REA Response:

Decarbonisation Readiness: Consultation on updates to the 2009 Carbon Capture Readiness requirements

The Association for Renewable Energy & Clean Technology (REA) is pleased to submit this response to the above call for evidence. The REA represents industry stakeholders from across the whole bioenergy sector and includes dedicated member forums focused on green gas, hydrogen producers, biomass heat, biomass power, renewable transport fuels and energy from waste (including advanced conversion technologies). Our members include generators, project developers, fuel and power 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.

1. **Do you agree with Government's proposal for the definition of "fully decarbonised"?**

No, we believe the definition to be too narrow and risks excluding some innovative technologies or raises further questions. We highlight the following concerns with how 'fully decarbonised' is being defined:

- Currently the definition suggests either a 90% capture rate for CCUS or a capture rate defined in Best Available Techniques Guidance (BAT), stipulating whichever is higher should be followed. This, however, assumes that BAT will always be higher than 90% which, while likely, creates the possibility of there being two levels of legislation if BAT is lower than 90%. As a regulatory principal, it should not be possible for a separate regulation to overrule the level of BAT. As such, to ensure consistency, at minimum the definition should be stated as BAT for individual technologies, and a default of 90% should BAT not apply, rather than stating whichever is higher.
- The definition should refer to the difference between fossil carbon and biogenic carbon emissions. A fully decarbonised fossil generator with CCS will capture fossil carbon, while a BECCS site will be delivering negative emissions. Recognition that biogenic carbon still provides carbon savings compared to fossil sites, will be important for prioritising decarbonisation activities.
- The definition risks excluding some technologies, despite them providing significant levels of decarbonisation potential. This includes CHP engines using hydrogen/nitrogen blends, biogas and biomethane CHP and ammonia to power technologies where CCS options may not be possible. Given the potential for these technologies to contribute to decarbonisation in a variety of situation, it could be harmful to overall emission reduction activities if DR requirements become a barrier to deployment.

Overall, the above issues could be addressed by focusing the definition on outcomes, with criteria for the site to meet zero, (or nearly zero) or negative emissions, based on the

full life cycle GHG emissions calculations, recognising the difference between biogenic and fossil emissions.

2. **What are your views on our proposals that eligible combustion power plants would be subject to Decarbonisation Readiness requirements unless they can demonstrate they have met the definition of being "fully decarbonised**"?

In principle the REA agree that eligible plants be subject to DR requirements until they are defined as fully decarbonised. However, this dependents on the definition being suitably adjusted to reflect a range of possible avenues to decarbonisation and recognising the difference between fossil and biogenic carbon emissions

3. **Do you agree with the three proposed objectives of the Decarbonisation Readiness requirements?**

Yes, the REA agree with the stated objectives of DR Requirements.

4. **Do you agree with our proposal to remove the 300 MW threshold and to align the scope of decarbonisation readiness with the existing scope of environmental permitting for combustion power plants?**

The REA supports the removal of the 300 MW threshold and agrees with the proposal that it should be aligned to plants covered by the existing scope of environmental permitting regulations.

However, it remains important that the carbon capture readiness requirement acknowledges the lack of current commercial route to market to see CCS retrofitted. As such, we stress that even with the threshold removed, if the cost of retrofit is uncommercial, or the environmental benefit remains low, then it remains appropriate for the site not to proceed with installing CCS and that this should not be a barrier to complying with their environmental permit.

The removal of the threshold, and implementation of it within the EPR, needs to be done in a sensible and clear time frame, so the Government is not putting up market barriers to new developments. Unrealistic timescales for implementation could increase risk and raise the cost of capital for new projects.

We also note that this change could bring some smaller scale bioenergy power and heat sites into scope of DR requirements (including biomass power, CHP and anaerobic digestion plants). Such applications may well be too small to make such requirements realistic. A proportionate approach must be used to ensure that these valuable uses of bioenergy are not excluded from meeting their environmental permits.

In addition, our members have raised concerns that requirements imposed now may not reflect the state of technology in 15-20 years. For smaller plants the space requirements for

carbon capture will be onerous and may be irrelevant as technology evolves. This reality needs to be reflected in the design and implementation of the DR requirements within the EPR.

