REA response to DESNZ on Market engagement for the second Hydrogen Allocation Round.

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. These include:

- the Low Carbon Hydrogen Standard
- 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, including the move towards competitive allocation.

Although not within scope of this market engagement, we would like to highlight that the political uncertainty around funding for hydrogen support is a serious concern for our members. We appreciate the concerns around the proposed levy, but there is a significant risk that the primary powers for the levy will not be included within the current Energy Bill but that no ongoing alternative long term funding arrangements will be put in place.

It is essential that this uncertainty is resolved as soon as possible to avoid having a chilling effect on plans to develop hydrogen projects in the UK.

Project requirements

1. **Should it be available, would you look to seek CAPEX co-funding in HAR2?**

As a trade association we would not be applying directly for funding. Members provided some comments and there was agreement for the need of funding to support development in order to mitigate policy risk especially if the scheme didn't secure funding through other routes such as the Hydrogen business model. It would also provide a financial buffer in the event of a project overrunning. Therefore, CAPEX funding is considered as being beneficial, especially for contingency events and non-electrolytic technologies, which as emerging solutions, funding through CAPEX would allow a mechanism to demonstrate their benefit.

Other than non-electrolytic technologies, the ability to raise funding is not necessarily thought to be affected specifically by CAPEX funding but driven by revenue support. Therefore, it would be useful to have the option to apply for both capex and ongoing production support. Comments were expressed about the need to ensure funding terms for CAPEX are workable and not

inflexible such as with identified upfront costs, specified fixed deadlines and consent requirements from NZHF to be declared as these can cause issues for a project and guarantor requirements can be unattractive.

2. **In HAR1, NZHF support was made available for up to 20% of eligible CAPEX costs. If your organisation is likely to apply for NZHF CAPEX co-funding support in HAR2, if possible, please provide the estimated size of bid required to support deployment of your project. Please present this bid as a percentage of your overall costs?**

As a trade association we would not be applying directly for funding. Members have provided comments about this and there is support for CAPEX funding and especially useful having options to apply for both capex and ongoing production support. The 20% co-funding support as in the previous allocation round seems reasonable for the reasons and considerations provided in Question 1, however there are some concerns how this would impact on the non-electrolytic solutions where more may be needed to invest in the emerging technologies.

Proposed eligibility criteria

3. **Do you agree with the proposed eligibility criteria for HAR2?**

We agree, subject to the following comments.

We agree that a project should be expected to meet the **Low Carbon Hydrogen Standard.** We think this is implicit in the market engagement, but it is essential that the LCHS version that is relevant must not change from the point at which the HAR2 application guidance is published – or at least, not changed to the detriment of a potential hydrogen producer. Where the published documents making up the LCHS have not themselves changed but the interpretation of them has changed such that the effect on the producer is detrimental this must be carefully considered and avoided if at all possible.

We look forward to the strategic decision on whether to allow **blending into the gas grid**. On the anticipation that this is allowed, we believe there is a strong value for money case for allowing at least some blending to be supported within the HPBM. Alongside Hydrogen UK, we submitted a paper to the energy department on the value for money case and will continue to engage on this issue.

We disagree with the current position that **risk taking intermediaries** are ineligible off takers. Having these intermediaries would be an essential part of a genuinely liquid market as producers and users of hydrogen are no longer required to match supply and demand themselves (and to see increased costs from the fact that the risk of a mismatch must be covered by either or both parties). Similarly, allowing such intermediaries will help accelerate the development of a market and continued exclusion is likely to hold it back.

We presented a paper to the energy department on this late in 2022 and will continue to engage. We are not aware of any in principle reasons why they should be excluded, and the additional policy considerations that would need to be resolved are no more complex than issues that have already been addressed. In particular, inclusion of intermediaries is a key enabler of developing a genuine 'market price' for hydrogen, which would enable the LCHAs to refer to a market

benchmark for their reference price rather than the 'achieved sales price'. This in turn would enable one of the more complex parts of the LCHAs to be greatly simplified.

We welcome the willingness to include support for **non-electrolytic production technologies** and will look to build further on our engagement to date. With regard to whether there should be a requirement to have CCUS we do not see that it is essential at this stage given the uncertainties around development of CCUS infrastructure. We note that even without CCUS, hydrogen from fossil residual waste can deliver meaningful GHG reductions, following the inclusion in the LCHS of a 'counterfactual' approach. The longer proposed installation timelines are a critical enabler for these projects as well, which will generally take longer to build and commission.

