

Energy UK Response to BEIS Capacity Market and Emissions Performance Standard Review Call for Evidence

1st October 2018

About Energy UK

Energy UK is the trade association for the GB energy industry with a membership of over 100 suppliers, generators, and stakeholders with a business interest in the production and supply of electricity and gas for domestic and business consumers. Our membership encompasses the truly diverse nature of the UK's energy industry – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Our members turn renewable energy sources as well as nuclear, gas and coal into electricity for over 27 million homes and every business in Britain. Over 730,000 people in every corner of the country rely on the sector for their jobs, with many of our members providing lifelong employment as well as quality apprenticeships and training for those starting their careers. Annually, the energy industry invests over £11bn, delivers £88bn in economic activity through its supply chain and interaction with other sectors, and pays £6bn in tax to HMT.

Executive Summary

Five years ago when we launched the Capacity Market (CM) GB was pioneering the concept of this framework within Europe. Pioneering in that subsequently a number of other countries and regions have developed and implemented their own CMs. Government and industry should be proud of the achievements made in developing this mechanism but should also be mindful that by opening up the market to others we must not lose sight of the ultimate goal of the framework – guaranteeing security of supply – and ensure that all contracted capacity is delivered when required under stress event conditions.

Energy UK members continue to believe that the market-wide CM is fundamentally the right mechanism for promoting the necessary investment to maintain security of supply. Added to which, in facilitating competition, it has helped deliver substantial cost benefits to the consumer.

Ensuring that this framework is delivering as effectively as possible is in the best interests of industry, Government and customers alike. To this end, we welcome the Department's level of engagement with industry and look forward to supporting a continuation of this with a series of workshops during this call for evidence ahead of the formal consultation.

It is important to continually assess whether the current design is fit for purpose in terms of delivering effective competitive outcomes based on a level playing field. This is vital to maintaining security of supply, in terms of both capacity and system resilience, cost effectively.

We strongly believe that in reflection of the CM's intended technology neutrality that all technologies should be allowed to fairly participate on a level playing field. We are aware of ongoing work and look forward to engaging with National Grid through their consultation process, as soon as is practicable to ensure that renewable plant is de-rated appropriately and can participate in CM auctions as soon as possible.

The Governance framework similarly needs to change in line with the evolution of the market. The emergence of a multitude of new market entrants deploying differing technology types and with varying business models has necessitated changes within the framework. This change has

subsequently highlighted that too much of the CM framework is contained within legislation, which requires Parliamentary time in order to implement any changes. To resolve this issue, Energy UK members believe that some of the content of the existing Regulations could move to the CM Rules.

This Five Year Review also provides an opportunity to address distortions within the CM such as the application of the EU ETS to embedded generation and the participation of interconnectors. Whilst these distortions and others which we have articulated within our response exist outside of the CM and should be addressed there, their impact on the CM should be mitigated as far as is practicable.

Finally, Energy UK considers the Emissions Performance Standard (EPS) to have achieved its objective in so much as no new coal plant has been built since its establishment. It is, however, difficult to determine the impact of this measure when there has been no means of monitoring or testing plant to ensure compliance or correct implementation.

Should you have any questions regarding this consultation response then please do not hesitate to get in touch via the details below.

I can confirm that this response may be published on the BEIS website.

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Responses to Questions

1. Do you believe there is a need to maintain the Capacity Market? What conditions would be necessary for the Capacity Market to be withdrawn?

- 1.1. We and our members strongly agree that the CM remains integral to the continued success of the GB electricity market. To date it has awarded long term contracts to 13.4GW¹ of new plant and interconnectors, stimulating investment and encouraging innovation. As Government has recognised, including in speeches from Ministers², the wholesale market does not in of itself incentivise the construction of plant; instead developers utilise revenue streams from specific markets including the CM to account for “missing money”.
- 1.2. GB has not as yet gone through a full Delivery Year for the CM so it is too early to assess degree of success so far. Some of the auction results to date have been influenced by distortions both within and outside of the CM. Whilst most to these have now been corrected, time will tell what the impact has been. However, the CM needs to change in order to reflect changes in the electricity system since the CM was designed, so it continues to be fit for purpose and can deliver against its objectives. This includes ensuring that the Delivery Partners manage the operational aspects of the CM effectively.

2. Do you believe the current objectives of the Capacity Market remain appropriate?

- 2.1. Please see our answer to Q1

3. Do you think the arrangements outlined in section 3.1 are adequate to ensure sufficient capacity is secured through the auctions to deliver security of supply?

- 3.1. The Electricity Capacity Report produced by National Grid and the associated scrutiny from the Panel of Technical Experts (PTE) provides the industry with the required detail on how the recommended target capacity is determined by the Delivery Body.
- 3.2. However, in the final target setting by the Secretary of State there is a lack of clarity on why the target capacity for the Capacity Auctions deviates from the recommended target capacity from National Grid. Whilst a rationale is laid out in the Secretary of State decision letter, BEIS does not publish the evidence base for reaching this decision nor does it articulate why National Grid did not identify this. This evidence base is needed for industry to have confidence that the target setting process is evidence-based, rather than politically driven.

