

Aldersgate Group response to the second consultation for the Government's Review of Electricity Market Arrangements

May 2024

Background

The Aldersgate Group is an alliance of major businesses, academic institutions, professional institutes and civil society organisations driving action for a sustainable and competitive economy. Our corporate members believe that ambitious and stable low carbon and environmental policies make clear economic sense for the UK. Our members have operations across the UK economy and include companies such as Associated British Ports, CEMEX, Johnson Matthey, National Grid, Suez, Scottish Power, and Siemens.

We develop independent policy solutions based on research and the expertise and diversity of our members. Through our broad membership, we advocate change that delivers benefits to an ever-growing spectrum of the economy. The response to this consultation draws on previous Aldersgate Group responses and input from members.

Questions

1) What growth potential do you consider the Corporate Power Purchase Agreements (CPPA) market to have? Please consider: how this market is impacted by the barriers we have outlined (or other barriers), how it might evolve as the grid decarbonises, and how it could be impacted by other REMA options for reforming the Contract for Differences (CfD) and wholesale markets.

Reducing electricity prices for industrial customers, especially energy intensive sectors, is a vital prerequisite to enable decarbonisation where electrification is a solution.

A report produced by UCL for the Aldersgate Group, "A zero-carbon power grid and the electrification of heavy industry: how to deliver on a twin challenge", highlighted a lack of evidence that private PPAs could support the pace of renewables deployment. Between 2019 and 2021 only 1.3GW of subsidy-free PPA capacity was signed in the GB market, contrasting with the need for 10GW/yr or more average over the next decade.

The report also brings to the fore challenges faced by energy-intensive sectors with regards to CPPAs. In the chemicals sector, a limited proportion of PPAs are based on renewable energy due to very high power demand. The steel sector is limited in its ability to contract PPAs in part due to uncertainty around future plant viability, precluding long-term contracts. The cement sector tends to buy directly from the wholesale market or procure from suppliers through green tariffs backed by Renewable Energy Guarantees of Origin (REGO).

The Government should explore options to enhance the Power Purchase Agreement (PPA) market, including mitigating the risk of off-taker payment default. This can be achieved, for example, by developing standardised tradeable PPA contracts or offering state guarantees. Without solutions, the use of CPPAs will continue to be limited to certain stakeholders only.

There is a current challenge in demonstrating that electricity used by businesses is truly renewable, particularly for businesses using buildings on a temporary basis (e.g. in the construction sector), and challenges with REGO. The significant cost, and lack of transparency around cost, in REGOs since EU Guarantees of Origin have stopped being recognised has raised concerns in businesses. Addressing these challenges may further support uptake of CPPAs by businesses.

The Aldersgate Group has previously recommended that the Government take forward the Green Power Pool (GPP) approach, aiming to decouple gas and electricity prices, mitigate the impacts of marginal pricing on the cost of renewable power, and protect against further price volatility. The GPP would provide a mechanism for the Government to target support to the most vulnerable industrial and domestic consumers by making relatively cheap CfD-derived power available directly to key groups. Where there are potential benefits of a GPP approach, close consultation would be required to ensure implementation can be delivered effectively and avoid any unintended consequences.

3) Do you agree with our decision to focus on a cross-cutting approach (including sharper price signals and improving assessment methodologies for valuing power sector benefits) for incentivising electricity demand reduction? Please provide supporting reasoning, including any potential alternative approaches to overcoming the issues we have outlined.

A wider policy package is needed to support demand reduction, from funding to regulations, including the examples listed in the consultation. However, it is crucial that as the UK's electricity system evolves, the structure of the Capacity Market encourages demand-side solutions by placing adequate value on the system benefits afforded by flexibility and demand reduction. The Government should ensure that REMA does not introduce barriers, perverse incentives or unintended consequences that may hinder demand reduction.

4) Have we correctly identified the challenges for the future of the CfD? Please consider whether any challenges are particularly crucial to address.

Reform to the CfD regime should better balance competitive tensions and pursue "sustainable pricing" to ensure the GB market remains attractive for investment. It is worth contextualising changes to the future of the CfD in a globally competitive environment. Concerns have been raised around the investability of the GB market, with neighbouring markets offering CfDs or similar government-backed schemes that are viewed as more attractive by industry. The UK is already falling behind the US and Europe in terms of green technology market share. (CBI, 2023, Green Growth: the UK is falling behind) As the ambition for decarbonisation increases globally, demand for renewables will increase. Supply chains however take time to ramp up. If global demand is higher than supply and the future of the UK CfD is less attractive to renewable developers than other markets, this could introduce a risk to UK decarbonisation ambitions as well as inward investment.

The Government should preserve the essential feature of underwriting the investor risks associated with highly uncertain wholesale market prices, and ensure that increases in input costs due to inflation and global supply chain pressures are reflected in allocation round

budgets and administrative strike prices. Adjustment to the CfD system should reflect the important of location and output profiles.