We agree it would make sense to introduce an equivalent for 'identifying an electrolyser supplier' eligibility criterion. Non-electrolytic production technologies are critically dependent on a production process and the technology provider so it's clearly reasonable to require high level information on this. We will work with our members on how this should be expressed so as to give necessary assurance to government but also allow suitable flexibility for tendering and commercial considerations as the project nears financial close.

In our paper on non-electrolytic production technologies, we proposed that having **planning permission** should be a criterion for those projects. We would encourage DESNZ to consider whether it should also be a requirement for other technologies, building on their experience from HAR1.

It was also noted by members that as the information on the first allocation round is held by DESNZ, there are limitations to being able to agree to the proposed eligibility criteria and that this information would be better answered by DESNZ who can assess whether projects are deliverable. Planning and permitting is a good indicator of good progress.

There were no specific concerns raised about timescales.

4. **We are seeking information from the biomass or waste to gasification and pyrolysis to hydrogen and solid carbon production projects interested in HAR2 funding, should it be available. We are asking these projects to provide information on the following:**
    a. **Projected hydrogen production capacity of individual projects (MW H2 HHV) and estimated date of commercial operation.**
    b. **Expected load factors for production facilities of these technologies.**
    c. **Fuel input requirements (energy input required to produce a unit of hydrogen output) and proposed source of feedstock.**
    d. **Cost (expected capital and operational costs of producing hydrogen using these technologies)**
    e. **Evidence that these technologies meet TRL 7 or more.**
    f. **Potential for wider environmental impacts from these routes, including consideration of air quality impacts and water requirements.**
    g. **Details of any residues produced by these processes and how these will be managed.**
    h. **For pyrolysis to hydrogen and solid carbon production technologies only, plans for carbon black usage or disposal, and evidence of the environmental impacts associated with this.**

We will continue to engage with our members and the department on these points. We are aware of thermal plasma Thermal Plasma Electrolysis or TPE however we understand a member will be providing more details on this in their response.

5. **Are there any other non-electrolytic hydrogen production technologies that we should be considering funding in this round? If so, please provide information on the technology and how they meet the eligibility criteria and strategic aims for the round and any information on relevant points listed in Q4.**

We are aware of thermal plasma Thermal Plasma Electrolysis or TPE and Ammonia Cracking that should be considered however a member will be providing more details on this in their response.

Proposed evaluation criteria

6. **Do you agree with the proposed evaluation criteria for HAR2?**

Although there is agreement that cost reductions must be sought where possible to provide value for money and therefore is considered the right direction of travel, there are concerns about this being required so early in the process so considerations could be made to deliver these as the sector scales up. This is also the case for weighting and there is concern that this may create barriers where some developments may be penalised based on location under the scoring system.

It is thought that the position taken in the HAR1 process should be maintained with a concern that the new position would not allow for sufficient justification. The concerns are that a focus on monetary costs will limit the ability to engage new technologies and an alternative may be to assess on social value and carbon emissions balanced with a reduction in the cost criteria.

7. **Do you agree that we should reward project locations that provide wider electricity system benefits, as set out in Section 5 of the Market engagement document, as well as additionality?**

In addition to the comments provided in Question 6, it is noted that there are changes to additionality, where this is combined with electricity network management impacts and the overall criterion scores more heavily (10%). Locational scoring along these lines might be a better and more flexible way of maximising benefits from electrolysers and interaction with electricity grid management compared to the additionality definition itself. Based on the EU position on additionality there is a relative attractiveness of EU vs UK on this issue. However, there are concerns that location can also be restrictive for early stages of the process.

Delivery, Agreeing an offer and Portfolio Factors

8. **Do you agree with our proposed delivery approach?**

In principle there is agreement although there is a need for prompt decision making as HAR1 has taken a very long time. However as mentioned previously DESNZ hold the information to provide a more informed assessment.

Co-locating with a Government-subsidised renewable electricity source.

9. **If you are a project looking to apply for funding for this allocation round, are you planning on sourcing electricity from a CfD or RO-subsidised generator?**

As a trade association we would not be applying directly for funding.

10. **If yes, are you planning to co-locate your hydrogen production facility with a CfD or RO subsided generator, what do you consider the main benefits and risks of co-location, and what is your project archetype e.g., co-location via private wire connection?**

As a trade association we are unaware of any members that are currently planning to co-locate. However, there may be a need to co-locate with renewable energy sources where there isn't a local demand centre, in the absence of transport and storage network and where no decision has yet been made on hydrogen blending.