4. What are your views on the split between the T-4 and T-1 auctions and the amount of set aside?

- 4.1. We support the need for different auctions, at the T-4 and T-1 stage. In order for there to be confidence in the Capacity Market for all types of assets, we believe that the capacity forecast for T-4 should be procured with the T-1 then used to fulfil any changes to that forecast. However, some members believe that there should be a minimum non-zero amount reserved for the T-1 auction, regardless of changes in the market or demand to provide a route to the CM for those customers that are unable to commit 4 years in advance.

5. Has the Capacity Market been successful in supporting investment in capacity (new and existing), both directly and indirectly? If not, please identify any changes that need to be made.

- 5.1. As per our answer to Q1 we believe that as far as can be currently observed, the CM has been successful in delivering against its objectives. However, as we have articulated in the past, new entrants have often struggled with the administration of securing CM agreements

¹ [T-4 18/19](#) (2.6GW), [T-4 19/20](#) (1.9GW), [T-4 20/21](#) (3.4GW), [T-4 21/22](#) (2.9GW), [EA](#) (1.7GW), [T-1 18/19](#) (0.9GW)

² ‘*Amber Rudd’s speech on a new direction for UK energy policy*’ (2015), BEIS – available [here](#)

and even established market participants have faced challenges with Delivery Partners during prequalification.

6. Do the current 1, 3 and 15 year agreement lengths support investment in capacity and do they deliver against the objective of cost-effectiveness?

6.1. We do not believe that the CM should be discriminatory of agreement lengths; instead all participants should be treated equally. Energy UK believes that more extensive discussion on this topic is required however potential solutions outlined below:

- Some of our members believe that one solution would be to allow all participants to choose the length of their obligation; this could also enable a cost curve in-line with delivery.
- Adopt an increasing contract duration dependent on expenditure above a minimum business as usual level (i.e. ongoing maintenance to keep the asset going for its remaining life) vs 15 year contracts.

7. Should penalties be adjusted to strengthen incentives for delivery during stress events? If so, how should penalties be adjusted? Please provide a view on the methodology and factors to consider when setting penalties.

7.1. Energy UK members believe that the Five Year Review provides an ideal opportunity to consider if the CM penalty regime is fit for purpose. The extent of Government and industry effort at the commencement of Electricity Market Reform (EMR) is evidence of how difficult it is to design an appropriate penalty regime. Issues and solutions that have arisen since the commencement of the scheme include:

- Some members hold the view that the current risk of participating in the market is too low and that tougher penalties will only incentivise parties if there is a perceived 'real risk' of a system stress event.
- It should be possible for non-performing CMUs to either lose more than the income they receive from the scheme or alternatively to lose money at a faster rate but not lose more than their annual income so as to more effectively incentivise delivery.

7.2. Our membership has a delta in views as to whether the cap should be increased, however, we share a view that the current cap is arbitrary and that BEIS need to undertake a thorough economic analysis to ensure that caps are at the right rate; this should not be too high as it could inhibit secondary trading markets operating functionally. Also, overly high rates would likely be priced into CM bids with a detrimental impact on clearing prices and the customer impact.

7.3. Given the importance and difficulty in designing a penalty regime that is fit for purpose, Energy UK is undertaking a work-stream in conjunction with CM participants, Ofgem and Government. We will be providing an additional publication in October 2018 following engagement with BEIS which will detail our position on penalties further. Energy UK members are committed to engaging constructively in this work-stream with a view to taking this forward in a timely and effective way.

8. Do the current arrangements relating to credit cover and delivery milestones provide sufficient incentives / assurance that capacity will be delivered, with particular reference to DSR?

8.1. There are a range of views within the Energy UK membership on the arrangements for Demand Side Response (DSR). Some support discriminatory treatment in favour of DSR; whilst others believe it should be brought in line with other capacity resources.

8.2. International markets have solutions which have proven successful in creating the right balance between incentives and assurance of delivery.

