Department for
Business, Energy
& Industrial Strategy

Capacity Market: 2021 consultation on improvements

Closing date: 16 April 2021

March 2021

Any enquiries regarding this publication should be sent to us at:
enquiries@beis.gov.uk

Executive summary

Since its introduction in 2014, the Capacity Market (CM) has ensured that we maintain and bring forward sufficient capacity to ensure secure supplies of electricity.

This consultation seeks views on ten proposals related to incremental and technical improvements to the CM. These proposals have arisen over the last year through discussions with stakeholders and dealing with live issues. On 14 December 2020, the Department published the Energy White Paper[1], which sets out how the UK will clean up its energy system and reach net zero emissions by 2050. Considering this, we intend to run a call for evidence later in the year to start gathering stakeholder views on the longer-term future of the CM in the context of net-zero.

The proposals are as follows:

- **Require all Capacity Market Units (CMUs) to be registered as Balancing Mechanism Units.** This will improve National Grid Electricity System Operator's visibility of assets on the system and therefore their ability to manage security of supply, and also allow it to greater utilise and value the flexibility of CMUs.
- **Make changes to certain formulae and clarifications to the legislation relating to Emissions Limits in the CM.** This will ensure that the formulae allow for a better reflection of certain technologies' actual carbon emissions. It will also ensure that the legislation gives full effect to our policy intent and is as easy to understand as possible. We will introduce robust reporting and verification requirements that minimise the regulatory burden on businesses.
- **Give the CM Delivery Body greater flexibility to consider information which corrects administrative or clerical errors in prequalification applications.** This will reduce the risk of prequalification applications being rejected due to minor, administrative errors.
- **Prevent certain secondary trades from being rendered ineffective when the transferor's Capacity Agreement is terminated.** This will make it easier to replace capacity which closes prematurely and at short notice, after a T-1 auction.
- **Review the existing coronavirus easements.** These situation specific modifications were implemented in July 2020 to allow management of any delays to operator's fulfilment of CM milestones, caused by the pandemic and government's measures related to the pandemic. Views are sought on whether additional easements are necessary, given the national lockdown which was implemented on 4 January 2021.
- **Extend the deadline for meeting the Extended Years Criteria so that it aligns with the requirement to provide Evidence of Total Project Spend, and make the sanction for breaching both (a reduction in agreement length) subject to the Secretary of State's discretion.** This will give Capacity Providers more flexibility and allow them recourse to appeal if they believe they have sufficient grounds.

[1] https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future

- **Allow refurbishing plant to have the same Long-Stop Date[2] as new build plant.** This will provide refurbishing plant that secure agreements in a T-4 auction with the option of an additional 12 months to deliver their capacity if it suffers delays to works.
- **Disable the net welfare algorithm for T-1 auctions that are held only to meet the 50% set-aside commitment.** Under the Electricity Capacity Regulations 2014 ("the Regulations") we are committed to auctioning at least 50% of the capacity that was set aside for the T-1 auction. This proposal will ensure that when an auction is held to meet this commitment, the costs to the consumer of the auction are minimised.
- **Maintain the minimum capacity threshold at 1MW.** This will ensure that the CM continues to be aligned with other markets and that the costs of administration are balanced with broad market access.
- **Other minor corrections to the legislation.** These involve minor corrections to the Capacity Market Rules[3] (the Rules).

This consultation will run for **six weeks**, to ensure we have time to make the necessary amendments to the Electricity Capacity Regulations and the Capacity Market Rules before the Prequalification Window for the next auction round (T-4 and T-1) opens in Summer 2021.

[2] As defined in Rule 1.12.1
[3] https://www.gov.uk/government/publications/capacity-market-rules

Contents

1. Introduction

1.1. Background

The Capacity Market (CM) is at the heart of the government's plans for a secure and reliable electricity system. The CM provides all forms of capacity capable of contributing to security of supply with the right incentives to be on the system and to deliver during periods of electricity system stress, for example during cold, still periods where demand is high and wind generation is low.

The CM works by allowing eligible Capacity Providers to bid into competitive, annual auctions – either four years (T-4) or one year (T-1) ahead of delivery. Capacity Providers who are awarded an agreement in an auction receive a steady payment intended to ensure sufficient reliable capacity is in place to meet demand at times of system stress. Revenue from Capacity Payments incentivises the necessary investment to maintain and refurbish existing capacity, and to finance new capacity. Capacity Providers face penalties if they fail to deliver when needed.

The CM is technology neutral, meaning it does not seek to procure specific volumes of capacity from particular types of technology. All types of capacity are able to participate – except for Capacity Providers in receipt of other specific categories of government support – but they must demonstrate sufficient technical performance to contribute to security of supply. The CM operates alongside the Great Britain (GB) wholesale electricity market and the services National Grid Electricity System Operator (NGESO) contracts to provide ancillary services to ensure second-by-second balancing of the electricity system.

1.2. Summary of proposals

In summary, the government proposes the below. The impacts of these proposals are considered in section 2.11 and respondents are asked to provide feedback and/or supporting evidence on impacts in this section.

- **Require all Capacity Market Units (CMUs) to be registered as Balancing Mechanism Units (BMUs).** This will improve NGESO's visibility of assets on the system and therefore their ability to manage security of supply, and also allow it to greater utilise and value the flexibility of CMUs.
- **Make changes to certain formulae and clarifications to the legislation relating to Emissions Limits in the CM.** This will ensure that the formulae allow for a better reflection of certain technologies' actual carbon emissions. It will also ensure that the legislation gives full effect to our policy intent and is as easy to understand as possible. We will introduce robust reporting and verification requirements that minimise the regulatory burden on businesses.
- **Give the CM Delivery Body (DB) greater flexibility to consider information which corrects administrative or clerical errors in prequalification applications.** This will

reduce the risk of prequalification applications being rejected due to minor, administrative errors.

- **Prevent certain secondary trades from being rendered ineffective when the transferor's Capacity Agreement is terminated.** This will make it easier to replace capacity which closes prematurely and at short notice, after a T-1 auction.
- **Review the existing coronavirus easements.** These situation specific modifications were implemented in July 2020 to allow management of any delays to operator's fulfilment of CM milestones, caused by the pandemic and government's measures related to the pandemic. Views are sought on whether additional easements are necessary, given the national lockdown which was implemented on 4 January 2021.
- **Extend the deadline for meeting the Extended Years Criteria so that it aligns with the requirement to provide Evidence of Total Project Spend, and make the sanction for breaching both (a reduction in agreement length) subject to the Secretary of State's discretion.** This will give Capacity Providers more flexibility and allow them recourse to appeal if they believe they have sufficient grounds.
- **Allow refurbishing plant to have the same Long-Stop Date[4] as new build plant.** This will provide refurbishing plant that secure agreements in a T-4 auction with the option of an additional 12 months to deliver their capacity if it suffers delays to works.
- **Disable the net welfare algorithm for T-1 auctions that are held only to meet the 50% set-aside commitment.** Under the Electricity Capacity Regulations 2014 ("the Regulations") we are committed to auctioning at least 50% of the capacity that was set aside for the T-1 auction. This proposal will ensure that when an auction is held to meet this commitment, the costs to the consumer of the auction are minimised.
- **Maintain the minimum capacity threshold at 1MW.** This will ensure that the CM continues to be aligned with other markets and that the costs of administration are balanced with broad market access.
- **Other minor corrections to the legislation.** These involve minor corrections to the Capacity Market Rules[5] (the Rules).

1.3. How to respond

This consultation will run for **six weeks**, to ensure we have time to make the necessary amendments to the Regulations and the Rules before the Prequalification Window for the next auction round opens in Summer 2021.

Email to: energy.security@beis.gov.uk

When responding, please state whether you are responding as an individual or representing the views of an organisation. Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

[4] As defined in Rule 1.12.1
[5] https://www.gov.uk/government/publications/capacity-market-rules

1.4. Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential please tell us in your response, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our privacy policy.

We will summarise all responses and publish this summary on GOV.UK. The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

1.5. Quality assurance

This consultation has been carried out in accordance with the government's consultation principles.

If you have any complaints about the way this consultation has been conducted, please email: beis.bru@beis.gov.uk.

2. Consultation

2.1 CMU interactions with the Balancing and Settlement Code

2.1.1 The Balancing and Settlement Code

Currently, all generators require a generation licence, unless licence exempt[6]. The Standard Licence Conditions obligate applicable units to be parties to the Industry Codes, including complying with the Balancing and Settlement Code (BSC).

Being a BSC party requires the Lead Party[7] to register its applicable units as a relevant BMU. The Balancing Mechanism (BM) is one of the tools that NGESO uses to balance supply and demand and manage the electricity system close to real time. To participate in the BM, BMUs are required to submit a Physical Notification (PN)[8] to NGESO by gate closure[9], as well as its Dynamic Parameters[10]. NGESO regards the BM as GB's core flexibility market.

A PN and Dynamic Parameters provide NGESO with a BMU's notified position in the market as well as its capabilities to deviate from that position. This data is submitted in conjunction with a BMU's Bid Offer Acceptance (BOA) - the availability of a BMU to either increase or decrease demand or consumption, and the cost to do so. These BOAs can then be accepted by NGESO to balance electricity supply and demand and manage the system (known as "flagged actions"). If a unit is not registered in the BM, then it has no recognised method to provide this visibility to NGESO ahead of time.

Currently, a significant portion of distribution connected capacity meets one of the exemption criteria and therefore do not need to be a BSC party or a BMU. These exempted units are not subject to a requirement to submit notifications to NGESO advising of market position. By not participating in the BM and not becoming BMUs we may not be fully realising their offering to the system, particularly the flexibility they afford, and we are not providing suitable visibility to NGESO ahead of time.

2.1.2 Considerations for the Capacity Market

Large, transmission connected generators are typically already registered as BMUs (which typically made up a significant proportion of the GB electricity system). An increasing proportion of CMUs, however, are connected at distribution level and meet one of the exemption criteria and therefore do not need to be a BSC party or a BMU. These exempted units do not provide the same level of visibility to NGESO, and so cannot be fully valued for their real-time offering (such as flexibility). This can create serious issues for NGESO in understanding the true amount of capacity available to it to manage the electricity system. This also potentially results in inefficient scheduling and dispatch of units. Inefficiency ultimately

[6] Whether by falling under one of the classes in the Electricity (Class Exemptions from the Requirement for a Licence) Order 2001 or an individual exemption order granted by the Secretary of State.
[7] https://www.elexon.co.uk/glossary/lead-party/
[8] A Physical Notification (PN) becomes a Final Physical Notification (FPN) at Gate Closure.
[9] https://www.elexon.co.uk/glossary/gate-closure/
[10] Also known as a 'dynamic data set'. As defined and outlined in Balancing Code No. 1 (BC1.A.1.5) found within the Grid Code (available here)

impacts on end consumer energy bills. Both outcomes are contrary to the CM's primary objective; ensuring security of supply at least cost to the consumer.

Many Distributed Energy Resources (DER) (energy units that are connected to a distribution network as opposed to the transmission network, also known as "embedded capacity") have historically chosen not to accede to the BSC and not participate in the BM largely due to practical and commercial considerations. We understand that the major drivers in not registering a unit as a BMU are based on the costs associated with the provision of data exchange with NGESO, and an unattractive route to market if the only feasible route to access the BM is via a supplier portfolio.

As the GB electricity system continues to decentralise, an increasing proportion of capacity on the system may not provide the same visibility as is required of BMUs. It is important that NGESO maintains sufficient visibility over the position of all capacity in the market and can utilise all units available to it appropriately. It needs this visibility to inform: its forecasting of operational margin; the accurate calculation of market signals (such as De-Rated Margin/Loss of Load Probability); its issuing of market notices (such as Capacity Market Notices and Electricity Margin Notices); and to ensure that any scheduling and dispatch is optimal. The absence of this visibility may lead to the inefficient use of market signals and notices, as well as constraining NGESO from utilising and properly valuing units that are available to it. We must ensure that CMUs continue to contribute to a cost effective, secure electricity system.

2.1.3 Proposals

We propose bringing forward changes to the CM that would require all CMUs to be registered as BMUs in order to prequalify for capacity auctions. Specifically, we propose:

- Existing Generating CMUs, Interconnector CMUs and Proven DSR CMUs[11] to submit their BMU IDs as part of the prequalification application;

- New Build Generating CMUs and Interconnector CMUs to submit a declaration at prequalification acknowledging the requirement to provide a BMU ID prior to receiving capacity payments, and to submit a BMU ID as part of its Substantial Completion Milestone (SCM) or its Minimum Completion Requirement (MCR); and

- Unproven DSR CMUs to submit a declaration at prequalification acknowledging the requirement to provide a BMU ID prior to receiving capacity payments, and to submit a BMU ID as part of its DSR Test.

As part of these proposals for CMUs to be registered BMUs, we are also considering requiring CMUs to set their Final Physical Notice Flag (FPN) to 'True' (T), to ensure that the right information (and therefore visibility) is provided to NGESO and that CMUs are participating in the BM. An FPN provides NGESO with the expected generation or demand for a settlement period for a BMU, enabling the consideration of a units BOA within the BM – by setting the FPN Flag to 'True' (T) we would be mandating that data submission. The Grid Code sets out which BM Units must submit FPNs to the NGESO – we propose to require all CMUs to submit this information.

These proposals would provide NGESO with suitable monitoring and visibility for all units that can provide capacity. The proposed requirement to be registered as a BMU should also have the benefit of providing an opportunity for us to pursue the simplification of a range of

[11] i.e. DSR CMUs which have demonstrated their capacity through a DSR Test.

regulatory compliance processes in the CM, particularly relating to prequalification. Simplification was a key ambition identified in our Five-Year Review of the CM (2014 to 2019)[12].

We are mindful of the historic barriers to DER participating in the BM. However, action has been taken to address many of these barriers and so it is now appropriate to consider requiring CMUs to be registered as BMUs. We have monitored the work being progressed by NGESO and Elexon to enable greater participation in the BM (the "Wider Access to the BM" project, which arose from the UK's requirement to implement Operation Trans-European Replacement Reserve Exchange (Project TERRE)) by providing a new route to market and enabling a more cost-effective data exchange infrastructure. We recognise that the Wider Access to the BM initiative seeks to further promote the efficient running of the electricity system by unlocking flexibility and affording NGESO a clearer view of the state of the electricity system.

We acknowledge that data exchange with NGESO has historically been deemed an issue for some units in participating in the BM. Until recently, the only solution available to data exchange was to install Electronic Data Transfer (EDT) and Electronic Dispatch and Logging (EDL) connections using NGESO's telecommunications network (using traditional, fixed lines). This route is burdensome, and costly for units and may not make commercial sense for smaller units. Through the Wider Access to the BM programme of works, NGESO has enabled dynamic data exchange which can be facilitated through a web Wider Access Application Programming Interface (WA API). This eliminates the need for the fixed EDT/EDL connections using NGESO's telecommunications network and the barrier to market entry for the BM.

The Wider Access to the BM project has also created a new BSC lead party – a Virtual Lead Party (VLP). This allows customers and independent aggregators to access the BM, thus allowing non-traditional units to access the BM through this streamlined approach either directly or by engaging with an independent aggregator. This route to market removes previous burdens and barriers to market entry for DER by creating secondary BMUs to make up the portfolio of a VLP, without needing to come to commercial arrangements with a supplier. The only other options being to accede to the BSC through a Bilateral Embedded Generation Agreement (BEGA) or a Bilateral Embedded Licence Exemptible Large Power Station Agreement (BELLA).

Considering the recent efforts to remove barriers to participation in the BM, and the pressing need to improve the visibility of capacity by NGESO, we are currently evaluating whether these proposals can be implemented in time for the opening of the Prequalification Window in 2022. However, we recognise that they represent a significant change for some CMUs. We welcome views on whether the implementation timeframe is suitable or whether transitional arrangements would be required for certain types of CMUs.