Any changes to CfD must be delivered with careful consideration of potential unintended consequences and ensure these are mitigated, including through other mechanisms where relevant.

6) How far will proposed ‘ongoing’ CfD reforms go to resolving the three challenges we have outlined (scaling up investment, maximising responsiveness, and distributing risk)?

We welcome the proposed reforms to Auction Round 7 to improve investability of co-located storage. The ‘ongoing’ reforms are not viewed as likely to fundamentally change the balance of risk and don’t reduce the current incentive for generators to sell all their generation to the day-ahead market. Further consideration is needed to ensure that co-location with storage is better incentivised, with one suggestion being reference price reform.

18) Considering the policies listed above, which are already in place or in development, what do you foresee as the main remaining challenges in converting existing unabated gas plants to low carbon alternatives?

The deployment of low-carbon solutions for flexibility is crucial to achieving a fully decarbonised grid. As decarbonisation progresses, the Government should ensure risks and potential unintended consequences are well understood for existing unabated gas plants. These will become commercially unviable and unappealing; however if the change occurs quicker than deployment of low-carbon solutions, loss of flexibility may become a risk. This will require monitoring of technological development and deployment, ensuring that unabated gas generation is successfully converting to low carbon alternatives. Contingency planning must be in place in the event of slower technology deployment or shutdown of unabated gas generation without conversion to low carbon alternatives.

In parallel, access to the necessary infrastructure for decarbonisation is necessary, such as production of low-carbon energy and fuels, pipelines and storage. Government should ensure joined-up policy and set out clarity on commitments and further developments, including a decision on the future use of hydrogen and whether it will be considered for home heating. A firmer understanding of where hydrogen and carbon transport and storage will be located is needed to support decision making, including investment and managing trade-offs between building different infrastructures such as electricity networks and hydrogen pipelines. The upcoming Strategic Spatial Energy Plan provides an opportunity for clarity on geographic location of energy infrastructure and should be developed to ensure spatial planning and market policy are well aligned.

21) Do you agree that our combined proposed package of reforms (bespoke mechanisms for certain low carbon flexible technologies, sharper operational signals, and an Optimised Capacity Market) is sufficient to incentivise flexibility in the long-term. Please set out other necessary measures.

The combined proposed package of reforms must be supported with joined-up policy. Other policies are required to enable the intended outcome, including the roll-out of smart meters and reforms to the retail market. These policies can play an enabling role alongside REMA and the Government should provide certainty where possible, articulating timelines and linkages across different reforms.

As the Government keeps the progress of low carbon flexible technologies under review, it will be important to ensure a good understanding of the challenges facing different technologies. This includes consideration of capital expenditure, lead times, business models and the nature of financing challenges to ensure Government support is targeted towards solving the specific market failures and transition into the Optimised Capacity Market is successful.

22) Do you agree with the key design choices we have identified in the consultation and in Appendix 4 for zonal pricing? Please detail any missing design considerations.

The Aldersgate Group agrees that there is a need for more effective locational signals for generators, demand, and storage. The Government is right to investigate these options. However, and as recognised by Government, multiple factors affect location choice, including natural resource, supply chain and planning constraints. It will be important to assess the extent to which locational pricing would be effective in practice, as well as understanding the risk of disincentivising investment in the additional low-carbon infrastructure the UK urgently needs and whether benefits are sufficient to warrant additional complexity in the system. For example, a smaller number of zones would help for simplicity but may not be as effective and a high number of zones could introduce additional complexity and perverse local situations.

Renewable assets are less flexible than other types of power generation and cannot be relocated to areas of high demand as easily as some other power generation assets such as gas plants. For instance, wind turbines need to be situated in locations with optimum wind conditions. Electricity market reform will therefore need to focus on how to create effective signals for flexibility and the co-location of renewable generations with long-term electricity storage options and/or areas of high demand where feasible. In particular, investigating how greater price exposure for renewables could create effective locational pricing and flexibility signals will be crucial.

Differentiating between market signals to incentivise the build of new assets in certain locations and market signals for operation and flexibility may be helpful to consider. Locational pricing options will need to be considered alongside other factors that will drive location choice for new assets. Crown Estate leasing rounds and spatial constraints in the North Sea are particularly relevant for offshore wind. The development of the Strategic Spatial Energy Plan, location of grid connections and upgrades and the wider energy infrastructure planning system and spatial planning such as the upcoming land use

framework are also relevant for onshore technologies. Other factors to consider include existing industrial clusters, skills and supply chains, where their availability and location may be particularly relevant for investment decisions for certain renewable energy or storage facilities.

Another bottleneck to resolve is at the district network-level, and the few meters between the main supply and homes or businesses. In some places, lack of capacity in the local network is limiting new development. This is a reason that buildings generating electricity using solar photovoltaics (PVs) can have their PVs switched off, curtailing distributed local energy generation. Increasing the opportunities for distributed low risk generation and use would support local growth and reduce transmission and distribution losses, and lost electricity.