REA response to Hydrogen Storage Business Model (HSBM) market engagement.

The Association for Renewable Energy & Clean Technologies (REA) is pleased to submit this response. The REA represents industry stakeholders from across the sector and includes dedicated member forums focused on green gas & hydrogen, biomass heat, biomass power, renewable transport fuels, thermal storage and energy from waste (including advanced conversion technologies). Our members include generators, project developers, heat suppliers, investors, equipment producers and service providers. Members range in size from major multinationals to sole traders. There are over 500 corporate members of the REA, making it the largest renewable energy trade association in the UK.

We have engaged with the energy department on a wide range of hydrogen policy. This includes:

- Feedback on the Low Carbon Hydrogen Standard version 3
- Development of a hydrogen certification scheme
- Low Carbon Hydrogen Agreements and the policy decisions behind them
- Forthcoming decision on blending into the gas grid

A number of our members are particularly interested in production pathways other than electrolysis or methane reformation and we have engaged in detail on these 'alternative' pathways.

We look forward to continuing to engage with the department on these and related policies.

although we recognise that the initial allocation round is intended to bring together projects for both transportation and storage. We will therefore reply to each market engagement separately but accept there will be some repetition.

The progress under the hydrogen production business model has been very positive and we welcomed the announcements in December 2023, not only the of the successful projects under HAR1, but also the launch of HAR2 which included the opportunity for applicants with non-electrolytic alternative production technologies. Having been representing the REA in the production working groups held by DESNZ, it was apparent that the success of progress for hydrogen production would be limited without the means to connect with end users. Currently this is limited to offtakers within a close proximity or linked through planned clusters such as Hynet.
Although the recent decision on hydrogen blending will provide some interim flexibility, and as such was particularly welcomed, the roll out of critical hydrogen transport and storage infrastructure is urgently required to support the development of the hydrogen economy, help the UK meet the10 GW hydrogen production target by 2030, as well as provide benefits to the whole energy system, energy security and a greater degree of system resilience. Hydrogen transport and storage infrastructure are key enablers of the hydrogen economy. Therefore, we particularly welcome the progress in both the hydrogen transportation and storage business models. Particularly this allocation round is as suggested in our consultation response, an interim support measure for strategically important projects required to scale up the hydrogen sector in the UK and progress the hydrogen economy with more pace. It will also help build foundations for a market to move reliance away from long term subsidised models.

Proposed eligibility criteria and whether they will help the first allocation round meet its strategic objectives.

The proposed eligibility criteria are clearly set out, in the proposal and summarised below

a limit to geological storage projects that are either a new build or converted mothballed gas storage facility.
- The projects must have had the appropriate geological surveys and permissions (use of above ground and geological operational area)
- That commercial Operational; Date (COD) must be within the window of 2028-2032.
- Must be a UK registered project sponsor and facility.
- Must be at a minimum of Technology Readiness Level 7
- Be of scale (Minimum storage energy value of 50GWh (HHV) of working gas
- Proposed facility is to be accessible for by third parties for maximum users and benefit.
- Evidence must be provided of anticipated users of storage and transport partner(s)
- Evidence of financial viability (private finance and secure funding)
- Planning authority engagement strategy and timeline including any permissions.
- Prior experience from an energy storage expert either internally or externally.

The need for eligibility criteria is understood and there are sound reasons for setting these particular criteria when considering the initial HSBM allocation round. The need to meet the requirements of projects already allocated in HAR1 and the Net Zero hydrogen fund (NZHF) should be prioritised especially given the time between relative OCD and even with this allocation round starting earlier than previously envisaged. The need to ensure projects under the HSBM first allocation round are further able to provide additional network capabilities in the future is a sensible approach so the scale criteria is also accepted. However, it is recognised that this is providing the eligibility for the first round and given the need to provide a kickstart but that would not necessarily be the supported case for future rounds. Therefore, it is encouraging to see in the hydrogen transport and storage networks pathway publication that there is recognition that as currently there are only green and CCUS enabled hydrogen production available the focus will be to meet the needs of these plants but acknowledging that through the hydrogen production pathway other production technologies will be included and so likely to be considered for future transport allocation rounds.

The stipulation for at least one large scale storage facility to be interfaced with a project from the HTBM round is sensible and the cohort option further encourages this. We are supportive of the need to connect the transport and storage at this stage of development as there is a need to provide a source of a network for later projects addition to be the right pace, at the right place and right scale to maximise benefits to the whole energy system.

Proposed assessment criteria and whether they will help the first allocation round meet its strategic objectives.

The purpose of this initial allocation round is to focus on a small number of projects to be supported where specific criteria is provided for eligibility and to enable a kickstart for the transportation and storage business models for hydrogen. The need to provide an early start to transportation and storage projects, alongside other projects being completed such as Hynet or BPH2 with CCUS integration, has been discussed in hydrogen production working groups based on the required integration to enable an end use market.