Question 1

Do you agree with our proposal to require CMUs to register as BMUs? Do we need to require all CMUs to set their Final Physical Notification Flag to "True" (T)?

Question 2

[12] Capacity Market: 5-year Review (2014 to 2019) - available here

In your view, are there any types of CMU that should be exempt from these proposals and/or are there any aspects of these proposals that would be unsuitable for certain types of CMU? Please provide supporting evidence.

Question 3

In your view, does our suggested implementation in time for the opening of the Prequalification Window in 2022 afford sufficient time for participants to meet the obligation to be registered as a BMU?

Question 4

In your view, what further CM obligations could be simplified or otherwise modified if the proposal for CMUs to register as BMUs is implemented?

Question 5

Are there any alternative approaches that could provide the same visibility ahead of time of a CMU's market position, in place of being a BMU?

2.2 Emissions Limits

2.2.1 Overview

The government introduced carbon Emissions Limits to the CM in a phased process beginning in July 2019 when requirements were introduced in respect of all new capacity (i.e. generating units that started commercial production on or after 4 July 2019) participating in the early 2020 auctions in respect of the T-1 Delivery Year commencing on 1 October 2020 and the T-4 Delivery Year commencing on 1 October 2023.

Following the Consultation on Capacity Market Emissions Limits[13], the Consultation on Future Improvements, Emissions Limits and Coronavirus Easements (the "future improvements consultation") and the publication of the response to those consultations (the "Government Response"),[14] the government subsequently expanded the requirements in June 2020 to require compliance with the Emissions Limits by all existing capacity (i.e. that started commercial production before 4 July 2019) in respect of the Delivery Year commencing on 1 October 2024 and all subsequent Delivery Years. The government also refined the Rules as they apply to new capacity participating in the early 2021 auctions in respect of the T-1 Delivery Year commencing on 1 October 2021 and all subsequent T-1 and T-4 Delivery Years and introduced formulae for determining carbon emissions as part of a carbon emissions reporting and verification mechanism. In September 2020, the government published guidance

[13] Proposals for Capacity Market Emissions Limits (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/829746/proposals-capacity-market-emissions-limits-consultation.pdf) ran from 22nd July to 13th September 2019.
[14] The Government Response to Consultations on Future Improvements, Emissions Limits, and Coronavirus Easements (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/886147/Future_improvements__emission_limits_and_coronavirus_easements_-_government_response_to_consultations.pdf) was published on 1 May 2020.

to CM participants concerning the reporting and verification mechanism for carbon emissions (the "Emissions Guidance").[15]

New capacity awarded Capacity Agreements in the early 2020 auctions will need to continue to have regard to the Rules that applied at that time with regards to carbon emissions[16] (Capacity Providers will not be required to provide new or updating Fossil Fuel Emissions Declarations for the duration of their agreements).

We have now reviewed the results of the recently concluded Prequalification process, and reflecting upon early feedback by stakeholders, consider that some amendments are necessary to the Rules in order to further refine the carbon emissions requirements and give full effect to our policy intent. In summary, the government is now consulting on:

- Amendments pertaining to Carbon Capture, Usage and Storage (CCUS) – section 2.2.2
- Amendments pertaining to Combined Heat and Power (CHP) schemes – section 2.2.3
- Amendments pertaining to CMUs burning mixed fuels – section 2.2.4
- Arrangements for CMUs seeking to apply one or more of the CCUS, CHP and/or mixed fuels formulae without 12 months of operational data – section 2.2.5
- Arrangements for CMUs applying more than one of the formulae introduced by the proposed amendments – section 2.2.6
- General consideration of the implications of the new formulae – section 2.2.7
- Extending the transitional phase for independent verification of Fossil Fuel Emissions Declarations – section 2.2.8
- Minor clarifications of other Rules related to Emissions Limits – section 2.2.9

2.2.2 Carbon Capture, Utilisation and Storage (CCUS)

In the Government Response we indicated that there were, at that time, no generating units in which carbon dioxide was captured and transferred. For this reason, the decision was taken not to introduce a dedicated formula to account for carbon dioxide captured when calculating emissions. Instead, the government indicated an intention to monitor the operation of the CM and review the formulae as and when necessary.[17]

The government has since been made aware by a potential CM participant that a CCUS-equipped plant wishes to participate in future CM auctions. We therefore intend to introduce a formula enabling such plant to discount the average percentage of carbon dioxide captured per kWh of electricity each generating unit produces when calculating its emissions. Utilisation of this formula will be optional for CMUs equipped with CCUS technology; these CMUs may

[15] https://www.gov.uk/government/publications/carbon-emissions-limits-in-the-capacity-market
[16] Under the Rules applicable to agreements awarded in early 2020, new build and unproven DSR CMUs awarded agreements for the delivery years commencing 2020 (T-1) and 2023 (T-4) provided the DB with the version of the Fossil Fuel Emissions Declaration applicable at that time confirming compliance with the Fossil Fuel Emissions Limit. The arrangements in the Rules in respect of false or misleading declarations and the termination event under Rule 6.10.1(o) continue to apply in respect of these declarations.
[17] See the Government Response at p.58.

instead opt simply to apply the non-technology-specific formula for calculating Fossil Fuel Emissions as currently set out in Part 1 of Schedule 8 of the Rules.

2.2.2.1 New formula for 'Transferred CO_2 Factor' for use in Fossil Fuel Emissions calculation

To account for CO_2 emissions avoided through CCUS, the government proposes to introduce a 'Transferred CO_2 Factor' (TCF) to the formula for calculating Fossil Fuel Emissions for use by CMUs equipped with CCUS technology. TCF is the percentage of CO_2 captured and transferred out of the total CO_2 generated by the generating unit across a consecutive 12-month period within the 14 months ahead of prequalification or submission of a declaration.[18]

TCF will be calculated using Equation 1:

Equation 1. Formula for calculating 'Transferred CO_2 Factor - TCF'

$$\mathrm{TCF} = \frac{CO2_{transferred}}{CO2_{generated}} = [\%]$$

where:

$CO2_{transferred}$ is the CO_2 captured and transferred by the generating unit over a 12-month period (in kg); and

$CO2_{generated}$ is the CO_2 generated by the generating unit over the same 12-month period (in kg).

CCUS is an emerging technology, and we are aware that best practice in metering captured CO_2 is in the process of being established. In this context, we are proposing not to mandate a specific method of metering captured CO_2, provided the chosen method is accurate to ±2.5%. As set out later in section 2.2.8, where required from the 2022 Prequalification Windows onwards, carbon emissions will be verified by an Independent Emissions Verifier (IEV). We expect that when considering the evidence supporting the value of $CO2_{transferred}$ determined, IEVs will consider the metering methodology applied. The government intends to review these arrangements in due course to determine whether further parameters and standards on the metering of captured CO_2 should be put in place.

We propose that captured CO_2 is included in the calculation of $CO2_{transferred}$ regardless of the end use, provided it is not simply released into the atmosphere after capture. We considered whether a narrower definition of $CO2_{transferred}$ that is limited to CO_2 permanently sequestered underground or in certain chemical compounds was appropriate. However, requiring CMUs to compile and demonstrate the end uses of captured CO_2 for the purposes of the CM would be unduly burdensome. We note that, as power CCUS technology becomes more widely established, changes to these arrangements are likely to be necessary in order to account for evolutions in industry standards and the wider regulatory framework, in the context of Net Zero. The government intends to review this arrangement in due course.

[18] The requirement to carry out calculations using 12 months of operational data is in line with existing requirements pertaining to the Fossil Fuel Yearly Emissions Limit. A 14-month period allows for 12 months of operational data to be gathered plus two months for a Fossil Fuel Emissions Declaration to be checked verified and provided to the CM DB. We believe this arrangement strikes an appropriate balance between providing visibility over a plant's commercial behaviour over time and minimising the burden of compliance.

We propose that $CO2_{generated}$ will be derived by determining the total quantity of CO_2 generated by the plant, based upon the quantity and Emission Factor of the fuel composition, expressed in kilograms.[19] This will be calculated by applying Equation 2:

Equation 2. Formula for calculating *$CO2_{generated}$*

$$CO2_{generated} = TFI \times EF_{f,CO2} \times 0.0036 = [kgCO_2]$$

where:

TFI is the total fuel input over 12 months (MWh) i.e., the total quantity of fuel combusted, measured on a Net Calorific Value basis, to generate electricity over the same consecutive 12-month period used when calculating $CO2_{transferred}$ (MWh). (See section 2.2.6 for how CHP CMUs equipped with CCUS should apply this).

$EF_{f,CO2}$ is the emissions factor of the fuel (kg CO_2/TJ), as detailed in Schedule 9 of the Rules.

Note that in the event a generating unit is equipped with CCUS technology and burns mixed fuels, it will be required to use a weighted emission factor and $CO2_{generated}$ will need to be calculated on the basis of the total fuel consumed instead of just the fuel referrable to electricity (see section 2.2.4 of this consultation for proposals on mixed fuels).

2.2.2.2 Application of 'Transferred CO_2 Factor' in Fossil Fuel Emissions calculation

We propose that TCF will form part of the formula for calculating Fossil Fuel Emissions by CMUs equipped with CCUS technology as shown in Equation 3:

Equation 3. Formula for calculating Fossil Fuel Emissions for plant equipped with CCUS

$$Fossil\ Fuel\ Emissions = \frac{0.0036 \times (1 - \mathrm{TCF}) EF_{f,CO2}}{\eta des} = \left[\frac{gCO_2}{kWh_e}\right]$$

where:

ηdes is design efficiency calculated according to the relevant formula in Part 3 of Schedule 8 of the Rules.

This will allow the CMU to account for the average quantity of CO_2 emissions captured and transferred per kWh of electricity generated.

We have considered that this proposal requires generating units equipped with CCUS technology to calculate their CO_2 emissions using first an input-based methodology in the context of CCUS, which then will feed into the design efficiency-based methodology which generating units not equipped with CCUS technology apply. We consider that this approach ensures that calculations of fossil fuel emissions are, as far as reasonably possible, consistent

[19] Standard values for Emission Factors are set out in Schedule 9 to the Rules.

across different types of plant. Furthermore, depending on the set-up of the CMU, this enables easy application of the different formulae at the same time using the same data values.[20]

2.2.2.3 Reporting arrangements for CMUs equipped with CCUS technology

Since the quantity and proportion of CO_2 emissions avoided through CCUS may vary over time, we believe that requiring calculations to be carried out using data from a continuous period of 12 months within a 14-month period is appropriate in order to ensure the accuracy and robustness of reporting. We have sought to ensure that the reporting mechanism is as streamlined as possible, avoiding an excessive administrative burden for businesses by applying an approach in line with existing Rules pertaining to Fossil Fuel Yearly Emissions calculations.[21]

At present, during prequalification, an applicant may benefit from an exception to the requirement to provide a Fossil Fuel Emissions Declaration under Rule 3.6.5(a) (in respect of Existing Generating) and Rule 3.9.5(a) (in respect of Proven DSR) where certain conditions[22] are met, one of which is that a previously submitted declaration remains accurate.[23]

We are aware that the percentage of CO_2 captured by a generating unit equipped with CCUS technology can vary year-on-year, so a calculation of Fossil Fuel Emissions which is accurate one year may be inaccurate the next. We continue to seek to ensure that calculations are based on the most recent data available, so propose that CMUs which comprise one or more generating units which have previously applied the CCUS formula cannot benefit from the exception from the requirement to provide a declaration.

2.2.2.4 Reporting arrangements for CMUs equipped with CCUS technology without 12 continuous months of operational data

We recognise that CCUS technology can be retrofitted on existing installations or refurbishing installations as well as included in new build and DSR CMU components (including where a DSR CMU undergoes component reallocation as part of a DSR aggregator). An alternative approach for these CMUs, which will be unable to provide 12 months of operational data on the percentage of CO_2 captured when submitting the Fossil Fuel Emission Declaration at Prequalification or at the relevant milestone, is explained in section 2.2.5 below.

Question 6

Do you have any comments or concerns regarding our proposed method for discounting emissions captured through CCUS by introducing a 'Transferred CO_2 Factor' to the calculation of Fossil Fuel Emissions? Please explain your reasoning and provide supporting evidence where available.

Question 7

[20] See section 2.4.2.5 of this consultation in respect of our modular approach for generating units applying multiple additional formulae.
[21] Fossil Fuel Yearly Emissions are calculated using the formula in Part 2 of Schedule 8 to the Rules and take account of the 'Emissions Year' which is a 12-month period (see definition in Rule 1.2.1).
[22] Where applicable under Rule 3.6.5(b) in respect of Existing Generating, or Rule 3.9.5(b) in respect of Proven DSR.
[23] Rule 3.6.5 and Rule 3.9.5 apply to CMUs applying for a new Capacity Agreement. Once a Capacity Agreement is awarded, CMUs with multiple-year agreements will not be required to submit a new Fossil Fuel Emissions Declaration for each year of the agreement (see section 2.2.7.2 below).

What are your views on our proposals for reporting requirements described in section 2.2.2.3 for CMUs equipped with CCUS? Please explain your reasoning and provide supporting evidence where available.

2.2.3 CMUs in the CHP Technology Class

In section 2.2.9 of the future improvements consultation, we made proposals in respect of CHP plant to account for the fact that the formula for calculating emissions of non-CHP CMUs would not accurately reflect the efficiency of these plant. Taking account of responses, we introduced a solution which enabled generators producing steam at pressure as part of their generation process to consider steam output when calculating design efficiency. These arrangements, set out in Part 3 of Schedule 8 of the Rules, ensured that CHP generators were not unfairly excluded from prequalifying for the CM in 2020.

Subsequently, we have reflected upon further feedback from stakeholders and have developed proposals to refine this approach. We propose amending the current formulae to ensure that all CHP CMUs prequalifying from 2021 onwards, including those not producing high-pressure steam, are able to provide a more accurate reflection of their efficiency.

2.2.3.1 CHP schemes certified under the CHPQA Programme

Our proposal draws on the CHP Quality Assurance Programme (CHPQA), a government initiative that assesses the energy efficiency and environmental performance of CHP schemes throughout the UK. Around 90% of all CHP installations in the UK are already covered by a CHPQA certificate.

The CHPQA Programme provides a comprehensive methodology for evaluating the quality of CHP schemes, which is used to determine eligibility for fiscal and other benefits. After analysis by independent experts, CHP schemes are provided with CHPQA certificates that certify various key indicators, including electricity generated, total fuel consumed, and the proportion of the total fuel input used for electricity generation.

We propose that a CHP scheme covered by a CHPQA certificate applying to participate in the CM as a CMU in the CHP Generating Technology Class will be given the option to use the new formula (Equation 4 below) to determine their design efficiency using these CHPQA-certified datapoints, providing a way for CHP CMUS to better reflect their efficiency, regardless of whether they produce steam at pressure. It will also provide assurance that the calculations are based on independently audited information.

Under CHPQA, CHP schemes may be classed as ‘Fully Qualified’ or ‘Partially Qualified’ depending on their performance on various indicators. In respect of the CM, we propose that the new formula will be available regardless of whether the CHP scheme is ‘Fully Qualified’ or ‘Partially Qualified’ under the CHPQA Programme.

CHPQA certificates provide data at the level of ‘CHP schemes’ (for example, a combination of a fossil fuel turbine and an additional, connected turbine), rather than individual prime movers.[24] For this reason, we consider that a ‘CHP scheme’ will be equivalent to one generating unit in the CHP Generating Technology Class and should be listed as an individual component in a Fossil Fuel Emissions Declaration.

[24] See CHPQA Programme Guidance Note 11 for detail on ‘prime movers’.

CHPQA certification will be a requirement for CHPs wishing to use the new formula. CHPs that do not hold CHPQA certification will still be able to apply to participate in the CM, but will need to apply the formulae for non-CHP plant set out in Parts 1 and Part 3.1 of Schedule 8 of the Rules.

