REA Response: Capacity Market Consultation - Strengthening security of supply and alignment with net zero.

The Association for Renewable Energy & Clean Technology (REA) is pleased to submit this response to the above consultation. The REA represents a wide variety of organisations, including 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.

The REA includes member forums focused on a wide range of low-carbon generation technologies and energy storage developers. As such, our response primarily focuses on proposals concerned with ensuring access to the CM for such market participants.

1. Do you agree with the proposed changes to the SPD process? Are the proposed changes likely to cause any unintended consequences?

Members have raised concerns that the proposed changes to the SPD testing regime, with narrowly defined pass windows, is overly prescriptive and increases contract termination risks for no apparent system benefit. This could itself cause a barrier to storage involvement in the capacity market, particularly when considered alongside the proposed changes to the penalty regime. Further evidence should be collected and analysed before such proposals are put in place.

2. Are there any barriers faced by storage CMUs in meeting the CM's performance and duration testing requirements, and if so, can you suggest any potential solutions? Please provide evidence to support your response.

The REA is concerned that the current EPT rules unfairly discriminate against storage and distort how such sites bid into the CM without proportionately reflecting the contribution storage makes to system security. The current EPT rules are designed to provide assurance that storage can deliver at least their de-rated capacity over a 4-hour period but fails to account for battery degradation over the lifetime of a project. This can cause a range of behaviours in the market, including:

- Provider's underbidding capacity to the minimum level needed to pass the EPT at the end of multi-year contract – this forces a provider to under-represent the contribution storage assets provide to system security in exchange for a longer multi-year contract. This consequently inflates the volume that the delivery body needs to secure putting upward pressure on auction prices.
- Providers bidding to fairly reflect their initial capacity at the risk of early contract termination as soon as capacity dips because of degradation over time despite still being able to substantially contribute to system security over the life of the asset. This increases investment inefficiency by driving providers to supplement system capacity later in the project life without any certainty about future prices. The increased termination risk increases revenue uncertainty making it harder to

obtain finance for technologies needed to support the shift to net zero. If plant capacity isn't supplemented, providers will be ejected from the capacity market despite still being able to make a substantial (albeit degraded) contribution to system security, again pushing up the volume that the delivery body has to procure and putting upward pressure on auction prices.

It is important that the treatment of storage CMU's is proportional and designed to reflect the valuable contribution that storage can make to system security. One approach could be to remove the automatic termination of capacity contracts for failing an EPT, and instead changing the applicable de-rating factor to better reflect the change in available capacity over time. This provides greater certainty for storage participation in the capacity market, prevents good volumes from being prematurely ejected and helps to avoid unnecessary upward pressure on overall CM costs.

3. Do you agree with the proposed changes to enable Capacity Providers to determine a CMU's connection capacity solely on the basis of TEC, MEC or Average Output? Are there any unintended consequences of taking this approach?

REA members have raised concerns about what impact this proposal could have on more complicated sites, such as co-located storage sites, multi-unit generation projects or CHP sites. On such sites, the TEC, MEC or Average Output could be limiting and may not consider the full capacity. This could be clearer under the Connection Entry Capacity (CEC), which is proposed to be removed.

The consultation does not go into detail on how this proposal may be applied to such sites. As such, Government should set out guidance on how they would see this change impacting on more complicated arrangements, and how they would be expected to determine their connection capacity accurately.

4. Should Capacity Providers be allowed to self-nominate their CMUs' connection capacity, provided the nominated figure is not higher than TEC, MEC or Average Output?

REA is not planning a response to this question.

5. Do you agree with the proposed changes to enable mothballed plants which are existing Generating CMUs to return to the CM? Would these changes result in any unintended consequences?

REA is not planning a response to this question.

6. Do you agree with the proposed changes to the CM's penalty rate? Are any unintended consequences likely to result from this change?

REA is not planning a response to this question.

7. Do you agree with the proposed changes to the timelines for calculating non-delivery penalties?

REA is not planning a response to this question.