- 8.3. Some of our members believe that benefit would be provided by setting testing deadlines as late as is possible; doing so will prevent costs being driven up and reliability being reduced by reducing the time available to engage with customers. Others believe that allowing a late deadline creates the risk that any shortfall cannot be replaced even with stronger penalties than currently in place for DSR.
- 8.4. ISO-NE (New England) have adopted the most sophisticated approach whereby aggregators are encouraged to test new customers progressively over the period between the auction and the start of the delivery year. This encouragement comes from progressively releasing the credit cover as each MW is proven. This avoids forcing a CMU to test all customers in one go and whilst such a test wouldn't prove that a DSR provider can dispatch all components in one go, the Satisfactory Performance Days would still do so. ISO-NE also provide an incentive for aggregators to prove unproven DSR capacity won in the T-4 auction before the T-1 auction for the delivery year. ISO-NE does this by increasing the credit cover requirement by 50% for any MW that remain unproven at a deadline just before the volumes in the T-1 auction are finalised.
- 8.5. Currently, unproven DSR has an anomalously low £5k/MW credit cover requirement, a sensible change supported by some members would be to increase this to £10k/MW (i.e. the same as new-build generation) for the proportion that remains unproven shortly before the T-1 auction. An appropriate deadline for this would be immediately prior to the Secretary of State determining the auction parameters for the T-1 auction (Regulation 12). Other members believe that credit cover requirement should be the same for all types of CMU.
- 8.6. So as to ensure that the best possible information is available when the T-1 auction parameters are set, we believe that participants should be presented with two options for the DSR MW which remain unproven: either provide the extra credit cover – meaning that they intend to deliver the MW – or surrender the existing credit cover, reducing their obligation. This would require a new process within the CM framework. By doing so, National Grid Delivery Body will have certainty of the forthcoming capacity and can more accurately judge the T-1 volume requirements.

9. Do the termination events and fees need to be adjusted to create the right incentives for delivery? If so, how? Please provide a view on the methodology and factors to be considered.

- 9.1. The Minister's comments on a potential review of fees and penalties is another area where Energy UK and our members would not only welcome change but would fully participate in identifying any possible amendments. We believe that both termination fees and the timing and sequences of processes which can lead to termination should be reviewed in light of the Five Year Review. Despite the best efforts of Government and industry at the commencement of EMR, distortions and discrepancies have materialised in the regime. We would welcome the opportunity to review problematic areas within the Rules in conjunction with BEIS and Ofgem.
- 9.2. There is currently a £5-35/kW differential for termination fee for events which are similar in nature. Additionally, some termination events do not have a fee attached to them – this does not make for a level playing field. It can be argued that there should only really be a differential for an event that's pre or post a T-1 auction as this auction would provide the opportunity for the market to remedy any issue. However, this represents one possible approach rather than a complete answer. For example, improved access to secondary trading could provide a market-based solution to manage risks of non-delivery of capacity. In addition, allowing a CMU to replace itself should be permitted, as it is (effectively) for new build though change of address. Permitting a change of technology should also be allowed, so long as the total derated capacity that replaces the original is unchanged. We and our members would welcome the opportunity to work with Government on this issue to ensure that the CM is fit for purpose.

- 9.3. We also believe that it is important for BEIS to allow for the partial termination of a contract in the event that a Capacity Provider only delivers part of their obligation as per Ofgem's proposals from 2016³.
- 9.4. We need to resolve the issue – or better manage – that termination events and fees are now unequal. To this end Energy UK is holding a series of workshops in conjunction with BEIS during and after the close of this call for evidence; we will be addressing penalties and termination fees in greater depth during those sessions.

10. Do any other changes need to be made to ensure delivery of capacity by the different types of technology?

- 10.1. In order to align with information provision on Capacity Providers of other types of technology, the CM Register should publish information on the nature of the DSR provided, especially making a distinction between DSR capacity units that are and that are not supported by an on-site generating unit. There should also be a requirement for Capacity Providers to provide information equivalent to that required from Proven DSR providers for each of their DSR components once the information becomes known.
- 10.2. We believe that increased liquidity of secondary trading would support the more efficient delivery of capacity, which would benefit both market participants and consumers. Enabling secondary trading before the T-1 auction could improve the efficient operation of the T-1 auctions. If parties have agreed to transfer capacity obligations before the T-1 auction, this information should be made available to BEIS, the Delivery Body and the market by reflecting the transfers on the CM Register before a T-1 auction.

11. To what extent does the CM design ensure capacity resources are used in the most effective manner during stress events? Do you have any ideas on how it can further be improved?

- 11.1. Some members consider one option for the most effective use of capacity resources during a stress event to be the implementation of an explicit dispatch mechanism. The GB CM is unique in the world in not having any dispatch mechanism; in every other capacity market worldwide – current or planned – the obligation that's placed on participants is to be available for dispatch by the system operator during times of system stress. These markets each use one of three approaches:
- Having an explicit dispatch mechanism for capacity resources
 - Making it mandatory to offer capacity resources into energy or ancillary services markets
 - Using reliability options to create a very strong financial incentive to offer capacity resources into energy or ancillary services markets
- 11.2. An orderly, efficient dispatch during stress events can be achieved by introducing a dispatch mechanism although this would require IT infrastructure to be developed by the Delivery Body. For BM resources, this is straightforward, as Bid Offer Acceptance (BOA) already exist as a form of dispatch mechanism. The only change required is to treat positive volumes offered into BM but not accepted in a BOA in a manner akin to the *Declared Availability* term for Relevant Balancing Services defined in Schedule 4 of the Rules. Since that volume was offered to the system operator for dispatch if needed, but it turned out that the system operator didn't need it, it's counted as having fulfilled its obligation. Non-BM resources would need another mechanism to produce comparable outcomes.
- 11.3. National Grid has commenced a series of Mock Stress Events, undertaking their first earlier this year, so as to gain experience and learnings. Energy UK and industry has provided substantive feedback, formally via correspondence and during workshops. We welcome the opportunity to continue doing so in order to ensure that the requisite systems and processes for coping with a stress event are fit for purpose. It is worth noting that the

³ *EMR: Decision (following the statutory consultation on changes to the Capacity Market Rules)* (2016), Ofgem – available [here](#).