2.2.3.2 New 'Design Efficiency' formula for CHP plant for use in Fossil Fuel Emissions calculation

We are proposing that CHP plant prequalifying from 2021 onwards will be given the option to calculate their design efficiency according to Equation 4[25]:

Equation 4. Formula for calculating design efficiency of a CHP scheme

$$\eta des = \frac{QPO}{TFI \times F_e} = [\%]$$

where:

ηdes is design efficiency;

QPO is the Qualifying power output (MWh);

TFI is the total fuel input (MWh); and

F_e is percentage fuel referable to electricity generation.

This formula will allow CHP plant to calculate their efficiency based on the fuel used for electricity generation only, discounting the fuel that is used to produce heat or steam, and better account for the true efficiency of the CHP plant, even when they are not producing high pressure steam.

Once design efficiency has been calculated in this way, CHP plant should, as is currently the position in the Rules, apply the formula for Fossil Fuel Emissions set out in Part 1 of Schedule 8 of the Rules (note that we are proposing that CHP schemes burning mixed fuels will be required to calculate a weighted emissions factor for electricity generation[26]).

We note that CHPQA certification is typically obtained between January and June and covers the previous calendar year and that the Prequalification Window for the CM normally falls between July and September. Therefore, under our proposals, the required information can be taken from the CHPQA certificate, provided to the CHP scheme that is applying to enter the CM as CHP CMU, in respect of the calendar year prior to the relevant Prequalification Window (or deadline for submission of a declaration). In order to avoid undue complexity and burden, this is our preferred position; however, we welcome your views in this regard.

2.2.3.3 Reporting arrangements for CHP CMUs

At present, an applicant may benefit from an exception to the requirement to provide a Fossil Fuel Emissions Declaration under Rule 3.6.5(a) (in respect of Existing Generating) and Rule 3.9.5(a) (in respect of Proven DSR) where certain conditions are met, one of which is that a

[25] This formula will replace the formula in Schedule 8, Part 3(2) of the Rules in respect of agreements awarded from prequalification 2021 onwards.
[26] Please see section 2.4.2.5 below for further information on this.

previously provided declaration remains accurate.[27] Given that the percentage of a CHP CMU's fuel that is attributable to electricity generation may vary year-on-year, a calculation which is accurate one year may be inaccurate the next. In order to ensure that calculations are based on the most recent data available, we propose requiring that CHP CMUs cannot benefit from the exception and will need to submit a new Fossil Fuel Emissions Declaration for every Prequalification they apply to, using information from their CHPQA certificate covering the previous calendar year.[28]

2.2.3.4 CHP CMUs without 12 months of operational data

Under the CHPQA Programme, new-build and newly-upgraded[29] CHP schemes that do not have data for the previous calendar year, and that fulfil certain criteria, may obtain a CHPQA certificate via an 'F3 form'.[30] This procedure enables them to provide technical details and anticipated performance regarding fuel inputs, power outputs and capacity, based on design information prior to commissioning. These data are rigorously assessed by independent experts before the CHPQA certificate is delivered.

We propose that CHP schemes that have obtained a CHPQA certificate via an F3 form will be permitted to use the data on their CHPQA certificate to calculate their design efficiency when providing a Fossil Fuel Emissions Declaration at the relevant milestone.

We determine that it is proportionate to apply this approach to CHP and not CCUS and mixed-fuels, who will be required to use 12 months of operational data when making calculations. The CHPQA Programme has an established and rigorous process for quantifying the estimated future performance of new-build and refurbishing CHP schemes that meet relevant criteria, whereas no such equivalent arrangement currently exists for CCUS installations and plant burning mixed-fuels.

We acknowledge that not all new-build and newly-upgraded CHP plant will be eligible to submit an F3 form and obtain a CHPQA certificate in this way, depending on several criteria. For the purposes of the CM, in the absence of a CHPQA certificate, we propose that these plant will be able to rely on the similar arrangements to plant applying the CCUS and/or mixed fuel formulae, as set out in section 2.2.5 below, where the submission of the Fossil Fuel Emissions Declaration is delayed until 12 months of operational data is available.

Question 8

Do you have any comments or concerns with regards to our proposed method for calculating the design efficiency of CHP installations? Please explain your reasoning and provide supporting evidence where available.

[27] Where applicable under Rule 3.6.5(b) in respect of Existing Generating, or Rule 3.9.5(b) in respect of Proven DSR.
[28] Rule 3.6.5 and Rule 3.9.5 apply to CMUs applying for a new Capacity Agreement. Once a Capacity Agreement is awarded, CMUs with multiple-year agreements will not be required to submit a new Fossil Fuel Emissions Declaration for each year of the agreement. (See section 2.2.7.2 below).
[29] As defined in the CHPQA Programme.
[30] For detailed information on the F3 form, see https://www.gov.uk/government/publications/chp-scheme-self-assessment-form-f3-and-f3s.

Question 9

Do you have any comments or concerns on our proposed reporting arrangements set out in sections 2.2.3.3 and 2.2.3.4 for CHP CMUs? Please explain your reasoning and provide supporting evidence where available.

Question 10

Do you have any comments or concerns regarding our proposal that only CHP schemes which are covered by the CHPQA Programme will be able to calculate their design efficiency according to Equation 4? Please explain your reasoning and provide supporting evidence where available.

2.2.4 Plant burning mixed fuels

In the future improvements consultation, we proposed a formula and parameters for the calculation of the 'fuel share' of a generating unit for use in calculating the emissions of a generating unit using more than one fuel.[31] However, in the Government Response we noted that introducing a monitoring regime to support the use of the formula was not justified at that time. Therefore, we decided to not apply the formula, but instead indicated that we would review the situation in future.[32]

A small number of CM participants approached us during the 2020 Prequalification Window to flag that they operated installations burning more than one fossil fuel. As indicated in paragraph 4.5 of the Emissions Guidance, our view was that installations using more than one fossil fuel should calculate their emissions based on their primary fuel alone.

Subsequently, following further engagement with stakeholders, we have considered whether it would be appropriate to introduce a dedicated methodology to account for emissions from each of the fossil and non-fossil fuels burned to apply to capacity awarded agreements from the 2021 Prequalification Window onwards. Introducing these arrangements could help make emissions calculations more accurate for plants burning mixed fuels, and help 'future-proof' the CM by preparing it for potential scenarios, for example plant burning hydrogen blended with fuels such as natural gas to generate electricity.

In contrast to the formulae that we are proposing for CMUs with CCUS or CHP technology, which are optional (i.e., a CMU may choose to apply them), we intend that Equations 5 and 6 will be the only formulae available to use for CMUs burning mixed fuels.

2.2.4.1 New formula for 'fuel share' for use in determining the Emission Factor used in the Fossil Fuel Emissions calculation

We propose that generators using a mix of fuels will be required to calculate the share of each fuel burned to produce electricity. This fuel share ('FS') will then be used in calculating a 'Weighted Emission Factor' for use in the Fossil Fuel Emissions formula, enabling a more accurate reflection of the Fossil Fuel Emissions of a plant using mixed fuels.

We propose that the FS of each fuel used by a generating unit burning a mix of two or more fuels be calculated in line with Equation 5:

[31] See Annex C of the future improvements consultation.
[32] See p.57 of the Government Response.

Equation 5. Formula for calculating FS of fuels burned in a mixed-fuel plant

$$FS_i = \frac{Q_{Fi} \times NCV_{Fi}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2}) + \ldots + (Q_{Fn} \times NCV_{Fn})} = [\%]$$

where:

FS is fuel share;

Fi is the fuel for which the FS is being calculated;

$F1$ is the primary fuel;

$F2$ is the secondary fuel;

Fn is any other fuel beyond the secondary fuel used as part of the fuel mix, with each fuel being considered individually;

Q is the quantity (Gg); and

NCV is the Net Calorific Value (TJ/Gg).

As set out in Equation 5, we propose that, in summary, the FS of a fuel will be determined as the energy input of that fuel over the energy input of all fuels used by the generation unit to produce electricity. The energy input of each fuel is calculated by using the total quantity in Gigagrams (Gg) multiplied by the Net Calorific Value of the fuel (as specified in Schedule 9 of the Rules).

We propose that FS for each fuel should be calculated using data from a period of 12 consecutive months during the 14 months leading up to the Prequalification Window or date the declaration is submitted.

2.2.4.2 New formula for determining 'weighted emission factor' for plant burning mixed fuels

We propose that, once FS for each fuel has been determined (F1, F2 and any further fuels), the generator should calculate a weighted emission factor (EF_w) that accounts for the proportion and carbon content of each fuel burned. We suggest that EF_w be calculated in line with the following formula:

Equation 6. Formula for calculating EF_w of a mixed-fuel plant

$$EF_w = (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) + \ldots + (FS_{Fn} \times EF_{Fn}) = \left[\frac{kgCO2}{TJ}\right]$$

where:

FS_{F1} is the FS of the primary fuel (%);

FS_{F2} is the FS of the secondary fuel (%);

FS_{Fn} is the FS of any other fuels beyond the secondary fuel used as part of the fuel mix, with each fuel being considered individually (%);

EF_{F1} is the standard Emission Factor of the primary fuel (kgCO_2/TJ);

EF_{F2} is the standard Emission Factor of the secondary fuel (kgCO_2/TJ) and

EF_{Fn} is the standard Emission Factor of any other fuel beyond the secondary fuel used as part of the fuel mix, with each fuel being considered individually (kgCO_2/TJ).

Once determined, EF_w is used in the Fossil Fuel Emissions calculation (replacing the Emission Factor ($EF_{f,CO2}$) component).[33]

We propose that any fuels in the mix that are not a fossil fuel will be taken as having an Emission Factor of 0.

2.2.4.3 Reporting arrangements for plant burning mixed fuels

We believe that it would be appropriate to implement new formulae for fuel share and Emission Factors using data from a period of 12 consecutive months, rather than relying on estimates or standardised values.

Since the quantity and proportion of each fuel burned may vary over time, the government's view is that using the most recent operational data available is warranted to ensure the accuracy and robustness of emissions reporting whilst striking a balance with minimising the administrative burden on businesses. This approach has precedent in the implementation of existing Rules pertaining to calculation of Fossil Fuel Yearly Emissions which require data from a period of 12 consecutive months to account for potential variations in the commercial behaviour of the plant over time.[34]

To ensure emissions reporting is accurate and recent data is used where possible, we suggest that an Existing Generating CMU or Proven DSR CMU comprising a generating unit burning mixed fuels which submits a Fossil Fuel Emissions Declaration during prequalification will be unable to rely on a previously submitted declaration.[35] It will instead be required to submit a new declaration at the subsequent Prequalification, even in the absence of an Emissions Related Material Change.[36]

2.2.4.4 Reporting arrangements for CMUs burning mixed fuels and without 12 continuous months of operational data

We recognise that some generating units burning mixed fuels will be unable to provide 12 months of operational data at Prequalification, for example New Build CMUs and Refurbishing CMUs as well as some Existing CMUs or DSR CMUs (including where a DSR CMU undergoes component reallocation as part of a DSR aggregator). General considerations and a proposed approach to CMUs without 12 months of operational data is explained in section 2.2.5 below.

[33] The Fossil Fuel Emissions formula set out in Part 1 of Schedule 8 to the Rules.
[34] See the definition of 'Emissions Year' in Rule 1.2.1.
[35] Where applicable under Rule 3.6.5(b) in respect of Existing Generating, or Rule 3.9.5(b) in respect of Proven DSR.
[36] Rule 3.6.5 and Rule 3.9.5 apply CMUs applying for a new Capacity Agreement. Once a Capacity Agreement is awarded, CMUs with multiple-year agreements will not be required to submit a new Fossil Fuel Emissions Declaration for each year of the agreement (please see section 2.2.7.2 for more information).

Question 11

What are your views on our proposals to account for the carbon emissions of plant burning mixed fuels? Do you have any views on whether calculations ought to be based on primary fuel alone or whether our proposed approach is justified? Please evidence your response as much as possible.

Question 12

Do you have any comments or concerns on Equations 5 and 6? In particular, what kind of impact do you expect Equations 5 and 6 to have on the ability of generating units burning mixed fuels to demonstrate compliance with the Fossil Fuel Emissions Limit? Please explain your reasoning and provide supporting evidence where available.

Question 13

Do you have any comments or concerns on the proposed reporting arrangements described in section 2.2.4.3 for CMUs burning mixed fuels? Please evidence your response as much as possible.

2.2.5 CMUs seeking to apply one or more of the CCUS, CHP and/or mixed fuels formulae without the required 12 months of data

It is possible that CMUs may not have the 12 continuous months of data necessary to apply the new CCUS, CHP and/or mixed fuels formulae at the time they are required to submit a Fossil Fuel Declaration.

We expect that will be the case, for example, with existing plant retrofitting CCUS, or New Build/Refurbishing/Unproven DSR CMUs which intend to install CCUS, CHP or utilise mixed fuels, or a plant with one or more of these technologies which undergoes an emissions-related material change. Our intention is that, wherever possible and proportionate, these CMUs can still apply emissions formulae despite the lack of data.

The context of these considerations is that, under the current Rules, CMUs with components relying on the Fossil Fuel Yearly Emissions Limit must rely on 12 continuous months of data to make the Fossil Fuel Yearly Emissions calculation when submitting a declaration and no provisions are made for CMUs without 12 continuous months of data. This is proportionate given that we expect CMUs with a commercial production start date before 4 July 2019 to possess at least 12 months of operational data.[37]

2.2.5.1 Existing and Proven DSR CMUs retrofitting or having recently retrofitted CCUS, CHP or mixed fuels technology

We propose that existing CMUs will be given the opportunity to confirm during Prequalification that they need to use formulae relating to CCUS, CHP and/or mixed fuels but are without the 12 continuous months of data necessary to use the relevant formula. These CMUs, instead of submitting a Fossil Fuel Emissions Declaration at Prequalification, will submit a declaration

[37] The Fossil Fuel Yearly Emissions Limit (see definition in Rule 1.2.1) is applicable to plant with a commercial production start date before 4 July 2019. Plant with a commercial production after 4 July 2019 must comply with the Fossil Fuel Emissions Limit.

committing to submit a Fossil Fuel Emissions Declaration as soon as reasonably possible from when the data is available, and at any rate no later than 14 months after the start of the Delivery Year (for CCUS and/or mixed fuels) or the last day of August following the end of the first Delivery Year after the date the Capacity Agreement takes effect under Rule 6.7.4(a)(ii) or Rule 6.8.5 (for CHP[38]). If a Fossil Fuel Emissions Declaration is not provided at the relevant deadline, indicating that the relevant formulae have been used, this can be treated as a termination event.[39]

Allowing extra time for a CMU to be able to properly apply the relevant formulae is an exception that should be relied on only when necessary to comply with the limits. As use of the dedicated formulae for CHP CMUs and/or CMUs equipped with CCUS will be optional, we expect that a CMU that will be compliant with the emissions limits without applying one or more of these formulae will not apply them unless they already have the relevant continuous 12 months of data. We expect CMUs will delay the submission of the Fossil Fuel Emissions Declaration only in circumstances where the application of these formulae would make the difference between their emissions being above or below the Emissions Limits. We therefore believe that the application of a termination event in in the situation described in the previous paragraph would discourage CM participants from falsely declaring a need to apply one or both these formulae solely in order to delay submission of the Fossil Fuel Emissions Declaration. For CMUs burning mixed fuels, only the mixed fuels formulae will be available to calculate emissions, so it is justified that where the formula is not used, a termination event should occur.

2.2.5.2 New Build/Refurbishing/Unproven DSR CMUs utilising CCUS, CHP and/or mixed fuel formulae

Under the current Rules, New Build/Refurbishing/Unproven DSR CMUs do not submit a Fossil Fuel Emissions Declaration at Prequalification, and submit a Fossil Fuel Commitment instead, where they commit to submitting a Fossil Fuel Emissions Declaration by the appropriate deadline.