8. Do you agree with our proposal to introduce lower emissions limits for new and Refurbishing CMUs from 2035?

Yes, the REA agree with the tightening of emissions thresholds to ensure the capacity market only supports generation better aligned to the UK's net zero ambitions.

9. Do you agree with our proposed changes to the emission limits regime?

REA agree with the reduction of the emission intensity limit to 100gCO2/kWh. This will help to align the CM to net zero targets.

We would, however, suggest that further review and guidance of the yearly emission limit should be done, with the possibility of seeing this reduced as well. Given the intention to align the Capacity Market to net zero targets, the target itself should be based on the emissions of low carbon generation needed by 2035, rather than gas generation, as is currently the case.

This should include consideration of the future carbon intensity of the gas grid itself, given the likely decarbonisation potential as biomethane and hydrogen enter the gas grid, as well as reductions in overall gas demand. This could mean the emission thresholds could allow for an increase in the running hours of gas-peaking plants, even if the yearly emission limit is kept at the same level today. There is little evidence in the consultation of these kinds of dynamics being considered, especially given that the consultation makes clear the emission limits are primarily being set around abated or peaking fossil gas generation plants.

10. Are there any further required changes to the emissions limits regime which have not been identified?

Further guidance and methodology will need to be established for how emission limits will be applied to all participating technologies in the CM. This includes technologies like biomass and energy from waste. While there are already methodologies for emissions from such technologies concerning governance arrangements of other support mechanisms, they are in many cases broader, and more comprehensive, than just the stack emissions being considered by the current CM proposals.

It will be important that emissions limits are treated fairly across all technologies and that there is clear guidance on how they are followed. Uncertainty around how emission limits are to apply could become a barrier to lower emission technologies participating in the CM.

11. Do you have any views or evidence on the impact that the emissions limit proposal may have on investment in transitional pathways, such as hydrogen blending or CCUS retrofit?

Overall, we believe that early indication of the new emission limits being implemented will help drive the transition, effectively encouraging hydrogen and CCUS retrofit as long as enough lead time and routes to market are provided.

Government should also ensure it recognises all potential technologies in setting the emissions, recognising the role of technologies like biomethane, energy from waste, and biomass with carbon capture and storage (BECCS). This is alongside hydrogen and fossil CCUS retrofit focused on within the consultation. It will be essential that the Capacity Market is open to all technologies that could support the transition.

12. If you have an unabated gas CMU in the CM, what are your plans for this capacity as the power sector decarbonises? Do you intend to decarbonise your CMU once viable pathways such as the DPA are available?

REA members include bioenergy members such as EfW Plants, biomass plants (including CHP) and anaerobic digestion plants. While this question is primarily focused on fossil sites, the introduction to CM rules around unabated plants should also consider impacts on other technologies that should be able to participate in the CM.

It will not be possible to abate all existing bioenergy plants by the time the new emission limits come in. However, this should not be a barrier to them participating in the CM auction. The biogenic nature of the carbon emissions from bioenergy plants is recognised as different to fossil carbon emissions, such as by the IPCC and the CCC, so not contributing to fossil emission levels. This in turn should be recognised in the emission limit methodologies applied in the CM.

The speed at which such sites will be able to abate will depend on the how quickly government finalise relevant Greenhouse Gas Removal (GGR) technologies and give such sites the ability to secure investment for CCS. As such, the design of the CM should also complement the development and timelines for the delivery of GGR business models for a range of technologies of different sizes.

13. From the perspective of a Capacity Provider, are there any additional barriers to decarbonisation than those mentioned above? Would it be necessary to terminate your CM agreement to decarbonise your CMU?

REA is not planning a response to this question.

14. How long would it take to retrofit your plant(s) to either CCUS or Hydrogen and when would it be feasible for your plant(s) to come offline to do so? Please provide a breakdown of this where possible.

Individual companies exploring these options will be able to provide more precise evidence on timeframes. However, we would note that the policy should have realistic

timelines specific to each activity being undertaken. For example, we would expect that CCUS conversion would take longer than hydrogen production.