Therefore, the assessment criteria requiring only those that can demonstrate a projects successful deliverability, costs, economic benefits and commercial case viability /justification (for future expansion) is well founded and sensible. That is provided that the nascent hydrogen market will not unduly limit the ability to meet all specification and thereby affecting the

minimum score or range of applicants . Also, the strain on supply chain has caused issues with deadlines in other areas of low carbon deployment so may be a limiting factor here. However, the need to ensure environmental impact is minimised will help create a positive local impact along with the need to ensure a net zero strategy. The most important aspect will be the stimulating market development and confidence.

On this last point there will be uncertainty on projects that may be applying but not yet successful for HAR2 and the ambitions to reach the required target of 875MW will mean the number of projects could be large. Therefore, the full scale of the benefit to particular projects may not yet be properly known and the available network for both transport and storage may be part of the overall decisions. It would be useful to ensure the decisions are made in full knowledge but also that this may help determine the speed and changes needed for the subsequent HTBM (and HSBM) allocation rounds.

Its thought that the whole systems benefit for this round particularly would be a strategic choice based on successful hydrogen production projects as well as what are to follow as there is a need to provide a source of a network for later projects addition to be the right pace, at the right place and right scale. The criterion for assessment is board enough to fit the current need as well as considerations for future rounds where there may be other options such as hydrogen to power or alternative hydrogen technologies located away from the hydrogen clusters. Similarly, providing security not only for national energy but for new or redeployed jobs/ skills is important. Particularly for the locational aspect the wider economic benefits will be a good measure for future rounds but also to be able to provide options for other sources of hydrogen not necessarily producers (gas shippers brokers, other intermediaries) and this would allow for considerations based not only on hydrogen production, where storage could be locationally deployed in areas where there is sufficient demand from a multitude of entry and exit users.

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.

For the reasons provided above we are supportive of the criteria and assessment set for this allocation round. Acknowledging that although the nascent hydrogen market may limit the ability to meet all specification or range of applicants, for this particular round and the requirement to provide a future network, its sensible to require a well-established and experienced project developer. They would be able to provide evidence of previous project experience to the scale required for this round and a sound basis for financial evidence. The strain on supply chain has caused issues with deadlines in other areas of low carbon deployment so may be a limiting factor here but a large company may be able to mitigate better for this and provide some assurance.

The full scale of network benefits may be limited to projects not covering the much larger HAR2 round although this would depend on application window. This would be an additional source of information when known as well as the projects for importing. It's unknown how much of the evidence would be possible and particularly how accurate the information would be so this could be a limiting aspect. As with socioeconomic benefits its drawn from statistics and suppositions but the assurance of providing reduced risk for developers and their investments it is well practiced and standard practice. Comparison information from application comparison is also a potential indicator of evidence.

The proposed T&S cohort assessment process and how it could be improved.

The stipulation for at least one large scale storage facility to be interfaced with a project from this HTBM round is sensible and the cohort option further encourages this appropriately. However, this proposal requires knowledge of pipeline integration so suggests the intention may for both to be cohorted unless there are already consideration to authorise a storage project for at least one cluster where pipeline would already be project managed. The ability to provide a storage facility interfaced with a transport project is sensible as it ties up the network appropriately rather than isolated storage projects or reliant on road transport.

The limiting factor in this would be the timescales and this will be potentially limited to large scale salt cavern storage and the pipeline required may be significant accordingly. This may limit the ability to achieve the timescales stipulated in the criteria. However, its noted that the storage options require not only a new construction but also a repurposed storage which will alleviate time constraints provided they are in the areas where there be most initial benefit. Given the amount of previous consultation and investigation works, significant progress on identification of suitable project sites will be known/established and this engagement exercise will have already helped build the interest, confidence and investment needed.

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.

There is a weightings score attached to each deliverability (40%), costs (25%), economic benefits (15%) and commercial case viability /justification (20%) at this strategic stage is probably about right, especially given the importance on deliverability.

In order to provide the strategic need for this initial round, the weightings will be dependent on the maximum benefits. This will include opportunities for network linking of production projects already agreed as well as for the future and the need to meet the timescales required. The scale of the project(s) is likely to be such that deliverability and financial criteria should likely score highly for all applicants.

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 are broadly In support of all that has been proposed for this allocation round so this has been mostly covered in comments previously made above. The proposals have allocated an initial round that is more at pace, which will help projects have the sufficient deployment time to become operational by 2030 and be more aligned with production needs. It will also help align the whole system to provide the market confidence now, to make decisions for the future, which is particularly needed for decarbonising hard to abate industries and reach net zero commitments.

The intention to launch this allocation round in Q3 of 2024 to allow for the award of contract by Q4 of 2024 is welcomed and the timeline helps those projects the sufficient time to scope in order to meet the application window and completion target dates.