We propose that these CMUs will be required to also indicate at Prequalification whether they intend or need to apply one or more of the formulae relating to CCUS, CHP or mixed fuels. If they do, then we propose that the deadline for submitting a Fossil Fuel Emissions Declaration will be as follows:

- For CMUs applying the CCUS and/or mixed fuel formula: for New Build CMUs as soon as reasonably practicable after 12 continuous months of data are available, but no later than 14 months after the date the Capacity Agreement takes effect under Rule 6.7.4(a)(ii) or Rule 6.8.5. For Refurbishing CMUs, we are considering whether the deadline ought to be as soon as reasonably practicable after 12 continuous months of data are available, but no later than 14 months after the Long-Stop Date, or to align with the New Build CMU deadline[40]. For Unproven DSR with multi-year agreements, by no later than 14 months after a DSR Test Certificate is provided,

[38] This is to account for the specific timescales of obtaining a CHPQA certificate, as certificates are typically provided between January and June, based on a full calendar year of data. In respect of CMUs applying CHP and one or more of the other two formulae, the deadline will be whichever is the latest of the deadlines described above.
[39] Under Rule 6.10.1(o) (See section 2.2.5.4 below).
[40] This proposal will align New Build and Refurbishing should the proposal in section 2.8 of this consultation (proposal to extend Long-Stop date for Refurbishing CMUs) be implemented.

- For CMUs applying the CHP formulae (irrespective of whether they are eligible for the CHPQA Programme's F3 form): for New Build, Refurbishing and Unproven DSR CMUs, the last day of August following the end of the first Delivery Year after the date the Capacity Agreement takes effect under Rule 6.7.4(a)(ii) or Rule 6.8.5. This is to account for the specific timescales of obtaining a CHPQA certificate, as certificates are typically provided between January and June, based on a full calendar year of data.
- In respect of CMUs applying CHP and one or more of the other two formulae, the deadline will be whichever is the latest of the deadlines described above.

We acknowledge that New Build, Refurbishing or Unproven DSR CMU may change plans and not wish or need to apply the relevant CCUS, CHP and/or mixed fuels formulae to calculate the emissions to be included in the Fossil Fuel Emissions Declaration, based on the final setup of the plant once built/refurbished or final composition of the DSR CMU. In those circumstances, it will be possible for these plant to use the standard non-technology specific emissions formulae to determine Fossil Fuel Emissions.

This approach differs from the one proposed for existing plant, (described at section 2.2.5.1) because New Build, Refurbishing and Unproven DSR CMUs are likely to have much less visibility, at Prequalification, of the final setup of the CMU, and it is possible that the final setup of the CMU is compliant with the Emissions Limits when using the standard non-technology specific emissions formulae.

2.2.5.3 CMUs utilising CCUS, CHP and/or mixed fuel formulae undergoing an emissions-related material change

Under the current Rules, a CMU which undergoes an emissions-related material change is required to submit an Updating Fossil Fuel Emissions Declaration (Rule 8.3.13). We propose that this requirement will continue to apply to CMUs utilising the new formulae relating to CCUS, CHP or mixed fuels.

CMUs applying the CCUS or mixed fuels formulae (without the CHP formulae) will be required to submit an Updating Fossil Fuel Emissions declaration at the deadlines in Rule 8.3.13.

We propose that CMUs applying the CHP formulae (whether with or without any other formulae) will be required to submit an Updating Fossil Fuel Emissions Declaration no later than the last day of August following the first full calendar year after the emissions-related material change occurred.

2.2.5.4 Non-compliance with the Rules relating to CMUs without 12 months of data

As outlined in the Government Response[41], CMUs that fail to provide a Fossil Fuel Emissions Declaration or Updating Fossil Fuel Emissions Declaration by the required milestone or submit a declaration with emissions above the Fossil Fuel Emissions Limit may have their Capacity Agreement terminated under Rule 6.10.1(o) (due to making false declarations during prequalification).[42]

We acknowledge that where a deadline falls after the Delivery Year of an agreement, it will not be possible to terminate the Capacity Agreement relying on this termination event. In this

[41] See pages 49 and 74.
[42] We expect very low levels of non-compliance and therefore minimal impact on security of supply.

situation, however, Ofgem will be able to consider whether to pursue enforcement action for making false representations.

If a generating unit equipped with CCUS technology and/or CHP technology is unable to provide 12 continuous months of operational data, other than in the case of existing and proven DSR CMUs, as described at 2.2.5.1, we propose that they will have the option to submit a Fossil Fuel Emissions Declaration without employing the specific CCUS and/or CHP formula.

Question 14

What are your views on our proposals described in sections 2.2.5.1, 2.2.5.2, and 2.2.5.3 respectively in respect of plant without 12 continuous months of operational data? Please evidence your response as much as possible.

2.2.6 CMUs applying multiple additional formulae to determine Fossil Fuel Emissions

We recognise that some CMUs may need or wish to apply more than one of the additional formulae proposed by this consultation when calculating Fossil Fuel Emissions. Our view is that the formulae are designed to be modular and can be operated together. This section sets out how the formulae should be operated together in the cases of several specific combinations of technologies.

2.2.6.1 Variation in the formula for $CO2_{generated}$ for CHP CMUs equipped with CCUS

As set out in section 2.2.3, we propose that generators in the CHP Technology Class which are part of the CHPQA Programme will have the option to calculate the design efficiency of a CHP scheme based on the fuel used for electricity generation only, using values taken from their CHPQA certificate. Separately, we are proposing that plant equipped with CCUS technology will be able to discount the average quantity of CO_2 captured and transferred per kWh of electricity generated when calculating their fossil fuel emissions. As set out in section 2.2.2, this will involve calculating $CO2_{transferred}$, defined as the total quantity of CO_2 captured and transferred by the generating unit over a continuous 12-month period.

In the absence of further adjustments, a CCUS-equipped CHP scheme applying both sets of arrangements would receive an undue advantage: its declared fossil fuel emissions would be those resulting from electricity generation only, while its $CO2_{transferred}$ would reflect avoided CO_2 emissions from production of both electricity and heat. Essentially, this would amount to 'inflating' the quantity of CO_2 captured relative to the quantity of electricity generated.

To counteract this, we propose that for CHP CMUs applying the CCUS formulae set out in section 2.2.2, when applying Equations 1 and 2 to calculate TCF, they should carry out the calculation based on total fuel input with no adjustment made to use only the percentage of fuel referrable to electricity.

We note that in order to benefit from both sets of arrangements simultaneously, these plant will in effect be calculating TCF using data from a different 12-month period to the 12-month period covered by their CHPQA certificate. Our view is that this approach is acceptable as we do not

believe that such a misalignment could reasonably cause a material misstatement of a plant's Fossil Fuel Emissions, or could provide the DB with an incorrect view of the CMU's ability to comply with the Fossil Fuel Emissions Limits during the Delivery Year. Implications of our proposed approach on CMUs requiring data from multiple time periods are considered in section 2.2.7.1 below.

2.2.6.2 Variation in the formula for $CO2_{generated}$ and *Fossil Fuel Emissions* for CMUs burning mixed fuels and equipped with CCUS technology

As set out in section 2.2.4, the government is proposing that generating units burning mixed fuels will be required to account for emissions from all fossil fuels burned when calculating their Fossil Fuel Emissions.

A CMU burning mixed fuels while equipped with CCUS technology may also opt to make use of the arrangements set out in section 2.2.2, which allow the generator to discount the average quantity of CO_2 captured and transferred per kWh of electricity produced.

First, the generating unit will need to calculate a weighted emissions factor (EF_w) that accounts for the proportion and carbon content of each fuel burned, using Equation 6.

Next, the generating unit should use the value determined for EF_w in calculating $CO2_{generated}$ using Equation 7 (which is different to Equation 2):

Equation 7. Formula for CO_2 generated

$$CO2_{generated} = TFI \times EF_w \times 0.0036 = [kgCO_2]$$

where:

TFI is the total quantity of fuel inputted over the 12-month period (MWh); and

EF_w is the weighted emission factor.

Next, the CMU should calculate TCF using Equation 1.

Finally, the CMU should calculate its Fossil Fuel Emissions using the formula in Equation 8, (which combines Equations 3 and 6):

Equation 8. Formula for Fossil Fuel Emissions for plant using mixed-fuels and equipped with CCUS technology

$$Fossil\ Fuel\ Emissions = \frac{0.0036 \times (1 - \mathrm{TCF}) \times EF_w}{\eta des} = \left[\frac{\mathrm{gCO_2}}{\mathrm{kWh_e}}\right]$$

where:

TCF is the Transferred CO_2 Factor;

EF_w is the weighted emission factor; and

ηdes is design efficiency.

As stated, we propose that both FS and TCF should be calculated using operational data from 12 consecutive months during the 14-month period leading up to prequalification or the date the Fossil Fuel Emissions Declaration is submitted. There is no requirement for this to be the exact same 12 consecutive months for both. This is because we do not believe the increased complexity of introducing a system bringing the two 12-month periods into alignment would be justified given the very small risk that a misalignment could cause a material misstatement of a plant's Fossil Fuel Emissions. Our rationale for allowing data from different 12-month periods is explained in section 2.2.7.1.

2.2.6.3 Variation in the formula for 'weighted emission factor' for CHP CMUs burning mixed fuels

In order to reduce complexity, we propose introducing a dedicated formula for CHP schemes burning mixed fuels, derived by bringing together the formulae set out in sections 2.2.3 and 2.2.4. This is because these plant need to account not only for the percentage of the total fuel input referable to electricity generation, but also for the percentage by which each different fuel contributes to the fuel mix.

As for the formulae for CHP CMUs described in section 2.2.3, holding a CHPQA certificate is a prerequisite to applying this formula as it will rely on values in the certificate. A CHP installation burning mixed fuels that does not hold a CHPQA certificate will have to calculate its Fossil Fuel Emissions using the formula in Part 1 of Schedule 8 of the Rules, in the same way as a plant not in the CHP Technology Class.

We propose Equation 9 for calculating the weighted emissions factor of fuel referable to electricity generation in a mixed-fuel CHP scheme:

Equation 9. Formula for weighted emission factor for a mixed-fuel plant applying the CHP formulae

$$EF_{electricity} = \frac{(Q_{F1} \times QE_{F1} \times EF_{F1}) + (Q_{F2} \times QE_{F2} \times EF_{F2}) + \ldots + (Q_{Fn} \times QE_{Fn} \times EF_{Fn})}{TFI \times F_e} = \left[\frac{kgCO2}{TJ}\right]$$

where:

$EF_{electricity}$ is the weighted emission factor for a mixed fuel plant applying the CHP formulaQ_{F1} is the quantity of Fuel 1 (MWh);

Q_{F2} is the quantity of Fuel 2 (MWh);

Q_{Fx} is the quantity of any other fuels, with each fuel to be considered individually (MWh);

QE_{F1} is the percentage of Fuel 1 referable to electricity generation (%);

QE_{F2} is the percentage of Fuel 2 referable to electricity generation (%);

QE_{Fn} is the percentage of other fuels used referable to electricity generation, with each fuel to be considered individually (%);

EF_{F1} is the standard emission factor of Fuel 1 (kg CO_2/TJ);

EF_{F2} is the standard emission factor of Fuel 2 (kg CO_2/TJ);

EF_{Fn} is the emission factor of other fuels used, with each fuel to be considered individually (kg CO_2/TJ);

TFI is the Total fuel input (MWh); and

F_e is the percentage of fuel referable to electricity generation (%).

Once $EF_{electricity}$ has been calculated, the CHP scheme will then follow the formulae set out in part 1 of Schedule 8 of the Rules to calculate their Fossil Fuel Emissions. The proposed formula factors in a weighted proportion of fuels used to generate electricity, to produce a composite emission factor.

Data to be used in this formula, which are not found on the CHPQA certificate, needs to be calculated using data from a period of 12 consecutive months during the 14 months leading up to the Prequalification Window or date the declaration is submitted, in line with the approach for plant burning mixed fuels described in section 2.2.4. Our rationale for allowing data from two different 12-month periods is explained in section 2.2.7.1.

We propose allowing CHPs burning mixed fuels to opt to apply this formula or alternatively opt to apply the non-CHP specific formulae for CMUs burning mixed fuels described in section 2.2.4.

2.2.6.4 CHP schemes burning mixed fuels and equipped with CCUS

As proposed, CHP plant burning mixed fuels and that are equipped with CCUS technology will need to apply all formulae simultaneously.

First, the generating unit should use Equation 6 to determine the value for EF_w, which is then to be used when calculating $CO2_{generated}$ in line with Equation 7.

Next, in order to account for the CO2 captured, they will have to calculate the 'Transferred CO_2 Factor as described in Equation 1. To note, as described in section 2.2.6.1, when applying Equation 1 to calculate TCF, these plant should carry out the calculation on the basis of total fuel input with no adjustment made to use only the percentage of fuel referrable to electricity.

They will then need to calculate the weighted emissions factor for a mixed-fuel plant applying the CHP formulae, as illustrated in Equation 9.

Finally, they should calculate Fossil Fuel Emissions according to the formula in Equation 10, below, which uses the weighted emissions factor for a mixed fuel plant applying the CHP formula $EF_{electricity}$. Please note that the design efficiency (ηdes) should be calculated according to the formula in Equation 4.

Equation 10. Formula for calculating Fossil Fuel Emissions for a plant applying the CCUS, CHP and mixed fuels formulae

$$Fossil\ Fuel\ Emissions = \frac{0.0036 \times (1 - \mathrm{TCF}) \times EF_{electricity}}{\eta des} = \left[\frac{\mathrm{gCO_2}}{\mathrm{kWh_e}}\right]$$

where:

TCF is the Transferred CO_2 Factor;

$EF_{electricity}$ is the weighted emission factor for a mixed fuel plant applying the CHP formula; and

ηdes is design efficiency.

Plant applying this formula will be using data from up to three different continuous 12-month periods. Our proposed approach on CMUs requiring data from multiple time periods are considered in section 2.2.7.1 below.

Question 15

Do you have any comments or concerns on our proposal described in section 2.2.6.1 in respect of CHP CMUs equipped with CCUS?

Question 16

Do you have any comments or concerns on our proposal described in section 2.2.6.2 in respect of CMUs burning mixed fuels and equipped with CCUS?

Question 17

Do you have any comments or concerns on our proposal described in section 2.2.6.3 in respect of CHP CMUs burning mixed fuels?

Question 18

Do you have any comments or concerns on our proposal described in section 2.2.6.4 in respect of CHP CMUs equipped with CCUS and burning mixed fuels?

2.2.7 General consideration of the implications of the new formulae

2.2.7.1 CMUs requiring data from multiple time periods

Our approach is that, unless we have indicated otherwise, CMUs will not be required to use data from the same continuous 12-month period in all calculations, but that different periods of 12 continuous months (within a 14-month window) can be used.

It is possible that a CMU concurrently applying formulae which require 12 months of data (i.e. formulae relating to the Fossil Fuel Yearly Emissions Limit, CCUS, CHP or mixed fuels) may use operational data from more than one continuous 12-month period with different start and end dates. We think that this approach is reasonable because the purpose of all these formulae is to assess the ability of the CMU to comply with the Emissions Limit based on data from a proportionate recent period of time - 12-months - rather than to assess the CMU on its behaviour over a specific period. Furthermore, we think this approach affords CMUs as much flexibility as possible in providing the required data. We welcome your views on this.

