REA Response to Energy Security and Net Zero Select Committee Inquiry
Economics of the Energy Sector

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 solar, energy storage, green gas & hydrogen, biomass power, 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.

The REA have also been heavily involved in the Government's Review of Electricity Market Arrangements (REMA). This has included feeding into consultations, developing our own industry working group, holding regular stakeholder discussions and, in 2023, publishing a detailed REMA report with our recommendations for how the wholesale market should evolve.[1] As such, we are well placed to comment on how the wholesale energy market should evolve to support a secure, affordable, and decarbonised power system.

Given the range of organisations the REA represent and our expertise, Dr Nina Skorupska, the REA Chief Executive, or an REA policy expert would be happy to provide oral evidence to the committee during the inquiry.

Key Messages:

- Reform to the wholesale energy market is required to deliver a market that supports the deployment of more renewables and clean technologies while rewarding market behaviours that deliver lower costs and energy security.
- The wholesale market must be evolved to better reward key characteristics including flexibility, contract firmness, transparent market signals and better alignment between the different energy markets (such as the wholesale market, CfD, capacity market and reserve/balancing market). At the same time, reform needs to help reduce the impact of the marginal wholesale price, currently set by gas, and subject to the volatile international energy market.
- Reform to the energy market needs to be well-planned and gradual. Radical reform to the energy market risks creating an investment hiatus that would put the energy transition on hold.
- Reform can be achieved through the evolution of the Contracts for Difference and Capacity Market Mechanism. These are well-understood support mechanisms that can be adapted to better deliver desirable market behaviours in a more decentralised system, with higher variable generation on the system.
- The REA supports the delivery of a 'deemed CfD' and Capacity market reform as proposed by the latest REMA consultation.
- The REA however oppose the government's current focus on delivering new fossil gas generations to deliver transitional capacity. Delivering energy security

[1] https://www.r-e-a.net/resources/rea-rema-report/

needs to be aligned with net zero targets and focused on the delivery of technologies like energy storage, firm bioenergy capacity and hydrogen to deliver future-proofed secure capacity.
- REMA still represents a significant level of uncertainty for the sector. The final market decision must be made early in 2025, with a sensible implementation timetable.
- The evolution of the energy market needs to be accompanied by strong policies to address the physical barriers to renewable deployment, this includes grid capacity constraints and delays in planning permissions.

What should be the underlying principles of the UK energy market?

It is well evidenced by the National Grid ESO Future Energy Scenarios[2] and the Climate Change Committee[3], that it is possible to deliver a more secure, affordable, and decarbonised power system aligned to the Governments 2035 power targets. This will also help the UK insulate consumers from the impacts of the energy crisis, making them less exposed to volatile fossil fuel markets. However, delivering this does require changes to how the wholesale power market operates and the characteristics it rewards.

A decentralised and decarbonised power system will operate differently to the traditional high carbon centralised power generation system we have today. In the future we can expect a higher deployment of variable renewable energy generators, such as solar and wind. It is fully recognised that such systems do not generate all the time, however this does not mean that it will lead to energy insecurity or more expensive bills. Instead, we need a market that rewards a wide variety of renewable and clean technologies, rewarding different market behaviours that will enable us to meet demand and deliver a secure energy system. This includes different forms and durations of energy storage, as well as other forms of firm low carbon capacity including technologies like biomass, energy from waste, deep geothermal and hydrogen.

To facilitate the operation of such a system the energy market needs to evolve to support the following characteristics:

- **Flexibility**: The wholesale market must be able to appropriately reward flexibility at all time scales, from milliseconds to decades. This is critical to managing a grid system with high deployment of Variable Renewable Energy (VRE). The market will also need to ensure flexibility is provided through true low carbon storage or generation technologies, as well as reward demand side response. We believe that reliance on unabated gas generation may foreclose low carbon flexibility and risk failure against the 2035 carbon target for electricity.
- **Firmness**: To enable flexibility, we also argue that contract firmness should be rewarded when associated with low-carbon assets. Such contracts reward projects for being able to guarantee a specified quantity of electricity or energy supply at a fixed price for a defined period. We believe non-firm contracts will continue to be an important element in the market, but those who can provide firmness should also be able to gain additional premiums for being able to fulfil such contracts.