Timeframes and performance expectations within the CM should therefore recognise specific timelines appropriate to the relevant development, either by allowing sites to break their performance requirements where decarbonisation activities are underway or by allowing them to break the CM contract.

15. Do you have any comments on our suggestions of how CMUs could decarbonise or suggestions of your own? If so, please provide details of this.

The REA is supportive of seeing the development of a framework that would allow existing CMUs to either break or amend existing contracts to decarbonise. Several options are presented in the consultation, which we would emphasise are not mutually exclusive, with a package of policies between reactively procuring additional capacity and over-procurement likely being required.

In considering the development of a framework, the department will need to do further analysis and provide the industry with some forecasting on the levels of decarbonisation expected to be needed within the existing CM portfolio. This will provide the basis for understanding the level of capacity which might need to be reactively procured, as well as the level of overcapacity that should be considered in future CM auctions.

This will also provide transparency to the market, allowing the Government to get clarity from CMUs on their intentions to decarbonise and adjust the forecasts as appropriate. It would also provide information to the industry on the nature of the future CM and how they should be prioritising their investment decisions.

Better enabling and formalising secondary trading should also be considered; however, the industry will need to see evidence of sufficient liquidity in the market before it could support this as a reliable route for enabling decarbonisation activities. Currently, we would estimate that secondary trading could help in addressing some modest volumes of lost capacity, but it is unlikely to provide enough liquidity for the volumes that are expected to decarbonise, for instance where a large unabated CCGT is seeking to trade its entire capacity. As such, the secondary trading market is considered too opaque to build a business case around investments. For example, a dedicated secondary auction, just before the winter, could help provide a clearer and more transparent market for secondary trading activities and investment decisions.

Finally, a strong definition of decarbonisation will be needed to inform this framework. However, we would emphasise that it must be pan-technology in nature and avoid being narrowly focused on limiting emissions from only existing fossil CMUs, which the consultation remains focused on. This includes allowing for further emission reduction from existing low-carbon generation. For example, the delivery of negative emissions via the application of carbon capture and storage on existing bioenergy CMUs. In

considering the nature of such a definition and the regulations that sit around it, it will be important that requirements align with other government policy workstreams in these areas, such as aligning to the required capture rates already being built into greenhouse gas removal business models (including the DPA, GGR, Power BECCS and ICC models).

16. Could secondary trading provide a pathway to the decarbonisation of an existing CMU? Please provide an explanation to your answer.

Yes, secondary trading could provide a pathway to decarbonisation, however, the current market is seen as too opaque. Actions to better enable and formalise secondary trading should be considered. Evidence of sufficient liquidity in the market is required before it could be a reliable route for basing investment decisions, as described in response to question 15.

A dedicated secondary auction, just before the winter, could be a useful initial step in helping provide a clearer and more transparent market for secondary trading activities and investment decisions.

However, secondary trading itself is unlikely to be sufficient, and a level of both reactive and over-procurement is likely to be required.

17. Could reactively procuring capacity provide a pathway for CMUs to decarbonise whilst ensuring security of supply? Please provide an explanation for your answer.

A level of reactive procurement of capacity will likely be required and will need to include consideration of the fact that decarbonisation measures can also lead to a reduction in the capacity of existing CMUs. This results from the need to use power when capturing carbon, which will have a marginal, but noticeable, impact on the overall capacity available for responding to the capacity market signals.

The impact assessment or consultation fails to provide forecasting for the level of existing capacity that is likely to be affected. This will need to be published to provide transparency to the sector.

It is likely that over-procurement will also be required in addition to reactive procurement.

18. Could over-procurement of replacement capacity via the CM enable CMUs to decarbonise whilst ensuring the security of supply? Please provide an explanation to your answer.

As described in question 15 an element of over-procurement is likely to be required in addition to reactive procurement. Both Government and industry would benefit from clearer forecasting of the expected capacity needed, both resulting from the decarbonisation of existing CMUs and the demand for capacity in future auctions.