2.2.7.2 Reporting and verification arrangements

As set out in the Government Response, our approach to the implementation of the Emissions Limit has been to introduce a reporting and verification mechanism rather than a monitoring mechanism. The reporting and verification mechanism allows the DB to make an assessment

at Prequalification of the CMU's ability to comply with the Emissions Limit during the term of the agreement. In this with this, we propose that CMUs holding multi-year agreements which apply the CCUS, CHP and/or mixed fuels formulae, as well as existing Rules around CMUs relying on the Fossil Fuel Yearly Emissions Limit, will not be required to submit yearly updates on their Fossil Fuel Emissions (except where Rule 8.3.13 is applicable).

Our general approach has been that should the same Existing or Proven DSR CMU seek to apply for a fresh agreement for a different Delivery Year, each Prequalification application should be assessed based on the most recent information available. However, in order to minimise the administrative burden, there is the possibility of relying on previously submitted Fossil Fuel Emissions Declarations if the ability of the plant to comply with the Emissions Limits does not significantly vary from year to year.[43]

As stated in sections 2.2.2, 2.2.3 and 2.2.4, we consider that where the ability of the CMU to comply with the Emissions Limits is linked to its commercial behaviour, which is liable to change year on year, it is appropriate that the assessment on the ability of the CMU to comply with the Emissions Limits should be carried out using the most recent information available, and that a previous declaration cannot be relied upon. The proposals in this consultation relating to CMUs applying the CCUS, CHP and mixed fuels formulae, therefore require that these CMUs submit a new Fossil Fuel Emissions Declaration with each Prequalification application they submit. (As stated in sections 2.2.2, 2.2.3 and 2.2.4, new Fossil Fuel Emissions Declaration will be required only in cases where the same CMU has been entered into a fresh Prequalification process.)

2.2.7.3 Applicability of Rules amendments

We propose maintaining the general position that the Rules governing Emissions Limits at the time a Capacity Agreement is awarded will continue to be effective for the duration of the agreement in question.

For example, Capacity Agreements awarded in the early 2021 auctions will be awarded before the amendments proposed by this consultation come into effect.[44] Therefore, the Rules, as amended in June 2020[45], will continue to be applicable to agreements awarded in early 2021 (i.e., the amended/new formulas we are proposing to introduce relating to CCUS, CHP or mixed fuels will not be available to those agreement holders[46]).

However, where we propose to update the template Fossil Fuel Emissions Declaration document (Exhibit ZA) to make it easier to navigate (see section 2.2.9 below), we propose requiring Capacity Providers to use the most up-to-date Exhibit ZA when providing a Fossil Fuel Emissions Declaration to fulfil an obligation which arises at any point after any upcoming amendments to the Rules come into force.[47] We welcome your views on this approach.

[43] See Rule 3.6.5 and Rule 3.9.5.
[44] We intend for the amendments proposed by this consultation to be made by way of Rules changes to come into effect before the Prequalification Window in 2021.
[45] By the Capacity Market (Amendment) (No.2) Rules 2020 and the Capacity Market (Amendment) (No.3) Rules 2020.
[46] For example, where an Updating Fossil Fuel Emissions Declaration is submitted following an Emissions-Related Material Change, or where a CMU submits a Fossil Fuel Emissions Declaration outside Prequalification having submitted a Fossil Fuel Commitment at Prequalification.
[47] For example, New Build /Refurbishing/Unproven DSR CMUs awarded in agreement in early 2021 which are required to provide a Fossil Fuel Emissions Declaration by the deadline in Rule 8.3.11, or Existing/Proven DSR CMUs who are required to provide an Updating Fossil Fuel Emissions Declaration under Rule 8.3.13.

Question 19

Do you have any comments or concerns about any of the considerations described in this section 2.2.7? Please explain your reasoning and provide supporting evidence where available.

2.2.8 Extension of transitional phase for independent verification of Fossil Fuel Emissions Declarations

Under Rule 3.15.1, Fossil Fuel Emissions Declarations are required to be verified by an Independent Emissions Verifier (IEV), other than where the declaration is a 'Transitional Fossil Fuel Emissions Declaration'[48] (i.e., provided ahead of the 2021 Prequalification Window).

The government set out the rationale for the transitional arrangements in the Government Response, in which we acknowledged that there was likely to be limited availability of IEVs accredited for the purposes of the CM ahead of the 2020 Prequalification Window.[49]

We propose extending the transitional arrangements up to the Prequalification Window in 2022 as we are proposing to introduce further changes to Rules relating to Emissions Limits that may come into effect relatively close to the 2021 Prequalification Window. We recognise that, without this extension, there is the possibility of a strain on limited IEV capacity to process all Fossil Fuel Emissions Declarations between the introduction of Rules changes and the end of the Prequalification Window in 2021.

Therefore, we propose amending the definition of 'Transitional Fossil Fuel Emissions Declaration'[50] to include any declarations provided before the Prequalification Window in 2022, and making any other consequential amendments which we identify.[51]

We acknowledge that extending the transitional arrangements up to the Prequalification Window in 2022 will mean that IEV certification will not to be required for Fossil Fuel Emissions Declarations submitted to fulfil obligations which arise under Rule 8.3.11 during the 2021-22 Delivery Year.

As we propose making any of the changes arising from this consultation close to the 2021 Prequalification Window, applicants are not advised to arrange for Fossil Fuel Emissions Declarations to be independently verified before the 2021 Prequalification Window, as this may lead to unnecessary cost and burden being incurred. However, applicants are free to make enquiries with IEVs as they see fit.

[48] See definition in Rule 1.2.1.
[49] See p.55 of the Government Response.
[50] See definition in Rule 1.2.1
[51] As is already set out in the Rules, it will not be possible to rely on 'Transitional Fossil Fuel Emissions Declaration' declarations from the 2022 Prequalification Window onwards should verification be required under Rule 13.5

Question 20

Do you have any comments or concerns on our proposal to extend the transitional phase which will not require independent verification of Fossil Fuel Emissions Declarations to the start of the Prequalification Window in 2022?

2.2.9 Other proposed amendments and clarifications to the Rules

We have reflected upon stakeholder feedback and acknowledge that some aspects of the requirements relating to the Emissions Limits caused confusion during the Prequalification Window in 2020. Before the 2021 Prequalification Window we therefore intend to make some clarifications to the Rules and update the Emissions Guidance where appropriate.

2.2.9.1 Clarifications relating to the commitment to comply with the Emissions Limits during the delivery period of an agreement

We have been clear that the purpose of the Rules on Emissions Limits is to ensure that CMUs do not emit above the limits for the duration of the relevant Delivery Year, not only at the point of providing a Fossil Fuel Emissions Declaration to the DB. In respect of a CMU which is the subject to an application for Prequalification, the applicant must make a commitment to comply with the Emissions Limits.[52]

The reporting and verification mechanism is designed to provide assurance that a CMU will comply with the Emissions Limits during the delivery period for an agreement[53] and relies, in most cases, on a calculation of emissions that is based on the nominal capacity of the generating unit rather than its commercial behaviour.

In the case of CMUs relying on compliance with the Fossil Fuel Yearly Emissions Limit, an assessment of the generating unit's commercial behaviour over a recent continuous 12-month period is required so that no active monitoring is necessary during the delivery period of the agreement (other than where there is a material change). This will also be the case if we give effect to our proposals in respect of the CHP formulae described in section 2.2.3, CMUs discounting captured and transferred emissions as described in section 2.2.2, and CMUs burning mixed fuels as described in section 2.2.4.

We want to ensure that CMUs are aware of this obligation and commit to upholding it. We have always been clear that all CMUs entering Prequalification are required to declare their commitment to comply with Emissions Limits during the Delivery Year should they be awarded a Capacity Agreement for that year.[54] We propose requiring all CM participants to submit a clear commitment to this effect as part of the Prequalification process. While this is particularly important for CMUs that rely on data derived from recent commercial behaviour, we believe that this is appropriate for all CMUs.

[52] See Rule 3.7.4 (New Build), Rule 3.8.3 (Refurbishing) Rule 3.10.4 (Unproven DSR), the Fossil Fuel Emissions Commitment (Exhibit ZB), and commitments in Part 5 of the Fossil Fuel Emissions Declaration (Exhibit ZA).
[53] Where a generating unit undergoes a material change which impacts its fossil fuel emissions, the Rules ensure capacity providers demonstrate continued compliance with the Emissions Limits after the change (See Rules 3.6.6 and 3.6.7 (Existing Generating), Rules 3.9.6 and 3.9.7 (Proven DSR), Part 2(c) of the Fossil Fuel Emissions Commitment (Exhibit ZB), and Part 7 of the Fossil Fuel Emissions Declaration (Exhibit ZA)).
[54] This is the case for all Generating CMUs, regardless of technology type, and DSR CMUs. Interconnector CMUs are not subject to the fossil fuel emission requirements.

2.2.9.2 Clarifications in respect of declarations other than those made by using a template exhibit to the Rules

Some of the Rules relating to carbon emissions require CMUs to make declarations and confirmations for which a dedicated template is not provided (i.e., Rules 3.6.6, 3.6.7, 3.9.6 and 3.9.7). In order to improve awareness of which declarations or confirmations need to be submitted and under which circumstances, we propose adding a dedicated section to the Emissions Guidance.

2.2.9.3 New Build, Refurbishing and Unproven DSR CMUs with multiple Capacity Agreements

New Build, Refurbishing and Unproven DSR CMUs are required to submit a Fossil Fuel Commitment at Prequalification, and to submit a Fossil Fuel Emission Declaration at the appropriate deadline if they comprise one or more Fossil Fuel Components, as described in Rule 8.3.11(b). If a New Build, Refurbishing or Unproven DSR CMU secures Capacity Agreements in separate auctions for more than one Delivery Year, it will be required to submit a Fossil Fuel Emissions Declaration to fulfil obligations at the appropriate milestones, defined by each agreement.

2.2.9.4 Changes to Exhibit ZA

Exhibit ZA provides the template for the Fossil Fuel Emissions Declaration. We have reviewed this document in response to feedback received from stakeholders, and learnings from the 2020 Prequalification process. We propose applying several minor changes to Exhibit ZA to make it easier to interpret and use. These proposed changes will take effect so that any Fossil Fuel Emissions Declaration submitted in future will need to use the new template, but those which have already been submitted do not need to be resubmitted.

We have identified the following, but welcome your views:

- Auction date:
  We propose removing the need to explicitly state the date of the auction the Declaration refers to. The auction date will be known by the DB.

- Parts to be filled:
  We propose clarifying which parts need to be completed, and which need completing depending on CMU type, Delivery Year, and year of agreement being awarded.

- Supporting documentation:
  We propose clarifying that the supporting documentation, mentioned in section 6 of Exhibit ZA, needs to be submitted alongside the Fossil Fuel Emissions Declaration in order for it to be complete.

2.2.9.5 Changes to Exhibit ZB

Exhibit ZB provides the template for the Fossil Fuel Emissions Commitment. We have reviewed this document in response to feedback received from stakeholders, and learnings learned from the 2020 Prequalification process. We propose applying several minor changes to Exhibit ZB to make it easier to interpret and use. These proposed changes will take effect so that any Fossil Fuel Emissions Commitments submitted in future will need to use the new template, but those which have already been submitted do not need to be resubmitted.

- Auction date:
  We propose removing the need to explicitly state the date of the auction the Declaration refers to. The auction date will be known by the DB.

- Parts to be filled:
  We propose making more clear which parts need to be completed by every applicant, and which parts only need to be completed under certain circumstances.

2.2.9.6 Amendment in respect of Emission Related Material Changes to components with an installed capacity below 1MW

As noted in section 8.1 of the Emissions Guidance, a change to a relevant Fossil Fuel Component with an Installed Capacity below 1MW does not constitute an Emissions Related Material Change unless the change will cause the component to exceed the 1MW Installed Capacity threshold. At present, the Rules do not expressly provide for this; we propose amending the Rules to bring them into full alignment with our policy intent.

2.2.9.7 Use of decimal places in the calculations

We recommend that, in line with industry standards, two decimal places are used with any values for calculating emissions. We propose amending the Emissions Guidance document to reflect this.

2.2.9.8 Use and publication of emissions information

Information provided by applicants during prequalification is 'protected information' under Regulation 65(1) where it relates to the affairs of a business, and can only be shared or used in the limited circumstances outlined in that Regulation. Our view is that carbon emissions values shared on a Fossil Fuel Emissions Declaration may fall within this category of ‘protected information’, and that this information can be disclosed or used where required by delivery partners to fulfil CM functions.

We intend to ensure that the CM scheme is, where possible, transparent and that legislation fulfils the objectives of the Emissions Limits in the least burdensome way. As such, we need to respond to emerging trends in emissions data and adapt the scheme where necessary. This will require us to collate, process, and, if determined necessary, publish carbon emissions information via the publicly available CM Register.

We propose, therefore, introducing amendments to the Rules to ensure that our policy intent is properly reflected and that the use, disclosure, and publication of carbon emissions data by the DB and the Department is possible.

Question 21

Do you have any comments or concerns with regards to our proposed clarifications to the Rules which relate to carbon emissions described in section 2.2.9.1 to 2.2.9.7 respectively?

Question 22

Do you have any comments or concerns regarding our proposals in section 2.2.9.8 in respect of use, disclosure and publication of carbon emissions values disclosed on a Fossil Fuel Emissions Declaration? Please explain your reasoning and provide supporting evidence where available.

Question 23

Do you have any further comments or concerns about our proposed changes to the Capacity Market Emissions Limits described in this document?

2.3 Discretion to clarify errors and omissions in prequalification applications

2.3.1 Context

To bid into capacity auctions, applicants must go through prequalification and submit an application to the DB, including the documentary evidence described in Chapter 3 of the Rules. Within five working days of being notified of a prequalification decision an applicant may, under Regulation 69, request that the DB reconsider its decision (a "Tier 1 appeal").

Regulation 69(5) prohibits the DB from considering, as part of this appeal process, information the applicant was required to submit prior to the DB's prequalification decision but failed to provide in accordance with that requirement. Regulations 69(5) is intended to prevent applicants from submitting, at a later stage, information that was not available at the time of their application. The appeal is not an opportunity to gain more time to complete said application. Regulation 69(5) gives a clear requirement that applicants treat the prequalification process with due diligence and accurately complete the application.

However, as evidenced by experience from previous prequalification rounds, minor clerical or administrative errors or omissions can occur in applications that are immaterial to the achievement of the purpose of the relevant requirement. We acknowledge there is some ambiguity as to whether rectification of minor errors or omissions falls under Regulation 69(5). Our policy intent is that the DB can accept information as part of a Tier 1 appeal to correct or rectify such minor errors and omissions. To address this, we have provided the DB with guidance on the interpretation of Regulation 69 which is replicated within the DB's own published guidance on the Tier 1 appeals process.[55]

We believe there is scope to: (a) improve clarity of Regulation 69(5) to provide greater understanding of the types of error that can be corrected through the appeals process; and (b) modify the prequalification process to reduce the need for applicants to have recourse to the appeals process.

2.3.2 Proposal

Ofgem, in their Five-Year Review of the Rules – First Policy Consultation,[56] acknowledge the burdensome nature of full yearly prequalification, as well as the "risk of failure due to clerical or data entry errors" (p. 28). Ofgem is considering the concept of 'evergreen' prequalification. By this Ofgem means that the EMR DB Portal should have the functionality to store and use information about existing prequalified CMUs, and to allow re-submission of previous

[55] https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Disputes%20guidance%202020%20v6.pdf

[56] https://www.ofgem.gov.uk/publications-and-updates/report-our-five-year-review-capacity-market-rules-and-forward-work-plan

applications in defined situations where there have been no material changes to a CMU. Additionally, the DB is undertaking a substantial programme of improvements to its IT portal, including updates to functionality around prequalification; this should reduce the risk of applicants making clerical errors and omissions.

We acknowledge these solutions may take some time to implement, and there is a pressing need for a solution to be implemented prior to the Prequalification Window for the next auction round (T-4 and T-1) opening in Summer 2021. Without intervention, there is a risk in future prequalification rounds that a high volume of rejected prequalification applications could undermine auction liquidity and impact security of supply.