Mock Stress Events only tested the step that take place after a stress event, not participants' actions in the run up to and during a stress event.

12. Do the de-rating factors correctly recognise the contribution made by different technologies to security of supply? What changes need to be made?

12.1. Ideally there should be self-de-rating in order to reflect the specifics of each generator/DSR/storage unit. However, we recognise that this would likely require tougher penalties for non-delivery to ensure that there is not inflated de-rating and/or better ability to obligation trade.

12.2. DSR derating category should be split into genuine DSR where a customer is reducing load and other categories that reflect the technology that is providing DSR. This will avoid the situation that allowed a behind the meter battery to pre-qualify as DSR in the 2017 auction.

13. Do you think there are there sufficient safeguards in place to reduce the risk of over-procurement? If not, what changes could be made to further reduce the risk of over-procurement?

14. Do you believe that the auctions have been sufficiently liquid to date and to ensure strong competition? If not, how could we improve liquidity and competition?

14.1. Liquidity has not been a problem to-date; the decreasing clearing price curve being testament to this. There is a significant volume of existing plant bidding into the auctions as well as a substantial and technologically diverse pipeline of plant trying to secure new-build contracts.

14.2. Considering this liquidity, the length of the auction could be reduced though the initial bidding period should be quite lengthy. The current length of 90 minutes is perhaps just slightly tight, but acceptable.

15. What further changes are needed to better facilitate the participation of new, innovative or smart technologies, including from DSR, in the Capacity Market?

15.1. We do not believe that there should not be any changes to the CM to encourage any specific type of technology. The priority should be on achieving a level playing field so that all resources compete on equal terms.

16. How could we go about allowing augmentation of batteries?

16.1. Expanding the capacity at an existing CCGT is a close comparison and was thoroughly investigated when the CM was being established. It should be the same for batteries – i.e. there will be a lag before expanded capacity /energy can be reflected in future CM payments. This lag should be the same for all types of CMU.

16.2. For multi-year contracts, allowing augmentation creates a free option if the additional capacity receives the same capacity payment as the original capacity. One solution would be where the additional capacity bids into a different auction and receives the later auction clearing price until the contract expires on the original capacity. Thought would be needed on how this capacity proves SPDs, how non-delivery penalties would be allocated and delivery duration tested.

17. Please provide any other ideas on how to improve cost effectiveness of the Capacity Market.

18. What are the main distortions in competition that need to be addressed to ensure a level playing field in the CM auctions?

- 18.1. Unless the UK's exit from the European Union results in the UK also leaving the EU ETS, the distortion in competition arising from smaller plant being exempt from the EU ETS is significant and one which is likely to be felt more keenly as both EU ETS price and representation of smaller plant in the UK electricity generation mix are set to increase. The EU ETS allowance price recently reached a 10-year high of €25.58/tCO₂.
- 18.2. There are various ways that this distortion can be addressed outside of the CM, however the overriding solution is for all plant to pay the same price for carbon emissions. One option to achieve this would be to extend the EU ETS to include smaller plant currently not captured by the scheme. Another would be to establish two rates of Carbon Price Support (CPS) whereby those in the EU ETS pay the Carbon Floor Price (CPF) made up of the EU ETS price plus the current CPS price, and those outside of the EU ETS pay a higher rate of CPS bringing them up to the equivalent level of the CPF.
- 18.3. Energy UK would oppose this distortion being addressed by the CM mechanism or Rules. We consider distortions such as this to generally be a part of other markets (i.e. wholesale market) and believe that the CM itself should promote a level playing field.
- 18.4. Where there is competitive procurement of balancing services, we have seen distortions manifest within these markets. In recent Firm Frequency Response (FFR) tenders we have seen a DNO owned and operated asset (Electricity North West) participate, and be successful, in commercially procured tenders.
- 18.5. CM participants need a good view of the network charges that they will face, to determine how much CM revenue is needed to ensure that projects are viable. At present, there is a great deal of network charging reform (both residual and forward-looking charges), which is causing uncertainty for participants. Therefore, Ofgem should commit to providing an appropriate transition period if significant network charging reform is implemented.
- 18.6. There are established distortions on the participation of interconnectors in the broader GB energy market as they do not pay key taxes and charges including the carbon price floor, TNUoS and BSUoS despite the CM seeing them as "generating capacity". However, whilst the CM is the only route for industry to rectify them, distortions such as these should not be dealt with through the CM which instead should focus solely on the capacity which a plant can provide.

