REA response to Hydrogen Transportation Business Model (HTBM) 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

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

This response is for the market engagement on the hydrogen business model for transportation, 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 their 10 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, is 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.

We note that for the Hydrogen Transportation business model or HTBM the market engagement has set out the minded-to positions 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 the allocation process for the business model, and it will help inform the nature and timing of support for early hydrogen transport projects.

In the REA response to the hydrogen transport and storage infrastructure consultation, we noted that for transportation a Regulated Asset Base (RAB) model would be the best enduring option and should be designed with flexibility in mind to enable it to be adapted as the hydrogen economy evolves. We therefore welcome the decision to use this model as a base.

In addition, we note that the requirement to prioritise a core network in this initial round is due to the potential benefits as listed below,

- Enable more competition in the market and hence support market development and price discovery, lowering risk and costs. By connecting multiple producers and stores to a single integrated network, monopoly power would be limited, and users would gain the benefit of a single competitive price for hydrogen and access to the network.
- Provide greater network resilience against supply outages.
- Reduce the impact of local imbalances in production/demand.
- Act as a strategic enabler for future production and demand through connection to geographically constrained storage, unlocking the ability of hydrogen to play a key role in delivering a decarbonised power sector and increasing energy security of supply.
- Increase optionality for production location. This could unlock greater potential for electrolytic hydrogen production to locate close to abundant renewable electricity generation and behind network constraints to help alleviate electricity network constraint costs. It could also allow access to hydrogen and geological storage for more hydrogen to power (H2P) plants and dispersed sites with proximity to the route. For example, a core network that connects the north of Scotland with hydrogen demand centres further south could exploit the huge potential for electrolysis from offshore wind in the north of Scotland.
- Mitigate environmental impacts of siting decisions, such as water availability, by reducing the need for hydrogen production to be located close to concentrations of demand and geological storage.

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

The proposed eligibility criteria are clearly set out, requiring the projects to be a pipeline rather than road transport specification, at scale, able to meet FEED and COD deadlines and to be UK based. The need for eligibility criteria is understood and there are sound reasons for setting these particular criteria when considering the initial HTBM allocation round. The need to meet the requirements of projects already allocated in HAR1 and the Net Zero hydrogen fund (NZHF)

should be prioritised and so the eligibility seems to be focussed on helping these developments. The need to ensure projects under the HTBM 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 requirement for pipeline rather than vehicular transport is understood and although there may be a need for this to be a feature of the overall network while it develops, the strategic decision on hydrogen blending should provide some additional flexibility. It should also allow private haulage and gas/fuel transportation industry to identify need and market investment accordingly so form part of future transportation eligibility discussions where need may arise. In addition, we agree that offshore or non-GB based transportation projects would be outside of the scope and therefore the investment benefit would remain within the relevant boundaries.

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. 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 capability and capacity is well founded, particularly based on the specific breakdown to governance, financial, project and technical deliverability. That is provided that the nascent hydrogen market will not unduly limit the ability to meet all specification 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, the shift to more renewable technologies for energy generation is well thought to aid the green economy and provide security not only for national energy but for new or redeployed jobs/ skills. Particularly for the locational aspect the wider economic benefits will be a good measure for future rounds.

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. Its 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. The ability to provide a storage facility interfaced with a transport project is sensible as it ties up the network appropriately rather than isolated transport or storage projects. 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 help 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.

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 publish the full application guidance for the first HTBM allocation round before the first allocation window opens in Q3 2024 is also welcomed and the timeline helps those projects the sufficient time to scope in order to meet the application window.