19. Do you agree with the proposal to introduce 3-year agreements for low carbon, low capex CMUs? If not, do you have any suggestions for an alternative approach?

The REA are supportive of the proposed introduction of a 3-year agreement for low carbon, low capex CMUs. However, we highlight that within the current design, it will likely only really benefit DSR applications, rather than help with the delivery of new low-carbon capacity.

As described in the following questions, low carbon refurb projects should also be eligible for such 3-year agreements, where the main body of their Capex has already been spent several years prior.

Further multi-year agreements, with capex thresholds better designed around low carbon generation projects, should also be considered to enable the contracting to replacement capacity.

20. Are there any potential consequences or risks that you think the government should further consider?

Given the expected shortfall in capacity resulting from decarbonisation activities in the CM, the proposed 3-year agreement should be extended to low carbon refurbs. This 3-year agreement could, therefore, be used to extend the lifespan of a low-carbon asset where the main capex has already been invested several years before the auction. It is recognised that appropriate eligibility criteria would need to be developed to ensure further investment is focused on decarbonisation activities and it is helping to meet the shortfall in capacity.

This could also have positive interaction with low-carbon assets coming to the end of their existing support mechanisms, such as the Renewable Obligation, with projects starting to come to the end of their contracts in 2027. A three-year CM agreement could potentially be used as a useful mechanism for repowering and extending the life of such assets. The volume of capacity this could support coming into the CM could be valuable, with over 8GW of fulled technologies alone supported by the scheme. This will be particularly valuable in replacing capacity lost due to decarbonisation activities, helping the CM to transition to a fully decarbonised market.

21. Specifically, which low-carbon technologies do you expect might benefit from a 3-year agreement with no capex threshold?

The specific proposal for a three-year agreement seems currently designed around DSR applications, of which we are supportive, and would expect to be the primary beneficiary of such an offer. Other technologies may be able to benefit in the future once smart applications have become more established in the market, such as vehicle to grid. However, such developments are unlikely to be until the second half of the 2020s and unlikely to relate directly to low carbon generation technologies.

It should be recognised that there isn't a great deal of low carbon generation technologies that are also low capex. Three-year agreements for DSR will be helpful but will not necessarily help in replacing or contracting the new generation capacity required. Further multi-year agreement offers, with capex thresholds better defined around low carbon generation technologies costs, will be needed.

22. Do you agree with the proposed changes to the reference cost levels underpinning the CM's 3-year and 15-year Capex Thresholds?

The REA are supportive of the proposed changes to the 3-year threshold and maintaining the 15-year Capex threshold. The industry would, however, like to government to explicitly design a process for keeping these thresholds under regular review as the costs of low-carbon technologies change, ensuring they remain applicable and do not become a barrier to deployment at any stage. This could be done as a legislated annual review of the Capex thresholds.

23. Do you have any concerns about the assumptions made regarding the calculation of the revised reference cost levels?

REA is not intending to respond to this question.

24. Do you foresee any unintended consequences which could result from making this change to the approach for the 3-year and the 15-year Capex Thresholds? Conversely, do you foresee any unintended consequences which could result from not making substantial changes to the level of the 3-year and the 15-year Capex Thresholds?

REA is not intending to respond to this question.

25. Do you agree with the proposed introduction of a 9-year Capex Threshold for low-carbon CMUs? Do you foresee any unintended consequences?

The REA are supportive of the introduction of a 9-year Capex Threshold for low-carbon CMUs, recognising that this will be beneficial to technologies. However, there is confusion in the market around what impact this will have without equal proposals for dedicated multi-year agreements that technologies that meet the 9-year threshold would then be able to access. Additional multi-year offerings, specifically for low carbon technologies should be introduced, which this 9-year capex requirement could form part of the eligibility criteria for.

26. Do you agree with the proposed reference cost level underpinning the new 9-year Capex Threshold for low-carbon CMUs? If not, do you have further evidence on alternative reference cost levels?

REA is not intending to respond to this question.