19. Are there distortions in the interaction of the various markets (wholesale, ancillary, CM) or their charging arrangements which impact the effectiveness of the CM?

- 19.1. The effectiveness of the CM has been hampered by distortions in the interaction of the various markets and the charging arrangements.
- 19.2. There are still potential distortions from charging arrangements for final consumptions levies affecting the CM auction. While BEIS has addressed distortions created by the CM supplier levy for embedded generation this needs to be extended to address installations behind the meter.
- 19.3. In addition, the majority of our members believe that recovery of other final consumption levies including the Renewables Obligation, Feed-in Tariff and Contracts for Difference in general rely on 'net' demand rather than final end demand as the basis for the supplier charge. This creates further potential distortions that should be addressed.
- 19.4. Additionally, some members believe that the CM has been hampered by distortions which affect competitiveness in the wholesale and ancillary services markets:

- Spill payments for non BM STOR although implementation of BSC modification P354 will address this when it goes live in April 2020.
- The current BSUoS embedded benefit is being investigated as part of the ongoing Ofgem TCR (as confirmed by Ofgem at the 28th September CUSC panel) and National Grid will be hosting a workshop on this issue. We hope to see a detailed discussion of the rationale for current BSUoS charging as well as for any potential changes to these arrangements.

19.5. Whilst changes to address these issues are being progressed, albeit at different stages, there has not been sufficient urgency to address these anomalies.

20. How could the Capacity Market better complement the decarbonisation agenda, whilst still ensuring technology neutrality?

20.1. Energy UK maintains that the fundamental design of the CM mechanism itself should not be tampered with and the introduction of a carbon emissions intensity limit within the CM would do this. The same outcome could be better achieved through robust and fair carbon pricing.

20.2. The participation of unsubsidised renewables in the CM would reduce the carbon footprint of the regime. Critical in their participation is a robust secondary trading regime; the secondary trading market has not as yet been used to its full potential, but with intermittent renewables coming in it may have the opportunity to.

21. Should wind and solar be allowed to participate in the Capacity Market? Why?

21.1. Energy UK and our members believe that the CM should be entirely technology neutral, allowing for innovation and facilitating decarbonisation. It would also comply with the stipulated technology neutrality of the CM as set out in the State Aid decision. We believe that open and transparent frameworks allow technologies to compete on a level playing field.

21.2. In the short term, enabling renewables not in receipt of low carbon support, either those that have never received support or those that have reached the end of their support period, to access the CM could enable renewable technologies to access new revenue streams. However, this does not imply that access to the CM is an alternative to the CfD framework which will continue to be the main driver for new build low carbon generation.

21.3. It is critical that non-dispatchable renewable generation is appropriately de-rated to reflect its contribution to security of supply in a system stress event. An EFC takes account of likely contribution in a system stress event which may well be a day of high pressure and no wind should be developed. Secondary trading may provide a route to enable non-dispatchable plant owners to cover their position; however there are some limitations: wind generators cannot partake in short-term trading, and testing obligations are not transferred during the Delivery Year.

21.4. As the Delivery Body, National Grid should aim to consult with industry as soon as is practicable to ensure that renewable plant is de-rated appropriately and can participate in CM auctions as soon as possible. A number of our members have already voiced support for an Equivalent Firm Capacity calculation methodology to be used for the de-rating, at least in the interim – in the long term National Grid should develop and consult on a new methodology specifically for the CM. Others would prefer to see National Grid develop and consult on a new methodology specifically for the CM and allow access to unsubsidised renewables once this has been done.

21.5. National Grid already models the capacity provided by renewables through the forecast they undertake ahead of issuing their recommended CM procurement volume. One option for de-rating renewables would be the adaptation of this model. In any case, the same derating should be used for the amount to procure and for CM applicants to avoid unnecessary distortions.

21.6. This could be delivered expanding Schedule 3 of the Rules to include technology classes which are not currently in receipt of a Low Carbon Exclusion as defined under Regulation 16. The omission could be resolved if a Wind Generation Class and a Solar Generator Class were added to the Schedule 3 list of Technology Classes section of the CM Rules. Other renewables such as biomass and hydro are already listed.

22. What factors need to be considered to enable renewables to participate in the Capacity Market whilst ensuring security of supply?

22.1. BEIS should consider the eligibility requirements of renewables' participation, namely Schedule 3.

22.2. The de-rating of renewables needs to be considered thoroughly as outlined above. We would like to see wind de-rating reflecting the geographical spread of wind resource (i.e. a wind farm whose output is less correlated with the rest of GB should have this reflected in its de-rating).