[2] https://www.nationalgrideso.com/future-energy/future-energy-scenarios-fes
[3] https://www.theccc.org.uk/publication/delivering-a-reliable-decarbonised-power-system/

- **Transparent Signals**: There must be transparent market signals for generators, developers, and financiers to understand revenue generation opportunities. Clear and transparent signals are necessary to minimise shortages and avoid stranding assets. REMA must develop efficient market signals to do this. While geographically granular signals through locational marginal pricing are recognised as a potential solution here, we suggest that implementing such a system today would introduce complexity and require a significant amount of time for developers to get used to it. Therefore, to ensure transparency and avoid an investment hiatus, we suggest that locational pricing, either nodal or Zonal, is not suitable for delivery at this time.
- **Harmonisation of energy markets:** Efficiencies in energy market design will also be achieved by realising harmonisation across the four key markets of the wholesale market, CfD, capacity market and reserve/balancing. Ensuring that there is consistency in how low carbon generation and flexibility services are treated should be a key objective of REMA.

Finally, to protect consumers and generators from the variability of wholesale costs there also needs to be a mechanism to help diminish the impact of the marginal cost of electricity generation. The wholesale energy cost is set by the last form of generation to turn on to meet demand. Today that is largely set by gas generation. This is not itself a problem if gas is affordable. However, as we have seen over the last two years, exposure to volatile international fossil fuel markets means that both generators and consumers have been exposed to a highly volatile pricing. This has pushed up consumer bills, while also making it harder to secure investment in new renewable generation deployment. Mechanisms that both support deployment of low carbon generation and help protect consumers from the variability of the marginal price is what is needed in the energy market.

To achieve this, the REA support the Government's latest proposals for evolving the CfD and Capacity market, as stated in the second REMA consultation.

Can Government deliver radical reform in the UK energy market?

The REA warns the committee against calling for the Government to deliver 'radical' reform to the UK energy market. Change and evolution is needed, but radical reform proposals have the potential to seriously damage the ongoing energy transition that is already underway. We are calling for evolution, rather than revolution.

Since the launch of the first Review of Electricity Market Arrangements consultation, the Government has addressed the more immediate impacts of the energy crisis through instigating short-term, energy market interventions to lower the cost of energy bills. This has included the Energy Bill Support Scheme, in conjunction with a new Energy Profits Levy and Electricity Generators Levy, targeting excess profits. While the long-term impacts of these measures are yet to be seen, they have helped mitigate some (but certainly not all) of the more immediate energy cost concerns. As a result, REMA provides an opportunity to think more strategically about what wholesale market design can do in the medium and longer term to deliver a low-cost, low carbon and secure electricity system.

The last two years has also shown that REMA cannot be done in isolation. The UK's energy transition has been ongoing for more than two decades, with numerous existing renewable energy assets and future pipelines relying on existing market and policy arrangements. These

investments are vital for the energy transition, and the UK cannot afford to halt or lose them during the introduction of new market structures. This is particularly crucial to achieving the government's goal of a net-zero electricity system by 2035. As such, new market arrangements must be implemented in a way that speeds up, rather than hinders ongoing decarbonisation of the electricity system. It is for this reason that the REA are pleased to se that Government have dismissed more radical proposals for a split market or green power pool that would take a long time to implement and create significant uncertainty for both existing operators and investors.

At the same time, international competition for clean energy investment has also intensified. America's Inflation Reduction Act and European Green Deal, mean that investors are being attracted to other markets. The UK has yet to fully respond to these support packages. However, the REMA process has also raised questions for investors and developers as to what the future UK market arrangements will look like. The REMA process, by its nature, has already caused uncertainty, the results of REMA must therefore be transparent, and the implementation of its final decisions be done in a gradual predictable fashion. Rather than creating new and untested structures, it is more effective to evolve existing mechanisms like the Contracts for Difference (CfD) and Capacity Market, which operators, developers and financiers are already comfortable with.

Evolving the Contracts for Difference Mechanism

The REA supports government proposals to develop a 'deemed CfD'. This is aligned with the proposals the REA set out last year within our own REMA report. [4]

The CfD has become a well understood and successful mechanism for delivering new low carbon generation. Within the current CfD design, long term contracts receive a guaranteed strike price that provides project developers with a bankable business model to deploy new renewable generation. The guaranteed strike price of the CfD also means that the generation is not subject to the wholesale marginal price. Given renewable generation is now the cheapest forms of generation, this avoids high fossil fuel prices impacting CfD generation and typically results in savings for consumers.

However, the current CfD design is only concerned with low carbon power generation. Sites are rewarded for every MWh they produce. As such, a weakness of the CfD is that generators are provided no incentive to respond to wider market signals. There is little advantage for them to respond to either over supply or scarcity signals within the energy market, as such there is no benefit to being flexible or co-locating your generation with a storage technology.