5. **Do you agree with our proposals to include both new build and substantially refurbishing plant within scope of DR? What are your views on using the definition of "substantially refurbishing" from the environmental permitting legislation in the context of DR?**

The REA agree with the application of DR requirements for new build sites coming into operation from the 1st July 2024 and the proposed definition of "substantially refurbished". We agree that utilising the existing definition for substantially refurbished within the environmental permit regulations is sensible, with work equal or greater than 50% of the investment cost for a new comparable energy plant as 'substantially refurbished'. This should avoid the DR requirements becoming a barrier to straight forward and planned maintenance done to keep sites operational in line with its original economic activity.

However, there will need to be clarity given around how these points of inclusion also work alongside the implementation of DR withing Environmental Permits, which have existing review dates every four years. Guidance from Government and EA will be needed to establish at which points DR requirements come into force with the dynamic between substantial refurbishment and environmental permit review being made clear.

6. **Do you agree with enabling existing plants to voluntarily submit a DR report?**

Yes, we are supportive of voluntary submissions being an option to enable existing assets to demonstrate their ability to decarbonise and comply with possible futuer obligations. This may prove important for being able to secure further investment in existing sites.

7. **Do you agree with our proposals to include biomass, EfW and CHP in DR?**

Yes. The REA do not oppose the introduction of biomass power, EfW and CHP in DR.

We also agree with the intention to **not** include small scale EfW, site burning landfill gas or combustion plants that only produce heat, despite existing requirements for environmental permits.

We do, however, reiterate that requirements must be proportional, especially for small to medium scale plants where space requirements may mean that CCS is not possible but significant levels of decarbonisation are still being achieved. Existing sites will not have been designed with DR in mind and it may not be appropriate for them even at the point of substantial refurbishment. If it, however, becomes a term of their environmental permit, it could create a risk to ongoing operations. Given that Biomass and energy from waste are already defined as low carbon and there remains significant carbon advantages to seeing such technologies replace fossil fuel systems, it is important that these proposals do not become a barrier to the operation of existing assets, even where it may not be economically

or physically feasible for CCS to be retrofitted in the future. Again, it will be important that the definition of 'fully decarbonised' also recognises these nuances.

It should also be noted that, at the current time, there is no clarity from government on a route to market for small or medium scale BECCS or waste ICC deployment. While GGR business models are being developed, the current allocation processes through the cluster sequencing process have restricted contracts to having to be larger scale CCS applications, above 100 MW. Government intention for enabling small and medium scale power BECCS and Waste ICC contracts must be made clear before DR requirements come into force for such sites. Otherwise, an obligation is being placed which has no way of being realistically acted upon and which could have significant implications for attracting futuer investment.

8. **What are your views on including heat generation in DR at a later date?**

We support that heat only generation sites are not to be included at this point. We would expect that it would only ever be appropriate to consider industrial applications of heat technologies for DR requirements. Their inclusion will need some form of clear definition or threshold. For example, there is concern that if not designed properly, DR could be inappropriately applied to biomass boilers across a wide selection of applications, given their use in domestic properties and businesses (including schools and hospitals). It would not be appropriate to see DR requirements in such situation given space requirements and challenge of decarbonising heat in such situations. The REA would be happy to support Governments engagement with industry in any further review.

9. **Do you agree with our proposed approach to exemptions from DR requirements?**

Yes the REA are supportive of the proposed exemptions, especially those for:

- Plants of any size burning landfill gas

- Small waste incineration plants - with an aggregate capacity of 50kg or more per hour of certain wastes (Schedule 1, Part 2, Chapter 5, SECTION 5.1, Part B(a)) or with a capacity less than 10 tonnes per day (hazardous waste) or 3 tonnes per hour (non-hazardous waste).

- Small anaerobic digestion biogas plants used to treat waste, under the T24 and T25 waste exemptions.

- Heat only generators

We would also encourage Government to consider specific exemptions around R&D sites doing Advanced Conversion Technologies, which the environmental regulatory regime continues to typically treat as incineration plants despite their potential for hydrogen and renewable transport fuel development. It is important that DR does not become a regulatory barrier to the deployment of first of a kind project utilising these technologies in innovative ways.