22.3. It is critical that the penalty and testing regimes work on a fair basis and do not adversely hinder the participation of specific technologies, it is also worth BEIS considering how this will work with trading and the need to grandfather current agreements. This not only applies to multi-year contracts but existing contracts – if the Rules change in 2019 without grandfathering then agreements for 2019/20, 2020/21, 2021/22 and 2022/23 will be affected

22.4. Increasing liquidity of a secondary trading market should be considered, this would allow generators to re-allocate contracts if they feel that they cannot deliver the required volume nearer the delivery window. Currently the rules for obligation trading pre-event are too restrictive and therefore it is unlikely that obligation trades will occur over a short timeframe. This needs to be rectified to ensure that renewables are encouraged to participate and trade out the obligation if forecasts suggest that the capacity will not be available. The requirement for a trade to be initiated five days in advance restricts the liquidity; this needs to be reduced. We believe the reason that the five days' notice is in place is because the secondary trading process is manual. There is no reason why a secondary trade between pre-qualified secondary trading applicants cannot be automatically be confirmed, provided the secondary trading recipient does not already have an obligation. Therefore, we believe that the issue is a Delivery Body systems issues which should be automated to allow closer to real-time secondary trading. The underlying principle behind secondary trading is that a CM provider be able to replace the capacity – whether within their own portfolio, with the same or a different technology (as long as the derated capacity remains unchanged) or with another participant.

23. What factors need to be considered to enable the participation of hybrid projects in the Capacity Market?

23.1. The advent of lower cost electricity storage and the continued growth in flexible plant means that these types of sites are now coming forward and policy change is required to facilitate them. We understand that including hybrid sites is likely to require a more complex solution than that which would allow established renewable technologies to participate in the CM. Accordingly, whilst we believe that National Grid should be consulting on the de-rating factors for hybrid sites, members accept that this is likely to be on a longer timescale (due to the complexities and need to mitigate gaming within the CM) than established technologies and should form part of the Five Year Review.

23.2. There needs to be due consideration around technology requirements and de-rating methodologies for both hybrid and aggregated sites that is reviewed in the context of penalties and testing. This should consider whether developers should be able self-de-rate and whether it correct that the Rules specify technology types (in terms of hybrid or aggregated pairings) or does this hinder innovation? The location of hybrid sites will also need to be considered to avoid the situation where part of the hybrid sits behind a constraint.

24. What factors need to be considered when developing the de-rating methodology for wind and solar? What approach could be taken to de-rating hybrid CMUs?

- 24.1. We and our members encourage BEIS and National Grid to consider the contributions made from both a portfolio perspective and from individual sites. Also, efforts should be made to determine whether onshore and offshore wind contribute differently to security of supply and the geographical spread of wind resource.
- 24.2. The impact of weather patterns across GB and the geographic dispersal of wind and solar plants should factor in BEIS's decision as to whether a spatial approach should be taken to the de-rating.
- 24.3. With a robust and fair penalty regime in place, one solution would be to enable renewable generators to self-de-rate during prequalification however in the interests of ensuring that there is a level playing-field this should apply to all technologies.
- 24.4. With regards to the de-rating of hybrid sites, the merits of aggregation of sites should be consulted upon. This would, however, create questions around whether the Delivery Body should define the de-rating of these sites and how developers would account for the mix of technologies on a hybrid or aggregated site. As mentioned in our answer to Q23 efforts should be made to ensure that this does not enable gaming within the CM. We are conscious that these are technical questions and would welcome the opportunity to discuss solutions to them in greater depth with BEIS and Delivery Partners.

25. For co-located projects, do you think that all components of the site (both the CM eligible and the non-CM) will be able provide their full capacity during the system stress event due to local distribution or transmission network constraints?

- 25.1. Provision of full capacity during system stress events will be subject to local and regional considerations including the level of Transmission Entry Capacity (TEC) on the site. If sufficient testing and penalties are in place following the Five Year Review, then the risks of non-delivery fall on the generator.
- 25.2. Some of our members believe that Ofgem should not restrict access to the CM for capacity connected to the electricity system with non-firm agreements, and we believe that it would be inconsistent and wrong to unilaterally reduce the de-rating factors of these assets. Others believe that there should be a requirement for a firm connection for distributed assets as otherwise the capacity that has been bought is potentially useless in a system stress event. Both of these proposals would require careful consideration and sufficient incentives from the penalty regime.

26. What lessons can be learnt from the participation of renewables in other overseas capacity markets?

- 26.1. There are a few very small wind sites in Ireland which do not interact with low-carbon schemes. It would be worth reviewing the Irish penalty and testing regimes to see if any lessons can be learnt. However, BEIS should be aware that the participation of renewables in the Irish CRM differs to the GB CM as participation is based on a financial option or CfD around the energy price and is not linked to actual physical delivery in the same way.
- 26.2. In addition, renewables have been participating in the Reserve Capacity Mechanism in Western Australia for some time, on a de-rated basis. They have a detailed methodology for calculating site-specific de-rating factors – both for existing sites and proposed new-build.