27. Do you agree with the proposed changes to the definition of Total Project Spend to extend the scope of the existing permitted period for Capex in respect of

new build CMUs (i.e. in effect a 77-month period prior to the commencement of their first Delivery Year) to include Refurbishing CMUs? Do you foresee any unintended consequences which could arise from this change?

The REA are supportive of seeing this definition extended to refurbished CMUs. The extension should, however, be primarily focused on low-carbon assets needing refurbishments and must not enable the refurbishment of existing fossil generation sites without a clear decarbonisation plan in place.

28. The government remains open to considering proposals to address challenges faced by projects with long build times. Please provide further evidence or proposals that you feel would address such challenges.

It is difficult to provide feedback on the decision to not progress proposals for a declared later delivery year, without confirmation of what Government support for long-duration energy storage will look like and, secondly, what the list of challenges the government have referenced, but not identified, are in the consultation.

As such, to enable the industry to feedback properly government should:

1) Publish a list of challenges against which the option for a declared later delivery date has been considered and deemed not applicable.
2) Provide confirmation and design details for the support to be made available for long-duration energy storage, which has been much delayed.

In the absence of the above, the REA believe that Government should continue to consider proposals for 'declared later delivery years' in parallel to other policy workstreams that may also help address these challenges. It should also be noted that any support for LDES should be complementary to the capacity market, and it does not follow that an LDES support mechanism should negate the need to address long build times in the CM. In addition, a later delivery year may also be useful to other first-of-a-kind technology beyond LDES and, as such, could be negatively impacted by this decision.

It remains too early to dismiss this option without clear policy intent being provided on how the government intends are addressing long build times.

Questions in Chapter 4

29. Do you agree with the proposed clarification to Rule 5.9.7? Does the proposed clarification have any unintended consequences?

REA is not intending to respond to this question.

30. Do you agree with the proposed amendment? Does the proposed amendment have any unintended consequences?

REA is not intending to respond to this question.

31. Do you agree with the proposed change to the CM Regulations to enable Capacity Providers with relevant CMUs to use the CM to CfD transfer route in practice? Do you foresee any unintended consequences of making this change?

The REA welcome the clarification provided in the proposed amendment to the transfer notice, making it now a viable route to transfer from CM to CfD. However, we would also encourage the government to ensure this amendment is future-proof, especially as a further evolution of the CfD is considered. This includes:

- The use of the CfD for contracting other services beyond power production, such as carbon capture or hydrogen production. We note that many of these initial contracts are likely to be bi-laterally agreed - not auctioned - and the transfer note will need to recognise this application process.
- Guidance needs to be made available on how a site that gives up a CM contract to pursue a CfD could bid back into the CM if they are not successful in the CfD auction. While recognising that it is their commercial decision to pursue a CfD, the door should remain open to them to access the CM again if they need to.

32. Do you think that the amended transfer route should continue to be available to new CM agreements in the future, or should it be restricted to existing agreements?

The transfer note should be available to new CM agreements in the future, especially given the amount of work currently underway considering the evolution of the CfD through the recent CfD consultation and REMA.

In the market today, and likely for some time to come, a market participant can't have full visibility of CfD options given that pot structures and technology eligibility can, and do, change between allocation rounds, plus government are considering the evolution of the CfD, including delivery of voluntary CfDs, repowering CfDs and CCS or Hydrogen CfD based business models.

The CfD market is not expected to stay static. As such to future-proof both the CM and the CfD, the transfer process should continue to be available to future CM agreements**.**

33. Do you agree with the proposed amendment? Does the proposed amendment have any unintended consequences?

REA is not intending to respond to this question.

34. Do you have any comments or concerns regarding our proposed phased implementation of the requirement for Fossil Fuel Emissions Declarations to be independently verified?

REA is not intending to respond to this question.

Question on Chapter 5

35. Do you agree with the consideration of impacts in section 5? Are there any additional impacts which the government has not considered? Please provide supporting evidence where possible.

REA is not intending to respond to this question.

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