10. **Do you agree with our proposed approach to transitional arrangements from DR requirements?**

No. We agree with the need for suitable transitional arrangements but suggest that the proposed mechanism is too narrow.

In addition to sites having a CM agreement, we would suggest similar exemption should also be extended to sites with existing CfD agreements to be commission around or after 2024, issued in either Allocation Round 4 or 5 (taking place this year). For example, Advanced Conversion Technology Sites or EfW CHP sites with a CfD, which clear these auctions, will not have view of addition DR costs when bidding into the CfD allocation round.

Similarly, CHP Non-Domestic RHI sites that have only just commissioned at the end of scheme in March 2023, should also be considered for exemption, on grounds that they will not have had view of DR requirements when designing and pricing the projects.

Finally, government should also recognise that there could well be merchant sites already being developed, without view of DR requirements, but will commission after the 2024 implementation date. While recognising the difficulty identified in the consultation regarding grid connection agreements, some form of allowance should still be provided to such sites. One possibility could be to use an expected capex expenditure threshold, with evidence of committed spending by the 1st July 2024, to demonstrate that the plant is serious and under development. Some commitment to having spent, for example, 50% of expected capex by the start date, should give confidence to Government that such a site has not been restarted just to get in before DR requirements begin. We would be happy to work with government to find a suitable threshold figure.

11. Do you have any comments on our proposal to move the DR requirements to the environmental permitting regime?

The REA are not against DR requirements being implemented through environmental permitting. We also welcome the proposed approach of implementation which means a site will only become non-compliant if they do something that actively jeopardises their ability to install CCS in the future.

The REA hopes permitting will allow developments to avoid the delays and difficulties of the planning process. We also recognise that the Environment Agency, with their knowledge and experience, will be more effective at overseeing implementation rather than local authorities.

However, it must be recognised that there are already great strains and delays on the permitting process, causing very significant levels of industry frustration. As such, there remains significant industry concern that adding DR requirements to permitting arrangements could further slow permitting timelines. Industry will need strong assurances from Government and the EA that this will not be the case. We believe the below steps should be taken to provide this assurance:

- Clear guidance must be produced on how compliance will be monitored and what activities may result in a site becoming non-compliant.

- Reassurance should be given that this will not see requirements implemented retrospectively when environmental permits are renewed every four years. The EA will need clear guidance on when such a requirement will kick in for site following significant refurbishment.
- We note that the consultation includes government commitment to providing the EA with transitional funding to see DR implemented. This is welcome; however, Government and EA should make clear plans with industry for how the regulator will build up resource and capacity to implement and monitor DR. This will help drive confidence and compliance across the industry. This should include evidence of sufficient human resources to manage DR reports and provide speedy responses.
- There needs to be clear definitions on how quickly the Environment Agency must respond to submitted Carbon Capture Readiness Plans. There should be deemed consent for renewal applications if the regulator does not issue a response before this deadline.

12. **How do you see the proposed changes impacting the planning system (Nationally Significant Infrastructure Projects (NSIP) and/or Town and Country Planning Act (TCPA) regimes), including decision, and plan-making?**

Given the implementation route through EPR, we would expect Government to make clear in planning regimes that DR should not be a consideration of planning authorities beyond the developer being able to show they are able to meet the requirements of their environmental permit. It is essential that DR does not unduly add further complexities or delays to the planning process or be regulated both in planning and permitting.

13. **Do you agree with our proposed approach to DR appeals?**

We are supportive of aligning the appeals process with the existing process outlined in chapter five of the Environmental Permitting Regulations 2016. However, this should be kept under review by Government. If significant numbers of appeals, or delays, are being seen then it would be appropriate to revisit the appeals process and ensure it is fit for purpose.

14. **Do you agree with the proposal for developers of eligible plants to submit update reports every two years from the start of their combustion power plant's operations? What are your views on what the report should cover?**

No, we believe reports every two years to be overly burdensome for both the site operator and the regulator. From an administrative point of view, we continue to think that it would be proportional and appropriate to align updated reports with the scheduled review of environmental permits. These take place every four years and creates an obvious point for engagement between the EA and site operator on DR requirements.