27. Is the current de-rating factor methodology for interconnectors appropriate for assessing their contribution to security of supply? Are there any particular challenges or risks you wish to highlight?

27.1. Overall, Energy UK supports the Panel of Technical Experts' role in advising on de-rating values and continuing to ensure that all new analysis is considered when setting future de-rating values.

27.2. Energy UK members believe a full review of de-ratings is required to ensure that the methodology is robust. This should draw on all new evidence produced in addition to the analysis undertaken by the EMR Delivery Body.

27.3. It is recommended that Government works with Energy UK and wider industry to develop an enduring model for cross border participation. This should draw on work being done by Eurelectric and in other Member States.

27.4. We consider that the CM is the correct tool to ensure security of supply in GB. The Five Year Review of EMR must consider improvements to the existing regime that acknowledge the individual roles of interconnection and domestic power generation/DSR/storage in securing energy supplies. An evidence-led approach with appropriate industry consultation will establish a reliable enduring regime.

27.5. There have been two Ofgem cap and floor rounds to-date and we believe that, the Government should undertake a holistic review of the growth in interconnection and its implications, taking account of: security of supply; system operation; the differing impacts of connections with different markets; ensuring a level playing field; decarbonisation objectives; consumer benefits and risks; Brexit uncertainty; and the Industrial Strategy. Any future cap and floor round(s) should reflect the outcome of this review

27.6. More generally, Government should conduct analyses across the full range of impacts to obtain a holistic understanding of the costs to customers i.e. consider the market and technical impacts new interconnectors are likely to have on broader energy policies including the CM and the low carbon support payments made by customers. Government should also consider whether the costs and benefits of interconnection are likely to be affected by the status of the UK's future access to the EU Internal Energy Market following Brexit.

27.7. We are aware that the Panel of Technical Experts is reviewing all evidence related to interconnectors' contribution to security of supply. We welcome transparency regarding which evidence is being assessed and would be keen to know when BEIS plan on publishing the outcome of their deliberations.

28. What other factors need to be considered to ensure that interconnectors and domestic capacity providers compete on a level playing field? Please provide ideas on how any issues you have identified can be addressed.

29. How could we facilitate direct participation of overseas capacity in the future?

29.1. Following discussion with our members, we have identified two potential models which could resolve the long-term issues surrounding direct participation of overseas plant in the CM. We would like to engage further with BEIS on these options.

29.2. One option would be for a UK registered company to procure the capacity elsewhere, demonstrating a direct relationship with that capacity – working in a similar way to DSR aggregators which prove their relationship and capacity. There would then need to be guarantees of interconnector capacity. This would be straight-forward to incorporate into the existing Rules and Regulations.

29.3. The second model would be direct participation, putting the same obligations which apply to the Capacity Market onto international capacity. There would be a system stress

event and then those parties would have an obligation to deliver upon the capacity which they have promised. However, this makes the physical delivery of electricity the obligation, meaning that the party responsible for the capacity would be liable for any penalties.

29.4. Measures would need to be put in place to mitigate participation in multiple CMs due to the associated risk to security of supply that doing so could pose. .

30. To what extent do the current institutional arrangements support an effective change process? Please provide suggestions on how issues can be addressed.

30.1. The existing governance arrangements have caused some confusion for industry with an associated cost impact. There have been a number of eventualities where the delineation of responsibility between Ofgem, BEIS and the Delivery Partners has been unclear for CM participants. Moreover, industry considers that too much of the CM framework is contained within legislation, which requires Parliamentary time in order to implement any changes. To resolve this issue, Energy UK members believe that a lot of the existing Regulations could sit within the CM Rules. Such a change would have the added benefit of facilitating quicker interpretation, as a lot of the effort of having to go between the CM Rules and Regulations (and checking all the amendments to the Regulations) would be removed. We think it makes sense for both BEIS and Ofgem to continue to have the powers to change the CM Rules.

30.2. At present, the Rule change process that Ofgem runs regularly encounters issues with Rule changes not able to be progressed due to need for regulation changes, or because they are judged to relate to policy intent. This is inefficient. BEIS and Ofgem should – on an annual basis – ensure that Rules and Regulations can be amended and BEIS has the resource available to advise on policy intent. If BEIS is required to consult on policy intent on the CM, this should be done at the same time as the Ofgem rules change process.

30.3. In order to act more cohesively, Energy UK members believe that there could also be an expert panel or working group with self-governance and Ofgem acting as an *ex officio* Chair. The Delivery Body could provide the secretariat function and the panel would need to be representative of industry. Such a panel or working group would be able to efficiently and effectively collate views and to prioritise issues as and when they arise.