We therefore propose revising Regulation 69 to clarify that the DB may consider additional information submitted in the Tier 1 appeals process which corrects minor clerical or administrative errors or omissions and/or which is considered immaterial to the achievement of the purpose of the relevant CM requirement. This will formalise the process guidance implemented by the DB. Whilst we acknowledge that this may lead to a more resource-intensive Tier 1 appeals process, we are not proposing to add more time to the Tier 1 appeals process given this would have knock-on implications for the timing of the auctions. This proposal does not alter the principal that applicants must maintain a high standard of quality in their applications. There is no guarantee that applicants will be able to resolve errors in the disputes process.

We are also considering whether other changes to the prequalification process may be necessary to help reduce scope for applications to be rejected on the basis of omissions or errors and the need for applicants to have recourse to the appeals process. For example, it may be preferable to introduce a ‘two-tier’ prequalification process whereby the DB would initially assess applications and communicate a preliminary view to applicants (including whether there are any clerical errors as described above). The DB would then take a final view on applications that had been resubmitted with these types of corrections. A formalised two-tier process would allow the DB to account for any potential increase in functions in their planning, guidance and systems as a result of the additional obligations on them. We also expect that the proposed requirement for CMUs to register as a BMU (section 2.1) will provide opportunities for simplification of the prequalification requirements.

Any proposed enduring solutions such as the two-tier prequalification process would need to be considered in the context of other proposed improvements to the prequalification process already underway, including Ofgem’s proposal for introducing ‘evergreen’ prequalification and the DB’s IT portal improvement programme. After further consideration we may conclude that it is unnecessary or creates an unwieldy change programme for the DB to proceed with some of these proposals in the short term or at all.

Question 24

Do you agree with the proposal to amend Regulation 69 to allow the DB to consider information which corrects administrative or clerical errors in prequalification applications?

Question 25

In your view, should the timeframes for the Tier 1 disputes process be amended to provide applicants and the DB with additional time?

Question 26

Do you have any views on how else the prequalification process could be improved and/or simplified?

2.4 Secondary trading and plant closures

2.4.1 Context

Recently, we have seen several large CMUs close prematurely (i.e. whilst they hold Capacity Agreements) and at relatively short notice (i.e. after the T-1 auction or during the Delivery Year in question). Fortunately, capacity margins to date have been healthy and have been able to comfortably absorb the lost capacity whilst remaining within our reliability standard of 3 hours loss of load expectation (LOLE). However, these closures have brought to our attention the need to review and clarify the legislation surrounding the secondary trading regime in the event of a termination, in particular when there has been a partial trade of a Capacity Agreement i.e. where a CMU has only traded away part of its Capacity Obligation[57] and therefore retains part of it.

Ofgem highlighted secondary trading as an area they would like to improve in their Five-year Review of the Rules[58]. In due course, they aim to develop proposals on the secondary trading regime with industry. These proposals will aim to reduce Rule complexity, remove barriers to entry and ensure the transfer of risk is appropriate. We are working with Ofgem closely to ensure that the proposals covered in this consultation fit with their broader review of secondary trading.

2.4.2 CMUs which do not hold a Capacity Obligation

As noted in our 2016 consultation on reforms to the CM[59], secondary trading transferors are only exposed to Termination Events[60] and fees if they still hold part or all of the Capacity Obligation within a Delivery Year. Therefore, a Termination Notice cannot be issued in respect of a Capacity Agreement where the relevant CMU has transferred its full Capacity Obligation.

We note, however, that there has been some confusion about the application of Termination Events to CMUs that no longer hold a Capacity Obligation and to the transferee of obligations in any secondary trades they took part in. We therefore propose to clarify this intent in the legislation, to ensure that it is clear going forward.

[57] 'Capacity Obligation' is defined in Regulation 2 of the Regulations.
[58] https://www.ofgem.gov.uk/publications-and-updates/report-our-five-year-review-capacity-market-rules-and-forward-work-plan
[59] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/521301/Govt_response_to_March_2016_consultation_FINAL.pdf
[60] An event which gives rise to the DB issuing a Termination Notice. Defined in Rule 6.10.1.

Question 27

Do you agree that we should clarify the legislation concerning the application of termination events to CMUs that no longer hold a Capacity Obligation?

2.4.3 Cancellation of partial secondary trades following termination of the transferor

If a Capacity Agreement is terminated and the relevant CMU has partially secondary traded its Capacity Obligation, then in accordance with Regulation 30A(6) that secondary trade is also effectively extinguished. Therefore, it is currently only possible for capacity that closes at short notice to be replaced through secondary trading if the CMU trades the entirety of its remaining Capacity Obligation, which may not always be possible.

Regulation 30A(6) was implemented in 2016[61] to clarify what happens to transferred parts if a Capacity Agreement is terminated, as it is possible for the transferred part to revert to the transferor if the Capacity Agreement in question extends beyond the period of the secondary trade. Until now, we had assumed that only a small number of CMUs would be at risk of closing at short notice. Therefore, we had not considered the security of supply implications of Regulation 30A(6).

Since the implementation of Regulation 30A(6) in 2016, it has become apparent that short notice closures may be more likely than we had first assumed. Closure dates can be altered at short notice, based on market conditions and other factors. Insolvencies can also occur unexpectedly and affect significant volumes of capacity. Furthermore, as the CMUs involved can be large, it can be difficult to find a party with whom they can trade their full Capacity Agreement at short notice. It is more likely that they will only be able to trade away part of their Capacity Agreement. Consequently, the disbenefits of cancelling partial secondary trades if the transferor is terminated are much greater than expected.

Over the next few years, we are expecting significant amounts of capacity to reach end-of-life and capacity margins to tighten to levels more consistent with the reliability standard. We therefore need to ensure that any capacity closing prematurely and at short notice can be replaced promptly through secondary trading at least partially if this is the only option available.

On this basis, we propose to amend the legislation so that partial trades are no longer cancelled when the transferor's Capacity Agreement is terminated. After the transfer period is over, any rights and obligations in respect of the transferred part that would have reverted to the transferor will expire. This proposed change would apply to all Capacity Agreements from the start of Delivery Year 2021/22.

Termination Fees are applied to the de-rated capacity for which the Capacity Agreement is issued (Regulation 30(4)), not the Capacity Obligation that is held by the CMU at the time of the termination. Therefore, transferors cannot reduce the Termination Fees they face by engaging in partial secondary trading. They can only avoid Termination Fees if they trade away their full Capacity Obligation in order to avoid termination entirely. Capacity payments are

61 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/521301/Govt_response_to_March_2016_consultation_FINAL.pdf

made directly to the holder of the Capacity Obligation; so the termination of the transferor should not give rise to any issues with Capacity Payments payable to the transferee.

Question 28

In your view, will preventing partial secondary trades from being cancelled when the transferor's Capacity Agreement is terminated improve our ability to replace capacity which has closed at short notice during the Delivery Year? In your view, does the proposed change create any potential for gaming to avoid Termination Fees, or give rise to any other risks?

2.4.4 Curtailment of secondary trades initiated before and after the receipt of a Termination Notice

Rules 9.2.2 and 9.2.3 were implemented at the inception of the CM in 2014, then amended in 2016[62] alongside the introduction of Regulation 30A. They supplement Regulation 30A by clarifying what happens to a secondary trade that is initiated either before or after a Termination Notice is issued to either a transferee or transferor.

If a CMU initiates a secondary trade before the receipt of a Termination Notice by either the transferee or transferor, the trade may take effect between the receipt of the Termination Notice and the period after which the termination becomes effective (typically this is around 2 months, but can be longer if the CMU applies for an extension to the Secretary of State), but not beyond the relevant termination effective date (Rules 9.2.3(a) and (b)). All trades initiated after the receipt of a Termination Notice by either the transferee or transferor will be cancelled (Rule 9.2.3(c)).

To complement the proposed changes to the effects of Regulation 30A above, we propose to disable the effect of Rules 9.2.3 (a) and (b) for Termination Notices received by the transferor. This will allow secondary trades to remain effective but limited to the remainder of the relevant Delivery Year, if initiated before the receipt of a Termination Notice by the transferor. We propose to maintain the effects of Rules 9.2.3(a) and (b) for Termination Notices issued to transferees, to ensure that when a transferee is terminated their Capacity Obligation continues to revert to the transferor and therefore be retained in the CM. This change would apply to all Capacity Agreements from the start of Delivery Year 2021/22.

We are also considering whether there would be benefit to security of supply considerations in revising the effect of Rule 9.2.3(c) in the limited circumstances of a transferor insolvency. Rule 9.2.3(c) effectively prevents the initiation of a secondary trade after a Termination Notice has been issued to either the transferor or transferee. Broadly, the purpose of Rule 9.2.3(c) is to incentivise Capacity Providers to arrange any secondary trades in an organised timely fashion and not as part of a post termination strategy. However, we acknowledge that insolvencies are often difficult to predict precisely and may unfold in a very short timeframe. Therefore, insolvent Capacity Providers may benefit from additional time to try and secure a secondary trade. On this basis, we propose to revise the effects of Rule 9.2.3(c) for transferors who have received a Termination Notice for insolvency (Rule 6.10.1a). As above, the period of time between the

62 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/521301/Govt_response_to_March_2016_consultation_FINAL.pdf

receipt of a Termination Notice and the termination becoming effective is typically around 3 calendar months, but can be longer if the CMU applies for an extension to the Secretary of State. This proposal will therefore provide an insolvent Capacity Provider with at least 3 additional calendar months to try and secure a secondary trade of their Capacity Obligation, before termination becomes effective. If implementation of this proposal is agreed upon, it would apply to all Capacity Agreements from the start of Delivery Year 2021/22.

As per Rule 9.2.5, secondary trades cannot be affected by the DB on the CM Register until after the T-1 auction for the relevant Delivery Year has concluded. This means that if a multi-year Capacity Agreement is terminated, it will not be possible to maintain secondary trades for future Delivery Years. We are not proposing to make any changes to Rule 9.2.5. Capacity for future Delivery Years can be replaced through later capacity auctions (either T-1 or T-4).

Question 29

Do you agree that we should revise the effect of Rules 9.2.3(a) and (b) in order to allow secondary trades initiated by transferors before the receipt of a Termination Notice to be maintained for the remainder of the relevant Delivery Year? In your view, would this proposal create any potential for gaming, or give rise to any other risks?

Question 30

Do you agree that we should amend the effect of Rule 9.2.3(c) so that it no longer applies to Termination Notices that are issued to insolvent transferors (Rule 6.10.1(a))? In your view, would this proposed rule change create any potential for gaming, or any other risks?

2.5 Coronavirus easements

In July 2020[63] we implemented the following easements to reduce burdens on operators arising from the first wave of the COVID-19 pandemic or the measures imposed by the government to tackle its spread:

- Enabled, for the 2019/20 Delivery Year only, any Capacity Payments that have been suspended because of a CMU failing to comply with its satisfactory performance requirements, to be paid if and when the CMU meets the satisfactory performance requirements.
- Extended the deadlines associated with several milestones for Capacity Providers that could demonstrate their project had been affected by the coronavirus pandemic.
- Removed the requirement for Independent Technical Expert (ITE) reports in relation to six monthly Progress Reports and Remedial Plans for certain CMUs in the financial year 2020/21.
- Reduced the amount of data required to establish baseline demand for certain demand side response (DSR) CMUs.

[63] https://www.gov.uk/government/consultations/capacity-market-proposal-to-relax-the-rules-temporarily-in-response-to-covid-19

- Allowed a longer period for a person to appeal to the Secretary of State in respect of termination notices, and the DB and the Authority (Ofgem) in respect of DB reviewable decisions.
- Provided the Secretary of State greater discretion, when determining appeals against Termination Notices issued to Capacity Providers awarded agreements before 1 April 2020, to extend the time for Capacity Providers to achieve compliance or to direct termination on a new ground (for which the Termination Fee is waived) where non-compliance arises as a result of the effects of coronavirus.

We understand that some operators with agreements might be experiencing difficulties fulfilling milestones again due to the latest wave of coronavirus and the national lockdown that commenced on 4 January 2021. However, we also recognise that over the last year industry has adapted to manage and mitigate impacts on their operations, and that some of the July 2020 easements are still in place, notably the easement around the appeals process[64], although this will not apply to agreements awarded in the auctions to be held in March 2021. We would therefore welcome your views on whether there is a need for additional easements, closely matching the ones implemented in July 2020.

If, based on feedback to this consultation, it appears that only a small number of CMUs are affected by the pandemic and restrictions in place this year, then our preference would be to rely on the more flexible appeals process to relieve burdens on these CMUs, rather than introducing easements for all CMUs through further amendments to the Rules. This will minimise disruption to the broader operation of the CM and risks to security of supply.

Question 31

Is there a need for further coronavirus easements, closely matching those that we implemented in July 2020? If so, please provide reasons and evidence, where possible, and describe the necessary easement/s and the Rules affected.

Question 32

What are your views on whether the modifications to the appeals process should be extended to agreements awarded in the upcoming early 2021 auctions? Please provide reasons and evidence, where possible.

2.6 Extended Years Criteria and Evidence of Total Project Spend

2.6.1 Context

Prospective Generating CMUs with agreement lengths of four or more Delivery Years must demonstrate that they meet the Extended Years Criteria in Rule 8.3.6A. Agreement holders

[64] The modifications to the appeals process (i.e. the power for the Secretary of State to extend the termination notice by up to 12 months or withdraw a notice and terminate an agreement without a Termination Fee) will continue to apply to agreements awarded before 1 April 2020 and where the appeal is made during the first or only delivery year of the agreement (See Reg 33(3A) which is read into the Regulations by paragraph 2 of Schedule 2 to the Electricity Capacity (Amendment etc.) (Coronavirus) Regulations 2020)).

must submit a certificate from an ITE "prior to the start of the first Delivery Year" confirming that the CMU meets the Extended Years Criteria, or will meet them subject to certain conditions being fulfilled. The timing for the Extended Years Criteria does not align with the related requirement to provide Evidence of Total Project Spend in the preceding Rule 8.3.6. The latter must also be provided via an ITE certificate, however agreement holders have three months after the start of the first Delivery Year within which to submit it. We believe there would be benefit in aligning the deadlines associated with these two requirements.

If an agreement holder fails to submit an ITE certificate as per the Extended Years Criteria or the Evidence of Total Project Spend Requirements, the DB must reduce their agreement length to either three years or one year. Under the current Rules, an agreement holder has no route to appeal this decision. Given that a reduction in agreement length may have a significant impact on the provision of capacity (i.e. a reduction in agreement length could result in a significant loss of funding, render the project unviable and ultimately result in the Capacity Provider defaulting on their delivery of capacity) we consider there is a strong argument that such a decision should be subject to the discretion of the Secretary of State.

2.6.2 Proposal

We propose to align the deadline for meeting the Extended Years Criteria with that for providing Evidence of Total Project Spend (Rule 8.3.6). Aligning these deadlines would be clearer and allow agreement holders to submit both ITE reports at the same time (or submit a single ITE report covering both requirements).

We believe agreement holders who are penalised for breaching either the Extended Years Criteria or Evidence of Total Project Spend requirements should be able to request that the Secretary of State exercise his/her discretion to direct the DB to withdraw the reduction in agreement length or extend the date for compliance with the relevant requirement. We propose extending the Secretary of State's discretion in this regard to apply to all breaches of the Rules and Regulations that have a reduction in agreement length as their sanction.[65] We anticipate that these proposed changes could be implemented prior to the start of the 2021/22 Delivery Year.

Question 33

Do you agree the deadlines for meeting Extended Years Criteria and providing Evidence of Total Project Spend should be aligned?

Question 34

Do you agree the sanction for non-compliance with these obligations of a reduction in agreement length should be subject to the Secretary of State's discretion?