As a result, in the long term the current CfD design runs the risk of placing greater pressure on the capacity market to provide security of supply. This could have the damaging impact of depressing the CfD strike price in the long run and making it no longer effective at delivering new low carbon generation. This could become a serious barrier to renewable deployment.

A possible solution to this is to introduce a 'deemed CfD'. This pays the generator against a modelled amount that they could generate over a period, as opposed to actual generation. This divorces the generator from just focusing on generation, while still providing the project with

[4] https://www.r-e-a.net/resources/rea-rema-report/

revenue certainty. In doing so the generator is incentivised to respond to wider market signals including those within the flexibility, balancing and wholesale market, all of which could impact the volume they generate. Being able to do this without impacting the revenue they receive from the CfD, this enables more efficient generation and allow low carbon generation to better respond to scarcity or over demand signals.

It is expected that different technologies are likely to respond to deeming differently. Given abilities to forecast different climatic conditions it may also prove easier to deem certain technologies (like solar) or fuelled technologies, than other technologies (like offshore wind). As such, we suggest Government should develop a deemed CfD offering in parallel to continuing to offer a traditional CfD. This will ensure there is no hiatus in investment while also evolving the wholesale energy market.

Developing the Capacity Market

Accompanying the evolution of the CfD also needs to be accompanied by reforms to the capacity market so that it is better aligned with delivering renewable generation for energy security. The current REMA consultation proposes continuing to support gas generation, in the name of energy security, despite clean technology options such as energy storage, bioenergy and hydrogen all being available to provide capacity.

We believe that reliance on unabated gas generation may foreclose low carbon flexibility and risk failure against the 2035 carbon target for electricity. A decision to support new gas generation will lock in high carbon capacity which will need to be decarbonised and phased out in the future at greater cost to the consumer. It would be better for government to focus on delivery of renewable and clean technology alternatives.

Several reforms to the Capacity Market would achieve this:

- We support the introduction of an optimal minima within the capacity market auction to promote desirable characteristics, as proposed in the current REMA consultation. This, however, needs to prioritise delivery of renewable capacity above that of fossil gas generation.
- Commissioning dates and contract lengths within the capacity market are currently aligned with fossil generation lead times. Contracts provided by the Capacity market should offer longer term commissioning dates, aligned to realistic renewable energy build times and provide longer term contracts more suited to developing new low carbon assets.
- Enable CfD projects to also bid into, and benefit from, the capacity market to encourage flexibility.
- Have frequent CfD and Capacity market auctions, with a clear timetable for allocation rounds with a three-year rolling horizon and stipulated budgets.
- Introduce lower emission limits for new builds and refurbishing capacity market units so that only low carbon generation receives support.

The above would help ensure that generation capacity that is aligned to net zero ambitions is supported through future capacity market auctions.

REMA options must now be further refined, and Government set out a realistic timetable for delivery.

while significant progress has been made with the publication of the second REMA consultation, the government is still considering a wide number of options for market reform. It remains difficult for industry to properly consider the wide number of potential interactions between these proposals or understand what the impacts will be on both existing assets and future investments. In order to meet the 2035 decarbonised power system target, Government must now be coming to final decisions in early 2025 so that industry can properly consider what a future energy market looks like and progress with low carbon deployment. As it stands, REMA still represents a significant level of uncertainty that it is difficult for the sector and investors to manage or prepare for.

Government must also urgently address physical market barriers beyond market design.

It must also be recognised that while changes to the wholesale market are necessary, it is not currently the largest barrier to the deployment of low-carbon generation or storage assets. The delivery of net zero requires physical market barriers to be addressed as a priority. This encompasses grid capacity constraints, causing significant delays sometimes in advance of ten years to be able to connect new projects. Additionally, there is a pressing need to expedite the planning system to ensure swift approval of new projects. While these issues are out of scope of REMA, failure to address them will undermine changes to the wholesale market. Policy development to resolve these urgent problems must run in parallel to REMA.

Recommendations for the Committee

Overall, we would recommend the committee call for Government to prioritise the evolution of a deemed CfD and low carbon Capacity Market as part of the latest REMA consultation. Government must focus in on key priority options urgently so that a clearer image of the future wholesale energy market is provided. Once decided, Government needs to develop and implement these policies quickly if they are to successfully evolve the wholesale market in the timescales needed to both ensure continued investment in renewables and achieve sufficient deployment to deliver a power system aligned to the Governments 2035 net zero power system target.

April 2024