30.4. In recent years the closing of the CM Rule change window has overlapped with prequalification when participants are focussed on the latter. By holding an additional CM Rule change consultation period later in the year or by extending the window it would enable developers to more comprehensively and constructively feed into the process. It would also alleviate the burden on the regulator who would no longer have to face a single annual deluge of proposals. This would also allow for more time in the development of CM Rule Changes, enabling more robust proposals to be put forward.

30.5. That said, we welcome the 'exceptional circumstances' approach that allows consideration of Rule changes outside of the Regulator's annual review. This should certainly be retained.

31. To what extent do the defined and allocated roles and responsibilities support effective administration and delivery of the annual processes related to prequalification, delivery and payments? Please provide suggestions on how issues can be addressed.

31.1. The Delivery Body must ensure that it is appropriately resourced and the team is trained to the required level. This year has seen an improvement with the guidance documents being more useful, but the slow response to bespoke queries remains disappointing and poses a genuine business risk to a number of our members. Furthermore, the existing governance arrangements prevent market participant from questioning the Delivery Body's interpretation of the Rules.

- 31.2. We believe that National Grid should be empowered to ensure that as many units are prequalified as possible, rather than being forced to reject prequalification applications on the basis of small errors. National Grid should 'sense-check' applications and informally feedback where there are clear errors; National Grid implemented such an approach mid-way through this year's pre-qualification process and we believe that this should be formalised. Furthermore, we would like to see an end to the current 'right first time' approach in which there is no way to rectify minor errors as this acts as a barrier to entry even for established market participant. Additionally, we believe the prequalification portal should have clear checkpoints embedded within the application process which reduces the likelihood of administrative errors occurring.
- 31.3. The prequalification window needs to be moved earlier than the summer holidays and would enable a November or December auction. However this would have an associated impact on the testing window for DSR providers.
- 31.4. Declaration signatures can only be obtained once the exhibit templates have been published. These exhibits are therefore not available for signatures until the rules are confirmed and published, which in 2018 was four days prior to the prequalification window opening.
- 31.5. It should not be necessary to get signatures from Legal Owners where the applicant is different and acting as the 'dispatch controller'. This provides no additional assurance beyond the applicant signing declarations to National Grid that this capacity will deliver, as the applicant is liable to penalties and termination fees. We propose that the applicant signs a declaration stating that they have the required contractual arrangement with the Legal Owner to participate with the asset. We believe that this is sufficient because if an asset were bid in to the CM where these contractual arrangements had not been made, it would fall foul of both provisions in the CM (e.g. Rule 4.4.3A. and 5.13.1.) and also contract law.
- 31.6. Additionally, we believe that the requirement for directors to be listed on Companies House introduces unnecessary burden for both the applicant and Delivery Body at pre-qualification and we believe it is unnecessary. We can think of no other situation where it is checked via Companies House that the director of the company has been the signatory.

32. Please provide any suggestions you have for improving the management of fraud and error risk.

- 32.1. The prequalification application process carries a risk; the submission of a prequalification application can be subject to a Delivery Body rejection. Engagement with the Delivery Body is useful but has been limited by resource constraints with the Delivery Body. Significant improvements to the CM Portal would be useful. In particular, the ability to load data via file uploads could improve matters as this would reduce the likelihood of keyboard input errors.
- 32.2. Also, during the Delivery Year it is clear that issues remain with meter data flows and handling of associated information such as CMU aggregation rules. EMRS, the Settlement Body's agent should provide regular and frequent feedback to Capacity Providers on data flows e.g. either:
- A weekly report to each Capacity Provider that would confirm whether or not EMRS had received metering data for each CMU belonging to the Capacity Provider, and highlight any data flagged as missing or substituted. The report could also provide spot values for each CMU to allow the Capacity Providers to check the accuracy of the data and calculations for each CMU.
 - An Application Programme Interface allowing Capacity Providers to check for themselves the data held by EMRS for each of their CMUs.

33. Are there any lessons from overseas capacity mechanisms that could be useful in improving the GB Capacity Market?

33.1. Whilst markets differ and learning could be gained, we would note that as many European CMs are less mature than the GB market there may not be as many learnings to be gained from them.

33.2. However, as per our response to Q8, markets with a greater volume of certain technology types may provide opportunities to learn how to effectively and fairly integrate them into the GB CM.

34. To what extent has the EPS been achieving its objective? Please provide evidence to support your views.

34.1. Energy UK considers the EPS to have achieved its objective in so much as no new coal plant has been built since its establishment. It is, however, difficult to determine the impact of this measure when there has been no means of monitoring or testing plant to ensure compliance or correct implementation. We would strongly support maintaining the current EPS limit at the level it is currently set; neither increasing nor decreasing it.

35. Is this current objective of the EPS still appropriate? Could it be achieved in a way that imposes less regulation?

35.1. Please see our answer to Q34.

36. Have any issues arisen in the operation of the EPS which should be considered?

36.1. Energy UK is unaware of any operational issues with the EPS.