65

The Rules contain only one other instance of a reduction in agreement length as a sanction, in Rule 6.8.4. Currently, any Refurbishing CMU awarded a multi-year agreement that does not meet the Relevant Completion Requirement by the Long-Stop Date (start of the Delivery Year) will revert to a one-year agreement. We are however proposing to amend this as outlined in section 2.5 of this consultation.

Question 35

Do you think it is necessary to make a reduction in agreement length appealable to the Authority as well as subject to the Secretary of State's discretionary powers?

2.7 Refurbishing CMU Long-Stop Date

2.7.1 Context

Currently, any Refurbishing CMU that does not meet the SCM (under Rule 6.7.2) by the Long-Stop Date (start of the first Delivery Year) will revert to a one-year agreement and the Capacity Obligation of the CMU will be re-set by reference to the de-rated capacity of the Pre-Refurbishment CMU (the Existing CMU that would remain in the absence of any improvement works being carried out)[66]. In contrast, New Build CMUs that were awarded agreements in a T-4 auction have a Long-Stop Date of 12 months following the start of the Delivery Year[67].

In July 2020, we introduced easements to several CM obligations due to the impacts arising from the first wave of the COVID-19 pandemic and/or the measures imposed by the government to tackle its spread[68]. One easement provided a 12-month extension to the Long-Stop Date for Refurbishing CMUs due to the issues related to completing their projects on time for Delivery Year 2020/21[69]. This easement allowed Refurbishing CMUs to avoid reverting to a single year agreement if it failed to deliver by the start of its first Delivery Year. This brought Refurbishing CMUs in line with the Long-Stop Date provided to New Build CMUs, albeit in respect of the 2020/21 Delivery Year only.

Our position, since the implementation of the CM, has been that the lead times for Refurbishing CMUs make it unnecessary to have a Long-Stop Date later than the start of the Delivery Year (as is the case with New Build CMUs). However, we have taken feedback from stakeholders reflecting the experiences of Refurbishing CMUs to date and believe that there can be similar challenges in delivering within 4-years as with New Build CMUs (particularly for certain technologies).

2.7.2 Proposal

We are, therefore, minded to make permanent the arrangements for a 12 month extension to the Long-Stop Date for Refurbishing CMUs that are awarded an agreement in a T-4, as introduced by the temporary modifications following the first wave of the pandemic. This will bring arrangements for Refurbishing CMUs permanently in line with those already in place for New Build CMUs. As is currently the case under Rule 6.7.4, capacity payments will not commence until the SCM has been met. We would reflect any changes to the deadline for the SCM for Refurbishing CMUs in the deadlines for milestones related to the SCM, e.g. Evidence of Total Project Spend.

[66] Rules 6.8.1(b) – failure of a Refurbishing CMU to meet its SCM by the Long-Stop Date, and 6.8.4 – in the context of Rule 6.8.1 (b) the Capacity Agreement is reduced to a one-year duration.
[67] See definition of Long-Stop Date in Rule 1.2.1.
[68] https://www.gov.uk/government/consultations/capacity-market-proposals-for-future-improvements
[69] See Rule 18.4.1(c) and 18.5 which introduce modifications to the Rules to implement the 'Extended Long-Stop Date'.

We propose implementing this proposal in relation to both future agreements and existing agreements. This will mean that if a Refurbishing CMU has already secured a Capacity Agreement in a previous T-4 auction (including the T-4 auction to be held in March 2021) and the deadline for the SCM has not passed, that CMU will be able to take advantage of a 12-month Long-Stop Date, as outlined above.

Question 36

Do you agree that Refurbishing CMUs should be provided with the same Long-Stop Date as New Build CMUs? Please provide reasons and evidence where possible.

2.8 Net welfare algorithm

2.8.1 Context

The one-year-ahead ("T-1") auction for the 2020-21 Delivery Year secured 1024MW against a target of 300MW. This over-procurement was driven by the application of the formula in Rule 5.9.6 of the Rules, which is sometimes referred to as the 'net welfare algorithm'[70].

The purpose of the net welfare algorithm is to determine, in cases where the target amount of capacity cannot be met exactly by the aggregate bidding capacity remaining in the auction (as illustrated in Figure 1), whether:

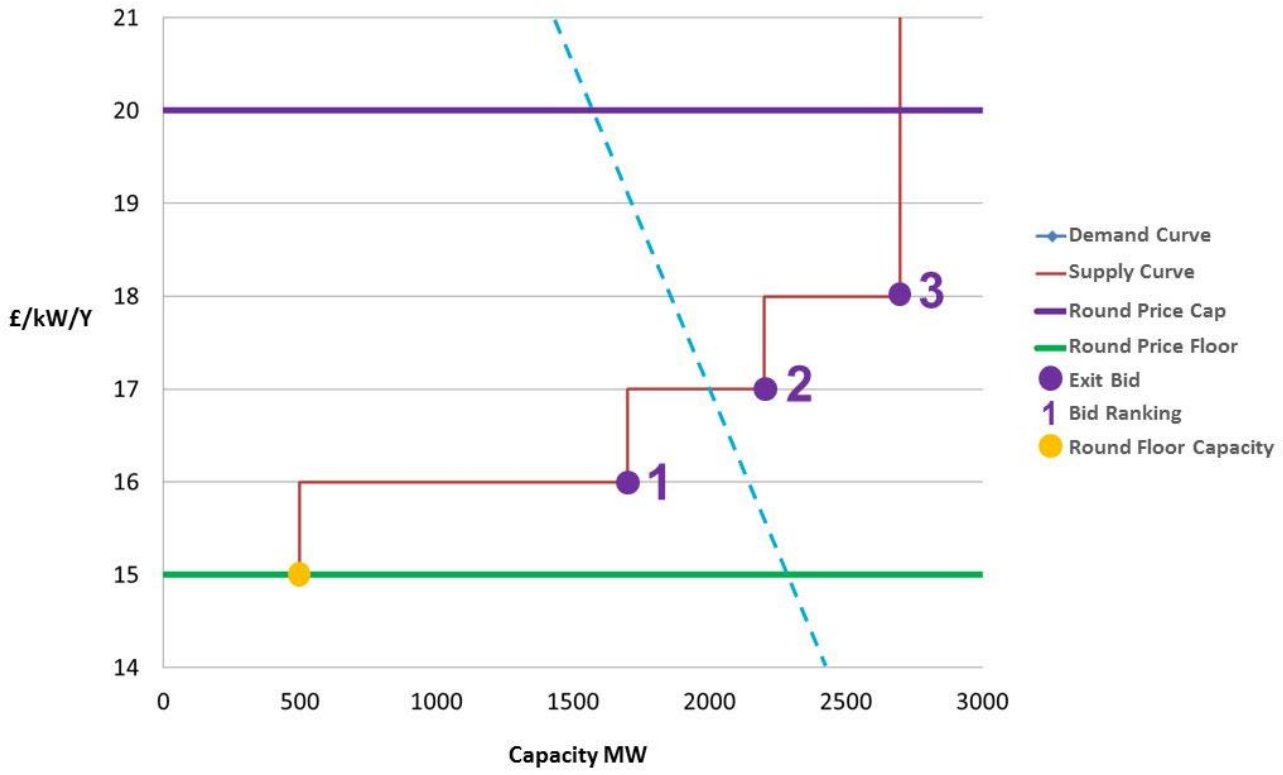
the marginal bidding CMU should be awarded an agreement and the auction clearing price be set at its Exit Bid[71] (illustrated by the Exit Bid labelled 2 in Figure 1 at £17/kW); or

to discard that bid and accept the next most expensive whole bid which does not cause the target volume to be exceeded (illustrated by the Exit Bid labelled 1 in Figure 1 at £16/kW).

[70] Results of the 2020 T-1 capacity auction https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Final%20Results%20T-1%20Auction%20DY20-21.pdf.

[71] As defined in Rule 5.8.1.

Figure 1: Illustrating the application of the net welfare algorithm



Generally, when the cost of capacity is low, securing slightly more than the target amount of capacity for a small uplift in the clearing price should represent value for money for the consumer given the added security of supply benefits. However, the circumstances relating to the 2020 T-1 auction meant the cost of the over-procurement likely outweighed any added benefit.

NGESO had recommended a target amount of capacity of 0MW for the 2020 T-1 auction on the basis that the volume of capacity secured through the earlier T-4 auction was more than enough to ensure security of supply in the Delivery Year. The auction only took place to fulfil the commitment to secure a minimum of 50% of the capacity originally set-aside when the target capacity for the corresponding T-4 was determined (i.e. 600MW), the purpose of which is to ensure market participants can have confidence that a T-1 auction of a minimum volume will proceed[72]. The final auction target of 300MW, therefore, represented a small amount of over-procurement for the 2020/21 Delivery Year. The application of the 'net welfare algorithm' formula in accordance with Rules 5.9.6 and 5.9.7 as part of the auction clearing process led to the marginal bidding CMU, with a capacity of 820MW, being awarded a Capacity Agreement, which added significantly to the over-procurement. In this instance, procuring this CMU added £820,000 to the cost of the auction which represents a few pennies on the average household energy bill.

2.8.2 Proposal

To reduce consumers' exposure to the costs of over-procurement in future capacity auctions, we propose inserting Rules which 'turn off' the net welfare algorithm in instances where the T-1 auction target has been determined in accordance with Regulation 13(1A). In other words, when a T-1 auction is taking place to fulfil the requirement to secure a minimum of 50% of the

[72] This commitment is now enshrined in legislation – see Regulation 13(1A) of the Regulations.

capacity originally set-aside for the T-1 auction, then the proposed new Rules will have the effect of ensuring the auction clears based upon the highest priced whole bid below the Demand Curve (i.e. the Exit Bid labelled 1 in Figure 1) even though this may mean the cumulative capacity secured through the auction is less than the target volume. This highest priced whole bid will be used to determine both the clearing price and volume of capacity procured.

Question 37

Do you have any comments or concerns regarding our proposal to disable the net welfare algorithm where a T-1 is held only to meet the 50% set-aside commitment?

2.9 The Minimum Capacity Threshold

2.9.1 Context

In July 2020, the Minimum Capacity Threshold for participation in the CM (Regulation 15(4)(a)) was lowered from 2MW to 1MW for all subsequent capacity auctions[73]. At the time of lowering the Minimum Capacity Threshold, we indicated our intention to reassess the threshold during 2021 to examine the potential for a further reduction; this is the subject of this section of the consultation.

The primary rationale for reducing the threshold from 2MW to 1MW was to bring the minimum threshold in the CM in line with other energy markets. This ensures that assets between 1MW and 2MW have access to and are able to combine revenue streams from the CM and these other markets, maximising the value of their assets. We have considered whether there is a need to further lower the threshold to maintain alignment but have found that the 1MW threshold remains consistent with other markets. For example, Project TERRE[74] uses a 1MW threshold for trading and NGESO has introduced, as part of its Wider Access programme, the concept of a VLP, with a minimum threshold of 1MW for participation in the BM. Additionally, some ancillary services procured by NGESO also have a 1MW Minimum Capacity Threshold, such as Firm Frequency Response. Maintaining the Minimum Capacity Threshold at 1MW will, therefore, ensure that the CM continues to be easily stacked against other revenue streams and facilitate participation across multiple markets.

The second reason for reducing the threshold from 2MW to 1MW was to increase the amount of capacity available to participate in the capacity auctions, as this could in turn lead to reductions in auction clearing prices. However, this was not expected to be significant as smaller capacity can already take part through aggregation. Nevertheless, there may have been some smaller units which are difficult to aggregate and may therefore have been unable to compete in the CM through aggregation. In addition, responses[75] to our February 2020

[73] Schedule 1 Part 3 Paragraph 5 of the Electricity Capacity (Amendment etc.) (Coronavirus) Regulations 2020.
[74] https://www.entsoe.eu/network_codes/eb/terre/
[75] Government response to consultation responses available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/886147/Future_improvements__emission_limits_and_coronavirus_easements_-_government_response_to_consultations.pdf

consultation[76] on future improvements highlighted the potential desire of some smaller providers to operate independently of aggregators.

On the other hand, concerns were also raised in response to the 2020 consultation over the associated administrative costs for facilitating participation of additional small CMUs, which could outweigh the benefits of allowing these units to participate.

We have considered whether lowering the threshold further would facilitate greater participation of smaller CMUs in the CM. We have found that, following the recent reduction of the minimum threshold to 1MW, only a small number of units in the T-1 and T-4 2020 prequalification registries are between 1 – 2MW, as seen in Table 1. Furthermore, while there are high numbers of units <10MW prequalifying for the upcoming T-1 2021/22 and T-4 2024/25 auctions, there is no evidence of significant clustering between 1 – 2MW, as seen in Figures 2 and 3. A spike in the number of participants between 1 – 2MW might be expected if there was a preference for a lowered threshold and this has not been observed. Overall, these prequalification results indicate that it is unlikely that reducing the threshold further would noticeably increase participation and add to auction liquidity.

Table 1 Prequalified CMUs that are less than 2MW connection capacity as a proportion of all prequalified CMUs[77]

Delivery Year	Auction	De-rated capacity	Number of Units
2021/22	T-1	<1%	7%
2024/25	T-4	<1%	3%

[76] Consultation on CM future improvements available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/862674/capacity-market-consultation-future-improvements.pdf

[77] Capacity market registers available at https://www.emrdeliverybody.com/CM/Registers.aspx

Figure 2 Distribution of prequalified CMUs by connection capacity for T-1 2021/22[78]