15. **Do you agree with our proposal for a regular review of Decarbonisation Readiness requirements as part of any review carried out and report published under regulation 80 of the Environmental Permitting Regulations 2016?**

Yes. As decarbonisation readiness and carbon capture are an evolving and ever adapting technology, we support the need for requirements to be reviewed, however this needs to be balanced against placing over burdensome or rapidly changing requirements on sites. As such, we agree with the proposals to keep reviews to within a 5 -year cycle, as a maximum, but recognise that earlier reviews could take place if there is evidence it is needed.

In particular, we believe the consultation document to be overly pessimistic on the readiness of biochar, ammonia or biogas and would encourage government to consider how such technologies could be considered from the start of the DR requirements, including being built into the definition of 'fully decarbonised'.

We, however, note that it would be a significant burden if each review was also accompanied with new requirements. Some thought should also be given to how appropriate it would be for new requirements to apply to existing sites, causing retrospective changes, introducing a new risk for site developers, that should be avoided.

16. **Do you agree with our proposed outline for a hydrogen readiness space requirement test?**

We agree with the proposal to no longer require potential hydrogen ready sites to ensure they set aside space for alternative decarbonisation technologies that require more space. We agree this could become a barrier to hydrogen deployment itself and add additional costs to development.

17. **Do you agree with our proposed outline for a hydrogen technical feasibility assessment?**

Yes, the REA agree with the "no known barriers" approach to be applied to hydrogen technical feasibility assessment.

18. **Do you agree with our proposed outline for a hydrogen fuel access assessment, and our proposal to make it non-mandatory to pass in the short-term?**

Yes, given the infancy of hydrogen infrastructure we are supportive of the intention to make it non-mandatory to pass the fuel access assessment in the short term. When it comes to review this allowance, we would also encourage government to take a nuanced position that recognises different site realities and ability to access fuel as the infrastructure develops in different areas of the country.

19. **Do you agree with our proposed outline for a hydrogen economic feasibility assessment, and our proposal to make it non-mandatory to pass in the short-term?**

Yes, given the infancy of the hydrogen market we are supportive of the intention to make it non-mandatory to pass the economic feasibility assessment in the short term. When it comes to review this allowance, we would also encourage government to take a nuanced

position that recognises different site realities as different applications of hydrogen develop and the market learns what is and isn't the most commercially feasible.

20. **Do you agree with Government's proposal to require all eligible new build or substantially refurbishing combustion power plants which opt to meet DR requirements through hydrogen conversion to also have to demonstrate capability of burning 100% hydrogen if they are put into operation after 1 Jan 2030?**

The shift from fossil gas to hydrogen should be made as quickly as possible. We are supportive of a requirement to be able to demonstrate capability of burning 100% hydrogen if put into operation after 1st January 2030 and believe this date could be sooner. We believe this provides a strong signal of intent to the market.

21. **Do you agree with Government's position of not requiring demonstration of plants' capability of burning a blend of hydrogen?**

Yes, although we reiterate that having the capability to burn a blend of hydrogen should count towards DR requirements in terms of a sites transition, even if it does not meet the definition of being fully decarbonised.

22. **Do you agree with our proposals for CCR? In your answer please also outline whether you agree with the proposed changes to the technical feasibility test, economic feasibility test, and the space requirement?**

Yes, we welcome the pragmatic approach that seems to be proposed to be applied to the technical, economic and space requirement tests. We encourage Government and the EA to produce clear guidance on what will be required by eligible parties to satisfactorily demonstrate that they meet these tests.

We also encourage Government to keep Capture as a Service (CaaS) under review as it will likely be a useful option for smaller generators in the future, as well as provide options for further innovative solutions, such as biochar. The REA would be happy to help facilitate industry engagement as Government continues to consider the inclusion of CaaS.

23. **Do you agree with our proposed updates to the transport and storage test?**

The REA broadly agree with the Transport and Storage test, however, suggest that clarity is required in relation to how sites who will need to use non-pipeline transport will be able to pass the mandatory test, while road and rail guidance is not currently proposed to be included in the guidance. This could lead to confusion as to how more remote sites are to be expected to pass their DR when there is clearly no pipe-line option available. Application of this test must be pragmatic to site specific circumstances.