projects of a complementary size or capacity to complement one another?

[3] The 'cohort' is the pool of progressed projects which would emerge from the HTBM and HSBM assessment stages.

- Planning – have the projects reached an appropriate phase of receiving planning permission in line with their corresponding transport partner?

Step 3: Does the cohort of progressed transport and storage projects align in terms of the strategic objectives?[4]

Assessors would check that the cohort of progressed projects together enables us to achieve our strategic objectives, which include:

- To promote net zero by supporting decarbonisation at pace – whether the cohort of projects enables decarbonisation at pace by being available in the right place at the right time.
- To enable whole energy system benefits - including security of supply, and helping to manage environmental impacts.
- To unlock the growth of an economic and efficient hydrogen market that supports wider economic benefits.

At this point, value for money across partnerships would also be considered.

Step 4: Is there an issue with alignment within the cohort, or with the cohort achieving our strategic objectives?

If assessors find any issue with alignment within the cohort of transport & storage projects, or with the cohort meeting the strategic objectives, then they would look at the next-highest scoring projects and reshuffle the cohort accordingly.

Should any change to the cohort be made, this would be clearly communicated to the stakeholders involved, and justification provided.

If no issues arise with either alignment or meeting our strategic objectives, no reassessment of the cohort is triggered. The cohort of projects are shortlisted, and the shortlisted projects move through to due diligence and bilateral negotiations.

The full methodology for this approach will be developed in detail as part of the next phase of our work; we will consider feedback from stakeholders and whether it should be incorporated into our final design.

To note: the HTBM cannot support transport projects in Northern Ireland or offshore transport projects in the first allocation round. For this reason, storage projects in Northern Ireland and offshore storage projects may apply for HSBM support, but would need to have credible plans for an appropriate transport provider outside of the scope of HTBM support. Step 2 of the Cohort Assessment process outlined above would not be applied to either offshore or Northern Ireland-based storage projects.

We intend to have a similar stage in the process for future allocation of the business model - we propose that this be tailored to the strategic needs set out through strategic planning. Any changes to the process will be set out in the application guidance for each allocation.

[4] See the Hydrogen Transport and Storage Networks Pathway document for more detail.

Next steps

This Market Engagement exercise has set out our current high-level proposals on our approach to the first HTBM allocation round, and we invite stakeholders to provide feedback on our proposals.

In terms of feedback, the areas and pointers below are by no means exhaustive. They are there to provide an initial suggested structure for respondents to build upon as they see fit.

We are keen to hear thoughts on all areas but in particular would welcome views on:

- Proposed eligibility criteria and whether they will help the first allocation round meet its strategic objectives;
- Proposed assessment criteria and whether they will help the first allocation round meet its strategic objectives;
- Proposals for evidencing the criteria, including the feasibility of providing any of the proposed evidence, and any suggestions for additional evidence that could be used for assessing the criteria; and
- The proposed T&S cohort assessment process and how it could be improved.

We would also welcome feedback on the potential weightings that could be applied to each assessment criterion to help the first allocation round meet its strategic objectives.

Additionally, it would be useful for feedback to set out whether you agree or disagree with a proposal, and to provide an explanation of your reasoning as well as any relevant evidence to support your view.

We intend to publish the full application guidance for the first HTBM allocation round before the first allocation window opens in Q3 2024. This will include further details of the allocation process, including:

- Eligibility and assessment criteria;
- Evidence required from applicants; and
- Criteria weightings and scoring methodology.

Beyond the HTBM, we also recognise that there is uncertainty around the role of heating within the hydrogen economy until strategic decisions are made on this in 2026. Therefore, we are developing our approach to the first HTBM allocation round in a way that is not dependent upon the outcome of those decisions. We are also considering what infrastructure would be needed to support hydrogen heating and how this could be delivered, should the strategic decisions conclude that hydrogen should play a role in heating.

This consultation is available from: www.gov.uk/government/consultations/hydrogen-transport-business-model-market-engagement-on-the-first-allocation-round

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