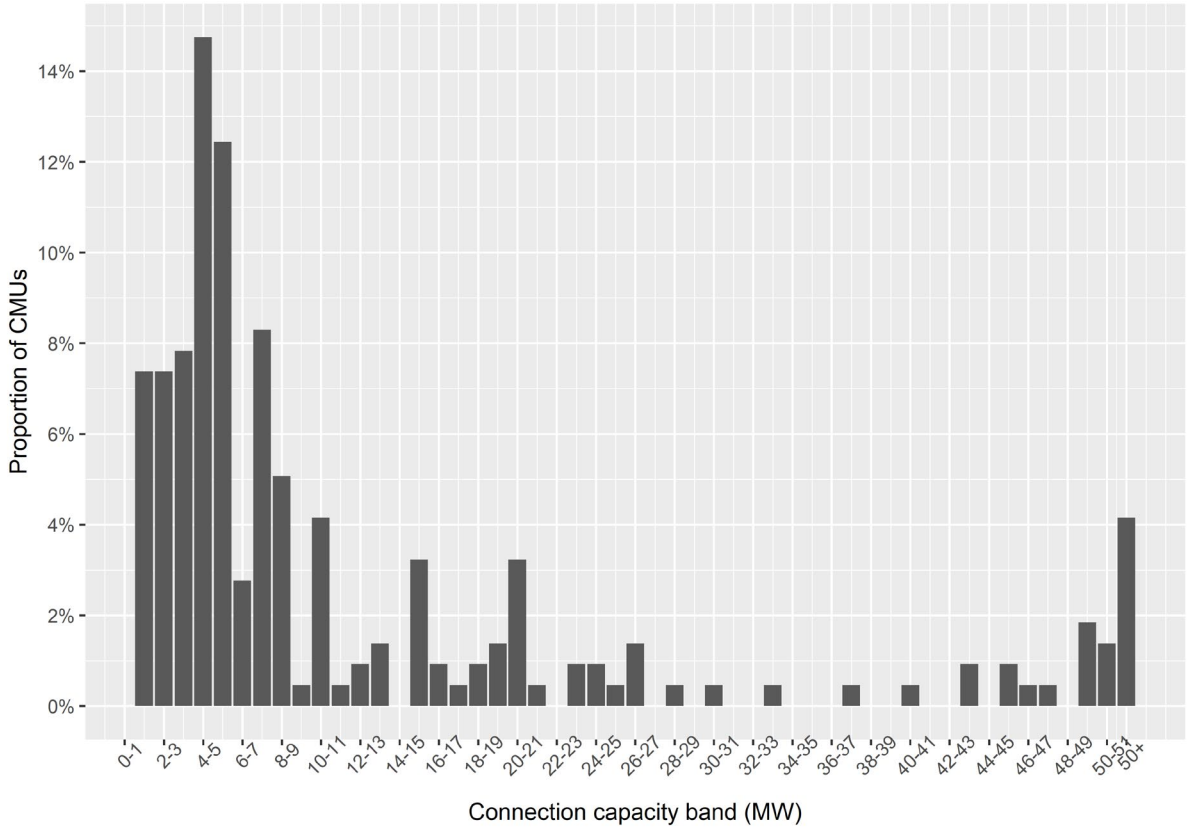
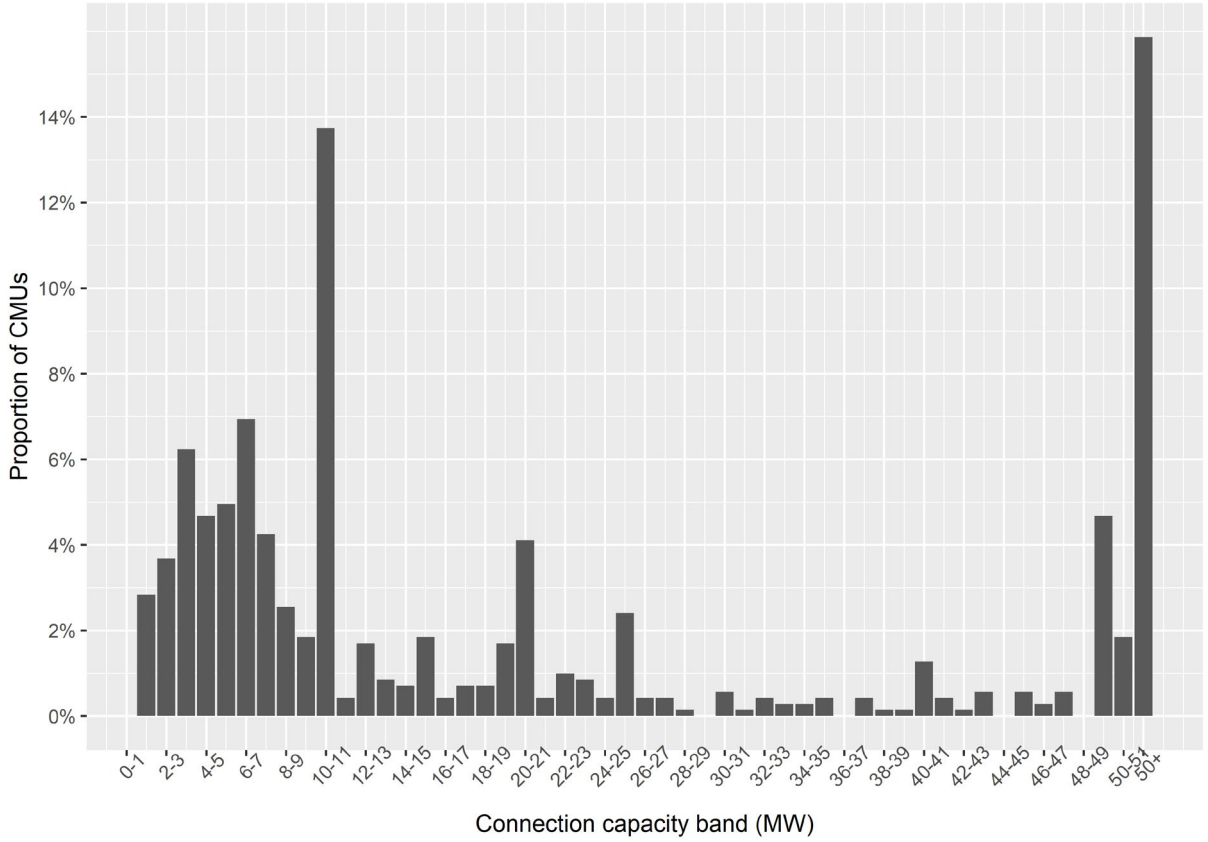


Figure 3 Distribution of prequalified CMUs by connection capacity for T-4 2024/25[79]



2.9.2 Proposal

We propose that the Minimum Capacity Threshold be maintained at 1MW, as it continues to align with other energy markets and strikes the correct balance between encouraging auction liquidity and minimising administrative costs.

Question 38

Do you agree that the Minimum Capacity Threshold should be maintained at 1MW?

2.9.3 Carbon pricing

Through recent engagement with stakeholders, we understand that there is early evidence that exemptions in carbon pricing for smaller generators are creating a distortion in the CM and wider flexibility markets. This was highlighted in our Five-year Review of the CM[80]. We intend to work with Ofgem, industry and wider stakeholders to gather further data on the emissions of electricity generators within the CM and flexibility markets to obtain greater insight into whether this is a significant issue. The data may then be used to inform how we work towards our commitment detailed in the December 2020 Energy White Paper[81], to explore expanding the UK Emissions Trading Scheme to the two-thirds of uncovered emissions.

2.10 Other minor amendments to the legislation

2.10.1 Correction to Rule 6.10.1

Rule 6.10.1A(a)(iv) refers to paragraph (j) of Rule 6.10.1, but paragraph (j) has since been omitted so this is a redundant cross-reference. We propose to remove the reference from Rule 6.10.1A(a)(iv).

We are continually improving the CM and will consider your input on any other specific and minor errors which you may have identified in the Rules.

2.10.2 Cross-references to EU law

At the end of the UK-EU withdrawal agreement transition period, amendments which address cross-references to EU law or EU legal concepts in the Regulations came into force[82]. Now that the UK has left the EU, and the UK and EU have entered into the Trade and Cooperation

[78] Capacity market T-1 2021-22 delivery year register available at https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Capacity%20Market%20Register%202021-22%20(T-1)%20-%2015_12_2020.xlsx

[79] Capacity market T-4 2024-25 delivery year register available at https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Capacity%20Market%20Register%202024-25%20(T-4)%20-%2015_12_2020.xlsx

[80] https://www.gov.uk/government/publications/capacity-market-5-year-review-2014-to-2019

[81] https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future

[82] Regulation 83 of the Electricity and Gas etc. (Amendment etc.) (EU Exit) Regulations 2019 amends Regulation 65 of the Regulations to address reference to 'EU law', and paragraph 13 of Schedule 2 to the State Aid (Revocations and Amendments) (EU Exit) Regulations 2020 ("the State aid Regulations") amends Regulation 26 and Regulation 28 of the Regulations to address reference to State aid.

Agreement (TCA)[83] we intend to review remaining cross-references to EU law or EU legal concepts in the Rules to ensure that the legislation continues to be fit for purpose and gives effect to our policy intent. We have identified a limited number of non-substantial cross-references which need minor amendments. For example, Rule 3.4.1 references Regulation (EU) 351/2014 which has been revoked from retained EU law[84] so will need clarifying, and Rule 1.2.1 defines 'State aid authority' which may, in the future, need to cover a domestic subsidy control regime[85].

Question 39

Do you agree with the correction to Rule 6.10.1? Are there any other specific and minor errors in the Rules which we should consider? Are there cross references to EU law in the CM legislation, other than the one we have identified in section 2.10.2, that may be causing issues?

[83] https://www.gov.uk/government/publications/agreements-reached-between-the-united-kingdom-of-great-britain-and-northern-ireland-and-the-european-union.
[84] See Regulation 5(l) of the State aid Regulations.
[85] The government is seeking views on its proposed approach for establishing a bespoke UK-wide subsidy control regime via a consultation which closes on 31 March 2021. See https://www.gov.uk/government/consultations/subsidy-control-designing-a-new-approach-for-the-uk.

2.11 Assessment of impacts

2.11.1 CMU interactions with the Balancing and Settlement Code

The proposal is to require all CMUs to be registered as BMUs in order to prequalify for capacity auctions.

This measure could increase the cost of the CM, either because CMUs price the additional administrative cost of registering for the BM into their bids, and/or because it discourages some capacity from participating in the CM altogether, which then reduces liquidity in the capacity auctions and therefore potentially increases costs.

However, NGESO's Wider Access to the BM programme should lower the administrative costs of the BM[86], and we may have seen greater participation of small units in the BM even in the absence of this measure. There has also been a more streamlined route to market through a VLP since December 2019. Furthermore, the WA API is a cost-effective alternative to traditional fixed lines for dynamic data exchange and went live in September 2020. Both VLP and WA API are expected to lower the cost of BM participation for small units.

Improving NGESO's visibility over the position of all capacity in the market, by requiring all CMUs to be registered as BMUs, should improve its forecasting of operational margin available and lead to more efficient use of market signals and notices, which may reduce wholesale market prices. If this measure also results in previously non-BM registered units actively participating in the BM, then this could also reduce balancing costs.

It is uncertain what volume of capacity with Capacity Agreements is not currently visible to NGESO, as cross-referencing CM registers with NGESO's other contracted services is complex. However, we can see from the CM registers, there is around 4.5GW of distributed generation that holds a Capacity Agreement for this winter (2020/21) that is not using a metering system registered in Central Metering Registration Service (CMRS) and therefore may not be visible to NGESO. This is an upper limit to the estimate for this Winter, as some of this capacity may be visible to NGESO if it participates in ancillary services despite not being CMRS registered. Based on capacity auctions held to-date, this non-CMRS capacity is expected to grow to around 6GW by 2023/24.

2.11.2 Emissions Limits

The proposals are to introduce some new formulae and make changes to certain existing formulae relating to the calculation of Emissions Limits in the CM, and to make clarifications to the Rules as they relate to the verification and monitoring of Emissions Limits.

We expect the introduction of new formulae to have a small positive impact on capacity auction liquidity through not unnecessarily excluding plant equipped with CCUS and CHP plant that are able to meet current Emissions Limits.

The proposed amendments pertaining to CMUs burning multiple fuels (where one or more is a fossil fuel) may reduce participation in the CM if the use of an additional fuel increases the calculated emissions of a generating unit.

[86] https://www.elexon.co.uk/wp-content/uploads/2017/09/15_278_06G_P344_AR-NG-TERRE-and-Wider-Access-benefits-and-costs.pdf

Based on feedback from previous consultations and conversations with stakeholders we believe the volume of capacity to be affected by the amendments to be small.

2.11.3 Discretion to clarify errors and omissions in prequalification applications

The proposal is to give the DB greater flexibility to consider information from applicants which corrects administrative or clerical errors in prequalification applications. This will reduce the risk of prequalification applications being rejected due to minor, administrative errors.

We expect this to have a positive impact on capacity auction liquidity through not unnecessarily excluding CMUs that should be able to prequalify but have made an administrative error. However, it may increase the administrative costs of the DB if it results in more Tier 1 appeals and additional information for the DB to assess at that stage. It is not possible to predict the size of the impact through the number of additional CMUs that might enter the Tier 1 appeals process as a result of this measure.

2.11.4 Secondary trading and plant closures

The proposal is to prevent certain secondary trades from being cancelled when the transferor's Capacity Agreement is terminated. We expect this measure to have a positive impact on security of supply as it should make it easier to replace capacity which closes prematurely and at short notice, after a T-1 auction. In the event of of a secondary trade, capacity payments are made directly to the transferee. Therefore, the overall costs of the CM may slightly increase as a result of this change, because if a secondary trade is maintained after termination of the transferor then capacity payments will continue to be made.

The scale of this impact is uncertain as it depends on the future level of terminations, the volume of capacity eligible to take on capacity obligation through secondary trading and whether this capacity would have been available even without taking on a capacity obligation through secondary trading. The capacity volume of terminations has varied considerably in the three Delivery Years to-date at 1.9GW for Delivery Year 2018/19, 0.2GW for 2019/20 and 1.5GW for 2020/21.

2.11.5 Coronavirus easements

The proposal is to rely on the existing coronavirus easements relating to the appeals process that we implemented in July 2020 in order to manage any delays to operators caused by the national lockdown implemented on 4 January 2021.

The proposal is not to change the easements, unless there is evidence that additional easements are necessary, so there is currently no impact from this measure.

2.11.6 Extended Years Criteria and Evidence of Total Project Spend

The proposal is to extend the deadline for meeting the Extended Years Criteria so that it aligns with the requirement to provide Evidence of Total Project Spend (three months after the start of the first Delivery Year, or on the date that the SCM is met if the SCM is met later than this), and make the sanction for breaching both (a reduction in agreement length) subject to the discretion of the Secretary of State. This will give Capacity Providers more flexibility and allow them recourse to the Secretary of State if they believe they have sufficient grounds.

The experience of running capacity auctions to-date suggests that the impact of this measure is likely to be very small. No CMUs with multi-year agreements starting in Delivery Year

2019/20[87] had their agreement lengths reduced as a result of failing the Extended Years Criteria. However, this evidence is only from one year and this proposal makes it less likely that the deadline for the Extended Years Criteria will be missed in future Delivery Years.

2.11.7 Refurbishing CMU Long-Stop Date

The proposal is to allow Refurbishing CMUs to have the same time to build as New Build CMUs. This will provide Refurbishing CMUs an additional 12 months to deliver their capacity. This lower level of risk could increase participation of Refurbishing CMUs and reduce their bids, potentially reducing the cost of the CM. It could also have a negative impact on security of supply as it weakens the incentives for Refurbishing CMUs to be available at the start of the Delivery Year. However, as a CMU will not receive Capacity Payments until it has met its SCM, there is still a strong incentive to deliver as close to the start of the Delivery Year as possible.

Results from capacity auctions to-date suggest the impact of this measure should be small. Only 0.2GW of Refurbishing CMUs have won a multi-year Capacity Agreement and not had the term of this agreement reduced to one-year ahead of the Delivery Year[88]. However, it is possible that the volume of Refurbishing CMUs with multi-year agreements could increase in the future.

2.11.8 Net welfare algorithm

The proposal is to disable the net welfare algorithm for T-1 auctions that are held only to meet the 50% set-aside commitment.

We expect this measure to slightly reduce the costs of the CM and to have a negligible impact on security of supply as it will only apply when a T-1 auction is not required to meet the reliability standard and is only being held to fulfil the requirement to secure a minimum of 50% of the capacity originally set-aside for the T-1 auction, which is not expected to occur frequently.

When such a T-1 auction does occur, this measure has the potential to reduce the costs of the CM. For example, the application of the net welfare algorithm formula in the T-1 auction for Delivery Year 2020/21 led to the marginal bidding CMU, with a capacity of 820MW, being awarded a Capacity Agreement. In this instance, procuring this CMU added at least £820,000 to the cost of the auction[89] which represents a few pennies on the average household energy bill. Once this measure is in place, procuring excess capacity could be avoided. The amount of money saved by this measure will vary, depending on the size of the marginal CMU.

2.11.9 The Minimum Capacity Threshold

The proposal is to maintain the 1MW capacity threshold. As the proposal is to not change the minimum threshold, there is no impact from this measure.

[87] An easement due to the impact of Covid-19 means that the deadline for meeting the Extended Years Criteria for Delivery Year 2020/21 was extended to October 2021.
[88] 3GW of refurbishing capacity won 3 year agreements at the T-4 auction for Delivery Year 2018/19 but the agreements were subsequently revised to 1 year agreements in July 2016.
[89] The additional cost to the auction depends on what the second highest bid was because the marginal unit can increase the clearing price as well as the capacity procured in the auction.

2.11.10 Other minor corrections to the legislation

As this involves only a very minor correction to the legislation, no impact is expected.

Question 40

Do you agree with the considerations of impacts in section 2.11? Are there any additional impacts which we have not considered? Please provide supporting evidence where possible.

This consultation is available from: www.gov.uk/government/consultations/capacity-market-2021-proposals-for-improvements

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